

## Domestic tourism in Uruguay: a matrix approach

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**Abstract:** In this paper domestic tourism in Uruguay is analyzed by introducing an Origin-Destination matrix approach, and an attraction coefficient is calculated. We show that Montevideo is an attractive destination to every department except itself (even if it emits more trips than it receives), and the Southeast region is the main destination. Another important outcome is the importance of intra-regional patterns, associated to trips to bordering departments. Findings provide destination managers with practical knowledge, useful for reducing seasonality and attracting more domestic tourists throughout the year, as well as to deliver a better service offer, that attracts both usual visitors and new ones from competitive destinations.

**Keywords:** Domestic tourism; Trips; Matrix; Attraction coefficients.

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### **Turismo interno en Uruguay: un enfoque matricial<sup>1</sup>**

**Resumen:** El turismo en Uruguay es una actividad económica que ha crecido de manera importante en los últimos años, tanto aquella que hace referencia a los flujos internacionales como a los domésticos. El propósito central de este trabajo es describir los patrones vigentes de turismo interno en nuestro país a través de la construcción de una matriz de Origen-destino de flujos turísticos internos, así como un indicador de atracción turística entre departamentos. Los resultados indican un crecimiento sostenido de los viajes locales efectuados, donde Montevideo parece ser el principal emisor de los mismos, y la zona sureste la principal receptora. También se destacan importantes flujos intra-regionales, asociados a los viajes de los uruguayos a departamentos limítrofes a aquel en el que viven.

**Palabras Clave:** Turismo interno; Viajes; Matrices; Índices de atracción.

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### **1. Introduction**

In recent years, activities classifiable as services have gained great strength in Uruguay, representing the biggest proportion of its GDP and being the ones with higher growth rates. Even if tourism is not the most dynamic one, it is that with greater history within the range of offered national services. According to the Ministry of Tourism (MINTUR), by 2011 the ratio Tourism Revenues/GDP was of 4.6%, result above the GDP's overall growth in the same year (3.5%), as well as above the figure the same indicator registered in 2010 (3.7%). Moreover, such result is the highest since 1989, in a path of continuous growth.

Regarding international tourism, while in Latin America Uruguay is not an important touristic destination, Latin American tourism (especially that from Argentina and Brazil) is essential to the Uruguayan tourism industry. Evidence of the importance of international tourism in Uruguay is that being a 3.3 million people country, in 2012 it was visited by approximately 2.9 million international tourists. In addition, the importance of regional tourism is shown by the fact that in 2013 Argentinians represented approximately 60% of international tourists and Brazilians 14%.

On another note, tourism in Uruguay has a strong "Sun and Beach" profile, being the Oceanic Coast (located in Maldonado and Rocha) its main feature. Thus, tourism is an especially important activity during the summer. After 2011 international tourism slightly declined in Uruguay due to a more adverse

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regional economic context. However, in 2012 touristic activities represented 7% of Uruguay's GDP and 5.6% of total occupation rate (only considering direct job positions).

**Figure 1: Tourism in Uruguay, main features for 2012**

<b>International Tourism</b>	
Visitors	2.9 million
Expenditure	1,878 million USD
<b>Domestic Tourism</b>	
Trips	9.1 million
Expenditure	827 million USD
<b>Overall tourism activities</b>	
GDP share	6.9%
Direct Occupation share	5.6%

**Note:** Data for domestic tourism is presented for total trips and not individuals.

**Source:** MINTUR.

In Uruguay, most of the tourist services focus on non-residents (as well as international trends) both in flows and expenditure incurred by them. This seems logical since there are more international tourists than domestic ones, and their expenditure is higher, providing more revenues to the sector. However, domestic tourism also plays an important and increasing role in the Uruguayan economy. This has proved to be especially important after the economic recovery post 2002 crisis. Ever since Uruguay has shown the highest growth rates in its history and wealth distribution has improve. Hence, Uruguayans have more available income for consumption and touristic activities have received part of its effects. Evidence of its importance is that for the 2010-2012 period, for every international tourist trip, there were 3.1 domestic trips.

Tourism official statistics in Uruguay (provided by the Ministry of Tourism) define domestic tourism as all trips made by Uruguayans within national territory but outside their usual environment, for reasons different that paid work in destination or change of residence. Usual environment is defined as the geographic area in which a person performs their daily activities. According to the 2012 Domestic Tourism Report (MINTUR, 2012) in that year Uruguayans made 9,082,883 local trips, which involved a total expenditure by households above USD 827 million. The same values for 2011 were 8,421,533 and USD 627 million, while for 2010 results were of 7,752,833 and USD 398 million respectively. These results indicate an average growth rate of 8.24% on trips and of 44.72% on expenditure in the 2010-2012 period. Thus, considering Uruguay's small population, it can be concluded that neither magnitudes nor growth of domestic tourism trips and expenditure are negligible for those involved in related activities. Nevertheless it can also be argued that the development potential is not either, especially in a context of a growing economy, such as it occurs nowadays in Uruguay.

For the reasons above mentioned it is argued that a deeper understanding of the current situation in Uruguayan domestic tourism would contribute to better use of existing resources as well as it would draw attention to issues to be optimized, with the ultimate aim that domestic tourism reaches its full potential and the country as a whole continues on a firm growth path.

On another note, regarding its role as an (in) equalizing factor, Amaral, Alves and Rabahy (2013) find that for Brazil "the total net multiplier effects of domestic tourism carry a zero sum game, but regional distributional effects are significant". Thus, domestic tourism may be causing inequalities within an economy. The majority of the Uruguayan tourist activity takes place between December and March, giving the activity a strong seasonality, which leads to seasonal jobs and idle capacity the rest of the year. However, public policies that redistribute these flows through the promotion and support of certain areas can offset at least part of this effect.

Therefore, a better understanding of the domestic tourism market can help promote proposals to soften part of this seasonality and generate activities throughout the year. Results from this research can help to properly orient these policies in Uruguay, both in direction and magnitude.

The central purpose of this paper is to describe current patterns of domestic tourism in Uruguay. The specific objective of this paper is to construct an Origin-Destination matrix of domestic tourist flows, as well as an attraction coefficient of tourist between departments. To achieve this objective, a study will be carried out taking the 19 national departments and a regionalization of them as units of analysis, in order to generate a matrix that describe the main local current streams. This matrix will capture the tourist flows that arise in a department  $i$  to another  $j$  ( $i$  and  $j$  can be the same), and it will be measured in terms of trips. The tourist attraction indicator between departments will capture which of these have stronger and more sustained tourism linkages. It is worth noticing that there are very few research documents regarding domestic tourism in Uruguay. Thus, this paper gives insight in a scarcely studied field in Uruguay, being original in its subject.

