

Ivan Etzo

*PhD, Assistant Professor*

University of Cagliari (Italy)  
Department of Economics and Business



Email:

[ietzo@unica.it](mailto:ietzo@unica.it)

# Research interests

2

- Empirical analysis on:
  - Migration
  - Tourism economics
  - Growth and development
  - Regional economics

# Research findings on migration

3

- Etzo, I., Massidda C., Piras, R. (2014). "The impact of immigrants settlements' on Italian firms". Working paper.
- Massidda, C. Etzo, I. & Piras, R. (2014): Migration and inbound tourism: an Italian perspective, Current Issues in Tourism, DOI: 10.1080/13683500.2014.912206.
- Etzo, I., Massidda C., Piras, R. (2014). Migration and Outbound Tourism: Evidence From Italy. Annals of Tourism Research, vol. 48, pp. 235–249.
- Massidda, C. & Etzo, I. (2012). The determinants of Italian domestic tourism: A panel data analysis. Tourism Management, vol. 33, Issue 3, pp. 603-610.
- Etzo, I. (2011), The determinants of the recent interregional migration flows in Italy: a panel data analysis. Journal of Regional Science, vol. 51, no. 5, pp. 948-966.

# About migration...

4

- “Immigration is the outcome of an endogenous location choice by mobile workers, driven by economic and noneconomic reasons, that causes economic and non-economic responses by firms and other workers both in the place of origin and in the place of destination.” (Ottaviano, 2014).
- Migration **determinants** (income, employment, wages, distance, amenities..)
- Migration **impacts**
  - ▣ Economic impacts:
    - Wages (wages reduction? Impact on native's wage...);
    - Labour force (employment, complementarity, displacement...);
    - Growth ;
    - Firms (performance, investment, creation and/or relocation).

Etzo, I., Massidda C., Piras, R. (2014). “The impact of immigrants settlements’ on Italian firms”. Working paper.

5

- The paper focuses on the impact of immigration on both the number of Italian local units (LU) and employment at provincial level (NUTS 3)
- Immigration and firms (Main related literature):
  - USA local units [ Olney, 2013]
  - Investment of Italian firms [Accetturo et al., 2012]
  - Italian firms’ performances [Arcangeli et al. (2014)]
- Main research questions:
  - Does an increase in the share of foreign born immigrants affect the number of LU?
  - What happen to the employment?

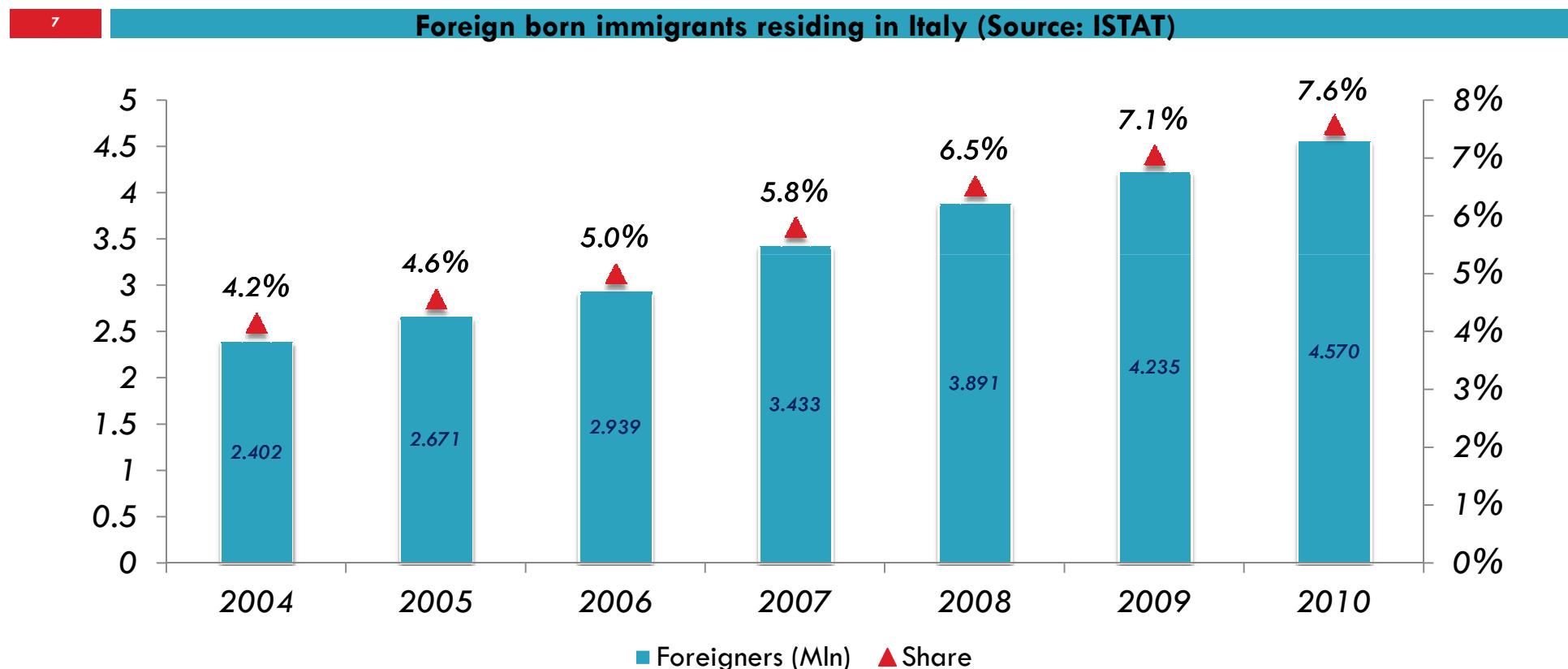
Etzo, I., Massidda C., Piras, R. (2014). “The impact of immigrants settlements’ on Italian firms”. Working paper.

6

- Why should the LU/employment increase?
  - Immigrants workers differ from natives, cost less and might either substitute or complement native workers. New firms might be created or existing firms can be relocated where immigrants locate (*production hypothesis*);
  - Immigrants increase consumption in general, but they can also positively affect a particular bundle of products, such as tourism and traded goods (*consumption hypothesis*).

# Immigration in Italy

The number of foreign immigrants residing in Italy grew from 140 thousand in 1970 to 2.4 million in 2004 and almost doubled during the period 2004-2010 reaching 4.5 million in 2010



# Immigration in Italy

## Where do immigrants come from?

Table 1 - Immigrants residing in Italy. First 16 nationalities (31 December 2010).

