Migration and Inbound Tourism: An Italian Perspective

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Abstract: This paper investigates the impact of migration on Italian inbound tourism flows in a dynamic panel data framework. Arrivals, expenditure and nights from 65 countries are analyzed for the period 2005-2011. The migration variable is defined at both origin and destination in order to assess the pushing and pulling forces. Estimates are performed using both aggregated flows and flows disaggregated to separate the VFRs from two non-VFR categories, namely holiday and business. The results suggest the presence of a strong migration-tourism nexus which clearly goes beyond visiting friends and relatives. Moreover, the effects of the different determinants vary according to the way in which the tourism market is segmented and, within each segment, to the way in which tourism demand is measured.

Keywords: Migration, Inbound Tourism, Dynamic Panel Data, Italy.

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1. Introduction

The theoretical literature on the mechanisms linking migration to tourism (Feng & Page, 2000; Williams & Hall, 2002; Boyne et al., 2002; King, 1994) recognizes migration as one of the main prerequisites for visiting friends and relatives (VFR). On the empirical side, estimated elasticities confirm this relation and place migration among the major determinants of VFR tourism flows.

Despite the relevance of these findings, researchers still believe that the role of migration in the tourism market is underestimated. In particular, recent empirical evidence suggests that the link between tourism flows and immigrant stocks could go beyond the VFR channel (cf. inter al., Seetaram, 2012a, Etzo et al., 2013), that is, other segments of the tourism market, such as holiday and business, might also be influenced by migration. Briefly, from the perspective of the host country, immigrants can pull arrivals and push departures, whether or not they are VFR travelers. This view, which corresponds to an extensive interpretation of the migration-led-tourism hypothesis, implies that migrants could have a stronger impact on local economies than is generally thought. Therefore its empirical validation is of particular interest for policy makers, and for destination managers interested on boosting tourism-based business activities. In this regard, three issues deserve careful attention.

Firstly, in order to test the extended migration-led-tourism hypothesis, VFRs and non-VFRs need to be taken into the analysis separately. Measurement of the VFR market component is critical, and there is a suspicion that it is systematically undervalued by official statistics on tourism by purpose of visit (Jackson, 1990; Backer, 2012; Griffin, 2013). This is because many visitors, who may be considered VFR by tourism professionals, will actually record themselves as pleasure visitors. To cope with this concern, Backer (2012) proposes a re-calculation of all the categories identified by purpose of visit, taking into account the type of accommodation chosen: non-VFRs who stay with friends and relatives instead of selecting commercial accommodation should be included in VFR. Obviously, the choice of VFR definition could affect the results of any empirical analysis.

Secondly, it is necessary to consider that migration might exert a two-fold influence on tourism: with respect to country *i*, outbound flows are pushed from foreign-born people usually resident in *i* and pulled from *i*-born population living abroad; conversely, inbound flows are pulled from foreign-born people residing in *i* and pushed from *i*-born population residing abroad (cf. Etzo et al., 2013, for a comprehensive discussion on this point).

Finally, attention should be paid to the way in which tourism demand is measured. The literature (Stabler et al., 2010) focuses on tourist arrivals, tourist expenditure and tourist nights. These measures differ with respect to the procedures used for collecting the data, for the type of information provided and for their historical behavior. As a consequence, they can respond differently to different determinants, migration included.

As far as it is known, there is no study within the tourism-migration literature that addresses these three issues in a common setting. The present study aims to fill this gap by looking at Italian inbound tourism flows from a panel of 65 countries. In particular, three models of tourism demand are specified where the dependent variable is alternatively expressed in terms of arrivals, expenditure and nights. Among the covariates, two stocks of migrants are considered: foreign-born people residing in Italy and Italians residing abroad. Other determinants included in the three models are the lagged dependent variable, the real per capita GDP at origin, the real exchange rate, the distance from the country of origin to Italy and a proximity dummy variable. For each model, estimates are performed using both aggregated flows and flows disaggregated in order to separate the VFRs from two non-VFR categories, namely holiday and business. Taking into account the point raised by Backer (2012), all visitor categories are first defined by purpose of visit and then re-defined to integrate VFRs with the non-VFRs who stay with friends and relatives (Backer, 2012). Estimates based on both measures will be implemented and then compared.

2. Review of the empirical literature on tourism and migration.

Table 1 synthesizes empirical studies explicitly dealing with the role of migration on international inbound/outbound tourism. These include the works of Prescott et al. (2005), Seetaram & Dwyer (2009), Dwyer et al. (2010), Gheasi et al. (2011), Tadesse & White (2012), Seetaram (2012a, b), Leitão & Shahbaz (2012), Etzo et al. (2013), Genç (2013) and Law et al. (2013). The emerging picture presents a robust, positive relationship between the stock of immigrants and tourism flows. However, estimated elasticities differ greatly across studies. The reasons for such diversified scenarios reside in the different sets of countries analyzed and in the different estimation methods used.

As far as the countries are concerned, four out of ten works refer to Australia (Seetaram & Dwyer, 2009; Dwyer et al., 2010; Seetaram, 2012a, b). Other Anglophone countries considered by empirical researchers are Canada (Prescott et al., 2005), USA (Tadesse & White, 2012), UK

(Gheasi et al., 2011) and New Zealand (Law et al., 2013; Genç, 2013). Finally, Leitão & Shahbaz (2012) focus on Portugal, whilst Etzo et al. (2013) concentrate on Italy.

Different estimation methods have been applied across different studies. Prescott et al. (2005), Dwyer et al. (2010), Gheasi et al. (2011), Genç (2013) and Law et al. (2013) apply simple OLS or, at most, standard panel data techniques (static homogeneous estimators). Seetaram & Dwyer (2009), Seetaram (2012a, b), Leitão & Shahbaz (2012) and Etzo et al. (2013) use various types of dynamic homogeneous panel data estimators, whereas Tadesse & White (2012) exploit a zero-inflated negative binomial model.

[Table 1]

Despite the use of different countries and econometric methods, some common features emerge from Table 1. More precisely, almost all the reported studies are based on aggregate data, they concentrate on the stock of immigrants, either at origin or at destination, and focus on a single measure of tourism demand. Some exceptions are now briefly discussed.

Disaggregated data by purpose of visit, with an explicit reference to the total non-VFR or to some of its categories, are analyzed by Prescott et al. (2005), Dwyer et al. (2010), Etzo et al. (2013) and Law et al. (2013). Prescott et al. (2005) study tourism demand to Canada and disaggregate tourist flows by purpose of visit, namely VFR, vacation, work and education. They find that the estimated elasticities with respect to migrant stock differ across specifications. The highest estimates are normally found for VFR and vacation tourism. Conversely, tourism for educational purposes seems to be unaffected by migration. Dwyer et al. (2010) disaggregate tourism demand from 29 countries to Australia into VFR and non-VFR flows. They find that migration impacts on both market segments. In their paper on Italian outbound tourism, Etzo et al. (2013) concentrate on tourism departures divided into five categories: total flows, VFR, non-VFR, business and holiday. In general, a positive impact from migration is found for all tourist categories. Finally, Law et al. (2013), focus on inbound and outbound tourism in New Zealand and, in addition to total flows, consider short-term visits for holiday purpose. The role of migration is confirmed for both categories.