This paper is organized as follows. Section 2 provides a quick background research, detailing previous important results related to the objectives of this paper. Section 3 presents the empirical strategy to follow as well as its principal data sources. Section 4 contains the main results, while Section 5 concludes and determines future guidelines of study.

## 2. Main Background

The subject of domestic tourism has been studied worldwide but not as extensively as international tourism. While the focus and methodologies used in the literature are assorted, most of the efforts are focused on identifying key trends using the corresponding tourism modules of household surveys conducted by official government department of a certain country or region.

Pearce (1993) refers to the patterns of domestic tourism in New Zealand, while emphasizes the redistributive role it has. The author carries out the analysis in number of nights and not in terms of trips as is done in other instances. He finds that origin flows are more concentrated than destination ones, while there is high dispersion in the number of nights spent away from home. The emissive flow is also highly correlated with the size of the region's population. As an interesting suggestion in terms of policy, he stresses the need that different regions do not concentrate in attracting a single tourist profile but also consider those regarding competing and nearby regions.

The contribution of Zhang (1997) for the case of China lies in quantifying the impact of China's rapid growth in terms of domestic tourism: between 1990 and 1995 the average annual growth of this activity was 17.6%. As a consumption pattern, it emphasizes that most trips are made individually and with low spending, while most attractions rely on cultural issues. This paper highlights the need to improve infrastructure and promotion and the offer of more flexible new tour packages. In the case of Kenya, Sindinga (1996) emphasizes the lack of systematized data that allows deeper research, but he does give a panning of basic domestic tourism statistics from official statistics. He also points out the incipient phase of domestic tourism and argues that the main cause of low activity is the narrow savings margin households have, for which the possibilities for tourist activities are very low. Towards encouraging such activity, reduced rates throughout the year are suggested for country residents in order to gain access to these services, while creation of specific attractions for domestic tourists is proposed to reduce part of the seasonality of jobs. Like Zhang, he stands out the need for improvements in infrastructure and marketing. Rogerson and Lisa (2005) do the same for South Africa, previous analysis of global trends in domestic tourism. In this case the volume of tourism is analyzed, both in terms of trips and spending, and seasonality of the activity under study is quantified. The racial composition of the different types of travel and its main destinations are also analyzed. In terms of the policies carried out, it is considered that South Africa has understood the development potential of domestic tourism and campaigns carried out have been satisfactory, as initial results are promising.

On the other hand, there are those researches that explore the role of domestic tourism as a development factor. These, in addition to describing the current situation in a particular country or region, analyzes the factors that determine it, such as customs, public or private incentives or weather conditions, among others. Archer (1978) appears as a pioneer, that although he emphasizes economic issues, he also highlights the political, cultural, social, moral and environmental effects of domestic tourism, both positive and negative. With regards to the economical ones, the author focuses on the redistributive role of the activity, taking into account both direct and indirect effects but also bearing in mind its multiplier effect, considering first, second and subsequent payments rounds until the induced multiplier no longer takes effect. As an empirical application of the multiplier effect, this paper takes the case of Gwynedd in Wales. Moreover, he argues that domestic tourism demand standards are lower than

international ones, so it would be easier to establish in regions without tourism. This paper emphasizes again the need for infrastructure investment, but highlights the fact that it will also be enjoyed by area residents, raising their quality of life. Special considerations are also made for developing countries, where according to the author, the effects, both positive and negative, can be more extreme.

More recently there are other papers in the same line, where emphasis is given on case studies. Seckelmann (2002) investigates the situation in Turkey, inquiring if domestic tourism can reduce disparities between regions, using data from a household tourism survey. The author begins by outlining the differences between the western and eastern regions, the former being the most developed and most benefited from tourism, both domestic and international. Within the domestic one, flows are also diverse in terms of expenditure, being the west region favored. In general she argues that touristic offer is not sustainable, both in its planning (where the government is dominant) and in the resulting income distribution. However, she argues that domestic tourism can help reduce disparities and calls for the promotion of domestic tourism in less developed areas, through a better offer from sports and cultural aspects, as arrangements are less demanding than for international tourism. On the other hand, she stresses the need of travel agencies to have a broader spectrum of action and an encouragement of day trips. To do this, investment in infrastructure and marketing will be vital to stimulate demand.

On another note, Otero-Giráldez, Álvarez-Díaz and González-Gómez (2012) study the effects of socioeconomic and meteorological factors on the demand for domestic tourism (proxied by the number of nights) for the case of Galicia, Spain. Using a distributed lag model (ARDL) they conclude domestic tourism behaves according to economic theory as a normal good with unitary income elasticity. It is also found that holidays variables (fixed and mobile) and climatic effects, measured by the North Atlantic Oscillation (NAO), affect positively. Surprisingly, price variables were not found significant. However, the variable associated with the economic crisis was found to have a significant and negative effect. For Galicia as well Garin-Muñoz (2009) studies the determinants of the touristic demand, both international and domestic. For that destination, domestic tourism is significantly more important than international one (84% and 16% respectively for 2006). In addition the domestic market is highly concentrated, being Madrid the main origin. Yearly panel data and a dynamic model with GMM estimators is used in both cases for the 1999-2006 period, considering the number of overnight stays provided by the Encuesta de Ocupación Hotelera. Elasticities results suggest that both types of tourism are sensitive to the origin's income and relative prices of Galicia to other ACs, a different result to that found by Otero-Giráldez, Álvarez-Díaz and González-Gómez (2012). Regarding non-economic causes, previous experiences and some calendar effects such as Santiago's Holy Year are found to be very important. Another results worth noticing is that public expenditure on tourism promotion is not found to be relevant for the domestic case. Finally, improving price competitiveness, providing more high-quality accommodation and diversifying origin markets are Garin-Muñoz's main recommendations in terms of policy-making.

As a direct reference for the regional analysis within our country the paper published by Guardia-Gálvez, Muro-Romero and Such-Devesa (2014) will be considered, in order to replicate part of the methodology applied by the authors in Spain to the case of Uruguay. Analysis of domestic tourism demand from FAMILITUR (Spanish household database with quarterly frequency), especially concerning the flows between Autonomous Communities (ACs), is used as reference. To do this, the authors construct primarily an origin-destination matrix and then calculate the attraction coefficients between ACs. Moreover, they estimate a gravity model of domestic tourist flows, development that escapes the aim of this paper.