Nationality	Units (x1000)	Share (%)	Cumulative Share	Nationality	Units (x1000)	Share (%)	Cumulative Share
Romania	968.58	21.19	21.19	Tunisia	106.29	2.33	63.8
Albania	482.63	10.56	31.75	Peru	98.60	2.16	65.95
Morocco	452.42	9.9	41.65	Ecuador	91.62	2.0	67.96
China.	209.93	4.59	46.25	Egypt	90.36	1.98	69.94
Ukraine	200.73	4.39	50.64	Macedonia	89.9	1.97	71.9
Philippines	134.15	2.94	53.57	Bangladesh	82.45	1.8	73.71
Moldova	130.95	2.87	56.44	Sri Lanka	81.09	1.77	75.48
India	121.04	2.65	59.09	Total 16 countries	3449715		75.48
Poland	109.02	2.39	61.47	TOTAL	4570317		

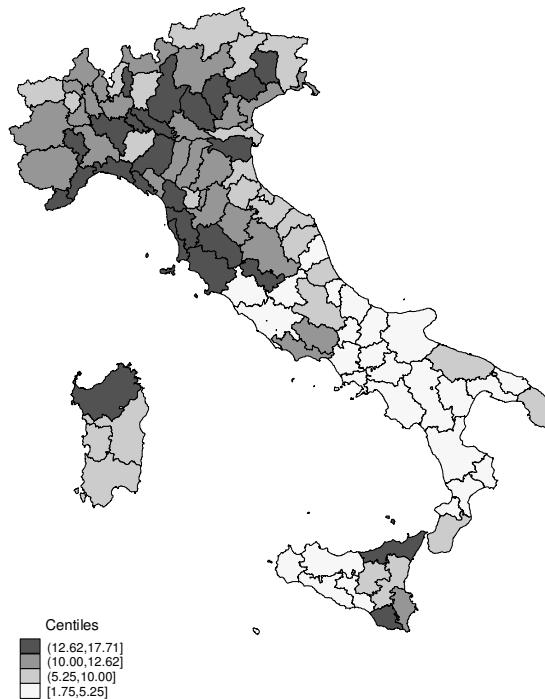
Source: own computation based on Istat

# Immigration in Italy

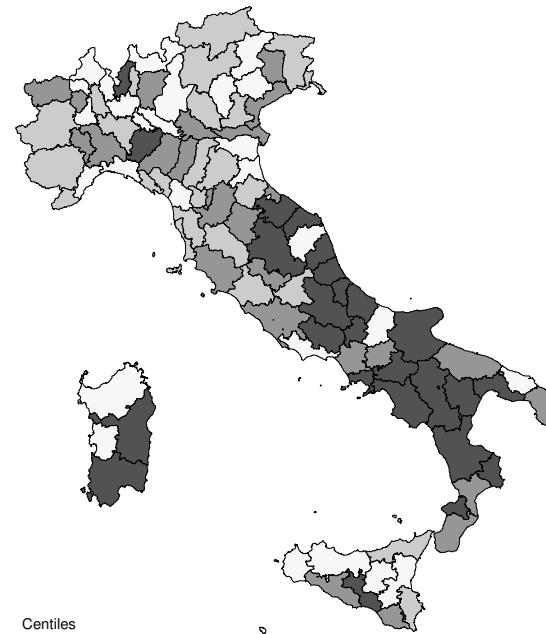
## Where do immigrants settle?

9

Working-age foreign born population  
Average shares (2004-2010)



Working-age foreign born population (Share growth rates)  
Average annual growth rates (2004-2010)



# Immigration in Italy

## Where do immigrants work?

10

*In 2010, more than 2 millions of immigrants were employed in Italy (> 9% of total Italian employed)*

Table 2 – Immigrants (age >15) employed by sector and geographical area (2010)

	Agr	%	Industry		Services		Total	%				
			Manuf.	%	Constr.	%	Comm., H&R	%	Other services	%		
Italy	84187	4,04	409353	19.7	348705	16.8	356183	17.1	882853	42.4	2081281	100
North	29555	2.4	316505	25.1	198293	15.8	190020	15.1	524428	41.7	1258801	100
North-west	14812	2.1	158904	22.1	118351	16.4	100410	13.9	327657	45.5	720133	100
North-east	14744	2.7	157601	29.3	79941	14.8	89610	16.6	196771	36.5	538668	100
Center	19358	3.5	71672	12.8	114882	20.6	95965	17.2	256746	46	558623	100
South	35274	13.4	21176	8	35531	13.5	70199	26.6	101679	38.5	263858	100

Source: Istat Labour Force Survey

# Firms (Local Units) in Italy

What is a local units?

A **local unit** is an **enterprise or part thereof** (e.g. a workshop, factory, warehouse, office, mine or depot) situated **in a geographically identified place**. At or from this place economic activity is carried out for which **one or more persons work** (even if only part-time) for one and the same enterprise . [Eurostat]

Data on Italian local units: Statistical Register of active firms (ASIA) by ISTAT

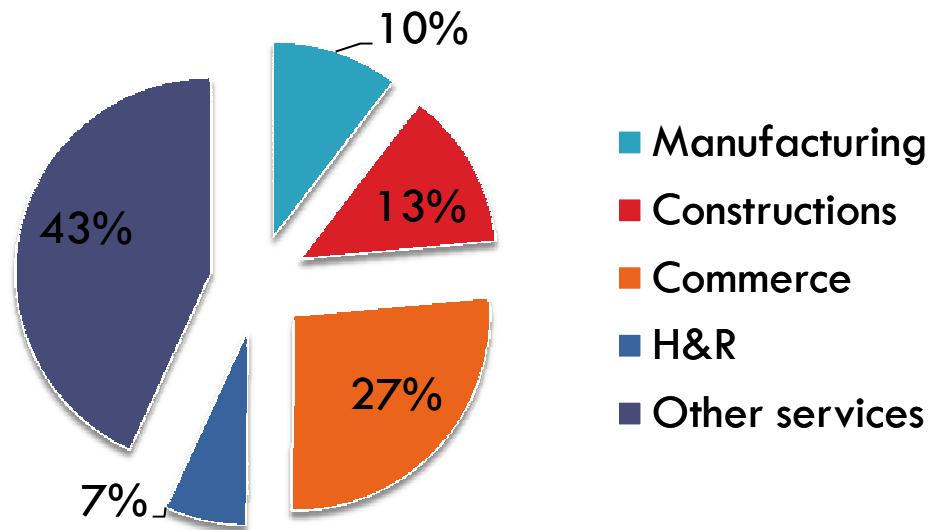
industrial, commercial and service activities (no agriculture).

Available data includes also data on employees and data by sector (first two digit of ATECO classification).

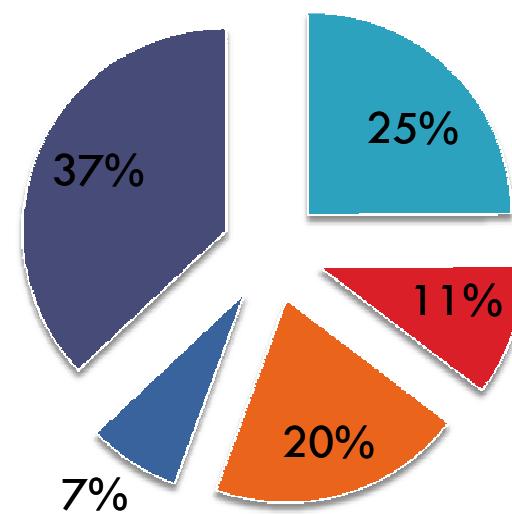
average size: 3.6 employees per LU

- During the period 2004-2010, local units (Industrial and Service) in Italy have risen from about 4.69 million in 2004 to 4.83 million in 2010.