Interestingly, the only papers that consider migration at both origin and destination are among these last four works: Etzo et al. (2013) and Law et al. (2013). The first finds that the role played by Italian emigrants as a pull factor in destination countries is confirmed for all the different categories of tourist. Conversely, the holiday segment seems not to react to variations in overseas-born

immigrants residing in Italy. Law et al. (2013) establish that migration affects tourism both at origin and destination. Moreover they report elasticities suggesting that, in general, the impact of immigration on inbound tourism is weaker than on outbound tourism; for the role of New Zealand-born people living overseas, they obtain comparable results for inbound and outbound flows. However, it should be pointed out that the diaspora variable they use to measure the stock of New Zealanders abroad is a weak proxy, given that it is just an estimate of the number of New Zealanders abroad in a single year (i.e. 2000) and, as they say, their empirical findings should be interpreted with caution. The same group of four studies also includes the only one in which different measures of tourism demand are considered, namely Prescott et al. (2005); they take both arrivals and tourist nights as dependent variables and obtain elasticities that do not strongly diverge across specifications.

To sum up, there exists very few studies that investigate the role of migration for non-VFR tourism, and no work can be cited that analyzes, in a common framework, the two-fold influence of migration on tourism measured with different descriptive metrics.

3. An overview of tourism and migration in Italy

3.1 Patterns and trends of Italian inbound tourism

The present sub-section briefly discusses the main characteristics of Italian inbound tourism[1] for the period 2005-2011.[2] This discussion is based on official annual data from the Bank of Italy (various years), and on international comparisons from UNWTO (2012).[3] According to UNWTO (2012) Italy ranks 5th among the top world destination countries, with 41 million arrivals. Notwithstanding the international crisis, during this period Italian international arrivals grew on average by 3.3% per year, reaching 46.1 million in 2011.

[Figure 1]

Figure 1 shows that Germany was the principal source market out of the top 20 sending countries, accounting for 22.3% of total Italian inbound arrivals, followed by France (11.2%) and U.K. (8.7%). In terms of growth rates, the eastern European countries rank highest. In particular, Russia and Poland represented the fastest growing markets, with annual average rates of 27.8% and 15.2%, respectively. By contrast, Germany experienced a slight shrinkage (-0.3%), whilst Switzerland and

[1] Tourism is defined according to the UNWTO recommendations (UNWTO, 2010).
[2] For reasons of space, only arrivals and expenditure are here discussed. The characteristics of the number of nights are very similar to those emerging for the expenditure.
[3] Data from the Bank of Italy are the same used by the UNWTO to compile the yearly statistics for Italy.

France, which have the highest growth rate among the top five representative markets, remain below 3%.

Interesting differences between countries also arise when tourism flows are disaggregated by purpose of visit. On average, the majority of arrivals were for holidays (59%), followed by business visits (23%) and VFR (13%). Figure 2 reports national weights for each of the three main purposes, calculated as the ratio of inbound flows for purpose *m* (VFR, business and holiday) on total inbound flows from country *i*. It is noticeable that the weights vary considerably across countries. Australia had the highest percentage of holiday arrivals (78%), whilst Greece showed the lowest (31%). Slovakia reported the highest share of business arrivals (43.4%) and Canada the lowest (9%). Finally, the highest VFR weights characterized both Rumanian and Swiss tourists (both equal to 27.7%), whereas the Danish were the lowest (4.7%).

[Figure 2]

Looking at tourism expenditure, Italy received 30.9 euro billion in 2011, the 5th highest share of international tourism receipts according to the UNWTO World Tourism Barometer (2012).[4] Compared to 2005, this expenditure grew by about 1.2%, the result of both the important contraction in 2009 (-7.2%) and positive results achieved in 2006 (6.7%) and 2011 (5.6%).

[Figure 3]

Looking at the top 20 spending countries, the picture appears similar to the one showed in Figure 2, with some interesting peculiarities (Figure 3). Firstly, in terms of expenditure market shares, the USA gained four positions with respect to arrivals and became the second most important spender after Germany, whereas Greece gained three positions, so entering the top 10.[5] Secondly, in terms of annual average growth rates, expenditure of the (traditional) top seven source markets exhibited a negative or at best a stable trend, whereas only India (27%) approached the outstanding pace of Russia (30%).

Finally, in terms of relative weights by purpose of visit, on average the picture is very similar to the one discussed for the number of arrivals, even though the weight of the three main purposes is slightly lower: 58% for holiday, 20% for business and 10% for VFR (Figure 4). With the sole exception of India, holidays were the principal purpose for all the countries, with the Netherlands

[4] The definition adopted in the present analysis corresponds to the one adopted to compute the "travel" account of the Italian Balance of Payments.
[5] Notice that the data refers to the pre Greek crises boomed in 2011.

and Denmark showing the highest percentage of expenditure. Conversely, Indians showed the highest expenditure rate for business visits. Regarding VFR, the top spending countries were Romania, Brazil, France and Switzerland.

[Figure 4]

3.2. Patterns and trends of Italian migration

The history of Italian international migration has been characterized by massive emigration flows (Gomellini & Ó Gráda, 2011; Del Boca & Venturini, 2005). During the last decades of nineteenth century and up to WWI, those flows headed towards trans-oceanic destinations (mainly to North and South America). After WWI international flows slackened but regained a new impulse after WWII. This second wave of international migration was less intense than the first and migrants headed mainly to the northern European countries. During the last decades of the 20th century, Italy experienced a transition from being one of the most important sending countries to becoming one of the principal host countries. The persistence of Italian migration outflows, as well as the more recent inflows, has fostered the creation and consolidation of two important types of community: Italians resident abroad, and foreign-born immigrants resident in Italy. A global overview of both the structure and dynamics of these communities during the period 2005-2011 will be provided below.

[Figure 5]

Annual data on the stock of Italian citizens living abroad are collected by the Ministry of Interior by means of the Registry of Italian citizens Residing Abroad (AIRE). During the period 2005-2011, this stock grew from 3.5 million in 2005 to 4.2 million in 2011. Figure 5 shows the average annual shares for the top twenty hosting countries, computed as the ratio of Italians resident in country *i* to the total number of Italians resident abroad. It also reports the annual average growth rates. It is interesting to note that at least half of the countries in Figure 5 match those appearing in the previous figures.

Looking at Italy as a hosting country, it is well known that in recent years the number of foreign-born immigrants has grown considerably. The annual average growth rate is above 10% for the period 2005-2011. In absolute terms, in 2011 there were 4.5 million foreigners residing in Italy

(ISTAT, 2011). This community, which represents more than 7% of the total Italian population, makes a major contribution to the country's positive demographic growth.

Figure 6 shows the annual average shares for the top 20 sending countries for the years 2005-2011, that is the average of the annual ratios of the number of immigrants coming from country *i* to the number of total foreign immigrants resident in Italy. In the same figure, annual average growth rates are also reported. In general, Eastern Europe countries are characterized by higher growth rates. Romania is the first sending country, representing (on average) 17% of total foreign-born people resident in Italy. It is also the fastest growing community with an annual average growth rate of 59.8%. In 2008 Romania overtook Albania and Morocco which had traditionally supplied the largest immigrant communities. There are, however, other countries which have not yet entered the top 20 but nevertheless exhibit high growth rates, for example, Russia (10%), Slovakia (16%) and Hungary (12%). The latter are worth mentioning because they are among the top 20 countries in terms of tourism arrivals.

[Figure 6]

4. Empirical strategy

The main aim of the present analysis is to investigate the channels through which migration stocks, defined at both origin and destination, affect Italian inbound tourism as specified in terms of arrivals, nights and expenditure. In particular, the research focus is on whether or not migration affects the decision of both VFRs and non-VFRs. To this end, estimates are performed using both aggregated flows and flows disaggregated in order to separate VFRs from the two non-VFR categories, namely holiday and business. Estimates are firstly run with the categories defined in terms of purpose of visit. Then, to control for possible biases in the results due to the underestimation of the VFR component (Jackson, 1990), an alternative measure is obtained following the approach suggested by Backer (2012), namely VFRs are re-aggregated in order to include the non-VFRs who stay with friends and relatives instead of selecting commercial accommodation. New estimates based on Backer's definition (VFR^B, $HOLIDAY^B$ and $BUSINESS^B$) are run to check for the robustness of the empirical findings.

