



# The design of statistical tools to measure tourism from a social focus<sup>1</sup>

Lic. Rodrigo Oliver<sup>2</sup>

Mg. Diego Ariel Born<sup>3</sup>

Mg. Juan Pablo Tarelli<sup>4</sup>

**DRAFT v.2**

## Index

1. Introduction .....	2
2. Tourism as a human right and access to tourism .....	3
3. Theoretical framework: the estimation of inequality .....	5
4. Impact of tourism in inclusive development.....	8
5. Data base: The Household Travel and Tourism Survey (EVyTH).....	8
6. Income distribution in tourist consumption by income quintiles in Argentina 2006-2014..	8
7. Conclusions .....	13
8. Bibliography .....	15

---

<sup>1</sup> The opinions expressed in this paper are responsibility of the author and do not necessarily correspond to those of the Secretaría de Gobierno de Turismo or its authorities.

<sup>2</sup> Director Nacional de Estudios de Mercados y Estadística de la Secretaría de Desarrollo y Promoción, Secretaría de Gobierno de Turismo de la Argentina (roliver@turismo.gob.ar)

<sup>3</sup> Consultor externo

<sup>4</sup> Consultorexterno

## 1. Introduction

The argument between growth and development is one of the central debates of economic thought since its rise in the second half of the past century. In what extent development is something different than growth, how important is growth as a cause of development; these are discussions that haven't lost an inch of present. The bond between both concepts can be understood not only from their theoretical relation but also from their historical construction: the idea of development, in its diverse forms, is born nurtured by growth theory, and then articulates a more critical approach.

In this sense, the first growth modeling's are elaborated in the post-war period, motivated by the recovery of income and international trade, mainly in the first world -the work of Robert Solow (1956) is seminal in this matter-. In this time, considerations about income distribution and inequality were still in an embryonic stage. It was conceived that the way to improve life conditions of the poorest was the acceleration of the growth process and therefore the spillover effect that growth generated.

Development theory emerges in this context, understood as the need to guide peripheral societies towards a road of modernization that was identified with industrialization. These would allow a break in their growth levels –blocked until then- and the reduction of their income gap with the first world. Underdevelopment was viewed as a “lack of growth”, not as a paradigm change with the growth concept.

By the early 60's, the idea of development is re-signified and thought through a capacity focus, with Amartya Sen as the main exponent of this view: it is noticed that the spillover effects are not enough to ensure the real capacity of all individuals to achieve different economic, political, social and cultural rights. It is also recognized that growth usually brings more an increase in inequality than an income spillover, and that the income gap between the first and the third world does not close but widens out (Sen 1999)<sup>5</sup>. This way, development as a concept gets a deeper significance and distances itself from the idea of growth, giving place to a much more complex relation between them.

Having introduced this argument and taking it now to the insights of the tourism sphere, it can be seen that the conception of development as the creation of capacities and freedoms for all individuals hasn't been incorporated in the study of the sector –even when the recognition of tourism as a right traces back to several decades<sup>6</sup>-. There have been studies that relate tourism and development but looking at the consequences that the first has on different dimensions of poverty and equality<sup>7</sup>. Still, there is a lack of views on how tourist consumption includes itself an inequality dimension, as it does not distribute equally among groups of different incomes.

In this sense, it is mandatory to incorporate a development perspective to the theoretical elaborations referred to tourism, aiming to increase the poorest capacity to consume tourism.

---

<sup>5</sup> It is worth noting that this renew of the development discussions emerges in the peripheral countries: since the early sixties the thoughts of the Economic Commission for Latin America and the Caribbean (ECLAC) emphasize the problems of an unequal income distribution not only as a consequence of underdevelopment but as a cause of it (Prebisch, 1963). Amartya Sen himself has as an empirical inspiration his own peripheral country: India.

<sup>6</sup> The status of tourism as a human right can be recognized in the Universal Declaration of Human Rights (1948) in its 24<sup>th</sup> article.

<sup>7</sup> There are works oriented to the consequences of tourism on income distribution between regions (Lacher and Nepal, 2013; Wen and Tisdell, 1997), on personal income distribution (Kinyondo and Pellizo, 2015; Wagner, 1997) and on cultural or gender inequality (Wilson and Ypeij, 2012; Moreno Alarcón, 2014).

The proposed hypothesis as a cause to this persistent gap between tourist consumption and social inclusion is that is still prevalent, among the first one, a growth-conception over a capabilities development one.

A visible manifestation of this phenomenon is the current centrality of the receptive tourism<sup>8</sup> as a concept over other forms of tourism as the internal<sup>9</sup> or the national tourism<sup>10</sup> in the elaboration of statistical tourism information. This main role is a consequence of a tourism policy focus that is more centered on the generation of foreign exchange and economic activity –a growth vision-, than on the development of capacities from social sectors unable to consume tourism for economic, cultural or other limitations<sup>11</sup>. In order to achieve this last propose, it is mandatory as a policy goal to generate not only a boost on tourism but to give it a profile of social inclusion.

To be consistent with this objective, it is necessary to design instruments that allow to estimate inequality in tourist consumption, since the predominance of the growth conceptions over the capability development ones have as a direct consequence the virtual inexistence of particular statistic or methodological tools that help to initiate or deepen this analysis. The goal of this paper is to make a contribution to the design of this instruments, proposing a couple of statistical tools related to access to tourism (Net Propensity to Travel indicator), inequality in tourist capabilities (adaptations for tourism of the Gini Coefficient and the Kuznets Index) and inclusive development of the tourism activity (Informal Employment Rate indicator).