Another interesting paper regarding regional flows is that of Martínez (2002), where concentration indices of tourism are calculated to study the concentration of domestic demand and supply. It also estimates a gravitational model. Using data also from FAMILITUR, market shares are calculated as in Guardia-Gálvez, Muro-Romero and Such-Devesa. Results show an important level of concentration, both in origins and destinations and both groups gather in general the same ACs. This document also concludes intraregional tourism plays an important part in total domestic tourism of each ACs, as well as trips to bordering ACs. In the same line, Usach Domingo (1998) carried out a similar article in terms of trips, also concluding about the existence of high concentration, and the importance of intraregional and bordering tourism. However the author relates this concentration with that of population, and after this consideration, demands is distributed more equally.

An interesting twist is introduced in Llano-Verduras and De la Mata (2009), when instead of number of tourists or trips, expenses are taken into consideration to estimate bilateral commercial flows among ACs, and to determine which ones are net exporters and importers of tourism. Besides FAMILITUR, two other sources are considered to compare results. Correlation among them is very high, denoting no

important differences. International tourism is also considered in estimations. In this case intraregional flows are also more important than interregional ones. These authors continue their research in De la Mata and Llano-Verduras (2012), where an econometric analysis of ACs trade flows is presented through different specifications of a gravity model for total flows and different types of it (second homes vs overnights). An OLS with White's consistent covariance matrix is the used estimator in all models. Important border effects are found intraregionally, giving the spatial dimension an essential role as a tourism determinant. Other geographic (temperature) and socioeconomic factors (wealth) are explanatory factors for touristic activities. On another note, the dynamic dimension of the panel showed there was a change in domestic tourism patterns from 2001 to 2007. Regarding spatial autocorrelation mixed results are found and authors argue that it should be further researched.

An additional remarkable and recent publication is that of Deng and Athanasopoulos (2011), since time and space are taken into account. In that paper, authors model both international and domestic touristic flows in Australia, through a dynamic spatial lag panel that uses an Origin-Destination Matrix. Results show that both dimensions (space and time) are worth studying separately for international and domestic flows. They find an important seasonal dependence of flows, as well as spatial autocorrelation. On a similar note, Massidda and Etzo (2012) estimate the determinants of domestic tourism in Italy using a dynamic panel data model and including the lagged dependent variable as a regressor. A system GMM estimator is used. The authors conclude that economic variables play an important role as determinants, being domestic tourism a luxury service in Italy. In addition, variables such as past experiences and the destination's infrastructure, attractiveness and environment are found to be important determinants as well. Furthermore, domestic and international tourism are found to be substitute services. In their policy remarks they state that at a macroeconomic level, Italian regions should take care of their reputation and touristic ambiance. At a microeconomic level, they claim that domestic tourism would be boosted if lower income households gained access to it. In that note, the reduction of holiday prices could be a fruitful policy.

Marrocu and Paci (2013) also analyse the determinants of domestic tourism flows in Italy using a spatial autoregressive econometric model for the 107 provinces. This extends a linear gravity model specification by adding spatial autoregressive terms related to origin-destination connectivity and dependence. While a more complex model, it allows to decompose the resulting effects into internal and external determinants. They find that neighbouring territories as well as those less crowded are more attractive destinations. Origin's income, destination's accessibility and available attractions are also important factors. In comparison to gravity models, most estimated impacts are higher in the spatial autocorrelation specification, excepting the distance between provinces. Authors attribute this to the existence of spatial spillovers, or in other words to the indirect effects of external determinants. In this model, effects have multilateral interpretations due to the interconnectivity of flows. They also conclude that due to this strong interconnectivity, policy strategies should be integrated at local and national levels between private managers and the public sector, taking advantage of existing spill-over effects in bordering territories.

Regionally, Amaral, and Rabahy Alves (2013) also carried out an origin-destination matrix of tourist flows, applying it to the Brazilian case. Unlike Guardia-Gálvez, Muro-Romero and Such-Devesa the focus not on the number of trips but in the spending tourists make, in order to analyze consumption patterns such as in Llano and De la Mata. Also, instead of considering states (which would be analogous to taking the ACs) large regions of Brazil are taken. As for policy considerations, these authors again highlight the need for improvements in investment in tourism, while adding a dimension of sustainability.

Locally the literature is scarce. Officially, Domestic Tourism reports are released by the Ministry of Tourism since 2008, where main results of the Survey on Domestic Tourism are listed as merely descriptive. They key statistics on popular destinations, transportation, accommodation, composite, main reason and expenditure are presented. Meanwhile, Larruina (2013) conducted an assessment of the impact of tourism on the Uruguayan economy with an input-output model. While the focus is on international tourism flows, she arrives at an estimate of the expenditure involved in the domestic tourism as a residue from the gross value added of tourism production and inbound tourism spending. As a surprising result, and in contrast to the rest of the literature, domestic tourism spending seems slightly higher than inbound tourism. Nevertheless, there is no document focused on Uruguay's inbound tourism trends, its structure and policy considerations. Hence, this paper will be a first contribution to filling that gap.

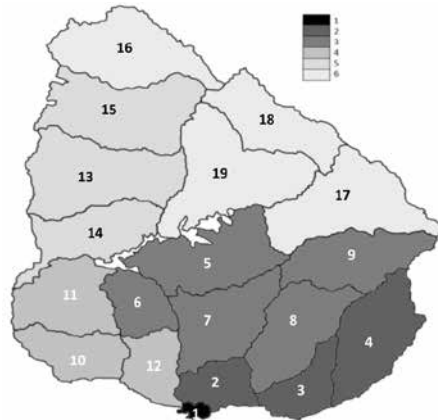
### 3. Methodological framework

#### 3.1 Empirical background

To carry out the task set for this paper, the National Household Survey will be used as a database, with emphasis on the Domestic Tourism module, surveyed by the National Institute of Statistics. This module has information from 2008 until 2012, though not continuously since the reference period was changed, missing data from December 2009. Therefore, the time frame considered in this research will be from 2010 onwards.

As already mentioned, an origin-destination matrix will be built among geographical units. The geographical units concerned will be departments or aggregated regions. Using the information provided by the Domestic Tourism module, trips originated in one department and with another (or not) as a destination will be identified over a calendar year. For the regions study, the Tourist Zones criteria used by the official leading organism was adapted. This was done taking the locations considered by that organism throughout the country and encompassing departments in such way that the territorial classification was complete, leaving no areas unclassified. The criteria to link zones into regions was based on similarity in their touristic features: what they offer to tourist and what tourist look for in those destinations. This criteria is also used so the conclusions derived from this paper are of special value in terms of touristic policy implications. The resulting regions are the following.