The investigation is performed over the period 2005-2011 (T=7). The choice of this time span reflects the need to incorporate the largest possible number of countries into the analysis (N=65), accounting for 97.8% of total inbound tourist arrivals, 96.5% of expenditure and 96.9% of nights in Italy.

The assumed model of tourism demand is the following:

$$Y_{i,t,m,d} = f\left(Y_{i,t-1,m,d}, M\_ITA_{i,t}, M\_FOR_{i,t}, GDP_{i,t}, RER_{i,t}, DIST_i, CONT_i\right) \quad (1)$$

where the subscript i=1, 2, … 65 denotes the countries of origin and the subscript t=1, 2, … 7 refers to the time period. $Y_{i,t,m,d}$ is the dependent variable as described above (m stands for purpose, that is total, VFR, business and holidays and d stands for the tourist demand measure, namely arrivals, nights and expenditure). The lagged dependent variable allows for the capture of habit-formation and word-of-mouth effects, and it avoids a possible overestimation of the effect of other regressors (Morley, 1998; Garín-Muños, 2006). The other explanatory variables are the stock of Italian citizens residing in the source country ($M\_ITA_{i,t}$), the stock of country i's foreign citizens residing in Italy ($M\_FOR_{i,t}$), the real per capita GDP in the source country ($GDP_{i,t}$) and the real exchange rate ($RER_{i,t}$) computed as follows:

$$RER_{i,t} = \frac{CPI_{ITA,t}}{CPI_{i,t}} \times EXRATE_{ITA,t} \quad (2)$$

In eq. (2) $CPI_{ITA,t}$ is the Italian consumer price index, $CPI_{i,t}$ is the consumer price index in the source country i and $EXRATE_{ITA,t}$ is the nominal exchange rate between Italy and the source country i expressed in terms of the local currency against the euro. An increase (decrease) of $RER_{i,t}$, either because of higher inflation or Euro appreciation, is expected to exert a negative (positive) influence on tourism demand. Finally, $DIST_i$ is the aerial kilometric distance between the most important city of the source country and Rome and $CONT_i$ is a dummy variable that controls for the presence of common border effects between Italy and a specific country of origin: when this is the case, $CONT_i$ takes the value one, otherwise it takes zero. As for the variable $DIST_i$, it is a proxy that measures, not only transportation costs, but also other factors which might influence destination choice, such as the preferred mode of transport, time availability, preferences for different cultures and long distance trip aversion (McKercher et al., 2008). Thus, its estimated coefficient might turn out to be either positive or negative, depending on the weight of these possibly contrasting influences. Detailed descriptions and sources of all variables are reported in Table 2.

[Table 2]

In order to take into account the dynamics of the tourist's decision making process, a dynamic econometric model is specified as follows:

$$y_{i,t,m,d} = \beta_0 + \beta_1 y_{i,t-1,m,d} + \beta_2 m\_ita_{i,t} + \beta_3 m\_for_{i,t} + \beta_4 gdp_{i,t} + \beta_5 rer_t + \beta_6 dist_i + \beta 7CONTi + \gamma t + \mu i + \varepsilon i,t \quad (3)$$

where lower-case letters denote the log-transformed variables; $\varepsilon_{i,t}$ is the stochastic error term; μ_i are country-specific fixed effects; γ_t are time-specific effects common to all countries, such as the positive trend of international travels or general variation in transportation costs.

The empirical estimation is carried out by means of the one step system GMM estimator, which turns out to be particularly suitable for the proposed analysis (Arellano & Bover, 1995; Blundell & Bond, 1998). This estimation technique corrects the dynamic endogeneity that is caused by the correlation between the past realization of the dependent variable and the error term. Moreover, it accommodates situations with fixed effects and autocorrelation between individuals and it is particularly suitable for estimating panel data models with large units observed over a short-time periods (Roodman, 2009).

5. Results

5.1 Results by the purpose of visit definition of VFRs

The main empirical findings delivered by the present study are summarized in Tables 3, 4 and 5. Results are based on tourism flows disaggregated by purpose of visit.

[Tables 3, 4 and 5]

Turning first to the main focus of this paper, the stock of Italian citizens living abroad shows, in all models, a positive and statistically significant coefficient at aggregate level for VFR and for holiday tourism. In contrast, the segment of tourism demand mainly motivated by business activities does not seem to respond to this variable. In this respect, it is useful to remember that for many of the top source countries that are also among the top hosting countries for Italian emigrants, the weight of the business component of the tourism market is below overall averages. Comparing the two segments of the tourism demand where the variable is significant, VFR systematically reports the highest estimated coefficient (elasticities range between 0.260 in Table 3 for arrivals and 0.338 in Table 4 for expenditure). Interestingly, the lowest elasticity is found at aggregate level; in this case the coefficient estimates vary from 0.038 (arrivals) to 0.045 (expenditure) and up to 0.066 (nights). Thus, in terms of model specification, elasticities are generally higher when the dependent variable is expressed by expenditure and nights (Tables 4 and 5 respectively) rather than by arrivals.

As for the stock of foreign-born people residing in Italy, the estimated coefficient is positive and statistically significant for all three market segments. This time, the involvement of the business segment might be explained by the fact that the fastest growing groups of foreign-born people residing in Italy originate from the fastest growing countries in terms of GDP (the so called BRIC countries, namely Brazil, Russia, India and China), i.e. the preferred target markets for Italian investors and business operators. The highest elasticity is reported for holiday tourism (from 0.321 when demand is measured by arrivals in Table 3, to 0.410 when it is measured by nights in Table 5), whilst the lowest is found at aggregate level (elasticities range between 0.100 and 0.183). Comparing the three models, elasticities are again higher when the dependent variable is expressed by both expenditure and number of nights, with the one exception of VFR when defined in terms of expenditure.

At this point, two important outcomes for Italian inbound tourism are worth noting. First, the link between tourism and migration clearly goes beyond the VFR channel since two other important segments of the tourism market, that is business and holidays, are affected by migration. Both pulling and pushing effects of migration operate when tourism is motivated by VFR and holiday purposes, whereas for business tourism only the stock of foreign immigrants matters. Second, migration affects tourism independently of the way in which the demand is measured, even though its impact varies across model specifications. This result, besides being a robustness test, highlights the relevance of the way that tourism demand is measured.

Interesting outcomes also emerge for the remaining covariates. As for per capita GDP at origin, a positive statistically significant coefficient is always detected. Between segments, tourism for holidays displays the highest estimated coefficients across models, with elasticities ranging from 1.548 in Table 3 for arrivals, to 1.930 in Table 5 for nights, followed by VFR (elasticities lower than one in the range between 0.769 for nights in Table 5 and 0.818 for expenditure in Table 4), and by business (from 0.542 in Table 3, to 0.767 in Table 4). Thus, the estimated elasticities reveal that only holiday tourism behaves as a luxury good. The lowest sensitivity to per capita GDP is found at aggregate level (elasticities range between 0.322 in Table 3 and 0.479 in Table 5). In terms of model specification, with the exception of VFR (nights), elasticities again appear higher when the dependent variable is expressed, either as expenditure, or as number of nights. The estimated coefficient for the distance is statistically different from zero only when the tourism demand is expressed as the number of arrivals (cf. Table 3). Even in this case, there is a segment of the tourist market, namely holidays, that does not seem to be affected by this variable. When significant, the estimated elasticities report negative signs.