This document is structured as it follows: first, a discussion on the character of tourism as a human right and a proposed indicator for its analysis; second, the theoretical framework on inequality estimation is introduced, particularly the one of the used estimators -the Gini Coefficient and the Kuznets Index; third, a discussion on the possibilities of tourism-led development and its impact in overall poverty and inequality and a proposed measure of this aspect by the quality of the generated employment. Then, in the methodological segment, the adaptations for tourism use of these indicators will be presented. At last, we show the results obtained using the statistical tools proposed in the study of Argentina's national tourism for the period 2006-2014.

## **2. Tourism as a human right and access to tourism**

Tourism is not commonly considered as a basic consumption service but one closer to the luxury type. This is not surprising if the most common conceptions of tourism are considered: on the one hand, it is usually understood as tourism only those trips that are made with an explicit motive of leisure and during a fairly prolonged period of time, more precisely "vacations".

---

<sup>8</sup> Receptive tourism is realized by non-residential tourists.

<sup>9</sup> Internal tourism is the sum of receptive and domestic tourism –this last one is realized by residents inside their own economic area-. It resumes all touristic activity done in the country.

<sup>10</sup> National tourism is the sum of domestic and emissive tourism –this last one is done by residents outside their own economic area-. It resumes all touristic activity done by residents. Since it's the form of tourism that includes the total national demand of tourist consumption, it will be the form of tourism observed in this work.

<sup>11</sup> This difference in the observable forms of tourism is very significant since it implies a change in the subject that consumes tourism: we are no longer talking about non-resident tourists, whose social and economic reality is relatively unimportant to a State –this is the case for receptive tourism-, but about resident tourists, who are, before tourists, residents, and therefore the State at hand must have as a policy goal to constantly increase their welfare and their economic and social situation.

Indeed, the cost of these trips is usually high (even more if they are abroad the country) and therefore inaccessible for a significant part of the population.

However, the matter that we understand is even more relevant in the conception of tourism as a privileged service, is that it is not commonly conceived even as a right. Unlike what happens with food, decent housing, health or education, the impossibility of tourism is not usually considered a harm to the rights of people.

But the conception of the rights of people has been different for several decades. In this sense, already the first world declaration of human rights, the Universal Declaration of Human Rights, adopted by the UN in 1948, postulates 30 articles in which it includes not only rights such as food, medical assistance or the abolition of slavery, but also issues such as the right to leisure, particularly in article 24:

*"Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay." United Nations Organization (1948, Article 24)*

Tourism is one of the exclusive ways in which individuals rest and enjoy vacations time. The impossibility to travel, though it does not deny the possibility of rest and leisure in some way, considerably violates it.

The same can apply for article 27:

*"Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits." United Nations Organization (1948, Article 27)*

Tourism undoubtedly appears as one of the best means to satisfy this "right to culture", being this reason a very common one for making tourism.

It is crystal clear that these articles do not express a "right to tourism" in a restricted way; in other words, the non-realization of tourism does not constitute the violation of a human right. However, tourism favors the satisfaction of other rights mentioned here.

In this sense, it is considered that the policy objectives referred to these issues cannot be limited to only guaranteeing the non-violation of human rights but should aim to ensure that they are fully realized: for example, not simply prohibiting censorship of opinion, but encouraging the formation and expression of opinion by those social sectors that do not usually express themselves.

Taking this point to tourism in particular, it should be a State policy not only to ensure that all those who wish and are able to make tourism as a cultural activity and/or leisure do so, but to encourage more and more people to be able to do it. It is from this perspective that the issue of inequality related to tourism consumption is addressed, and access to tourism as an indicator of it.

### ***Net Propensity to Travel***

The access to tourism can be seen in the *net propensity to travel*. It is defined by Sancho Pérez (2001) as:

*"(The) percentage of the population that makes at least one trip in a considered time." Sancho Pérez (2001, pp. 32)*

In other words, this indicator shows what percentage of the population have access to tourism in a given period of time - for this work the period of one year will be considered.

### ***Gross Propensity to Travel***

In addition to the net propensity, the gross propensity to travel is also calculated here, defined as:

*"(The) total number of trips made, expressed as a percentage of the population." Sancho Pérez (2001, pp. 32)*

The unit of measure of this last indicator is trips per person and can in fact be understood as the number of trips that society makes for each inhabitant. The net propensity, however, does not consider the number of trips but only people, selecting those who have made at least one trip; that is, it is not registered here if an individual made one, two or any number of trips, but only the difference between having made one and not having made any.

### ***Travel Frequency Indicator***

Finally, the "travel frequency" is added, which relates both indicators:

*"(The frequency of trips) is obtained by dividing the gross propensity between the net propensity and expresses the average of the trips made during the considered period of time". Sancho Pérez (2001, pp.32)*

This ratio is useful to analyze access to tourism dynamically (ie, its evolution over time) as it allows to account for the situation of tourism activity in general. Even if the net propensity remained unchanged, it is relevant to consider the context of tourism retraction or expansion to extract conclusions. If the case is the first, this would be a good sign since the retraction, despite being negative, would be explained by a decrease in the trips of those individuals who were already able to make at least one trip.

If instead an increase in the gross proportion to travel is verified and the net propensity remains unchanged, this is indicating that all new trips made were "concentrated" by those travelers who made more than one trip. The advance of the gross propensity on the net would be indicating an inability of the poorest households to be able to consume tourist services in a context in which the tourist activity is growing. This would show that there is not a general problem of tourism but of access to it, since there are more and more individuals who cannot realize their right to travel.

### **3. Theoretical framework: the estimation of inequality**

Sen and Forster (1997) differ two groups of inequality indicators: the positive ones and the normative ones<sup>13</sup>:

*"On the one hand there are measures that try to catch the extent of inequality in some objective sense, usually employing some statistical measure of relative variation of income, and on the other there are indices that try to measure inequality in terms of some normative notion of social welfare so that a higher*

---

<sup>13</sup> We should note that Sen and Forster (1997) also question the fundamentals of this classification, even when they are using it to clarify the differences between different kinds of indicators. The conceptual debate about the objective dimension of inequality isn't central in this article, so it will only be mentioned.