**Figure 2: Uruguay's Touristic regionalization**



**Source:** Own criteria based on MINTUR and IESTA

Region	Name	Departments	Type of Tourism	Visitors	GDP share (2008)	Population share
1	Montevideo (MVD)	Montevideo (1)	Cultural, Shopping, Sun and Beach	Domestic and International	46%	40%
2	Southeast (SE)	Canelones (2), Maldonado (3), Rocha (4)	Sun and Beach	Domestic and International	19%	23%
3	Centre (C)	Durazno (5), Flores (6), Florida (7), Lavalleja (8), Treinta y Tres (9)	Rural	Domestic	7%	8%
4	Southwest (SW)	Colonia (10), Soriano (11), San José (12)	Cultural	Domestic and International	11%	10%
5	Littoral (LIT)	Paysandú (13), Río Negro (14), Salto (15)	Thermal	Domestic	9%	9%
6	North (N)	Artigas (16) Cerro Largo (17), Rivera (18), Tacuarembó (19).	Rural	Domestic	8%	11%

**Source:** INE.

Region 1 only comprises the Capital Department and City, and offers a wide range of activities to tourists: beaches, cultural life (museums, theatres, concerts, architecture, history), and shopping. Region 2 focuses mainly in the “Sun and Beach” tourism, as well as eco-tourism, although Punta del Este, located in Maldonado, also provides a sophisticated social agenda. This region is the most touristic one, especially during the summer due to its touristic assets. In touristic terms, regions 3 and 6 offer primarily rural activities, being nature its main attraction. They are also the regions with the least touristic appeal and promotion. Region 4, and specially the department of Colonia is oriented to cultural tourism, due to its historical baggage, and also has many local festivities. Finally, Region 5 main features are its thermal waters, spas and water parks.

On another note, three different types of trips are computed. Following official’s definitions, a regular trip is defined as a movement some place outside someone’s usual environment but within the country, systematically, with some temporal frequency (weekly, biweekly, monthly), to the same destination, with overnight. Non regular trip refer movements of a person outside their usual environment but within the country, sporadically, for one time in the reference period, to different destinations with overnight. Finally, excursions are all movements a person does outside their usual environment but within the country, sporadically, with duration less than a day without overnight stay.

**3.2 Methodological approach**

For making the matrix, for the case of regular trips the total amount of travel is computed in the reference period, while non-regular trips and excursions, as their definition precise, are computed only once. Regarding this, it should be noted there is a methodological difference from the computed trips by the official leading organism. The Domestic Tourism module asks about two excursions, four non regular trips and two regular trips. On Domestic Tourism Reports, the Ministry of Tourism computes only the first trip of each category, while in this paper we take all of them. Consequently, the results of these estimates will evidence a greater number of trips to that published by the official agency. The values resulting from this identification will compose the different cells of the matrix, being able to identify the total number of trips originating in a department and the total number of trips destined for a department. Also, a balance for each department indicating whether it is net sender travel or receiver, calculating the balance between received and emitted trips is performed. The origin-destination matrix has the following structure:

$$\begin{pmatrix}
 x_{11} & x_{12} & \dots & x_{1j} & X_1 \\
 x_{21} & x_{22} & \dots & x_{2j} & X_2 \\
 \vdots & \vdots & \ddots & \vdots & \vdots \\
 x_{i1} & x_{i2} & \dots & x_{ij} & X_i \\
 Y_1 & Y_2 & \dots & Y_j & T
 \end{pmatrix}$$

Where  $X_{ij}$ = number of trips originated in department i and destination in department j;  $X_i$ = number of trips originated in department i;  $Y_j$ = number of trips received by department j;  $T$ = total trips.

As for the Attraction Coefficient, the methodology proposed by Guardia-Gálvez, Muro-Romero and Such-Devesa (2014) will be followed, using as inputs the flows generated by the origin-destination matrix. In this case a coefficient is also obtained by tourist flow because results are not symmetrical between any two departments. Coefficient estimation is as follows:

Where  $IC_{ij}$ = Tourist Attraction Coefficient among departments i y j;  $= X_i / Y_j = T$ .

A tourist flow is defined as strong if the attraction coefficient is greater than one. Otherwise is defined as weak. According to the interpretation of the formula, the coefficient of attraction is greater than 1 if the number of trips from i to j as a proportion of the total received by j is greater than the total trips originating in i as a proportion of total global travel. That would imply that the  $x_{ij}$  flow has a higher relative weight in the total trips to j than the total trips originated in i in the overall amount of trips. The results considering the aggregate matrix triennium are presented in the following section.

#### 4. Results: TOURISTIC FLOWS

##### 4.1 By departments

Below are the main trends of received and emitted trips, after providing a first approximation to which departments are net recipients of issuers and domestic tourism flows. The net balance is calculated as the difference between the received and emitted trips. If this is greater than zero it means that the department received more trips than it issued, so that would be a net recipient. Otherwise, it will be a net emitter.

Figure 3: Tourist balances, for 19 departments

	TOURISM BALANCE 2010-2012			Population	Region
	R	E	N		
<b>Montevideo</b>	2.792.649	17.732.794	-14.940.145	1.319.108	1
<b>Artigas</b>	339.219	244.979	94.240	73.378	6
<b>Canelones</b>	7.724.341	3.376.304	4.348.037	520.187	2
<b>Cerro Largo</b>	402.933	250.566	152.367	84.696	6
<b>Colonia</b>	1.556.391	646.110	910.281	123.203	4
<b>Durazno</b>	517.713	411.315	106.398	57.088	3
<b>Flores</b>	259.887	317.921	-58.034	25.050	3
<b>Florida</b>	806.300	450.653	355.647	67.048	3
<b>Lavalleja</b>	1.083.096	554.276	528.820	58.815	3
<b>Maldonado</b>	5.718.851	883.966	4.834.885	164.300	2
<b>Paysandú</b>	696.008	484.903	211.105	113.124	5
<b>Rio Negro</b>	355.209	219.971	135.238	54.765	5
<b>Rivera</b>	357.548	335.309	22.239	103.493	6
<b>Rocha</b>	1.995.949	298.216	1.697.733	68.088	2
<b>Salto</b>	1.158.331	339.889	818.442	124.878	5
<b>San Jose</b>	1.011.443	572.625	438.818	108.309	4
<b>Soriano</b>	593.339	585.037	8.302	82.595	4
<b>Tacuarembó</b>	653.303	401.323	251.980	90.053	6
<b>Treinta y Tres</b>	361.685	278.038	83.647	48.134	3

Source: Own estimations based on INE and MINTUR.

