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Migration, tourism, and the development of the home countries: Evidence from Morocco

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Abstract

The aim of this paper is to study, both theoretically and empirically, tourism as a channel of Migration and Development. Relaying on migration networks and trade literature, the study suppose that migration networks affect positively tourism flows to the origin countries. Theoretically, global migration networks effect on tourism is composed of migrant generations, transactions, preferences and emigrants' life style effects. Such effects could adapt, promote and advertise tourism flows to origin countries. Empirically, the gravity model has been used to estimate the global effect of networks on Moroccan tourism inflows from the eight principal immigration countries during the periods (2000, 2010, 2011, 2012, 2013 and 2014). Our study reveals that a ten-percent rise in the emigration rate from Morocco increases the real value of Moroccan tourism inflows by 1.3 %.

Keywords: Migration, Networks, Tourism, Development.

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1. Introduction

The whole world is concerned by migration; even the most isolated countries cannot totally avoid being concerned by emigration, immigration and/or transit. The notion of international migration includes economic migration, refugees, and asylum seekers in addition to other forms. As international migration, tourism's flows represent a form of human mobility. It is a social, cultural and economic phenomenon, which imply the mobility of persons to countries or places abroad of their usual environment for personal, professional or business purposes (OMT, 2014). According to this definition, even the duration, the aim or the status cannot differentiate these two flows; therefore, a migrant can be a tourist and vice-versa.

Economically, tourism investment does not require large amounts of capitals, high skilled labour or high technology. Furthermore, tourism creates, directly and indirectly, the rise of the economic activity in the visited places (and elsewhere), essentially because of the demand of goods and services produced and provided (WTO, 2014 ; Dibra & Baraku, 2019). These characteristics make tourism investment affordable and important for both the developed and the developing countries.

According to the French ministry of tourism, tourism sector returns represents 7.3 % of the GDP of France and creates 9.3 % of direct and indirect jobs in *l'Île-de-France* (DGE, 2016; Paun, 2018). For the Moroccan economy, tourism sector is more important, it represented 12 % of the GDP and created 507 000 direct job (5 %) in 2016. In addition, statistics show that the ranking of the tourism leader countries changes from one year to the other. France, USA and Spain are always at the top, while other developing countries as China and Turkey climbed from the bottom to the top ten (UNWTO, 2014). The tourism leader countries ranking continue to change "France, the United States, Spain and China continued to top the rankings in both international arrivals and receipts. In receipts, Thailand climbed three places to the 6th position, and Hong Kong (China) climbed one place to 9th. Mexico moved up one position to come 9th in arrivals" (UNWTO, 2016).

On the one hand, France represents the main important migration corridor of Moroccans (Scalabrin & Graham Fitzgerald, 2016), and on the other, from the10.31 % of the French, who travelled to Africa, 30.43 % choose Morocco as the main destination (SDT survey, 2023). The importance of international emigration and tourism flows to Morocco pushed us to wonder about the nature of this link. Is there a logical relationship between emigration and tourism flows to the origin countries? What are the channels that can theoretically connect them? What about the evidences of this link?

In this paper, we will first start by presenting the related theoretical backgrounds that could link international migration to tourism. Based on this literature, we will try to draw the scheme of the theoretical relationship between emigration and tourism flows to the origin countries. To check our predictions, we will try to estimate this link between Moroccan emigration and tourism inflows from the main destination countries.

2. Literature review

Analysing the effect of international emigration on tourism flows to the origin countries requires a combined literature. Put simply, we have to couple two theoretical forecasts: the standard literature on immigration and tourism flows to the host countries through the visiting friends and relatives (VFR) on the one hand and the literature on emigration and development through the migration networks on the other.