*degree of inequality corresponds to a lower level of social welfare for a given total of income” Sen and Forster (1997, pp. 2)*

Therefore, normative indicators fulfill the Pigou-Dalton principle: any income transfer from any individual to another with less income than the first one must conduct to a reduction of inequality. Among this indicators are the Gini Coefficient, the Atkinson Index, entropy indicators and quintile or decile ratios such as the Kuznets Index.

The choice of the used estimators can vary depending on how adequate they are to the particular goal of the study (and on the availability of getting the required data to construct them). One of the advantages of using more than one indicator is the possibility to complement the weaknesses and strengths of each other. This is why it's suggested to use a wide range of indicators to study inequality: in order to get conclusions not only based on their values but also on their differences.

Accordingly, two different inequality estimators are used in this paper: the Gini Coefficient and the Kuznets Index. Coming up next is the description of each one of them, pointing out their uses and complementing qualities.

### ***The Gini Coefficient***

As explained by Di Giovambattista, Gallo and Panigo (2014), the Gini Coefficient is the most widespread inequality index, mainly because of its simple interpretation. It can be thought as the difference between the perfectly equal distribution (in which every person appropriates equal shares of the total income) and the real distribution (the shares of the total income that every person actually perceives)<sup>14</sup>.

As a strength of this indicator it can be noted the inclusion of the population as a whole:

*“(The Gini Coefficient) considers the totality of income differences, avoiding their concentration in specific stretches –opposed to what happens in the quintile and decile ratios, that decimate middle stretches-“. Di Giovambattista, Gallo y Panigo (2014, pp. 66, own translation)*

As a weakness, it's worth mentioning that, since incomes are weighted by the amount of observations, the indicator has a higher sensibility towards income variations experienced by the grossest sectors of the population.

### ***Kuznets Index***

The Kuznets Index is a simple indicator of income disparity that uses quintile distribution: it compares the total income of the highest quintile (the richest 20% of the population) and the total income of the lowest quintile (the poorest 20%). This indicator has the advantage of being simple in its interpretation and construction. Plus, it fulfills the principle of additive decomposition, since each quintile incidence in inequality can be estimated.

As a backfire, it presents a series of difficulties:

*“(i) the impossibility to register the effects of income transfers among individuals that are not located in the considered quintile/decile (ii) the absence of a sensibility coefficient, that allows to weight transfers from and to different quintiles of the population (iii) the weak fulfilling of the Pigou-Dalton principle*

---

<sup>14</sup> We deepen in the definition of the Gini Coefficient and its graphical interpretation in the Annex.

*since, although transfers among the considered quintiles/deciles are measured in the coefficient, those realized among the quintiles/deciles that are not included are therefore not registered". Di Giovambattista, Gallo y Panigo (2014, pp. 73; own translation).*

There is a visible complementation between both indicators since the Gini Coefficient looks at the income distribution in the whole population –with a propensity to weight more heavily the individuals with incomes surrounding the average- while the Kuznets index looks at the distribution between the highest and lowest sectors, the ones that the Gini Coefficient weights more lightly.

The inequality indicators adapted to tourism: the cases of the Gini Coefficient and the Kuznets Index

The inequality indicators mentioned can be adapted to estimate concentration among variables other than income. Next are briefly described this modifications and the possibilities that they open. A more complete analysis of the theoretical incidences that this changes imply is added in the Annex, considering the graphical interpretation of the Gini Coefficient.

As a first clarification, it is important to understand that here the notion of equality doesn't mean that every household or person must travel an identical amount of times or spent the same amount of money in tourism expenditure; the implied assumption is that those households that travel more do it thanks to a better economic condition, not because of a matter of preferences<sup>15</sup>. In a more general sense, this study doesn't revolve around the inequality that tourism might generate (which would be a supply focus); it revolves around the inequality of tourism consumption (a demand focus).

In case of the Gini Coefficient, its use to measure variables different than income has proliferated, particularly in areas like education and health<sup>16</sup>. Nevertheless, the adaptations on this indicators have limited to replace the "income" variable either for an "education level" variable or a "health level" variable. These means, on one hand, that there is no bond between these variables and income, and on the other, that is not necessary to do any modification in the Gini equation in order to adapt it for those matters.

As a difference, in this paper the income variable located in the ordinate axis (y) was replaced for different cumulative variables referred to tourism as travel quantity or tourism expenditure; but at the same time, the abscissa is kept as the original. This allows to observe how this tourism variables are distributed among population according to their income level.

For the case of the Kuznets Index, the adaptation is much more intuitive and without major theoretical incidences: instead of calculating the income relation between the richest quintile and the poorest one, what is calculated is the relation of this same quintiles, but on any wanted variable. For example, the quantity of travels acquired by the richest quintile and the quantity acquired by the poorest one.

---

<sup>15</sup> Empirical results, not only from this paper but from others contained in the bibliography, verify this intuitive tendency: there is a direct relation between perceived income and amount of travels or tourist expenditure.

<sup>16</sup> Related to distribution in education, there can be mentioned the works of Ferreira and Gignoux (2011), Meschi and Scervini (2010) and Thomas, Wang and Fan (1999)); in the case of health, Spinakis, et al (2011) and Berndt, et al (2003).

#### **4. Impact of tourism in inclusive development**

A social approach to tourism, seen from the side of tourism supply, should focus on the impact in overall poverty and inequality achieved with employment creation.

In the search of propelling 'Inclusive Development', employment creation is the main way to extend the wealth generated by tourism. This can offer new job possibilities to the portions of society that count with the lowest levels of income, since these tasks generally require low skilled labor force for being carried out. But, on the other hand, low skilled jobs and poor work conditions can represent an obstacle to the possibilities of tourism-led development.