Results indicate that for the three years (2010-2012)<sup>2</sup> Montevideo is the department classifiable as the higher net emitter, with a balance of -14,940,145. All other departments, with the exception of Flores, (the smallest department in terms of population, thus having a lower capacity to emit trips) have positive balances, being Maldonado the one with the biggest difference between the emitted and received travel, with a positive balance of 4,834,885 trips. It is followed by Canelones with 4,348,037 and a greater number of received trips but also it has a greater number of trips issued. In third place is Rocha, consolidating the Southeast region as the largest recipient. This is the type of tourism classified by local authorities as "Sun and Beach", the most popular in Uruguay. As already mentioned, this type of tourism takes place mainly in the Oceanic Coast (Maldonado and Rocha) as well as in the Golden Coast, located in Canelones. Furthermore, Colonia and Salto also stand as receiving departments. As already mentioned, while the first is primarily associated with historical and cultural attractions, the second one is related to the thermal circuit.



Moreover, as the first of the specific objectives, origin-destination matrices concerning inter and intra departmental tourist flows were obtained for the years 2010, 2011 and 2012, as well as for the three years together. This was done by matching the trips issued by one department and arrived to another one. The rows of the matrix indicate the department issuer of travel, while the columns represent the receiver department.

Below are presented the aggregate results for the three year period, i.e., the sum of the total trips of the triennium 2010-2012 for the 19 departments. The results for the period indicate that in total 28,384,195 trips were made to Uruguayan locations, by Uruguayans, with substantial increases in every year's total. In the matrixes, the row totals should be interpreted as the total trips made by residents in the department, while the columns indicate the total number of trips received by each department, which match the totals presented in previous balances. Thus, this matrix allows identifying clearly the composition of travel received and issued by each department regarding other geographical units. The cell intersection of a row and column reflects the number of trips issued by the row unit and received by the column unit.

**Figure 4: Origin-Destination Matrix for triennium 2010-2012, by departments (in thousands)**

	MVD	ART	CAN	CRL	COL	DUR	FLS	FLA	LAV	MAL	PAY	RNE	RIV	RCH	STO	SJE	SOR	TBO	TYT	TOT
MVD	2	172	6,235	223	1,000	284	162	542	632	4,380	334	184	199	1,293	587	713	269	309	212	<b>17,733</b>
ART	95	41	2	0	0	0	0	3	1	10	5	0	14	3	65	0	0	4	1	<b>245</b>
CAN	543	27	1,049	27	113	36	24	105	201	572	32	11	37	290	128	84	28	41	29	<b>3,376</b>
CRL	87	0	8	90	2	0	1	0	9	17	2	0	3	10	8	1	1	4	8	<b>251</b>
COL	170	0	12	2	218	1	10	17	7	54	12	19	2	6	33	14	65	0	2	<b>646</b>
DUR	145	0	32	0	4	106	2	13	3	21	4	7	3	7	3	6	24	25	6	<b>411</b>
FLS	190	5	8	0	4	21	13	9	3	12	9	1	1	2	10	6	16	8	0	<b>318</b>
FLA	111	0	81	3	11	10	12	67	11	50	12	4	1	25	17	25	1	10	2	<b>451</b>
LAV	94	2	38	2	9	15	0	6	113	240	1	0	0	24	2	3	2	0	3	<b>554</b>
MAL	265	3	127	16	26	6	2	20	65	141	6	11	6	117	26	15	6	9	16	<b>884</b>
PAY	104	15	4	0	2	2	0	0	0	15	156	61	10	1	92	0	10	12	0	<b>485</b>
RNE	69	0	3	0	8	8	6	0	0	12	41	24	0	4	8	1	16	22	0	<b>220</b>
RIV	115	27	4	9	1	5	2	0	1	11	1	6	54	12	40	0	1	48	0	<b>335</b>
RCH	99	0	2	1	8	0	0	1	11	26	0	0	0	121	7	4	0	1	15	<b>298</b>
STO	132	38	7	2	1	0	0	0	1	29	41	3	1	6	61	0	2	16	0	<b>340</b>
SJE	148	2	57	0	60	2	5	12	9	77	2	3	3	24	22	129	14	4	0	<b>573</b>
SOR	204	3	20	0	88	2	16	2	2	22	24	16	0	7	28	8	132	12	0	<b>585</b>
TBO	118	5	22	10	0	19	4	4	0	14	12	2	22	7	18	2	2	129	11	<b>401</b>
TYT	102	1	14	19	1	0	0	5	13	15	1	2	0	39	5	1	4	0	55	<b>278</b>
TOT	<b>2,793</b>	<b>339</b>	<b>7,724</b>	<b>403</b>	<b>1,556</b>	<b>518</b>	<b>260</b>	<b>806</b>	<b>1,083</b>	<b>5,719</b>	<b>696</b>	<b>355</b>	<b>358</b>	<b>1,996</b>	<b>1,158</b>	<b>1,011</b>	<b>593</b>	<b>653</b>	<b>362</b>	<b>28,384</b>

Source: Own estimations based on INE and MINTUR.

For example, there were 6,234,948 trips out of Montevideo to Canelones. In the opposite direction, 543,276 trips from Canelones had Montevideo as their destination. It is worth noticing that Canelones is a particularly interesting department. On one side, some of its cities are part of the Metropolitan area, having a strong connection with Montevideo in many aspects. On another side, some of the most frequented seaside resorts of the country are located in this department. And due to its proximity to the capital city, the vast majority of Montevideans' second homes are located in it. For its part, the diagonal of the matrix notes the travel received and issued by the same department. Thus, there were 55,268 trips inside Treinta y Tres.

From the above matrix an attraction coefficient between departments was constructed to determine the intensity of those links, i.e., which flows are stronger and which departments are net recipients of issuers or domestic tourists. Results are shown in the following figure.