The contiguity dummy is significant only for VFR tourism when it is expressed by the number of arrivals (Table 3) and for the aggregated model of expenditure (Table 4). The lagged dependent variable reports a positive and statistically significant coefficient in all models for all specifications, with the sole exception of holiday arrivals. The magnitude of the estimated elasticities largely varies across models and market segments. Accordingly, this variable turns out to be the main determinant only at the aggregate level; when its role is isolated for single segments of the tourism market, the lagged dependent variable falls in the ranking. However, these findings confirm that tourists' expectations, habit persistence and word-of-mouth strongly affect the pattern of tourism demand. Finally, the real exchange rate is never statistically significant. Such a result is not new, however, since similar findings have been found by Seetaram (2012a) for Australia.

5.2 Robustness check of empirical results

This empirical analysis provides evidence of a strong positive relationship between migration and tourism that goes beyond VFRs. However, according to Backer (2012), results based on a purpose of visit definition might be misleading. Therefore, to test whether or not Backer's critique affects the estimated link between migration and tourism in Italy, this sub-section provides new estimates based on her definition of the VFR category. In what follows, for reasons of space, the discussion will be restricted to the model specified in terms of arrivals, but similar results emerge for the other two models specified in terms of nights and expenditure.[6]

[Table 6]

Table 6 synthesizes the results of the re-aggregation process. As shown, the new definition considerably increases the size of the VFR group (54.1% more with respect to the purpose of visit definition): up from 5,269,265 to 8,117,884 as a yearly average. As expected, the most relevant part of this increment (2,137,287) is fueled by tourists who state "holiday" as their main purpose of visit, whereas the number of tourists who state "business" as purpose of visit, but accommodate themselves with friends and relatives, is 355,607.

[Table 7]

Table 7 reports old and new estimates together in order to facilitate their comparison. As it emerges, results are qualitatively and quantitatively similar. Indeed, the statistical significance of almost all regressors is confirmed. The holiday segment seems to be the only one affected by the re-aggregation of the VFRs. In particular, the lagged dependent variable is now significant, while the stock of foreigners residing in Italy is slightly above the 10% significance level (p-value 0.106).

[6] Results are available from the authors upon request.

Therefore, it is reasonable to conclude that, whereas the issue raised by Backer is conceptually and quantitatively relevant, for the case of Italy the empirical estimates of the migration-tourism link do not seem to be significantly affected by the chosen definition.

6. Conclusions

This study has presented an empirical investigation of the impact of migration on Italian inbound tourism. The analysis has been carried out by focusing on three main aspects. The first regards the isolation of VFR from the two other main segments of tourism demand, namely holiday and business. The second deals with the role of migration stocks in both the sending and the receiving countries. The third refers to the way tourism is measured: tourism arrivals, tourism expenditure and total number of nights have been used as dependent variables in order to study the determinants of tourism volumes, economic impact and length of stay, respectively. The main result of the analysis, based on the purpose of visit definition of tourist categories, suggests that the link between migration and tourism is strong and goes beyond the VFR channel. Such a result is robust also to the alternative definition of VFRs and non-VFRs advocated by Backer (2012). The second very important finding is that the explanatory variables exert different impacts according to the way in which the tourism market is segmented and, within each segment, to the chosen measure of tourism demand. In particular, after disaggregating the data by purpose of visit, conclusions valid at aggregate level are very often disregarded at disaggregated level, whilst several interesting differences emerge among tourist categories. With respect to the measure of tourism demand, the market segment that appears least susceptible to the chosen metric is holiday.

There are several interesting implications for tourism service suppliers, policy makers and researchers arising from these results. In more detail, the empirical analysis shows that communities of foreign-born immigrants living in Italy exert a remarkable pulling effect on each of the three main market segments (i.e, VFR, holiday and business). Accordingly, marketing strategies taking into consideration both the composition and the dynamics of these communities could prove to be more effective in attracting tourists than those which ignore the migration-tourism nexus. Moreover, the results from the expenditure model suggest that migration also has an important economic impact in terms of tourism receipts. In this respect, for example, migrant integration policies could produce, not only positive social effects, but also important economic effects, as long as they contribute to the preservation of cultural identities and to favoring liaisons with the sending countries. These implications are reinforced by the descriptive data which has shown that countries with the highest growth rates in terms of GDP (e.g., Russia, India, Brazil and China) are also among

the countries with the highest growth rates of foreign-born immigrants resident in Italy. Similar implications are valid with respect to communities of Italian citizens resident abroad, although they seem to have no impact on the business segment and thus, in this case, specific marketing strategies and policies are needed in order to fit the profiles of both VFR and holiday tourists.

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Tables and figures

Table 1 – The effect of migration on tourism demand in previous empirical studies.

	Destination/Origin (inbound/outbound) Number of countries and time period	**Estimation method**	**Dependent variable. (Disaggregation)**	**Estimated elasticities**			
				Dynamic regressions		**Static regressions**	
				Short-run	**Long-run**		
Prescott et al. (2005)[a]	Canada (inbound): 22 OECD countries, from 1990 to 1996.	OLS/GLS	Arrivals: Total, VFR, Vacation, Work and Education			**Total**: **VFR**: **Vacation**: **Work**: **Educ**:	0.24 0.31 0.35 0.17(n.s.)[b] -0.04(n.s.)
			Person-Nights: Total, VFR, Vacation, Work and Education			**Total**: **VFR**: **Vacation**: **Work**: **Education**:	0.37 0.43 0.54 0.15 -0.00(n.s.)
Seetaram and Dwyer (2009)	Australia (inbound): 9 countries, from 1992 to 2006.	Dynamic homogeneous panel: random effects	Arrivals				3.22
Dwyer et al. (2010)[c]	Australia (inbound and outbound): 29 countries, for the years 1991 and 2006.	OLS	Arrivals: Total, VFR and Non-VFR			**Total**: **VFR**: **Non-VFR**:	0.59 0.66 0.56
			Departures: Total, VFR and Non-VFR			**Total**: **VFR**: **Non-VFR**:	0.72 0.71 0.69
Gheasi et al. (2011)[d]	UK: 24 countries (inbound) and 18 (outbound), for the years 2001-2006.	OLS/Static homogeneous panel: fixed effects	Arrivals: Total, VFR Duration: VFR			**Total arrivals**: **VFR arrivals**: **VFR duration**:	0.30 0.37 0.43
			Departures: Total, VFR Duration: VFR			**Total departures:** **VFR departures:** **VFR duration**	0.07 (n.s.) 0.37 0.26 (n.s.)
Tadesse and White (2012)	USA (inbound): 86 countries, from 1995 to 2004.	Zero-inflated negative binomial model	Arrivals				1.4
Seetaram (2012a)	Australia (inbound): 15 countries, from 1980 to 2008.	Dynamic homogeneous panel: CLSDV[e]	Arrivals	0.03	0.09		
Seetaram (2012b)[f]	Australia (outbound): 47 countries, from 1991 to 2008.	Dynamic homogeneous panel: GMM/CLSDV	Departures	0.20	0.60		

Leitão and Shahbaz (2012)	Portugal (inbound): 16 countries, from 1995 to 2008.	Dynamic homogeneous panel: system GMM	Arrivals	0.49	0.54	

Table 1 – (Cont.)