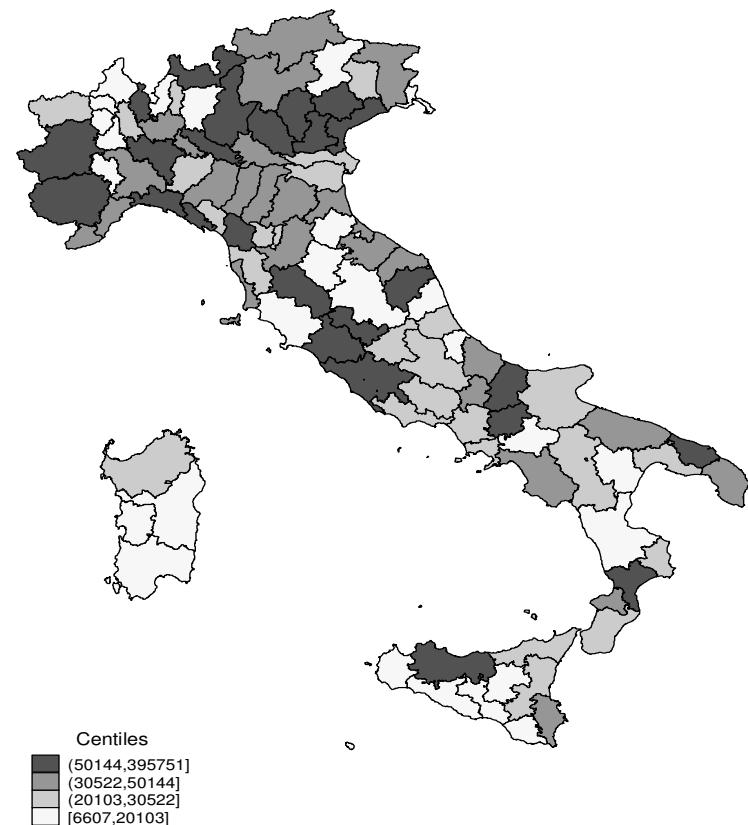
**Local Units: Shares (2010)**



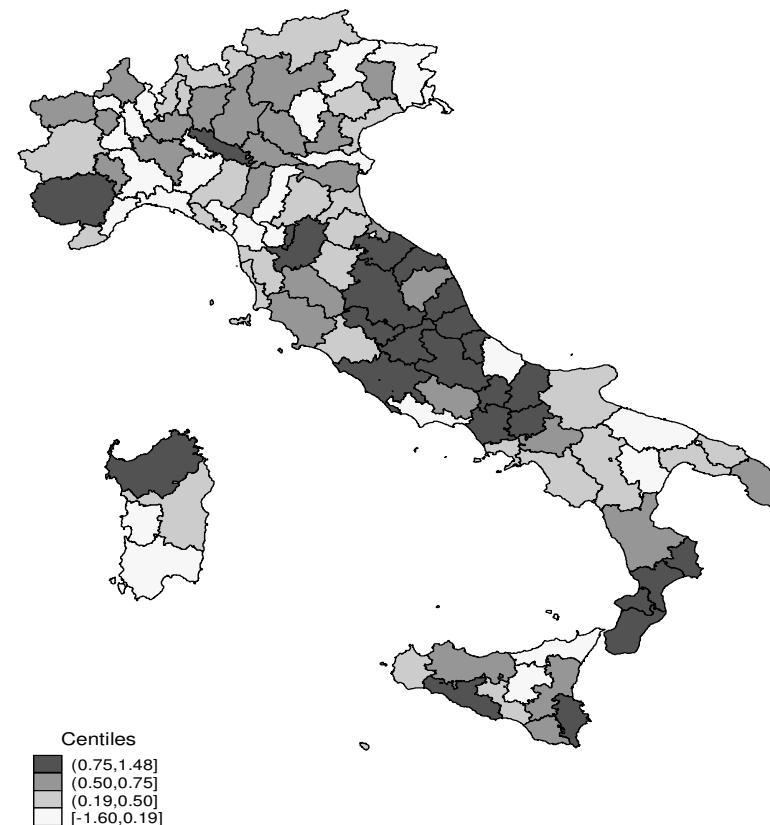
**Employees: Shares (2010)**



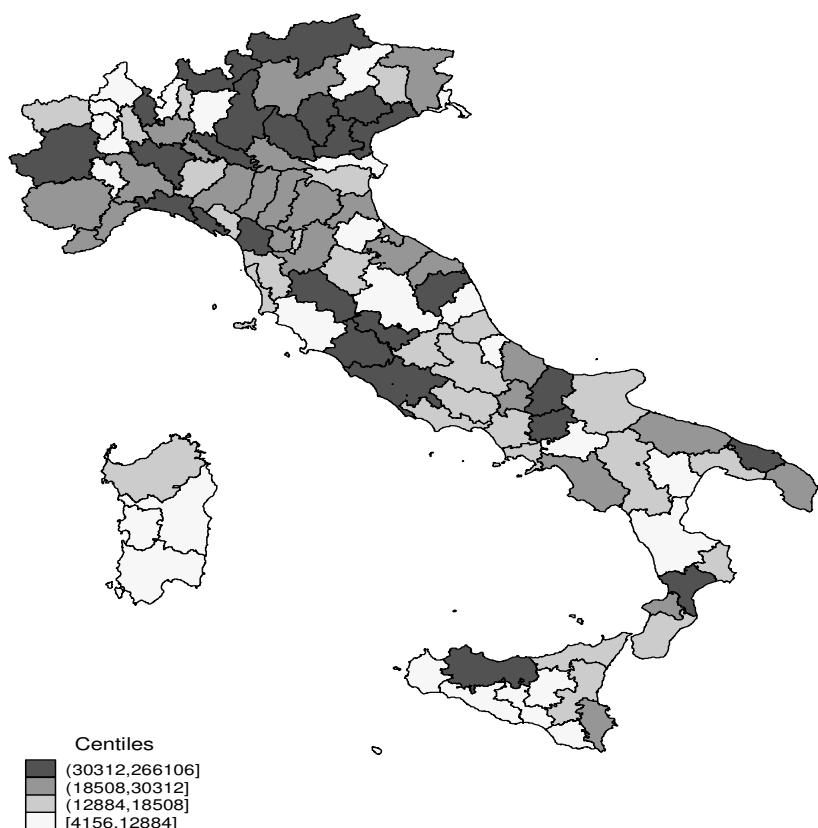
**Local units**  
Period:2004-2010



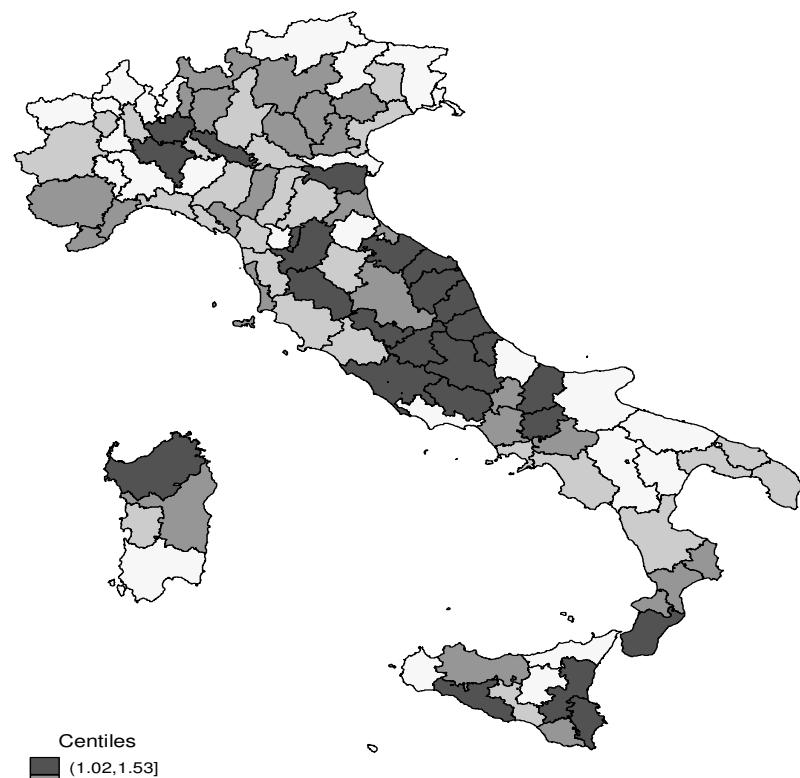
**Local units growth rates (percentages)**  
Average annual growth rates (2004-2010)