2.1. Immigration and tourism in the host country

The first kind of literature is the point of view of tourism's economists, who studied the link between tourism and immigration. The principal variable of these studies is tourism, in other words, the aim is understanding tourism determinants. Doyer and *al;* (1993) and Williams and *al;* (2002) demonstrated that migration and tourism are interconnected and that their interconnection is in the both directions. The economists related immigration with tourism inflows in the host countries. Precisely, they focused on the effect of immigration on the demand of tourism through the Visiting Friends and Relatives (VFR). The official data of statistics rank travellers according to the purpose of their trip (Leisure, business, VFR…etc). The concept of VFR was used for the first time by Jackson's (1990), who observed the continued growth of this tourism. Baker (2009) criticised the exactitude of this measure; he thought that it is limited because a tourist can visit friends, do his business and enjoy his stay at the same time.

Leitão and Shahbaz (2012) used a dynamic panel data to study the relationship between immigration and tourism demand in Portugal during the period 1995-2008. They concluded that the Portuguese tourism has significantly increased during the period in accordance with the important values of expected immigration from the developing countries. The estimation results suggested that income, immigration shocks, population and distance between Portugal and the origin countries are the main tourism determinants.

Etzo, Massidda and Piras (2014) studied the effect of immigration on Italian tourism flows. They used an Italian dynamic data on bilateral tourism from 65 countries between 2005 and 2011. The economists used the number of arrivals, the spending and the number of nights spent to analyse Italian tourism. To estimate the push and pull tourism factors, economists considered migration in both the origin and destinations countries. In addition, they used the aggregate and desegregate flows of vacancies and work. The results demonstrated that the relationship between migration and tourism is very strong and that it exceeds the VFR. Furthermore, the different determinants' effects changed according to the segmentation of the tourism market and the tourism demand in the segment.

Doyer and *al.,* (2014) studied the relationship between tourism and migration. They divided tourism into outward and inward flows. For each flow, three types are considered: the total, the VFR and the non-VFR. The economists estimated the relationship of these three variables with migration in 1991 and 2006. The results revealed a strong and important correlation between migration and VFR as well as non-VFR.

2.2. Emigration, networks and development

The second literature belongs to the economics of migration. According to these economists, emigration could affect positively the economy of the origin countries (trade, FDI, technology…etc). Theoretically, such effects are the results of the migration networks, which represent the relationships between the emigrants and their origin: families, friends, town, community…etc. Greif (1989, 1993), Weidenbaum and Hughes (1996), Gould (1994) and Rauch and Casella (1998), Combes and al.,(2003), Djelti (2016) argued, both theoretically and empirically that migration networks have a positive effects on trade.

Gould (1994) examined the effect of the relationships of the emigrants with their origin countries on trade. He explains that such relationships are based on the information about the market, the language, the preferences and the personal contracts. According to the economist, these information boost trade between the two countries through two effects. The first one is the transaction effect: it interprets the fact that emigrants represent a channel of information, which will directly decrease the costs of trade. The second is the preference effects explained by the availability of information about the preferences of the origin population. Based on the previous effects, migrants provide information, which determine the preferences of the origin population and consequently decrease trade costs.

More recently, several studies used the same logic to analyse the effect of migration networks on information symmetry (Rauch & Trindade, 2002), inward FDI (Head & Ries, 1998 ; Rauche & Cassella, 2003), innovation (Kerr, 2008), institutions and democracy (Spilimbergo, 2009 ; Toman and al., 2013 ; Docquier et al., 2014) and even on the women empowerment (Gaye & Jha, 2011).

3. The Theoretical model

In what follows, we consider that migration is a reality. In other words, we do not proceed to a comparison between the benefits and the wastes resulting from migration. The point is to provide a forecast of the possible beneficial effects of international migration on the tourism flows to the origin countries.

International migration and tourism flows are interconnected, the fact that generates confusions about the borders between the two human motilities and the monetary transfers resulting. The aim is to analyse the effect of emigration on tourism to the origin countries and clarify its possible channels. In general, international migration flows could affect positively the tourism flows to the origin countries through two ways.

3.1. Emigrants or tourists?

Emigrations' data consider emigrants as non-resident in the origin country. Then, if they visit the home country, they will be considered as tourists. Based on this evidence, two confusions are generated: first, we do not know whether the generations of emigrants are visitors[*] or tourists. The second confusion is related to the money they spend during their stay.