	Destination/Origin (inbound/outbound) Number of countries and time period	**Estimation method**	**Dependent variable. (Disaggregation)**	**Estimated elasticities**		
				Dynamic regressions		Static regressions
				Short-run	Long-run	
Etzo et al. (2013)	Italy (outbound): 65 countries, from 2005 to 2011.	Dynamic homogeneous panel: system GMM	Departures: VFR, Non-VFR, Holiday and Business	**Immigrants in Italy** **Total**: 0.05 **VFR**: 0.23 **Non-VFR**: 0.06 **Holiday**: 0.07 (n.s.) **Business**: 0.12 **Italian emigrants** **Total**: 0.06 **VFR**: 0.14 **Non-VFR**: 0.10 **Holiday**: 0.19 **Business**: 0.12		
Genç (2013)[g]	New Zealand (inbound): more than 200 countries depending on estimates, from 1981 to 2006.	Static fixed and random effects negative binomial	Arrivals			0.20
Law et al. (2013)	New Zealand (inbound and outbound): more than 190 countries depending on estimates, from 1981 to 2006.	Static homogeneous panel: correlated random effects	Arrivals: Total and Holiday			**Immigrants in New Zealand** **Total**: 0.17 **Holiday**: 0.22 **New Zealander emigrants** **Total**: 0.14 **Holiday**: 0.13
			Departures: Total and Holiday			**Immigrants in New Zealand** **Total**: 0.27 **Holiday**: 0.42 **New Zealander emigrants** **Total**: 0.19 **Holiday**: 0.20

Notes:
[a] Prescott et al. (2005) estimate two model specifications, one with real exchange rate and the other where the real exchange rate is decomposed into its component parts. Furthermore, GLS estimates are also provided for the model specified in terms of total flows. For reasons of space, in the Table only OLS estimates based on the real exchange rate are reported.
[b] (n.s.) means that the coefficient estimate is not statistically significant.
[c] Dwyer et al. (2010) report results for 1991 and 2006. For reasons of space, only the latter are reported in the Table.
[d] Gheasi et al. (2011) report results based on both OLS and static fixed effects model. In the Table, the reported estimates refer to the latter.
[e] CLSDV stands for Corrected Least Square Dummy Variables (Kiviet, 1995).
[f] Seetaram (2012b) uses two alternative estimators, namely GMM and CLSDV. For reasons of space, the Table reports only GMM results.
[g] The reported estimate refers to the static fixed effects model. A very similar result holds for static random effects model.

Table 2. Variables definition and sources.

Variable	Definition	Source
TOTAL	Total arrivals, expenditure and nights from source country *i* to Italy.	Bank of Italy (various years)
VFR	Arrivals, expenditure and nights from source country *i* to Italy whose main purpose is VFR.	Bank of Italy (various years)
VFR^B	Arrivals, expenditure and nights from source country *i* to Italy whose both main purpose and accommodation is VFR.	Bank of Italy (various years)
BUSINESS	Arrivals, expenditure and nights from source country *i* to Italy whose main purpose is Business.	Bank of Italy (various years)
$BUSINESS^B$	Arrivals, expenditure and nights from source country *i* to Italy whose main purpose is Business and the accommodation is a commercial one.	Bank of Italy (various years)
HOLIDAYS	Arrivals, expenditure and nights from source country *i* to Italy whose main purpose is Holiday.	Bank of Italy (various years)
$HOLIDAYS^B$	Arrivals, expenditure and nights from source country *i* to Italy whose main purpose is Holiday and the accommodation is a commercial one.	Bank of Italy (various years)
M_ITA	Stock of Italians residing abroad.	AIRE (2013)
M_FOR	Stock of foreign immigrants residing in Italy.	ISTAT (2011)
GDP	Real GDP per capita (PPP, constant 2005 international $).	World Bank (2013)
RER	Real exchange rate.	World Bank (2013)
DIST	Aerial kilometric distance between the most important city of the source country and Rome.	Mayer & Zignago (2011)
CONT	Dummy variable indicating whether Italy and the source country are contiguous.	Mayer & Zignago (2011)

Table 3 Estimation results: Arrivals.

Explanatory Variables	Motivation			
	TOTAL	VFR	BUSINESS	HOLIDAYS
$y_{i,t-1}$	0.765***	0.286***	0.533***	0.260
	(0.000)	(0.000)	(0.000)	(0.133)
$m\_ita_{i,t}$	0.038**	0.260***	0.040	0.191**
	(0.050)	(0.000)	(0.314)	(0.013)
$m\_for_{i,t}$	0.103***	0.315***	0.216***	0.321**
	(0.002)	(0.000)	(0.005)	(0.025)
$gdp_{i,t}$	0.322***	0.796***	0.542***	1.548***
	(0.000)	(0.000)	(0.002)	(0.004)
$rer_{i,t}$	-0.008	0.002	-0.066	-0.002
	(0.660)	(0.973)	(0.252)	(0.975)
$dist_i$	-0.097**	-0.322**	-0.313**	-0.003
	(0.047)	(0.025)	(0.030)	(0.985)
$CONT_i$	0.089	0.526**	0.110	0.448
	(0.416)	(0.022)	(0.630)	(0.261)
	Diagnostics statistics			
A-Bond AR (1)	-3.92	-2.30	-1.79	-2.00
(Prob>*z*)	(0.000)	(0.021)	(0.073)	(0.045)
A-Bond AR (2)	-1.38	1.19	1.18	0.88
(Prob>*z*)	(0.167)	(0.233)	(0.237)	(0.380)
Hansen test	25.31	21.00	28.31	28.06
(Prob>χ^2)	(0.190)	(0.397)	(0.102)	(0.108)

Note: number of observations 455, number of instruments 34. The lag of the dependent variable is treated as endogenous. Constant and time dummies, not reported in the table, have been included in all regressions. The one step system GMM estimator has been run in Stata by using the user-written command xtabond2 (Roodman, 2009) with the Windmeijer (2005) correction. *p*-values, based on standard errors consistent in the presence of any pattern of heteroskedasticity and autocorrelation within panels, are reported in brackets below the estimated coefficients. Stars denote *p*-values as follows: * $p<0.10$; ** $p<0.05$; *** $p<0.01$.

Table 4 Estimation results: Expenditure.

Explanatory Variables	Motivation			
	TOTAL	VFR	BUSINESS	HOLIDAYS
$y_{i,t-1}$	0.736***	0.191***	0.289***	0.129
	(0.000)	(0.009)	(0.000)	(0.306)
$m\_ita_{i,t}$	0.045*	0.338***	0.060	0.243***
	(0.055)	(0.001)	(0.370)	(0.008)
$m\_for_{i,t}$	0.100**	0.307***	0.343*	0.377**
	(0.017)	(0.001)	(0.053)	(0.022)
$gdp_{i,t}$	0.337***	0.818***	0.767**	1.890***
	(0.003)	(0.000)	(0.018)	(0.001)
$rer_{i,t}$	-0.006	-0.000	-0.134	0.008
	(0.775)	(0.998)	(0.281)	(0.929)
$dist_i$	-0.028	-0.155	-0.245	0.189
	(0.590)	(0.387)	(0.273)	(0.367)
$CONT_i$	0.168*	0.361	-0.090	0.371
	(0.084)	(0.124)	(0.758)	(0.391)
	Diagnostics statistics			
A-Bond AR (1)	-3.38	-2.09	-2.03	-1.73
(Prob>*z*)	(0.001)	(0.037)	(0.043)	(0.083)
A-Bond AR (2)	0.43	1.33	2.61	1.03
(Prob>*z*)	(0.771)	(0.184)	(0.009)	(0.302)
Hansen test	27.24	26.37	35.41	20.34
(Prob>χ^2)	(0.129)	(0.154)	(0.018)	(0.437)

Note: number of observations 455, number of instruments 34. The lag of the dependent variable is treated as endogenous. Constant and time dummies, not reported in the table, have been included in all regressions. The one step system GMM estimator has been run in Stata by using the user-written command xtabond2 (Roodman, 2009) with the Windmeijer (2005) correction. *p*-values, based on standard errors consistent in the presence of any pattern of heteroskedasticity and autocorrelation within panels, are reported in brackets below the estimated coefficients. Stars denote *p*-values as follows: * $p<0.10$; ** $p<0.05$; *** $p<0.01$.