**Local units - Services**  
Period:2004-2010

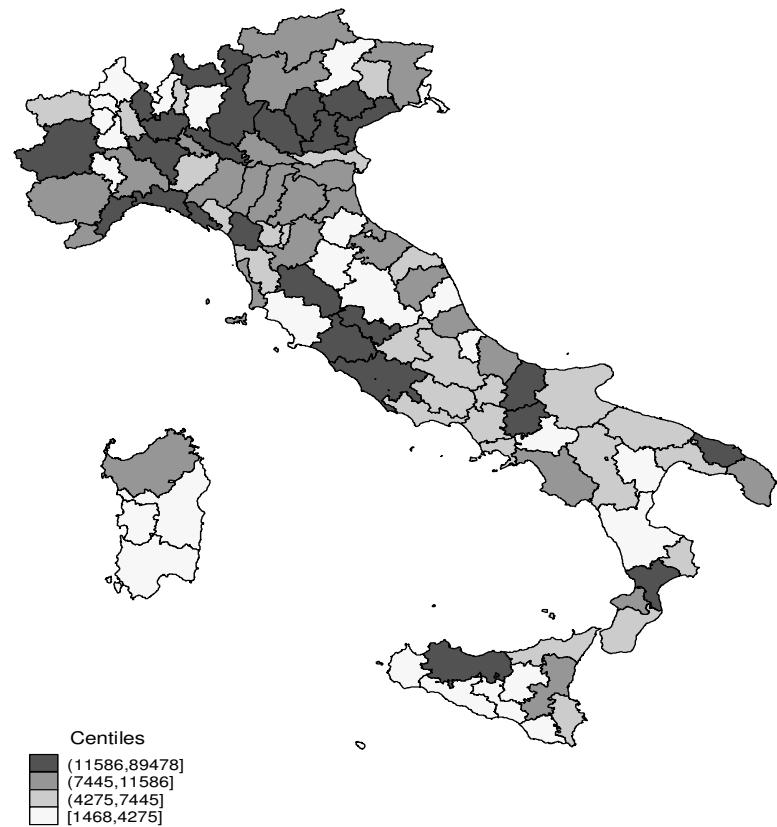


**Local units growth rates (percentages) - Services**  
Average annual growth rates (2004-2010)



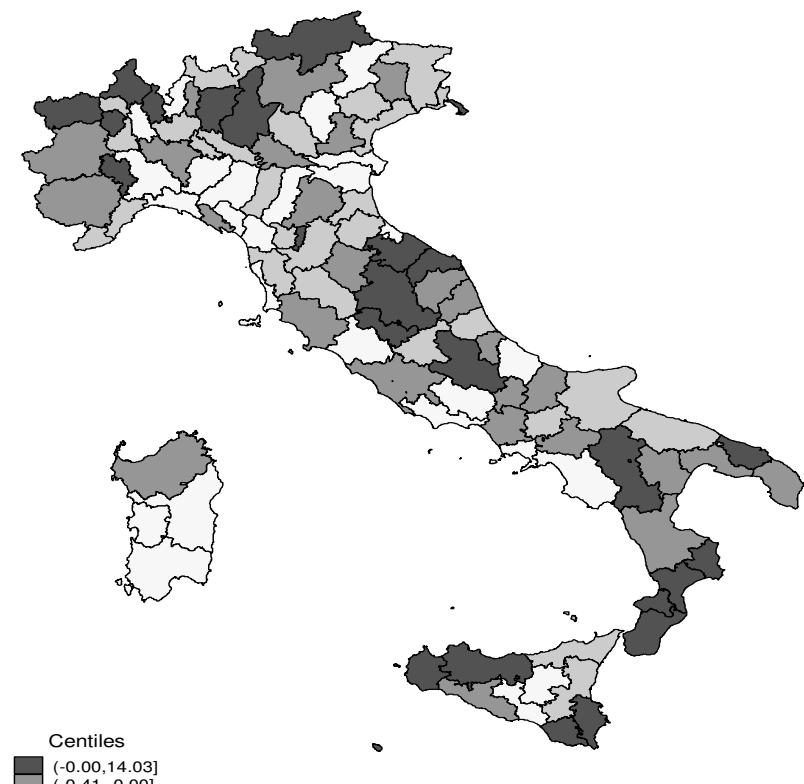
**Local units - Manufacture**

Period:2004-2010

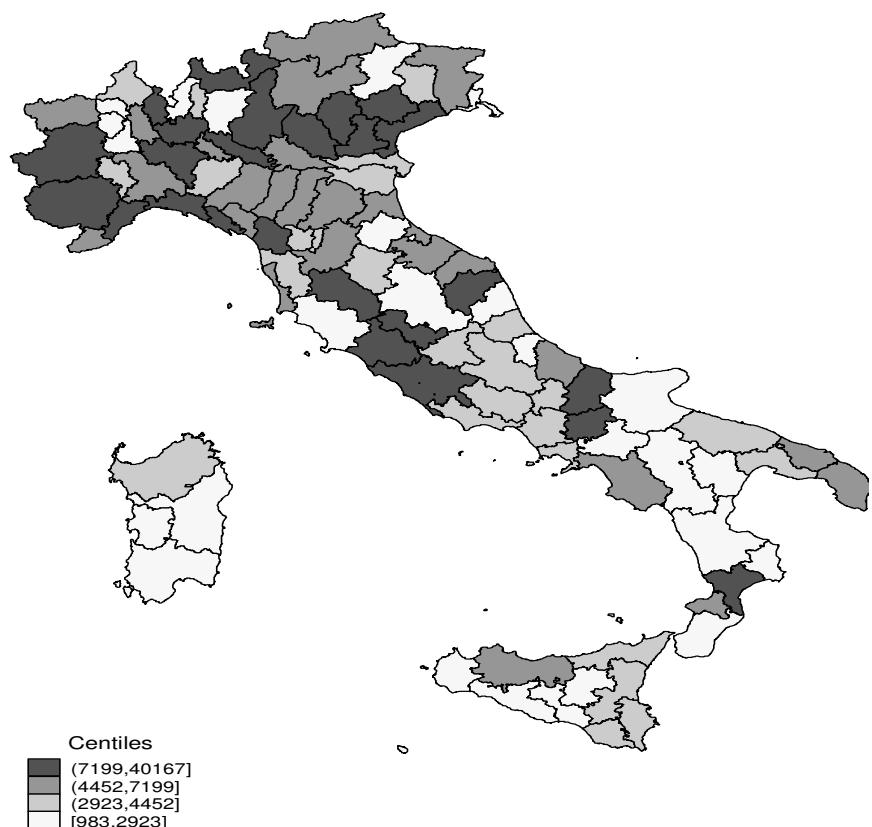