##### ***Informal Employment Rate***

For addressing this issue, the suggested indicator is the Informal Employment Rate. This rate is calculated with the proportion of self-workers and employees -from the public and private sector- that don't make pension contributions over the total of occupied individuals. When this rate is analyzed inside the tourism sector, it reveals the quality of the jobs created by touristic activity. This way, the rate shows the proportion of the employed population in the touristic sector that works in informal conditions.

This indicator becomes relevant when the quality of the development accomplished is considered. Since the employment generated by the touristic activity is usually related to a low-skill segment of the population, it is easily translated into informal labor. This risks the potential of tourism as a development generator and may threaten the enhancement of human rights.

#### **5. Data base: The Household Travel and Tourism Survey (EVyTH)**

The first requirement of a study about consumption from an equality focus is the existence of adequate information for such analysis. In this way, Argentina has the EVyTH, which gathers data related to national tourism, covering travel quantities, tourist expenditure, stays, destinations, means of transport and travel propose, among others.

The survey includes the variable "total income" that enquires about the total amount of income perceived by the surveyed household; this datum is indispensable to order the surveyed households according to their purchase power, thus allowing the elaboration of the information required by the inequality estimators. In the data processing procedure that follows, the household categorization is made by income quintiles. This enables to calculate each tourism variable required for each quintile separately, and then estimate the distribution for the total population.

It is important to acknowledge that a social equality perspective towards tourism requires considerations regarding data scoping and statistic data elaboration. In this sense, the design and consolidation of a statistic system are indispensable in order to develop policies consistent with the goal of improving national tourism in an inclusive way.

#### **6. Income distribution in tourist consumption by income quintiles in Argentina 2006-2014.**

In the eight years that comprehend the studied period, the amount of national tourists grew in more than 30%<sup>19</sup>. This expansion can have as its main explanation the increase on the purchase power and the unemployment reduction during this years. Mainly the growth on registered jobs

---

<sup>19</sup> While in 2006 the amount of travels was 21.956 million, in 2014 this number ascended to 28.923 million. It was even higher in the years 2012 and 2013, when it overpassed the 30.000 million.

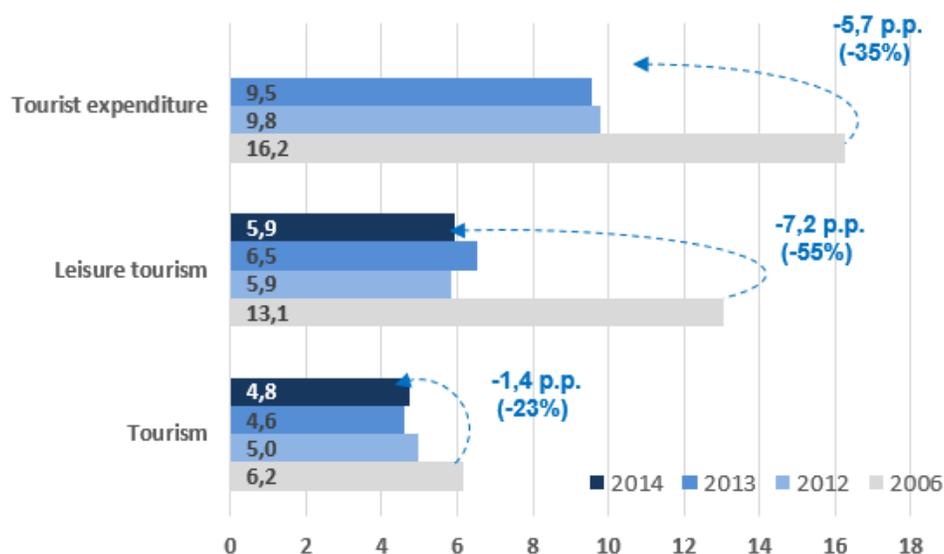
(that use to guarantee payed vacations), presented a considerable increase in its salaries, establishing itself as a variable of big incidence to explain the tourist boom.

In this section we wish to understand what transformations in the social structure of tourist consumption are behind the growth of tourism. With this goal, we use the methodology explained above to study the tourist activity of Argentinian residents in the years 2006, 2012, 2013 and 2014. The information analyzed here comes from the Households Travel and Tourism Survey (EVyTH) of those years.

#### Inequality reduction measured by Kuznets Index

Kuznets Indexes adapted to tourism show strong reductions in the 2006-2014 period. They are in the order of 35% for tourist expenditure and 55% for the travel amounts that qualify as leisure tourism. Reduction for tourism in general is smaller, in the order of 23%. Graphic 1 shows the estimations for each year.

**Graphic 1. - Equality variation estimated by Kuznets index in tourism expenditure, tourism travels and leisure tourism travels (2006-2014)**



Source: own elaboration based on EVyTH

**Table 1. - Tourism consumption variation for tourism travels, leisure tourism travels and tourist expenditure, differentiated by income quintiles for 2006-2014**

	Tourism	Leisure tourism	Tourist expenditure
<b>Lowest quintile (Q1)</b>	62%	200%	664%
<b>Middle quintiles (Q2+Q3+Q4)</b>	55%	75%	682%
<b>Highest quintile (Q5)</b>	25%	36%	396%

Source: own elaboration base on EVyTH

Particularly in tourism, the growth of the lowest and middle quintiles is very tied, while the highest quintile is clearly left behind, showing that this last one has not been the protagonist of

the touristic boom. Nonetheless, in leisure tourism, growth in the first quintile almost triples the one in the middle sector and is five times the one from the richest quintile; this explains the 55% reduction of the Kuznets Index. Also, it is expectable that the reduction on the expenditure disparity is partially explained by the reduction on the leisure tourism gap, since the last one drives higher expenditure levels than tourism motivated by visits to friends or family<sup>20</sup>.