Table 5 Estimation results: Nights.

Explanatory Variables	Motivation			
	TOTAL	VFR	BUSINESS	HOLIDAYS
$y_{i,t-1}$	0.633***	0.244***	0.343***	0.108
	(0.000)	(0.000)	(0.000)	(0.563)
$m\_ita_{i,t}$	0.066*	0.299***	0.040	0.260***
	(0.052)	(0.000)	(0.440)	(0.009)
$m\_for_{i,t}$	0.183***	0.359***	0.355***	0.410**
	(0.000)	(0.000)	(0.002)	(0.015)
$gdp_{i,t}$	0.479***	0.769***	0.686***	1.930***
	(0.000)	(0.000)	(0.002)	(0.002)
$rer_{i,t}$	-0.005	-0.005	-0.090	0.016
	(0.846)	(0.945)	(0.292)	(0.859)
$dist_i$	-0.046	-0.121	-0.206	0.063
	(0.510)	(0.459)	(0.251)	(0.766)
$CONT_i$	0.086	0.136	0.014	0.375
	(0.643)	(0.671)	(0.963)	(0.422)
	Diagnostics statistics			
A-Bond AR (1)	-4.28	-2.22	-2.14	-2.06
(Prob>*z*)	(0.000)	(0.027)	(0.032)	(0.040)
A-Bond AR (2)	1.64	1.27	0.38	1.42
(Prob>*z*)	(0.102)	(0.202)	(0.701)	(0.155)
Hansen test	26.27	18.86	29.65	22.20
(Prob>χ^2)	(0.157)	(0.531)	(0.076)	(0.330)

Note: number of observations 455, number of instruments 34. The lag of the dependent variable is treated as endogenous. Constant and time dummies, not reported in the table, have been included in all regressions. The one step system GMM estimator has been run in Stata by using the user-written command xtabond2 (Roodman, 2009) with the Windmeijer (2005) correction. *p*-values, based on standard errors consistent in the presence of any pattern of heteroskedasticity and autocorrelation within panels, are reported in brackets below the estimated coefficients. Stars denote *p*-values as follows: * $p<0.10$; ** $p<0.05$; *** $p<0.01$.

Table 6 Arrival categories based on VFR definitions (average values 2005-2011).

Categories	Purpose of visit definition	Backer definition	Absolute difference	Percentage difference
VFR	5,269,265	8,117,884	2,848,619	54.1 %
Holiday	24,542,380	22,405,093	-2,137,287	-8.7 %
Business	9,388,494	9,032,887	-355,607	-3.8 %

Table 7 Estimation results for VFR according to Backer (2012) definition (Arrivals).

Explanatory Variables	VFR^B	VFR	$BUSINESS^B$	BUSINESS	$HOLIDAYS^B$	HOLIDAYS
$y_{i,t-1}$	0.414***	0.286***	0.506***	0.533***	0.378**	0.260
	(0.000)	(0.000)	(0.000)	(0.000)	(0.015)	(0.133)
$m\_ita_{i,t}$	0.166***	0.260***	0.049	0.040	0.194***	0.191**
	(0.003)	(0.000)	(0.260)	(0.314)	(0.006)	(0.013)
$m\_for_{i,t}$	0.279***	0.315***	0.225***	0.216***	0.226	0.321**
	(0.000)	(0.000)	(0.007)	(0.005)	(0.106)	(0.025)
$gdp_{i,t}$	0.673***	0.796***	0.583***	0.542***	1.334**	1.548***
	(0.000)	(0.000)	(0.002)	(0.002)	(0.014)	(0.004)
$rer_{i,t}$	0.006	0.002	-0.079	-0.066	-0.007	-0.002
	(0.897)	(0.973)	(0.236)	(0.252)	(0.918)	(0.975)
$dist_i$	-0.240***	-0.322**	-0.337**	-0.313**	0.041	-0.003
	(0.009)	(0.025)	(0.037)	(0.030)	(0.824)	(0.985)
$CONT_i$	0.460**	0.526**	0.092	0.110	0.398	0.448
	(0.028)	(0.022)	(0.707)	(0.630)	(0.309)	(0.261)
			Diagnostics statistics			
A-Bond AR (1)	-3.14	-2.30	-1.81	-1.79	-2.39	-2.00
(Prob>*z*)	(0.002)	(0.021)	(0.070)	(0.073)	(0.017)	(0.045)
A-Bond AR (2)	0.02	1.19	1.05	1.18	1.30	0.88
(Prob>*z*)	(0.987)	(0.233)	(0.294)	(0.237)	(0.193)	(0.380)
Hansen test	17.90	21.00	31.65	28.31	27.10	28.06
(Prob>χ^2)	(0.594)	(0.397)	(0.047)	(0.102)	(0.133)	(0.108)

Note: number of observations 455, number of instruments 34. The lag of the dependent variable is treated as endogenous. Constant and time dummies, not reported in the table, have been included in all regressions. The one step system GMM estimator has been run in Stata by using the user-written command xtabond2 (Roodman, 2009) with the Windmeijer (2005) correction. *p*-values, based on standard errors consistent in the presence of any pattern of heteroskedasticity and autocorrelation within panels, are reported in brackets below the estimated coefficients. Stars denote *p*-values as follows: * $p<0.10$; ** $p<0.05$; *** $p<0.01$.

Figure 1. Tourism arrivals: top 20 countries (2005-2011).