**Local units growth rates (percentages) - Manufacture**

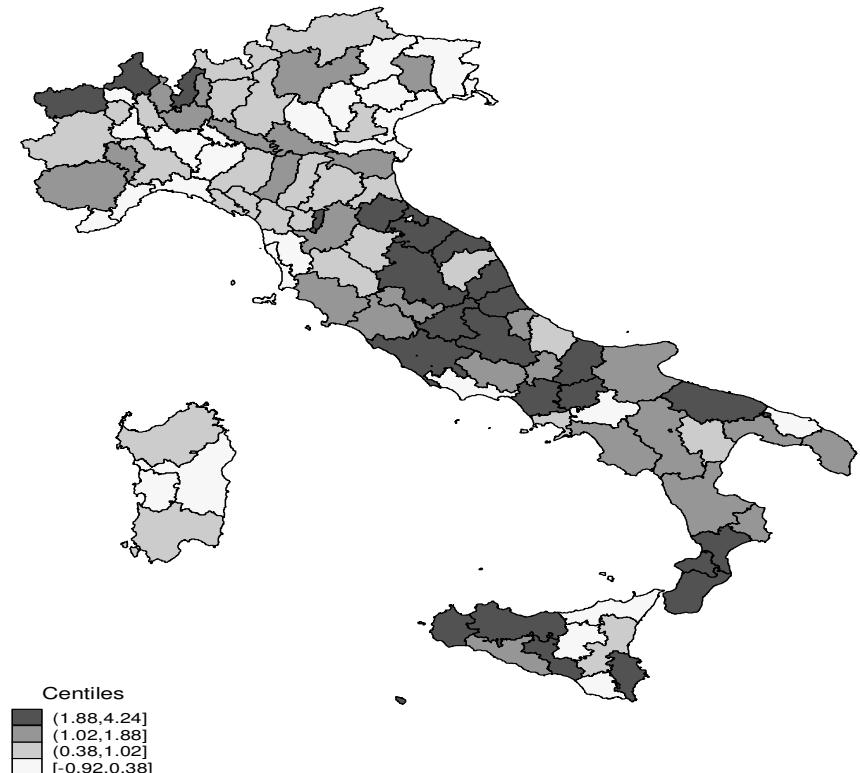
Average annual growth rates (2004-2010)



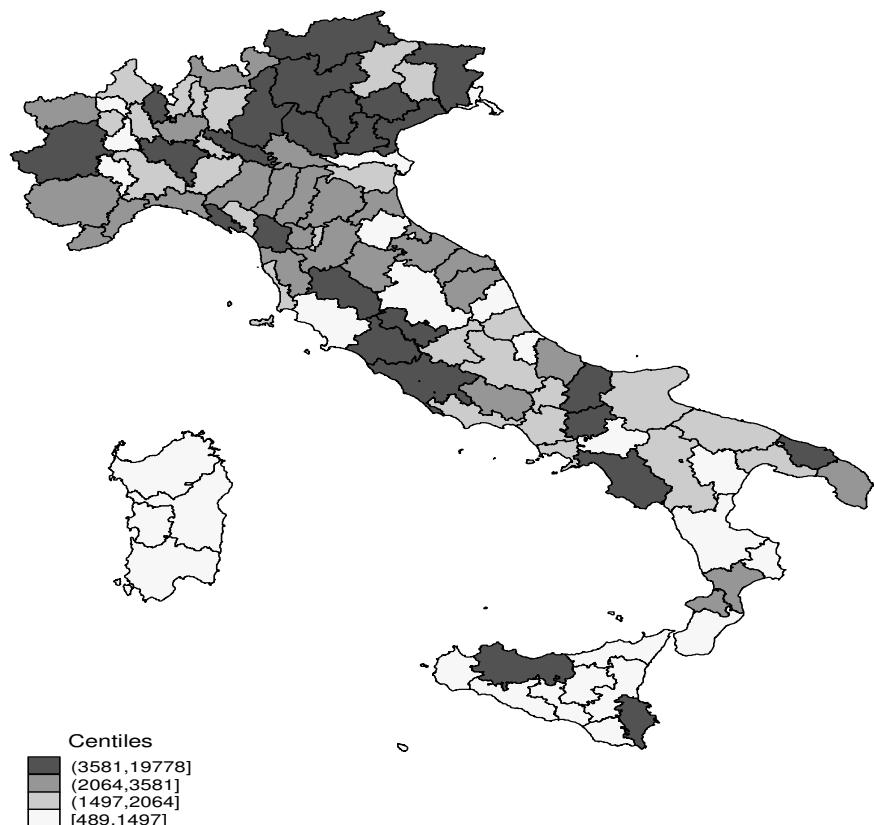
**Local units - Construction**  
Period:2004-2010



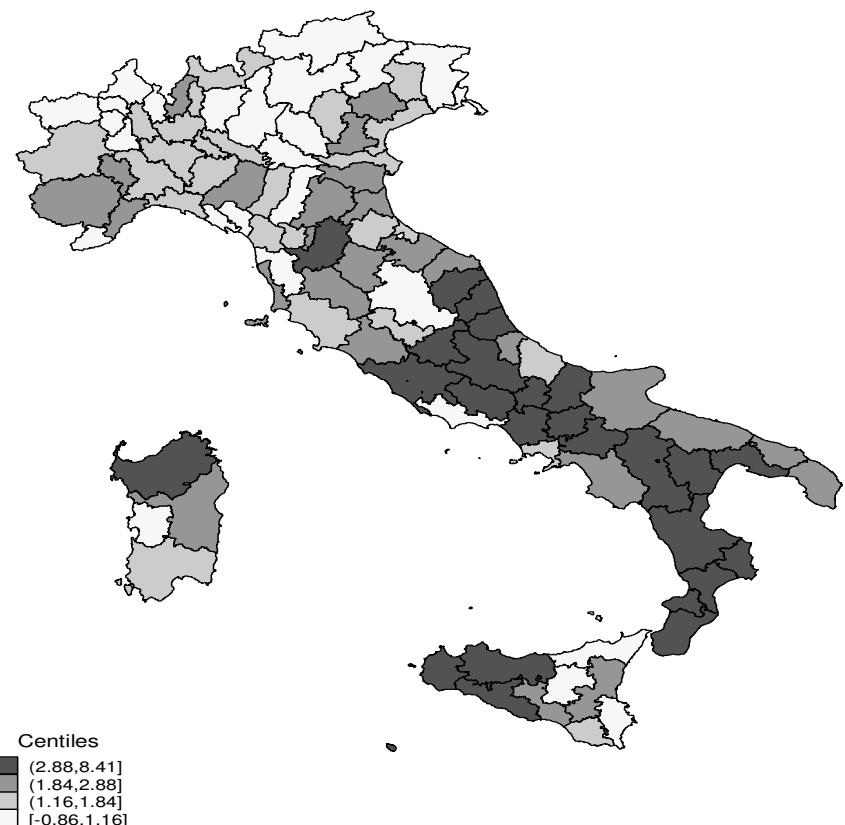
**Local units growth rates (percentages) - Construction**  
Average annual growth rates (2004-2010)