Figure 5: Attraction coefficients, by departments

IC	MVD	ART	CAN	CRL	COL	DUR	FLS	FLA	LAV	MAL	PAY	RNE	RIV	RCH	STO	SJE	SOR	TBO	TYT
MVD	0.00	0.81	<b>1.3</b>	0.89	<b>1.0</b>	0.88	1.00	<b>1.1</b>	0.93	<b>1.2</b>	0.77	0.83	0.89	<b>1.0</b>	0.81	<b>1.1</b>	0.72	0.76	0.94
ART	<b>3.9</b>	<b>14.1</b>	0.03	0.00	0.00	0.00	0.00	0.38	0.14	0.21	0.89	0.00	<b>4.6</b>	0.17	<b>6.5</b>	0.00	0.00	0.75	0.40
CAN	<b>1.6</b>	0.66	<b>26.0</b>	0.68	<b>2.8</b>	0.90	0.60	<b>2.6</b>	<b>5.0</b>	<b>14.2</b>	0.80	0.27	0.90	<b>7.2</b>	<b>3.2</b>	<b>2.1</b>	0.69	<b>1.0</b>	0.72
CRL	<b>3.5</b>	0.00	0.11	<b>25.2</b>	0.17	0.00	0.38	0.00	0.96	0.33	0.30	0.00	<b>1.1</b>	0.55	0.81	0.08	0.13	0.75	<b>2.5</b>
COL	<b>2.7</b>	0.06	0.07	0.20	<b>6.2</b>	0.12	<b>1.7</b>	0.94	0.28	0.42	0.75	<b>2.4</b>	0.29	0.13	<b>1.3</b>	0.61	<b>4.8</b>	0.00	0.30
DUR	<b>3.6</b>	0.00	0.29	0.00	0.16	<b>14.1</b>	0.61	<b>1.1</b>	0.17	0.25	0.41	<b>1.4</b>	0.52	0.22	0.16	0.44	<b>2.8</b>	<b>2.6</b>	<b>1.2</b>
FLS	<b>6.1</b>	<b>1.2</b>	0.10	0.00	0.22	<b>3.7</b>	<b>4.6</b>	<b>1.0</b>	0.25	0.18	<b>1.1</b>	0.20	0.22	0.07	0.78	0.55	<b>2.5</b>	<b>1.1</b>	0.00
FLA	<b>2.5</b>	0.00	0.66	0.40	0.43	<b>1.2</b>	<b>2.8</b>	<b>5.2</b>	0.67	0.55	<b>1.1</b>	0.79	0.22	0.78	0.92	<b>1.6</b>	0.13	0.93	0.27
LAV	<b>1.7</b>	0.25	0.25	0.21	0.31	<b>1.5</b>	0.00	0.38	<b>5.3</b>	<b>2.1</b>	0.10	0.06	0.00	0.61	0.11	0.14	0.20	0.00	0.45
MAL	<b>3.0</b>	0.29	0.53	<b>1.3</b>	0.53	0.35	0.26	0.82	<b>1.9</b>	0.79	0.29	0.97	0.57	<b>1.9</b>	0.72	0.46	0.34	0.43	<b>1.5</b>
PAY	<b>2.2</b>	<b>2.6</b>	0.03	0.00	0.07	0.23	0.00	0.00	0.00	0.16	<b>13.1</b>	<b>10.0</b>	<b>1.6</b>	0.04	<b>4.6</b>	0.00	0.99	<b>1.1</b>	0.00
RNE	<b>3.2</b>	0.00	0.06	0.00	0.66	<b>1.9</b>	<b>2.9</b>	0.02	0.00	0.27	<b>7.6</b>	<b>8.8</b>	0.00	0.23	0.84	0.08	<b>3.4</b>	<b>4.3</b>	0.00
RIV	<b>3.5</b>	<b>6.7</b>	0.05	<b>2.0</b>	0.05	0.80	0.63	0.00	0.07	0.16	0.09	<b>1.5</b>	<b>12.7</b>	0.50	<b>2.9</b>	0.00	0.13	<b>6.2</b>	0.00
RCH	<b>3.4</b>	0.07	0.03	0.23	0.51	0.00	0.00	0.13	0.97	0.44	0.06	0.00	0.00	<b>5.8</b>	0.58	0.37	0.04	0.08	<b>4.0</b>
STO	<b>3.9</b>	<b>9.3</b>	0.07	0.31	0.08	0.06	0.00	0.00	0.05	0.43	<b>4.9</b>	0.74	0.29	0.24	<b>4.4</b>	0.00	0.31	<b>2.1</b>	0.00
SJE	<b>2.6</b>	0.24	0.37	0.00	<b>1.9</b>	0.20	0.87	0.73	0.41	0.66	0.14	0.44	0.44	0.59	0.94	<b>6.3</b>	<b>1.2</b>	0.33	0.00
SOR	<b>3.5</b>	0.41	0.12	0.00	<b>2.7</b>	0.16	<b>3.0</b>	0.14	0.09	0.18	<b>1.7</b>	<b>2.2</b>	0.00	0.18	<b>1.2</b>	0.38	<b>10.8</b>	0.86	0.00
TBO	<b>3.0</b>	<b>1.0</b>	0.20	<b>1.7</b>	0.00	<b>2.6</b>	<b>1.2</b>	0.32	0.03	0.17	<b>1.2</b>	0.35	<b>4.4</b>	0.26	<b>1.1</b>	0.13	0.19	<b>14.0</b>	<b>2.1</b>
TYT	<b>3.7</b>	0.15	0.19	<b>4.8</b>	0.07	0.00	0.18	0.66	<b>1.3</b>	0.28	0.08	0.68	0.00	<b>2.0</b>	0.42	0.11	0.71	0.00	<b>15.6</b>

Source: Own estimations based on INE and MINTUR.

The coefficients higher than 1 were marked with darker background and bold numbers. Montevideo is noted to be a destination with strong attraction for all departments (except itself). Being the capital department and city, it has a wider offer of services to those Uruguayans who do not live in it, resulting in an appealing destination. Likewise, family visits from relatives who do not live in Montevideo to those who do can be another cause of the importance of these flows, while is very likely to reduce costs when getting to know the capital city. Even many international trips go through to Montevideo, since Uruguay's main and biggest international airport is located in the Metropolitan Area. On another note, the existence of second homes is not as important in trips to Montevideo as in other departments: most of Uruguayan's second residences are located in the southeast coast of the country.

This is an important result since Montevideo already is the city with a higher GDP per capita and higher development index. Therefore, as and at the same time it receives the biggest amount of domestic tourism flows, this activity can contribute to already existing inequalities, as Amaral, E., Alves, A. and Rabahy, W. (2013) stated. In this situation, public policy can play an important role to neutralize undesired effects.

Another interesting result is that, except for Montevideo and Maldonado, the coefficients of the flows on the diagonal of the matrix are classifiable as strong. This indicates that intra-departmental trips account for a significant proportion of total trips of that department. These flows are particularly strong north of the Río Negro (Cerro Largo, Paysandú, Rivera, Soriano, Tacuarembó and Treinta y Tres), as well as in Durazno, Canelones and Soriano.