Considering that the reduction on the total tourism gap is half the size than the one in leisure tourism (25% and 50% respectively), the change in tourism distribution seems more on the qualitative order than the quantitative: it's not so much that the lowest quintile now travels more than the others (although it does) but more than it has increased its leisure tourism travels, and therefore its expenditure. Even when the growth in tourism is a phenomenon that verifies for all sectors, the variation is much more significant on the lowest quintile.

**Table 2. - Proportion of leisure tourism travels in total tourism travels differentiated by income quintiles for 2006-2014.**

	Leisure tourism/ Total tourism (2006)	Leisure tourism/ Total tourism (2014)	Var. %.
<b>Lowest quintile (Q1)</b>	25%	46%	85%
<b>Middle quintiles (Q2+Q3+Q4)</b>	45%	51%	13%
<b>Highest quintile (Q5)</b>	53%	57%	9%

Source: own elaboration based on EVyTH

This last can be related with the mentioned economic recovery in the 2000's: not only has been verified an increase of the purchase power or the employment level, but also a more equal income distribution. It is clear that improve in income equality has a positive impact in people's capacity to consume tourism as a recreational activity.

Inequality reduction measured by Gini Coefficient.

The variation on the Gini Coefficient in period 2006-2014 is a 13% reduction for the travel amounts and a 17% one for tourist expenditure. The inequality reduction is deeper for leisure tourism, which falls 23%. After an intense improve of the indicators on 2012, a worsen is registered on 2013 and 2014.

**Table 3. - Inequality estimation measured by Gini Coefficient in tourism travels, leisure tourism travels and tourist expenditure for 2006-2014.**

	2006	2012	2013	2014	Var. % 2006/2014
<b>Tourism</b>	0,344	0,280	0,281	0,299	-13%
<b>Leisure tourism</b>	0,424	0,302	0,327	0,338	-20%
<b>Tourist expenditure</b>	0,526	0,427	0,429	0,435	-17%

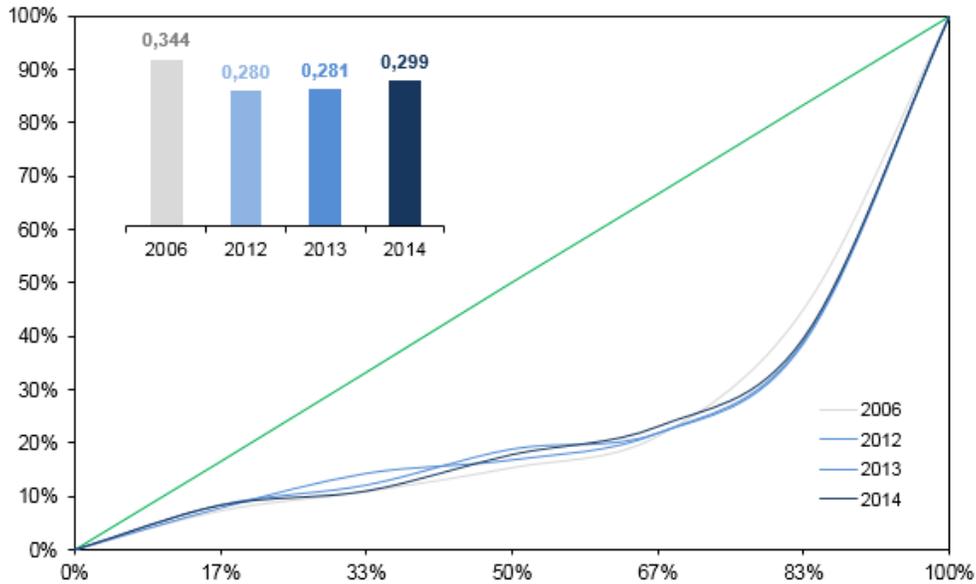
Source: own elaboration based on EVyTH

It's necessary to remember that the Gini Coefficient –unlike the Kuznets Index- considers the income transfers across the whole population, including the middle incomes and tending to

<sup>20</sup> Still, it can be noticed that the reduction on tourism expenditure is significantly less than the one on leisure tourism; the relation between leisure tourism and tourist expenditure will be deepen in the next subsection.

weight them strongly. The inequality variation measured by the Gini Coefficient is smaller than the Kuznets one. This is because the strongest distribution effect happened in the lowest quintile, and therefore the equality improve is not as rotunda when analyzing the entire population, instead of comparing the lowest and highest quintile.

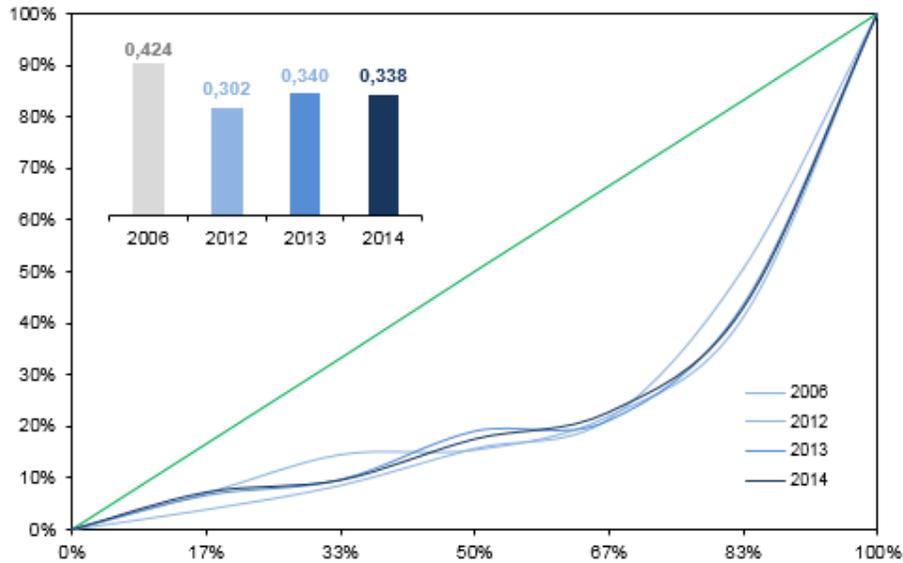
**Graphic 2. - Inequality variation measured by Gini Coefficient on travel amount for 2006-2014**