**Local units - Hotels&Restaurants**  
Period:2004-2010

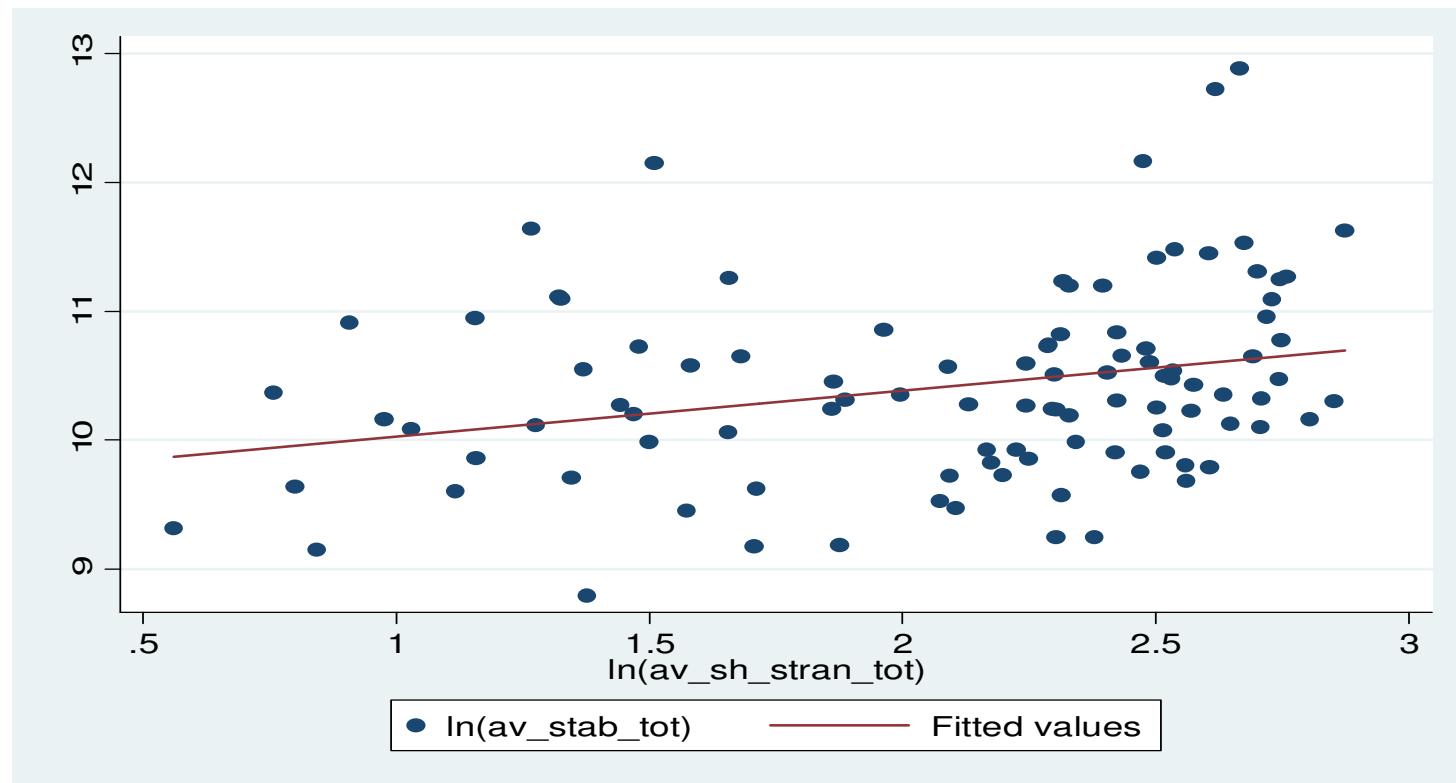


**Local units growth rates (percentages) - Hotels&Restaurants**  
Average annual growth rates (2004-2010)



## Is there a causal relation between immigration and LU?

18



# Empirical analysis

- The baseline empirical model to be estimated is the following:

$$\begin{aligned}\ln y_{i,t} = & \beta_0 + \beta_1 \ln Sh\_Imm_{i,t} + \beta_2 g\_vapc_{i,t} + \beta_3 \ln Dens_{i,t} + \\ & + \beta_4 \ln Unemp_{i,t} + \beta_5 South_i + \beta_6 Unemp \times South_{i,t} + \mu_i + \lambda_t + \varepsilon_{i,t}\end{aligned}$$

- $\ln y_{i,t}$  is the log of the number of LU or the number of employed persons in province  $i$  at year  $t$
- $\ln Sh\_Imm_{i,t}$  is the log of the share of (working age) foreign born population residing in province  $i$  at year  $t$
- $g\_vapc_{i,t}$  indicates the growth rate of value added per capita
- $Dens_{i,t}$  is the population density
- $\ln Unemp_{i,t}$  measures the unemployment rate
- $South$  is a dummy (=1 if the province is located in the South )
- $Unemp \times South$  is an interaction term

**$N = 103 ; T = 7$**

# Empirical analysis: IV (2SLS)

20

## ***Instrument***

- We use data on permission of stay (2000-2003), by country and by purpose of issue.
- We construct the average weights by country, which represent the no-work purposes shares (e.g., family, religion, study).
- We then use these weights to “predict”, for each year and for each province, the share of immigrants residing in province  $i$  for reasons other than work.
- Thus, our instrument is computed as follows:

$$\text{ex\_sh\_imm}_{i,t} = \frac{\sum_j (\overline{sh}_j \times \text{imm}_{i,t})}{\text{pop}_{i,t}}$$

$i$  = province;

$j$  = country of origin ;

$t$  = year

# Results – Nr. of UL (First stage )

**Table .** First stage results

	<i>In_sh_imm (Dep. var.)</i>
ln_ex_sh_imm	0.767 *** [ 0.040]
ln_denspop	1.228 *** [ 0.220]
ln_g_vapc	-0.11 [ 0.082]
ln_unem	-0.043 *** [ 0.015]
South	0.323 [ 0.247]
it_unemp	0.143 *** [ 0.048]
Provincial_FE	YES
Year_FE	YES
Observations	721
Partial R <sup>2</sup> of excluded instrument	0.69
F-test of excluded Instrument, F (1, 610)	358

*Robust standard errors in brackets. \*\*\*P < 0.01, \*\*P < 0.05, \*P < 0.1.*

# Results – Nr. of UL (Total and by macro area)

**Table .** Number of local units (UL)

	<i>Italy</i>	<i>Center-North</i>	<i>South</i>
ln_ex_sh_imm	0.08 *** [0.007]	0.075 *** [0.01]	0.10 *** [0.015]
ln_denspop	0.462 *** [0.047]	0.429 *** [0.075]	0.948 *** [0.141]
ln_g_vapc	0.016 [0.02]	0.003 [0.017]	0.044 [0.048]
ln_unem	-0.002 [0.003]	-0.004 [0.003]	-0.01 [0.006]
South	-2.503 *** [0.042]		
it_unemp	-0.009 [0.006]		
Observations	721	469	252
R <sup>2</sup> _adj	0.99	0.99	0.99

Notes: constant, provincial and year fixed effects, not shown, are included in all regressions; robust standard errors in brackets. \*\*\*=p < 0.01, \*\*=p < 0.05, \*=p < 0.1.

## Results – Nr. of UL (by sector)

**Table .** Number of local units (UL)

	Industry			Manufacture			Constructions		
	<i>Italy</i>	<i>Center-North</i>	<i>South</i>	<i>Italy</i>	<i>Center-North</i>	<i>South</i>	<i>Italy</i>	<i>Center-North</i>	<i>South</i>
In_ex_sh_imm	0.1 *** 0.01	0.106 *** 0.017	0.126 *** 0.018	0.05 *** 0.019	0.062 ** 0.032	0.043 0.032	0.215 *** 0.019	0.215 *** 0.03	0.285 *** 0.033
In_denspop	0.112 0.078	-0.099 0.134	0.811 *** 0.196	0.095 0.088	0.331 *** 0.122	0.192 0.177	0.474 *** 0.117	0.142 0.208	1.614 *** 0.315
In_g_vapc	-0.042 0.032	-0.036 0.039	-0.046 0.051	-0.013 0.029	-0.019 0.036	0.004 0.046	-0.009 0.048	0.003 0.047	-0.039 0.101
In_unem	-0.016 ** 0.007	-0.018 *** 0.007	-0.011 0.007	-0.007 0.005	-0.01 * 0.005	-0.012 ** 0.006	-0.019 ** 0.008	-0.024 *** 0.008	-0.025 * 0.014
South	-2.877 *** 0.068			-2.883 *** 0.09			-2.429 *** 0.104		
it_unemp	0.006 0.01			-0.009 0.009			-0.008 0.015		
Observations	721	469	252	721	469	252	721	469	252
R <sup>2</sup> _adj	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99

Notes: constant, provincial and year fixed effects, not shown, are included in all regressions; robust standard errors in brackets. \*\*\*=p < 0.01, \*\*=p < 0.05, \*=p < 0.1.