To clarify such confusions, we consider the first generation as emigrants and the money they spend during their trip in the origin country as remittances. The second and the next generations of

[*] By visitors, we mean those emigrants who return to visit their families, relatives or doing business.

emigration, in addition to their new networks (in-laws, friends, colleagues...etc) are linked to the home country by their origin. We consider the visit of these generations as tourism inward flows. Therefore, the money they transfer and spend in the origin country are returns of tourism. The dynamic of such effect can simply be explained by the fact that the emigration flows of today will directly increase the tourism inflows of tomorrow.

In general, the generations of emigration will not only increase directly the tourism inflows, but they will also broaden the migration networks effect. Because they are more integrated in the host country, they are more likely to promote the tourism of the origin country. The generations of emigrants could invite directly their closer relationships to visit their origin country, which will represent the opposite effect of the VFR.

3.2. Emigration networks and tourism

A hidden effect of emigration on tourism flows to the origin countries goes initially through the migration networks channel. The migration networks and trade literature presented above could be applied on tourism. These same networks can have a positive effect on tourism flows to the origin countries. Inspired by the transaction and preferences effects of migration on trade, we will determine the different effects of networks on tourism to the origin countries:

- Theoretically, the transaction effect explains that the emigrants can serve as a channel of information, which will decrease directly the cost of trade (Gould, 1994). If we replace trade with tourism, this effect will be explained by information on the tourism nature, quality and price in the origin country. Such information will also include the touristic historical places, cultural activities, traditional products, tourism infrastructures… etc. In addition, the quality of services and the corresponding prices of each kind of tourism will reduce the cost of tourism. To sum up, the emigrants will serve as a channel of information in the host country that would promote tourism of the origin country.
- Regarding trade, the preference effect represents also information about the origin population preferences. If we consider tourism, this effect will be represented by the tourist preferences that could be reflected by the emigrants. In addition to this direct transfer, and because of their integration in the immigration society, emigrants' preferences provide information about the tourists' preferences. Such information helps to adapt tourism services to the preferences of tourists from the host countries.
- The third effect is the immigrants' way of life in the host country. The immigrants' customs, traditions, territory goods, meals…etc. advertise tourism of the origin country.