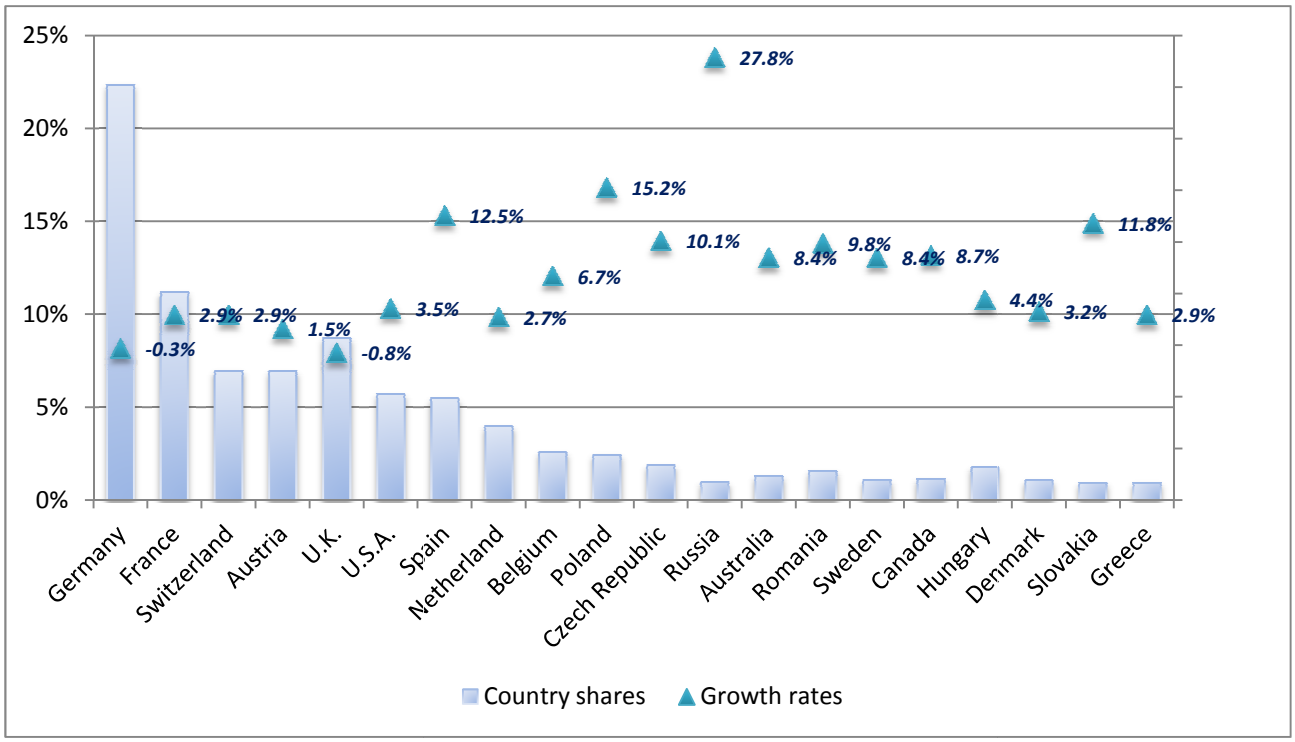

Figure 2. Tourism arrivals by purpose of visit:top 20 countries (2005-2011).

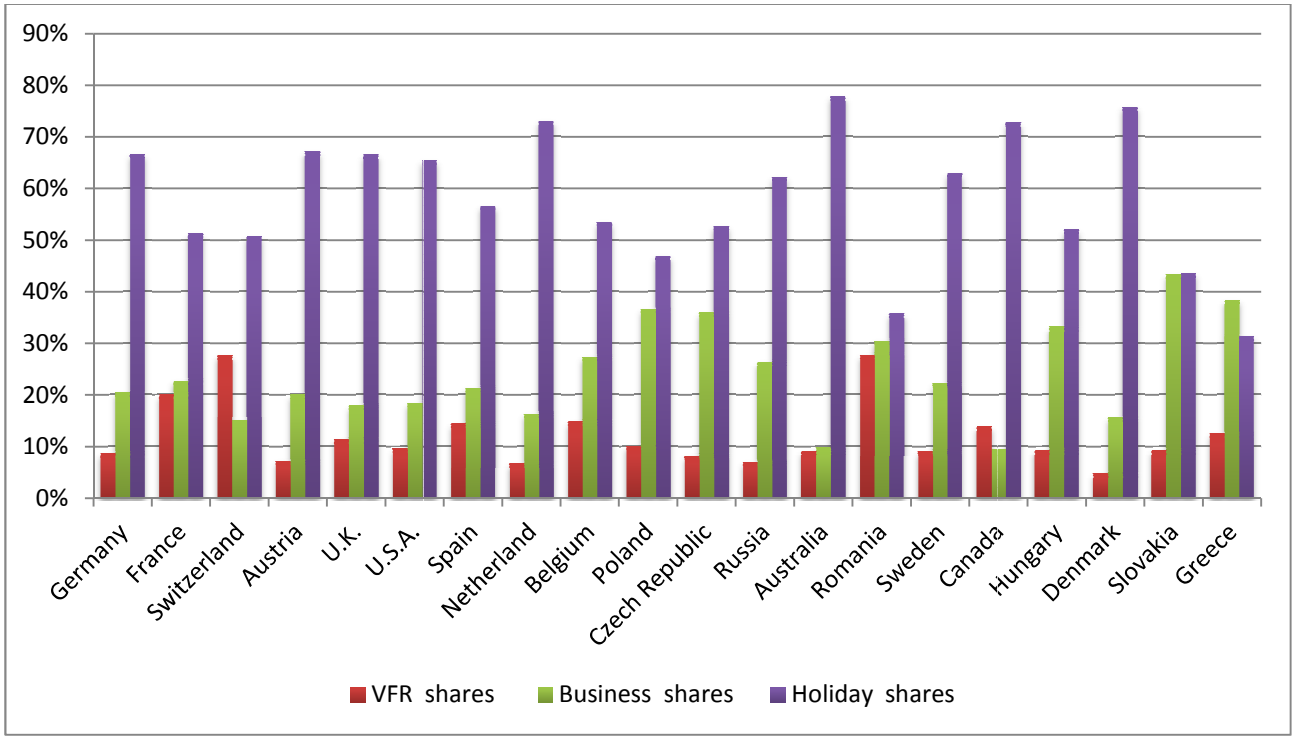

Figure 3. Tourism expenditure: top 20 countries (2005-2011).

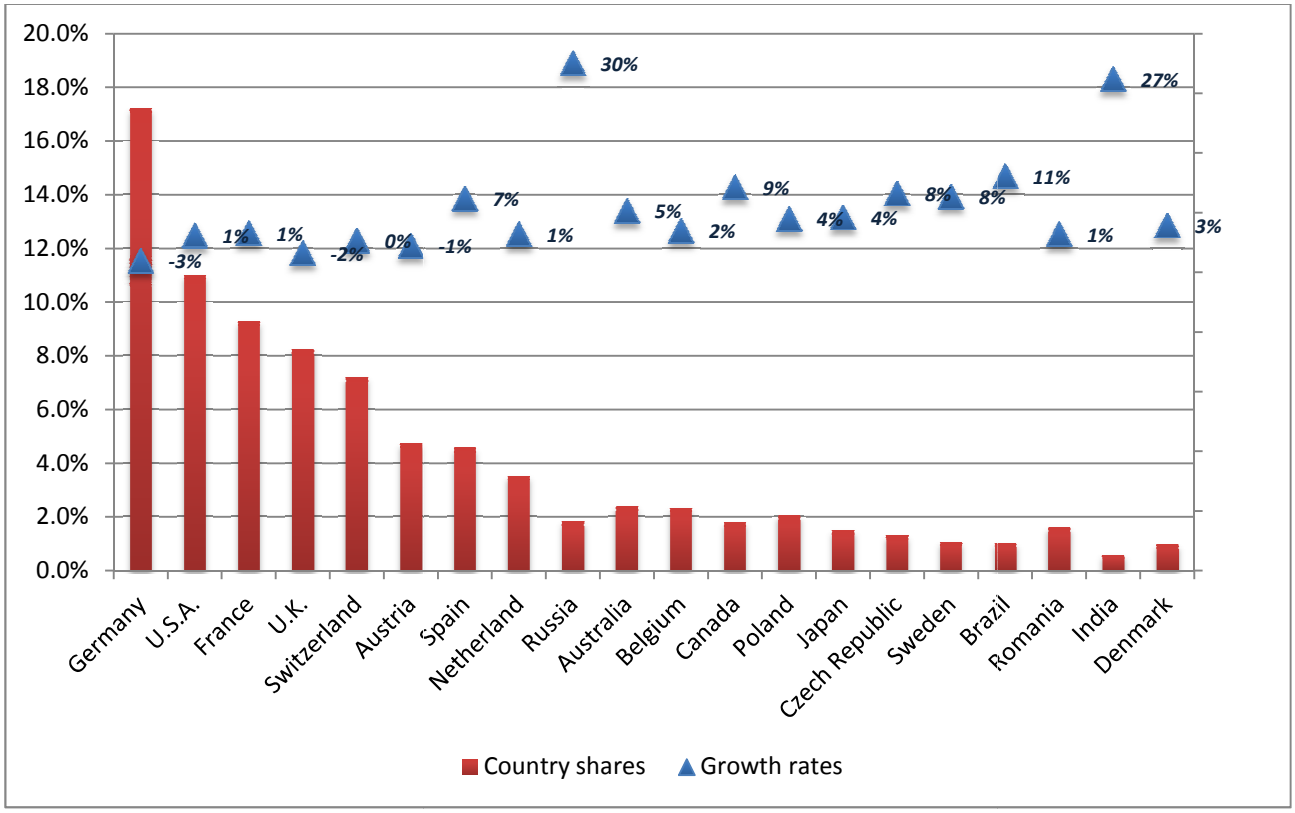

Figure 4. Tourism expenditure by purpose of visit: top 20 countries (2005-2011).