By separating between regular and non-regular trips results portray that the former are associated with the diagonal of the matrix, which suggests that many Uruguayans regularly perform domestic tourism within their department. Excepting Montevideo, this probably is linked to second homes outside the capital city but within the department. It can also refer to the opposite case in which suburban residents come to the capital city with some regularity. Moreover, the geographical proximity seems to be another cause of attraction between departments. If Montevideo is excluded and the same department under study, there are several cases in which flows with bordering departments and destination are classified as strong. This seems to be a country level trend.

Thus, of the 361 flows department, 115 of them (32%) can be classified as strong (when higher than 1). At the departmental level it is also noted that from 2010 to 2012 the number of strong flows increased, signaling some regional diversification of domestic tourism over time. The causes are probably found

in a wider touristic offer as well as public policies that encourage this type of travel. Apparently data indicate promotions carried out by private agents in conjunction with incentives and publicity given by the state as successful, primarily by MINTUR and the “Uruguay Natural” slogan, a greater supply of information and benefits for local tourists.

Considering a more differentiated classification of flow strength, 25 of them (7%) could be seen as “very strong”, when the IC takes values higher than 5. Of these flows, it is worth noticing that most of them appear at the matrix’s diagonal. In addition, 91 of them (25%) could be classified as “strong”, having an IC between 1 and 5. On the opposite side, the majority of the flows continue to be seen as “weak” in this classification, as 179 of them (50%) take values lower than 0.5. In between, 41 flows (11%) could be noted as “mild” (when taking IC values between 0.5 and 1).

As for the intensity of flows, it appears to be a minimum decentralization in time, while existing conflicting forces within this result. On one hand, for several departments there are significant increases in the attraction coefficient with Montevideo and decreases some with neighboring departments. Such is the case of Soriano, Colonia, and Durazno with Tacuarembó and San José with Colonia. The opposite case is that of Rocha. Moreover, substantial increases were registered in 2012 in several coefficients of Canelones, especially with himself and departments of the region or neighboring. Lavalleja and Soriano decrease significantly their own coefficients.

#### 4.2 Results by regions

In order to continue the analysis presented above, a regional approach is presented in the following sub-section. This is of great interest for three main reasons. First, as important attraction coefficients were found between bordering departments, it may be interesting to look into intra-regional results. Second, a similar scheme is used by tourism authorities in Uruguay to define touristic regions. Thus, regional results may prove of great interest to policy implications. Third, the dimensions of the resulting matrixes in the regional approach are simpler to manage.

When the matrix analysis is done by regions, the interpretation is identical, and in this case the diagonal indicates travel within the region, incorporating interdepartmental trips. Calculations indicate that of the 17,732,794 trips issued by the Montevideo region, 11,908,213 reach the southeast region and only 903,126 made it to the North region. Moreover, of the 2,792,649 trips to Montevideo, 906,927 do so from the Southeast and only 2,420 are internal to the region. Also, 728,261 of the 3,161,173 trips received by the Southwest are internal.

**Figure 6: Tourist balances, for 6 regions**

TOURISM BALANCE			
	2010-2012		
	R	E	N
<b>MVD</b>	2,792,649	17,732,794	-14,940,145
<b>SE</b>	15,439,141	4,558,486	10,880,655
<b>C</b>	3,028,681	2,012,203	1,016,478
<b>SW</b>	3,161,173	1,803,772	1,357,401
<b>LIT</b>	2,209,548	1,044,763	1,164,785
<b>N</b>	1,753,003	1,232,177	520,826

**Source:** Own estimations based on INE and MINTUR.

Regionally, Montevideo is once again the one who more travel emits, having the only negative balance. Meanwhile, the Southeast region is by far the one who receives the most. Both areas outstand from the rest, which have lower imbalances. On the other hand, the northern region has the lowest number of trips is received and the Littoral is the one that emits fewer trips. These results are consistent with those found by departments. They also reaffirm the fact that the majority of trips associated with domestic tourism take place south of Rio Negro and only Salto seems to be a node in the north.

**Figure 7: Origin-Destination Matrix for triennium 2010-2012, by regions (in thousands)**

	MVD	SE	C	SW	LIT	N	Total
MVD	2	11,908	1,832	1,982	1,105	903	<b>17,733</b>
SE	907	2,446	533	284	221	167	<b>4,558</b>
C	642	606	490	118	79	77	<b>2,012</b>
SW	523	278	88	728	159	28	<b>1,804</b>
LIT	305	81	17	40	487	116	<b>1,045</b>
N	415	119	69	9	159	461	<b>1,232</b>
Total	<b>2,793</b>	<b>15,439</b>	<b>3,029</b>	<b>3,161</b>	<b>2,210</b>	<b>1,753</b>	<b>28,384</b>

Source: Own estimations based on INE and MINTUR.

By region, the main patterns in the matrix are very similar. First, Montevideo is an attractive destination for all regions except for itself. The northern and central regions seem to be more attracted to that destination. Meanwhile, Montevideo is attracted by southern destinations, since the coefficient of attraction is strong for Southeast and Southwest regions. On the other hand, significant coefficients were once again recorded in the diagonal, especially for the Littoral and the North. For such behavior the exceptions is Montevideo and the Southeast region remains barely below 1.

**Figure 8: Attraction coefficients, by regions**

	MVD	SE	C	SW	LIT	N
MVD	0.0	<b>1.2</b>	1.0	<b>1.0</b>	0.8	0.8
SE	<b>2.0</b>	1.0	<b>1.1</b>	0.6	0.6	0.6
C	<b>3.2</b>	0.6	<b>2.3</b>	0.5	0.5	0.6
SW	<b>2.9</b>	0.3	0.5	<b>3.6</b>	<b>1.1</b>	0.3
LIT	<b>3.0</b>	0.1	0.1	0.3	<b>6.0</b>	<b>1.8</b>
N	<b>3.4</b>	0.2	0.5	0.1	<b>1.7</b>	<b>6.1</b>

Source: Own estimations based on INE and MINTUR.

Taking into account regions the proportion of “strong” flows rises to 15 out of 36, representing 42% of total. With the other classification, only 2 flows would be “very strong” and 13 would be “strong”. In addition, in the regional case, there are more flows classifiable as “mild” (11 of them) instead of “weak” (8). These results indicate that regional flows are more dispersed than the departmental ones.