Source: own elaboration based on EVyTH

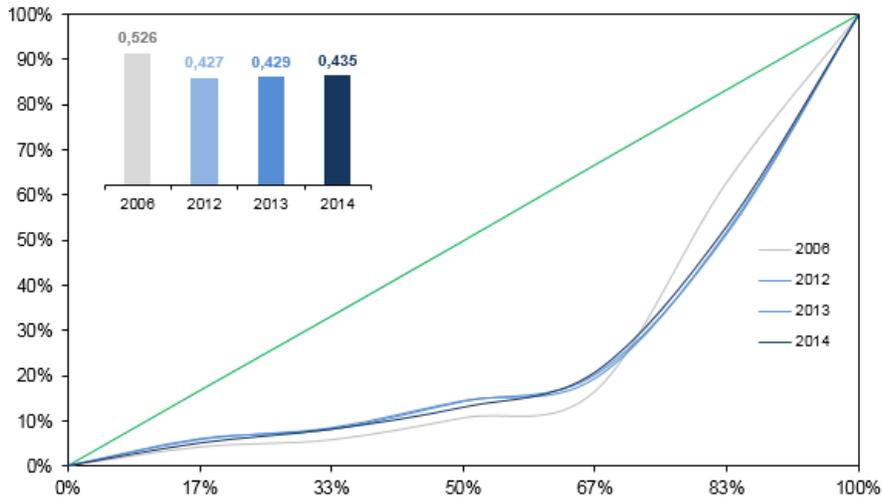
Differing from the Kuznets results, here the difference between the inequality reductions in total tourism travels and in leisure tourism travels is not that significant. This is because the middle quintiles had more of a quantitative change than a qualitative one: they concentrated a greater amount of travels, and therefore of expenditure, but their proportion of leisure travels did not change significantly (see Table 3) nor they spend more for each trip.

**Graphic 3. - Inequality variation measured by Gini Coefficient for leisure tourism travels on 2006-2014**



Source: own elaboration based on EVyTH

**Graphic 4. - Inequality variation measured by Gini Coefficient for tourist expenditure on 2006-2014**

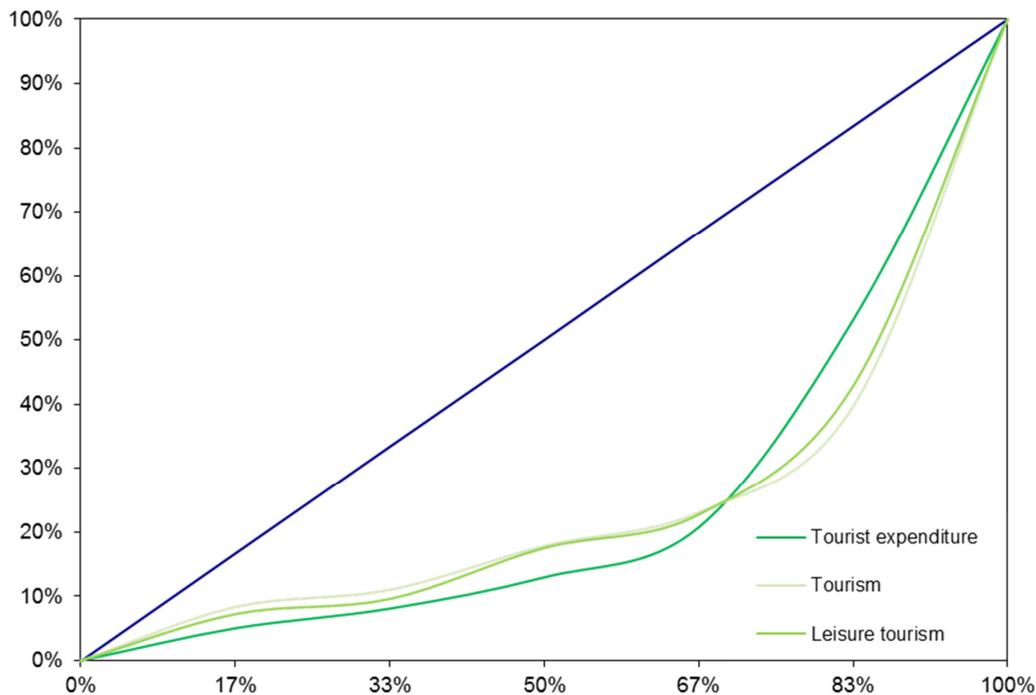


Source: own elaboration based on EVyTH

Graphic 5 shows inequality differentiated by the three variables analyzed on year 2014. It can be seen that the higher concentration happens among expenditure, is lower in leisure tourism, and is the lowest in total tourism. This is the expected scenario since, on one hand, improve on income distribution should impact strongly in leisure tourism. It is so because the remaining reasons to travel, mainly visiting friends or family, are not as income led. Therefore is expectable that the economic recovery has inflicted not only an increase on the travel amount by the poorest quintile but specially a qualitative change on their consumption pattern.

On the other hand, tourism expenditure is in a good measure affected by the amount of leisure tourism consumed, since they bring with them a higher income expenditure than family driven tourism. Still, the correlation is not perfect: the reduction of inequality between them differs by 3 points measured by Gini (20% for leisure travels, 17% for expenditure) and in 20 points measured by Kuznets (55% and 35% respectively). This is because, even when the access to tourism and the capability to travel with a leisure motivation has improved much more than the tourist consumption of the higher income sector, this last one is still in condition of consuming goods and services of greater value. Therefore, it is expectable that inequality expresses itself more intensely in tourist expenditure than in travels.