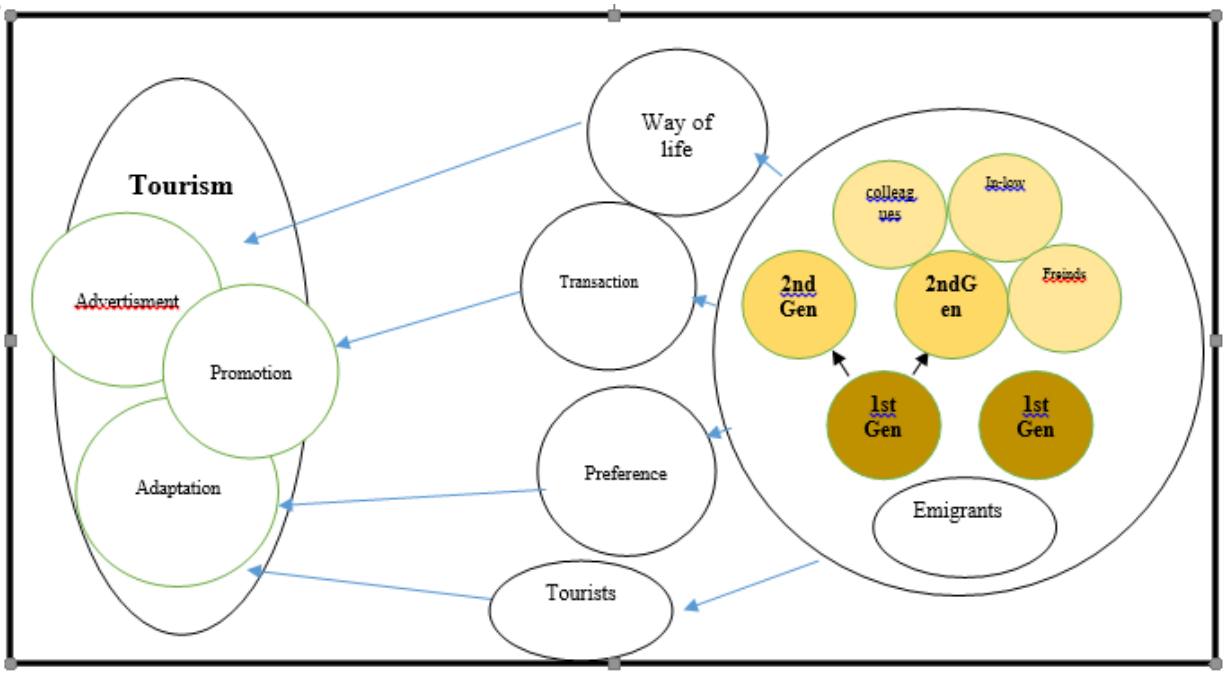

Figure 1. Emigration and inward tourism flows

As it is represented in the scheme above, the migration networks channelize the effects of emigration on tourism flows to the origin countries. The migration generations increase directly the tourism inward flows to the origin countries and strengthen the migration networks effect through their relationships in the host country. In addition, the migration networks generate three additional effects: first, the transaction one by providing information about the nature quality and the price of tourism services that reduce the tourism costs and promote tourism. Second, the preferences effects: explained by information about the preferences of the natives concerning tourism, that will be transferred and reflected by emigrants when they visit the origin country. This effect helps to adapt tourism services to tourists' preferences. The third effect represents the immigrants' way of life that advertise tourism of the origin country.

In general, Migration networks increase directly tourism to the origin countries. In addition, it affects tourism positively through immigrants' way of life effect that advertise tourism of the origin country, the transaction effect that promote tourism and the preference effect that adapt it to tourists' preferences. Therefore, migration does not only affect positively tourism to the host countries, it improves it.

4. The empirical study

The objective was to study the Maghreb countries, with a special focus on Algeria Tunisia and Morocco to detect the effect of emigration on inflow tourism in the Mediterranean region. Because of the lack of bilateral tourism statistics in Algeria and Tunisia, we focused our empirical study on Morocco. Its migration networks are one of the most important in terms of size and diversity in the Mediterranean region. Furthermore, it is also one of the most attractive tourism destination in Africa.

To check our theoretical prediction above, we will estimate the general effect of Moroccan emigration on inflows of tourism.

The standard gravity model, usually explored to estimate trade and migration flows in economics, has been recently chriticised and replaced by the osmosis model of migration (Djelti, 2017b). Based on the gravity model, we will estimate the determinants of international tourism. The gravity model is given by the following equation:

$$TOURhm = \mu \frac{GDPh\ GDPm}{Dhm}$$

$TOURhm$: represents the tourism flows from the host countries (h) to Morocco (m).
μ: is a constant.
GDP_h: the GDP of the host countries.
GDP_m: the GDP of Morocco.
Dhm: the distance between the two countries *h* and *m*.

As it is represented in the precedent equation, our dependent variable is the flows of tourism from the main host countries of Moroccan emigrants to Morocco. To explain Moroccan in flows of tourism (TOUR*hm*), we have saved the basic variables of the Gravity equation and use emigration from Morocco to the host countries (EMIG*hm*) and number of dummy variables as additional determinants. For making the results' interpretations easier, we have used the neperian logarithm. Then, the equation became:

$$ln(TOURhm) = ln(\mu) + ln(GDPh) + ln(GDPm) + ln(EMIG\ mh) - ln(Dmh) + ln(POPh) + COL + lANG + \delta$$

The additional explicative variables represent:
POPh: The population size in the host countries.
COL: The existence of historical colonial ties.
LANG: The common second official langue (because there is not a common language).