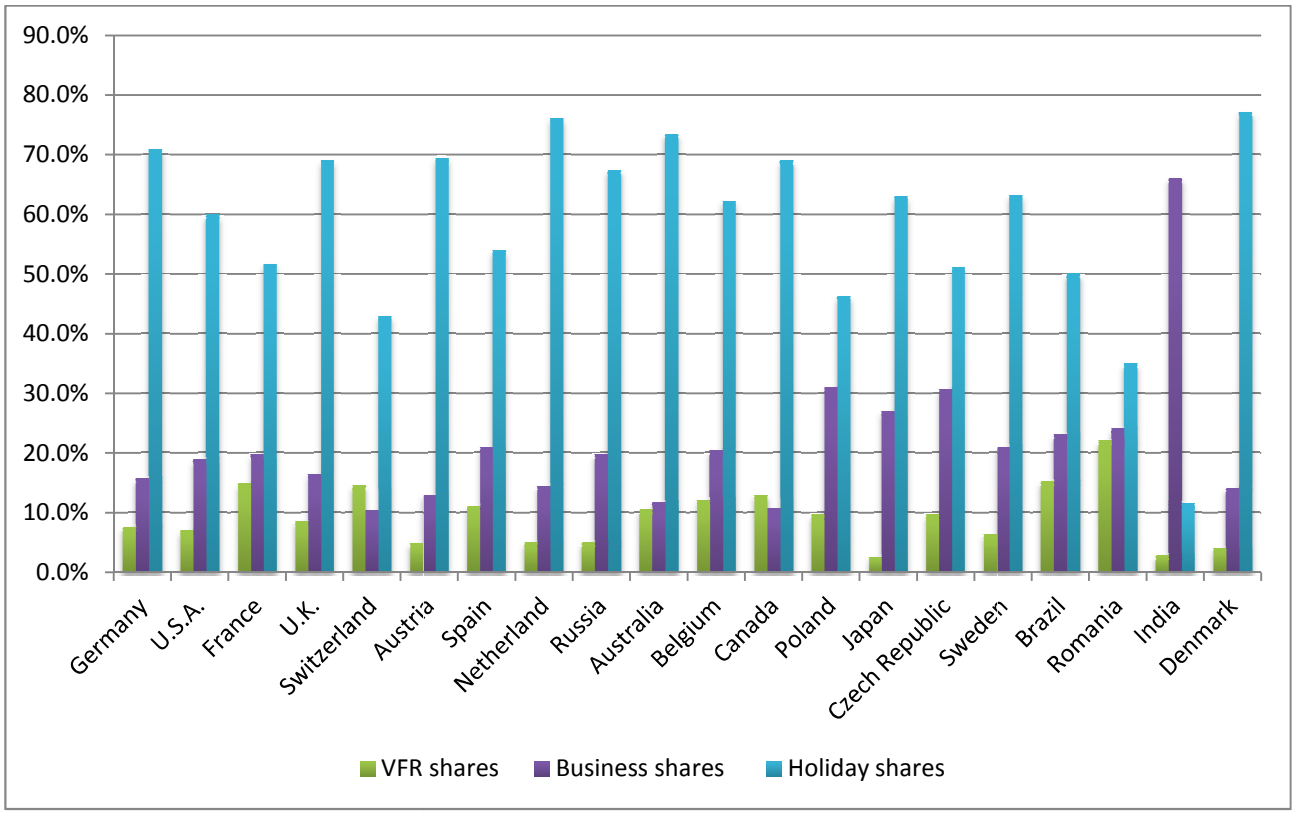

Figure 5. Italians resident abroad: top 20 host countries (2005-2011).

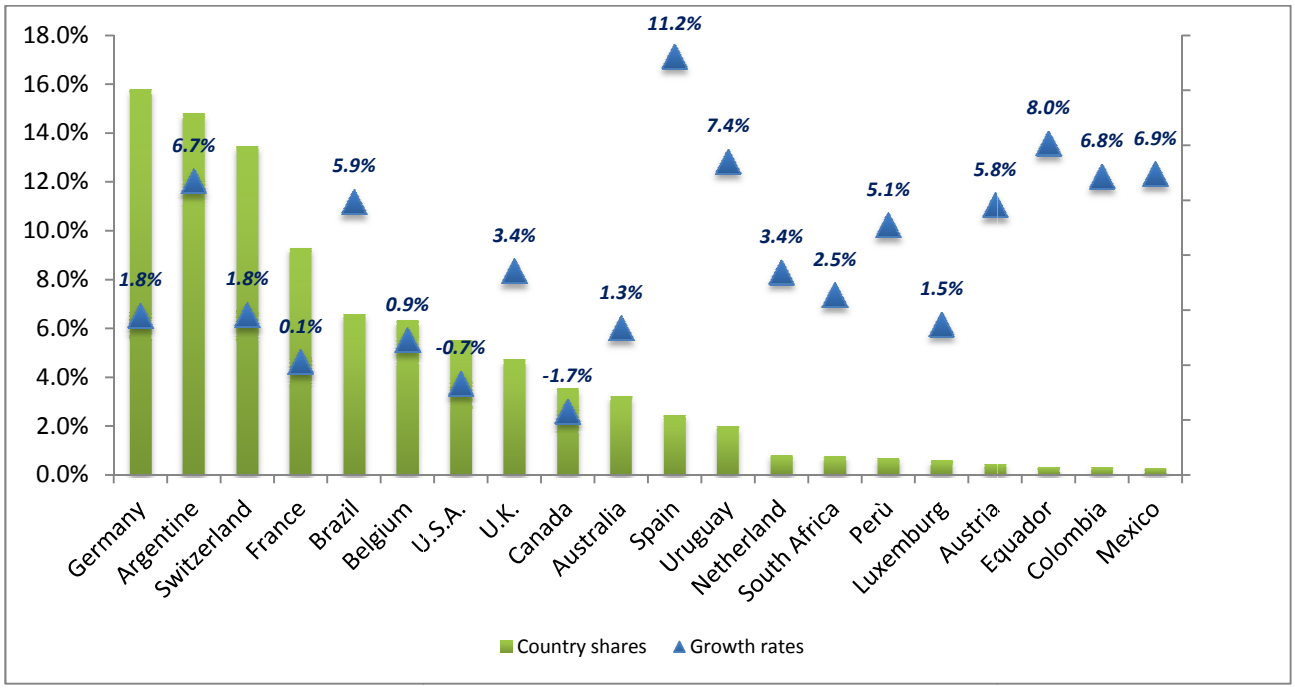

Figure 6. Foreign born people resident in Italy: top 20 sending countries (2005-2011).