## Results – Nr. of UL (by sector)

**Table .** Number of local units (UL)

	Services			H&R		
	<i>Italy</i>	<i>Center-North</i>	<i>South</i>	<i>Italy</i>	<i>Center-North</i>	<i>South</i>
In_ex_sh_imm	0.07 *** 0.007	0.056 *** 0.009	0.094 *** 0.016	0.153 *** 0.014	0.081 *** 0.017	0.175 *** 0.026
In_denspop	0.685 *** 0.045	0.729 *** 0.063	1.024 *** 0.135	-0.174 * 0.104	0.61 *** 0.134	2.289 *** 0.328
In_g_vapc	0.031 0.02	0.011 0.015	0.073 0.052	0.002 0.044	-0.033 0.035	-0.047 0.078
In_unem	0.004 0.003	0.001 0.003	-0.01 0.006	0.002 0.007	0.003 0.006	-0.028 ** 0.012
South	-2.296 *** 0.04			-2.216 *** 0.098		
it_unemp	-0.015 ** 0.006			-0.03 ** 0.015		
Observations	721	469	252	721	469	252
R <sup>2</sup> _adj	0.99	0.99	0.99	0.99	0.99	0.99

Notes: constant, provincial and year fixed effects, not shown, are included in all regressions; robust standard errors in brackets. \*\*\*=p < 0.01, \*\*=p < 0.05, \*=p < 0.1.

## Results – Nr. of employed persons (Total and by macro area)

**Table .** Employees

	<i>Italy</i>	<i>Center-North</i>	<i>South</i>
ln_ex_sh_imm	0.176 *** [0.011]	0.164 *** [0.013]	0.181 *** [0.026]
ln_g_vapc	0.07 ** [0.032]	0.084 *** [0.034]	0.044 [0.066]
ln_unem	-0.002 [0.005]	-0.003 [0.005]	-0.041 *** [0.010]
South	-3.135 *** [0.040]		
it_unemp	-0.041 *** [0.012]		
Observations	721	469	252
R <sup>2</sup>	0.999	0.999	0.998

Notes: constant, provincial and year fixed effects, not shown, are included in all regressions; robust standard errors in brackets. \*\*\*=p < 0.01, \*\*=p < 0.05, \*=p < 0.1.

## Results – Nr. of employed persons (by sector)

**Table .** Employees: industry and construction sectors

	<i>Industry</i>		<i>Manufacture</i>				<i>Construction</i>		
	<i>Italy</i>	<i>Center-North</i>	<i>South</i>	<i>Italy</i>	<i>Center-North</i>	<i>South</i>	<i>Italy</i>	<i>Center-North</i>	<i>South</i>
ln_ex_sh_im_m	0.124***	0.097***	0.144***	0.133***	0.119***	0.082	0.273***	0.266***	0.313***
	0.012	0.013	0.028	0.028	0.038	0.054	[0.025]	[0.028]	[0.051]
ln_g_vapc	-0.008	0.008	-0.026	0.038	0.05	0.02	-0.004	0.027	0.016
	0.046	0.054	0.078	0.055	0.064	0.097	[0.061]	[0.066]	[0.128]
ln_unem	-0.005	-0.008	-0.05***	-0.008	-0.007	-0.052***	0.006	-0.004	
	0.008	0.008	0.013	0.009	0.009	0.015	[0.009]	[0.009]	
South	-3.297***			-3.69***			-2.312***		-0.064***
	0.056			0.068			[0.078]		[0.018]
it_unemp	-0.05***			-0.049***			-0.072***		
	0.016			0.018			[0.02]		
Observations	721	469	252	721	469	252	721	469	252
R <sup>2</sup>	0.998	0.998	0.996	0.996	0.997	0.993	0.996	0.997	0.993

Notes: constant, provincial and year fixed effects, not shown, are included in all regressions; robust standard errors in brackets. \*\*\*=p < 0.01, \*\*=p < 0.05, \*=p < 0.1.

## Results – Nr. of employed persons (by sector)

**Table .** Employees: service sectors

	<i>Services</i>			<i>Hotel and restaurants</i>		
	<i>Italy</i>	<i>Center-North</i>	<i>South</i>	<i>Italy</i>	<i>Center-North</i>	<i>South</i>
In_ex_sh_imm	0.205 *** 0.014	0.209 *** 0.017	0.204 *** 0.026	0.315 *** [0.025]	0.226 *** [0.024]	0.349 *** [0.053]
In_g_vapc	0.112 *** 0.035	0.13 *** 0.037	0.097 0.073	0.104 [0.075]	0.086 [0.076]	0.022 [0.129]
In_unem	0.003 0.006	0.002 0.006	-0.037 *** 0.01	0.013 [0.014]	0.015 [0.013]	-0.062 *** [0.021]
South	-3.03 *** 0.038			-1.828 *** [0.097]		
it_unemp	-0.04 *** 0.011			-0.089 *** [0.029]		
Observations	721	469	252	721	469	252
R <sup>2</sup> adjusted	0.999	0.999	0.998	0.995	0.997	0.992

Notes: constant, provincial and year fixed effects, not shown, are included in all regressions; robust standard errors in brackets. \*\*\*=p < 0.01, \*\*=p < 0.05, \*=p < 0.1.

Etzo, I., Massidda C., Piras, R. (2014). “The impact of immigrants settlements’ on Italian firms”. Working paper.

28

## □ **Conclusions**

- Overall, an increase in the share of foreign born people increases both the number of establishments and the number of employees.
- The impact on the number of establishments seems to be stronger for the southern provinces than for the rest of Italy.
- This might be the effect of the different labour supply shocks' intensities, considered that the southern provinces are those that (in the considered period ) experienced the highest growth rates in the share of immigrants.
- At sector level, the impact of migration (LU and employees) is particularly strong for constructions and H&R.

Massidda, C. Etzo, I. & Piras, R. (2014): Migration and inbound tourism: an Italian perspective, Current Issues in Tourism (in press).

29

- **Introduction: the tourism migration nexus**
- Migration is a prerequisite for visiting friends and relatives tourism (VFR) [Williams and Hall, 2002]
  - ▣ VFR for emotional ties or special events (e.g. weddings, birthdays or funerals);
  - ▣ migrants, by supplying accommodation in home settings, contribute to reduce the overall cost of travel for friends and relatives;
  - ▣ migrants represent a very powerful source of information on touristic attractions at destination.

## An extensive interpretation of the MLT hypothesis

30

- Recent studies claim that the connection between tourism and migration goes beyond the VFR channel (Boyne et al., 2002; Tadesse and White, 2010, 2011; Seetaram, 2012, Massidda and Piras, 2013).
  - migrants enrich a destination cultural life by providing a wider range of consumption possibilities;
  - stimulate visitations of compatriots encouraging ethnic reunion;
  - retain business links with their country of origin and thus stimulate business travels.