5. The estimation

Concerning the data, we have collected bilateral statistics of Morocco with eight developed countries during six periods (2000, 2010, 2011, 2012, 2013 and 2014). Bilateral migration statistics are available at OECD immigration data and the rest of statistics are available in the official website of CEPII regrouped in « Gravity Data[*] ». Before the model estimation, we started by checking the stationarity of our series:

[*] Available at the link : http://www.cepii.fr/cepii/en/bdd_modele/presentation.asp?id=8

Table 1. Stationarity test

	$ln(TOURhm)$	$ln(EMIG\ mh)$	$ln(GDPm)$	$n(GDPh)$	$ln(Dmh)$	$ln(POP)$
Levin, Lin & Chu t*	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ADF - Fisher Chi-square	0.0000	0.0674	0.0000	0.0025	0.0000	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi square distribution. All other tests assume asymptotic normality.

Table 1 shows the results of Levin, Lin & Chu t and ADF - Fisher Chi-square tests. It is clear that all the series are stationary at the firs level difference. Regarding the correlations between the tourism flows to Morocco and the explanatory variables of the model, they are presented in the following table:

Table 2. The correlations matrix

	$ln(TOURhm)$	$ln(EMIG\ mh)$	$ln(GDPm)$	$ln(GDPh)$	$ln(Dmh)$	$ln(POP)$	COL	LANG
$ln(TOURhm)$	1	0.412	0.343	-0.222	-0.515	0.153	0.819	0.764
$ln(EMIG\ mh)$	0.412	1	-0.020	-0.220	-0.434	0.017	0.621	0.363
$ln(GDPm)$	0.343	-0.020	1	0.038	-8.989	0.275	0	0
$n(GDPh)$	-0.222	-0.220	0.038	1	0.116	0.231	-0.268	-0.278
$ln(Dmh)$	-0.515	-0.434	-8.989	0.116	1	0.074	-0.635	-0.108
$ln(POP)$	0.153	0.017	0.275	0.231	0.074	1	0.028	0.076
COL	0.819	0.621	0	-0.268	-0.635	0.028	1	0.654
LANG	0.764	0.363	0	-0.278	-0.108	0.076	0.654	1

The correlations' table shows that Moroccan inward flows of tourism are positively correlated to the emigration outward flows from Morocco at 41.2 %. In addition, the colony and the common language are strongly correlated to the dependant variable compared to the other variables. To avoid collinearity problems, we eliminated these two variables, which are, also strongly correlated to each other.

We have used the QLS method for this panel-balanced regression estimation of the precedent gravity model. As it is mentioned above, after the elimination of the correlated variables, the model provide the explanation of the Moroccan tourism inflows' by Moroccan emigration, GDP of Morocco, GDP of the related countries, distance and population. We have first estimated the fixed and then the random effects model. The results are summarized in the recap table (table 3).

Table 3. The inward tourism regressions

Variable	Fixed	Random
C	0.001396	-2.467869
	(0.9998)	(0.3852)
$ln(EMIG\ mh)$	0.130575	0.069040
	(0.1339)	(0.3498)
$ln(GDPm)$	0.715564	0.756439
	(0.0099)**	(0.0000)***
$ln(GDPh)$	-0.139730	0.003601
	(0.1524)	(0.9038)
$ln(Dmh)$	-0.647052	-0.729966
	(0.0018) ***	(0.0012) ***
$ln(POP)$	0.115786	0.032009
	(0.2748)	(0.3170)
R-squared	0.465860	0.633941
Prob(F-statistic)	0.000052***	0.000000***

NB: p***<0.005; p**<0.01; p*<0.1.

To determine the appropriate model, we have used the Hausman Test. The null hypothesis is that the random is the appropriate model; however, the alternative hypothesis consider the fixed effect model as the appropriate one. As it is mentioned in the table below, the value of the probability is 0.0000, which means statistically that we can reject the null hypothesis; therefore, the fixed effect model is more appropriate than the random one.

Table 4. The Hausman test

Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	31.918979	4	0.0000

According to the fixed effect appropriate model, the majority of the variables of the model are not separately but jointly significant at 0.000052. In addition, the determination coefficient is equal to 0.465860, which means that the model variables explain 46.58 % of the Moroccan tourism inflows' from the studied eight developed countries.

In the model, the coefficient of emigration is positive and equal to 13.05 %, which means* that a ten percent rise in the emigration rate from Morocco to the main destination countries increases the value of tourism inflows' by 1.3 %. These findings confirm our global predictions presented in the precedent theoretical model.