**Graphic 5. - Inequality variation measured by Gini Coefficient for travel, leisure travel and tourism expenditure (2014)**



Source: own elaboration based on EVyTH

## 7. Conclusions

Development, understood as the increase and consolidation of capacities and freedoms from society as a whole, is a fundamental sphere to incorporate in the study of tourist consumption. To be consistent with this objective, it is necessary to develop inequality indicators that link tourism distribution with income distribution.

In this sense, access to tourism (net propensity to travel), the Gini Coefficient and the Kuznets Index can be adapted to measure inequality in different variables of tourism activity relating them to income, which at the same time allow to observe in a better way the transformations that occur in the composition of the touristic demand and supply of countries.

Regarding the changes of this variables in Argentina on the period 2006-2014, it is verified that inequality in tourism has considerably reduced, expressing the happening of the same process in the Argentinian economy in those years. Results for the different indicators show that

improve in the distribution was moderate for the middle quintiles and intense for the lowest one.

In spite the particular characteristics of the indicators and surveys used and the results observed, this paper mainly proposes to put on the table the need for a revalorization of a wider view of tourist consumption from an inclusive perspective, and in that sense, the need to elaborate statistic tools that aim for the continued development of capacities for those who can't still realize their right to travel. If this debate is nested, this paper will have fulfilled its propose.

## 8. Bibliography

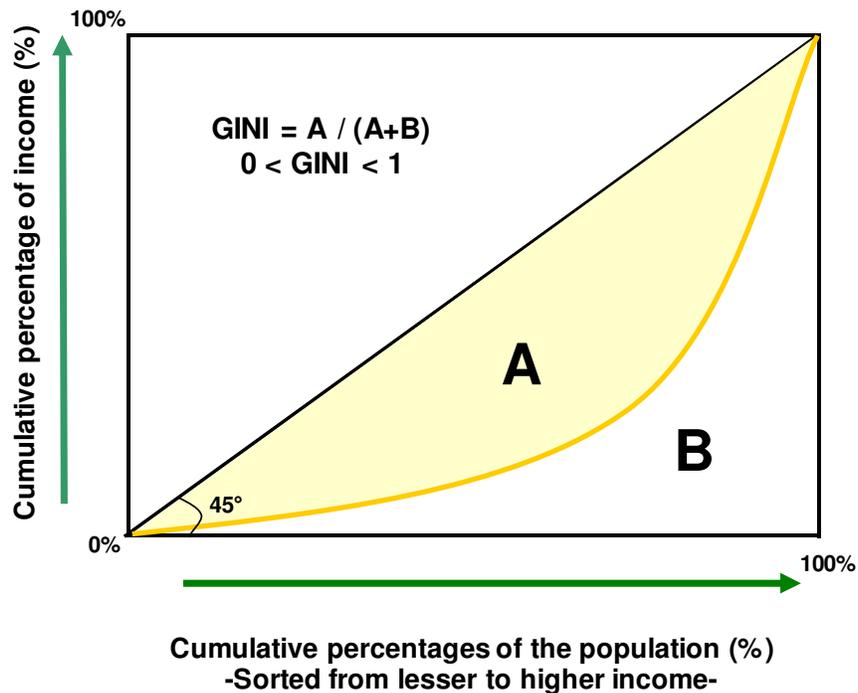
- Anuario Estadístico de Turismo (2013). Ministerio de Turismo de la Nación. Argentina.
- Berndt, D., et al (2003), "Measuring Healthcare Inequalities using the Gini Index". Proceedings of the 36th Annual Hawaii International Conference on System Sciences. IEEE. United States.
- Di Giovambattista, A., Gallo, P. y Panigo, D. (2013), "El Impacto Distributivo del PROG.R.ES.AR. en Argentina. Una primera aproximación en base a microsimulaciones". Serie Empleo, Desempleo y Políticas de Empleo N°17. CEIL-CONICET. Buenos Aires.
- Encuesta de Viajes y Turismo de Hogares (2006, 2012, 2013, 2014). Ministerio de Turismo de la Nación. Argentina.
- Encuesta de Turismo Internacional (2014). Ministerio de Turismo de la Nación. Argentina.
- Ferreira, F. and Gignoux, J. (2011), "The Measurement of Educational Inequality: Achievement and Opportunity". Institute for the Study of Labor. Discussion Paper Series. World Bank. Washington D.C.
- Kinyondo, A. and Pellizo, R. (2015), "Tourism, Development, and Inequality: the Case of Tanzania" in *Poverty and Public Policy*, Vol.7, No 1, pp.64-79. Wiley Periodicals. England.
- Lacher, R. and Nepal, S. (2013), "The Changing Distribution of Global Tourism: Evidence from Gini Coefficients and Markov Matrixes" in *Tourism Analysis*, Vol. 18, pp. 133-144. Cognizant. Comm. Corp. United States.
- Meschi, E. and Scervini, F. (2010), "A New Dataset for Education Inequality". Gini Discussion Paper No 3. AIAS. Amsterdam.
- Moreno Alarcón, D. (2014), "El Camino del Turismo con Igualdad. El Caso de Cartagena de Indias, Colombia" in *Memorias. Revista Digital de Historia y Arqueología desde el Caribe Colombiano*, No. 23.
- United Nations (1948), "The Universal Declaration of Human Rights".
- Prebisch, R. (1963), "Hacia una Dinámica del Desarrollo Económico Latinoamericano". Fondo de Cultura Económica. México-Buenos Aires.
- Sancho Pérez, A. (2001), "Apuntes de Metodología de la Investigación en Turismo". Organización Mundial de Turismo. Madrid.
- Sen, A. and Foster, J. (eds.) (1997), "On economic inequality". Oxford. University Press. New York.