### 4.3 International comparison

The results above presented are in line with those of previously reviewed literature, such as those of Guardia-Galvez et al. (2014), Amaral et al (2013), Martinez (2002), and Usach Domingo (1998). First, in the origin-destination matrix a significant concentration of tourist flows in certain geographical areas is found (whether ACs in the Spanish case as large regions in Brazil or departments or regions in Uruguay). These areas also coincide with those most visited by international tourists. Moreover, in terms of attraction coefficients, significant results along the diagonal of the matrix are also found, indicating that the proportion of trips within each geographical area is important. They also find important flows between neighboring Autonomous Communities. However, in that paper all attraction coefficient magnitudes are lower than those found for the Uruguay case. Moreover, the results also show for Uruguay, as well as for several previous papers revised (Amaral, E., Alves, A. y Rabahy, W. (2013), Rogerson, C. y Lisa, Z. (2005), Seckelmann, A. (2002), Sindinga, I. (1996) and Zhang, W. (1997)) significant growth rates of domestic tourism flows for the past few years (7 % for 2011 and 20% in 2012).

At the regional level, according to data extracted from Ministry of Tourism 2013 yearbook, domestic tourism seems to be more geographically concentrated than one international. Evidence of it is that

although in both cases the Southeast region is the most visited, in the domestic case it represents just over 50% of total trips' destination, while for international ones it corresponds with 30% of total. Moreover, Montevideo is an attractive destination for foreign travel because it attracts about 30% of these tourists. That is not the case for residents in Uruguay, for which only 10% of trips are directed to that department. In the same line, the Littoral region also has a higher weight in international tourists than for domestic ones. In contrast, the Southwest represents a higher proportion of travel for domestic than for international tourism.

Another difference regarding international tourism is that in the domestic tourism flows, there is a slightly less quarterly seasonality within a calendar year. However, the first quarter is always the one with a higher amount of trips, (approximately 37% of total trips for 2012). This result is related to the summer season and some national holidays such as Carnival which takes place in February or March.

Finally, in terms of policy, we agree with other documents of developing countries in the sense that the demand for domestic tourism has responded to incentives from the public sector. In this regard, the Ministry of Tourism in Uruguay has pursued several initiatives that have had good demand results. Among them is the still very incipient "National Tourism Day", in which in association to the private sector, offer some special offers for off-season weekends on different items associated with the tourism industry (hotels, restaurants, car vehicles and other services). These would ease the seasonality of tourism demand, activating these activities more evenly throughout the year and would show new places to domestic tourists. Besides reducing seasonality (which represents time concentration), another important path to take is to reduce regional or departmental concentration, which has already begun to take place but that could be intensified.

In that line, we also agree with previous studies that there is still more room to continue on that path. This is mainly because most of the efforts to promote an increased tourism are aimed at international and regional tourists, mainly because Argentinean demand has declined substantially in recent years. Also, most of the special benefits of the "National Tourism Day" apply only to payments to certain credit cards, skewing the potential beneficiaries. A deepening of such initiatives, which captures a greater number of establishments, covering a wider range of tourism options according to expenses or amenities desired, and extending the benefits of cash payments can be powerful tools for promoting domestic tourism.

Another interesting point arises when causes besides economic ones (such as transport, accommodation and food) are thought to potentially explain regional concentration. Tourism is frequent in bordering regions and departments, especially in the latter case. This could happen because it is the territory individuals know and are aware of its attractions and special offers, not being open to explore new places they do not know much about. Is in those cases that economic reasons may not be the main constraint to other forms of tourism. It is worth noticing that these are still mere theoretical hypotheses, since data available to date in Uruguay cannot help to clarify this point. In this context, more intense broadcasting of activities throughout the country and the whole year, both from the public (through municipalities and ministries cooperation among them and directly with the locals) and the private sector (touristic agencies, realtors, restaurant owners), would pay off and be beneficial for all those economic actors who depend on tourism, as results show internal demand positively reacts to a better and higher offer of touristic services. In that line, an interesting first kick for communities with little tourism flows could be given by higher promotion of local festivities.

## 5. Final Comments

In recent years tourism has grown substantially in Uruguay. While the focus is often on international tourism, domestic flows have also increased their relevance and significantly. The main objective of this work was then to describe the geographic patterns of domestic tourism in Uruguay through building an origin-destination matrix of trips made and the estimation of an attraction coefficient. Results indicate that the major flows occur within the department or region of origin as well as those bordering. Also, Montevideo is an attractive destination for all departments of the Interior (although net emitter) and those of the Southeast are the main net recipients. Moreover, domestic tourism appears to be more concentrated than the international one, and the Southeast region is the one that primes. So, these results are an interesting first approach to profiles in Uruguayan domestic tourism, while it clarifies, at least in part, the current situation in terms of strengths and weaknesses of the current touristic offer. Additionally, as in other developing countries, domestic tourism in Uruguay has positively responded to

incentives in terms of demand. As a direct consequence of that response and of recent economic growth, it is believed that those efforts should be continued and deepened.

Regarding the implications of these results, a better design of policies for investment and employment will contribute to a better use of existing physical and human resources as well as it would indicate the points still to be improved. Among them are: design of more durable and stable projects, tries for softening the strong seasonality and geographical concentration characteristic of this activity in Uruguay, as well as increase promotion in time and space. Better marketing strategies will also play an essential role in this frame, especially for new and little-known entrepreneurs, SMEs and innovative projects that are developing nowadays (such as boutique hotels or rural tourism). Joint efforts from public and private agents and providers will be key in these developments. Even if this trend has started in Uruguay, it is still very incipient, and should be more encouraged. Such considerations and some creative thinking could allow domestic tourism, and the economy as a whole, come to an optimal growth path.

In the research agenda remains to make a typology of domestic tourists at individual level, which will refine this analysis, and will elucidate more precise policy recommendations, focused on the different groups found. This will be carried out by a cluster analysis, after further investigation of the information available in the database and a factorial analysis. The estimation of an origin-destination matrix with tourism expenses instead of number of trips and a descriptive model of the attraction flows are also of great interest for further stages. Furthermore, the spatial dimension of this analysis will be further exploited, as this paper only present a first approach to it. In that context, results presented in this paper will be a key input towards estimating a gravity model of the domestic tourist flows in Uruguay, output that exceeds the scope of this paper. This will contribute enormously to explaining causal links in the geographical touristic patterns. These efforts could be done for both the 19 departments and the 6 regions presented in this paper. However, in the latter case, new data will be necessary in order to have a sufficient number of observations that gives robustness to results.

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## Notas

- <sup>1</sup> Document based on the Final Report of a Research Initiation Grant provided by the Agencia Nacional de Investigación e Innovación (ANII), Uruguay.
- <sup>2</sup> Year by year outcomes show similar results than the three year period regarding the overall structure of trips. There are significant yearly increases in the total domestic trips, although this is not the main focus of this paper. The approach in this paper will be static. Thus, in order to use a greater amount of observations, the document will be presented for the overall period.

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