6. Conclusion

According to the literature forecast, emigration networks can have a positive effect on tourism flows to the origin countries. Precisely, the effect of emigration on tourism flows to the origin countries passes through the migration networks channel. The migration generations increase directly the tourism inward flows to the origin countries and strengthen the migration networks effect through their relationships in the host country. In addition, migration networks generate three additional

* Because of the use of logarithm, we consider the variables coefficients as elasticity.

effects. First, the transaction one: it provides information about the nature quality and the price of tourism services that reduce the tourism costs and promote tourism. Second, the preferences effects: it provides information about the preferences of the natives concerning tourism that will be transferred and reflected by emigrants during their visit to the origin country. This effect helps to adapt tourism services to tourists' preferences. The third effect represents the immigrants' way of life that advertises tourism of the origin country.

To put it simply, Migration networks increase directly tourism to the origin countries. In addition, it affects tourism positively through immigrants' way of life effect that advertises tourism of the origin country, through the transaction effect that promote tourism and through the preference effect that adapts it to tourists' preferences. Therefore, migration does not only affect positively tourism to the host countries, it improves it.

In this paper, we have used a gravity model to check the existence of the global effect of emigration on tourism flows to Morocco from the eight principal immigration countries. The dependent variable of the model was the flows of tourism from the main host countries of Moroccan emigrants to Morocco. To explain it, we have used the basic variables of the Gravity equation and added emigration flows from Morocco to the host countries and other related dummy variables. Regarding the data, we have collected bilateral statistics of Morocco with eight developed countries during six periods (2000, 2010, 2011, 2012, 2013, and 2014). Bilateral migration statistics are available in the official website of OECD and the rest of statistics are available in the official website of CEPII regrouped in « Gravity Data[*] ».

The estimation's result suggested that a ten percent rise in the emigration rate from Morocco to the eight studied developed countries increases the real value of Moroccan inflows of tourism by 1.3 %. These findings confirm the positive effect presented in the former theoretical model. If we take this main finding from the migration and development point of view, it argues that the migration networks have an additional important effect on the economics of the origin countries through the increase of tourism inflows. It is worth mentioning that such finding makes the global effect of migration more important for the development of the origin countries.

[*] Available at the link : http://www.cepii.fr/cepii/en/bdd_modele/presentation.asp?id=8

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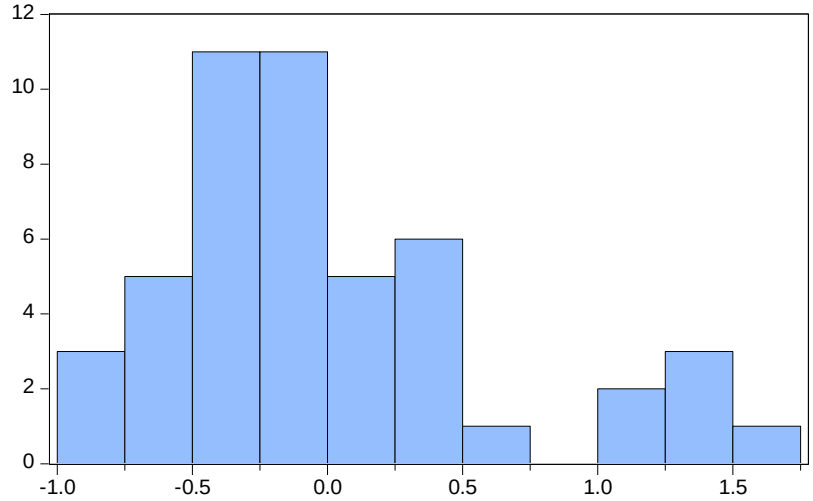
Appendix

A. Gradient of the model

B. Normality test



Series: Standardized Residuals	
Sample 2009 2014	
Observations 48	
Mean	3.13e-15
Median	-0.123876
Maximum	1.503387
Minimum	-0.892748
Std. Dev.	0.604878
Skewness	0.956145
Kurtosis	3.253429
Jarque-Bera	7.442159
Probability	0.024208

C. Variables variation