- Sen, A. (1999), "Freedom and Development". Oxford University Press. New York.
- Solow, R. (1956). "A contribution to the theory of economic growth" in Quarterly Journal of Economics, Vol. 70, No. 1, pp. 65–94. Oxford University Press. England.
- Spinakis, A. et al (2011), "Expert Review and Proposals for Measurement of Health Inequalities in the European Union". European Commission. Directorate General for Health and Consumers. Luxemburg.
- Thomas, V., Wang, Y. and Fan, X. (1999), "Measuring Educational Inequality: Education Gini Index from 1960 to 1990". World Bank. Washington D.C.
- Wagner, J. (1997), "Estimating the Economic Impacts of Tourism" in *Annals of Tourism Research*. Elsevier Science Ltd. Great Britain.
- Wen, J. and Tisdell, C. (1997), "Regional Inequality and Tourism Distribution in China" in *Pacific Tourism Review*, Vol. 1, pp. 119-128. Cognizant. Comm. Corp. United States.
- Wilson, T. and Ypeij, A. (2012), "Tourism, Gender and Ethnicity" in *Latin American Perspectives*, Vol. 39, No. 187, pp. 5-16. Sage Publications. United States.

**ANNEX I: The graphical interpretation of the traditional Gini Coefficient and its tourism adaptation.**

The Gini Coefficient can be interpreted as the ratio between the area comprised by the perfect equality line and the Lorentz Curve, and the area comprised by the perfect equality line and the abscises axe. This way, the bigger the difference between the perfect distribution (equality line) and the real distribution (Lorentz Curve), the bigger the Gini Coefficient will be and therefore the more unequal distribution will be. By definition, its minimum value will be 0 (best possible distribution, because the perfect equality distribution is the same as the real one) and its maximum value will be 1 (worst possible distribution, since the incomes accumulated by the population are null until reaching the richest individual, who concentrates all income).

**Graphic 6. - Graphic representation of the Gini Coefficient**



Source: own elaboration

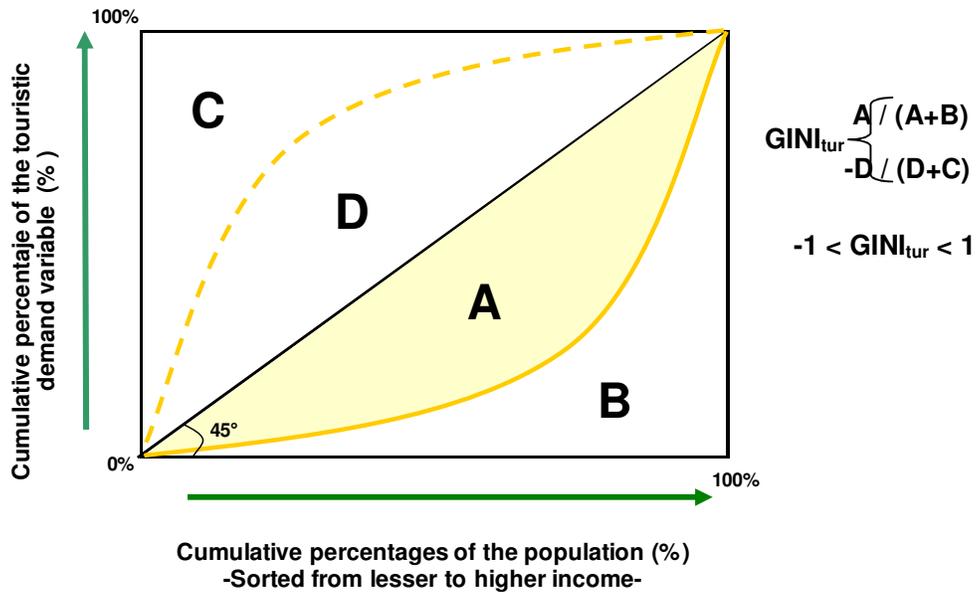
The adaptation of the Coefficient to the goals of this paper have some theoretical incidences in the Gini logic that differ from its traditional design. Particularly, the equality line doesn't mark a roof for the accumulation of the variable that locates in the ordinate axe, since it's possible in theory that the poorest individuals accumulate an amount of travels or expenditure bigger than what would correspond if every individual consumed travels and expenditure in equal parts, and wealthiest sectors spend less<sup>21</sup>.

Therefore, part of the Lorentz Curve could be over the perfect equality line. In the case of tourism, this is very unlikely, since it's a kind of good closer to a luxury than a basic one, even

<sup>21</sup> It must be remembered that for the traditional Gini Coefficient this is impossible, because if a group of individuals gets more income than the indicated by the perfect equality, this difference must later be evened with someone that earns less, and this would reveal a mistake in the location of the individuals ordered by income that is accumulated in the abscis axis.

when many individuals do tourism. Still, it is preferable counting with a methodology that allows the calculation of the Gini in case this happens. This is presented next in Graphic 7.

**Graphic 7. - Graphic representation of the Gini Coefficient adapted to tourism**



Source: own elaboration

In order to correctly delimitate the areas in the eventual possibility that part of the curve is over the perfect equality line, we can proceed in the same way as we calculate the indicator for the bottom part, only with a reversed sign. In other words, if the traditional Gini Coefficient is obtained dividing A by (A+B) (see in Graph 7) in case the curve is beyond the line the added calculation would be D divided by (C+D).

However, there is a key difference between both areas: while the bottom area shows a lesser accumulation of the variable, the top area shows a greater one. Hence, the D area will have a minus sign since a wider space covered by it would mean a greater concentration of income in the poorest sectors, and therefore it should reduce inequality. This way, the Gini Coefficient could reach a negative value if the D area is bigger than the A area. Its lowest possible value will be -1: it reflects the situation where the whole dependent variable (travel amount, tourist expenditure, etc.) is concentrated on the poorest individual of the society.