## Aim of the study

- The aim of this paper is to test the extended migration-led-tourism (EMLT) hypothesis
- In testing the EMLT hypothesis we take care of three aspects:
  1. VFRs and non-VFRs need to be taken into the analysis separately (VFR, Business, Holiday)
  2. Migration might exert a two-fold influence on tourism (push and pull forces)
  3. Different measures of tourism demand: tourist arrivals, tourist expenditure and tourist nights

# An overview of tourism and migration in Italy

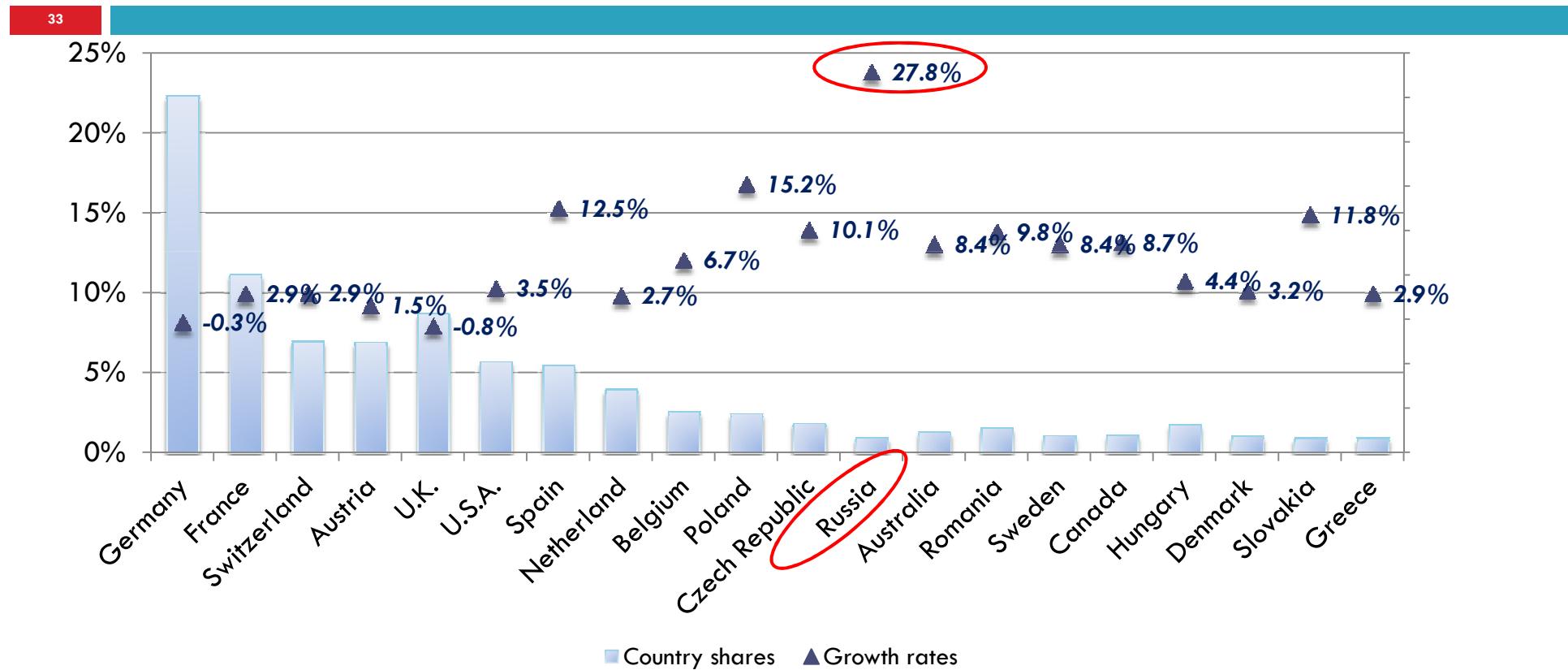
32

## TOURISM

- Italy ranks 5th among the top world destination countries (UNWTO, 2012)
- during the period 2005-2011 Italian international arrivals grew on average by 3.3% per year, reaching 46.1 million in 2011

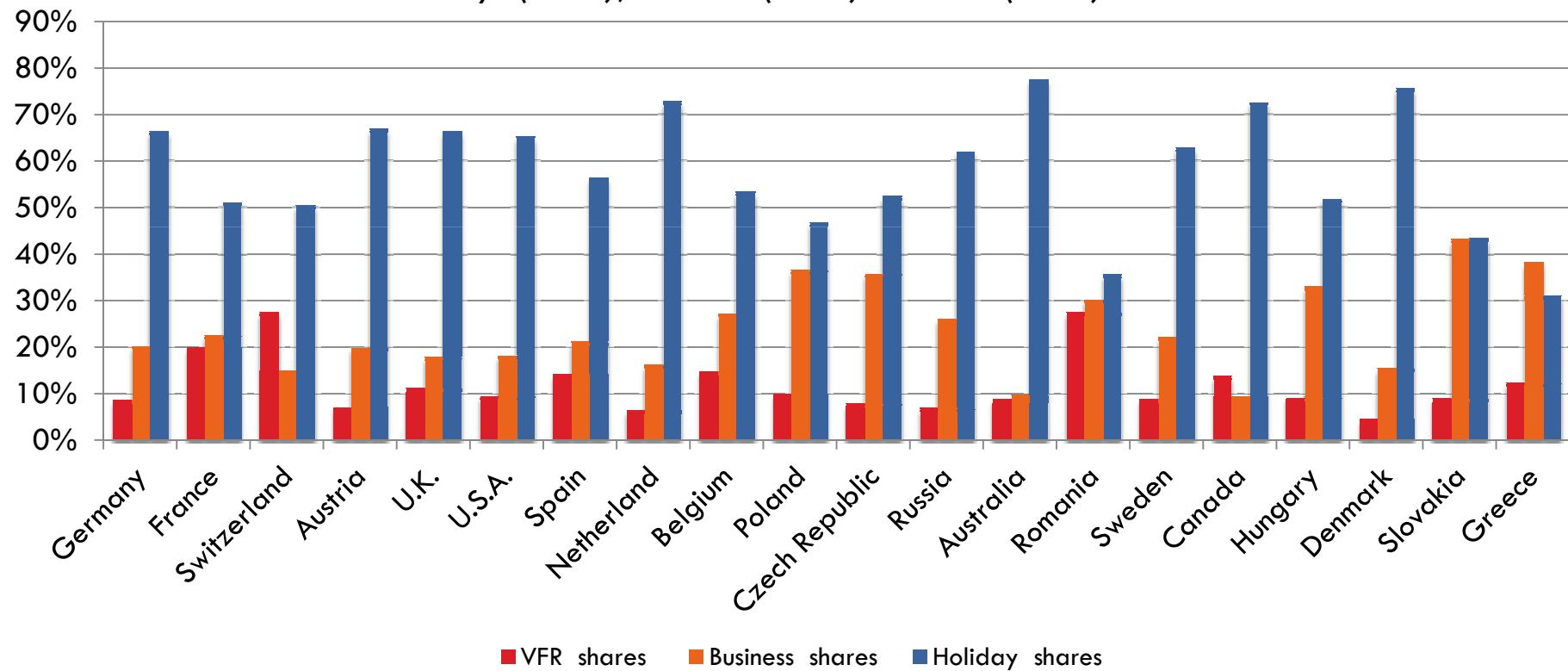
## Figure 1. Tourism arrivals: top 20 countries (2005-2011).

[ Source: Bank of Italy (annual survey on international tourism) ]

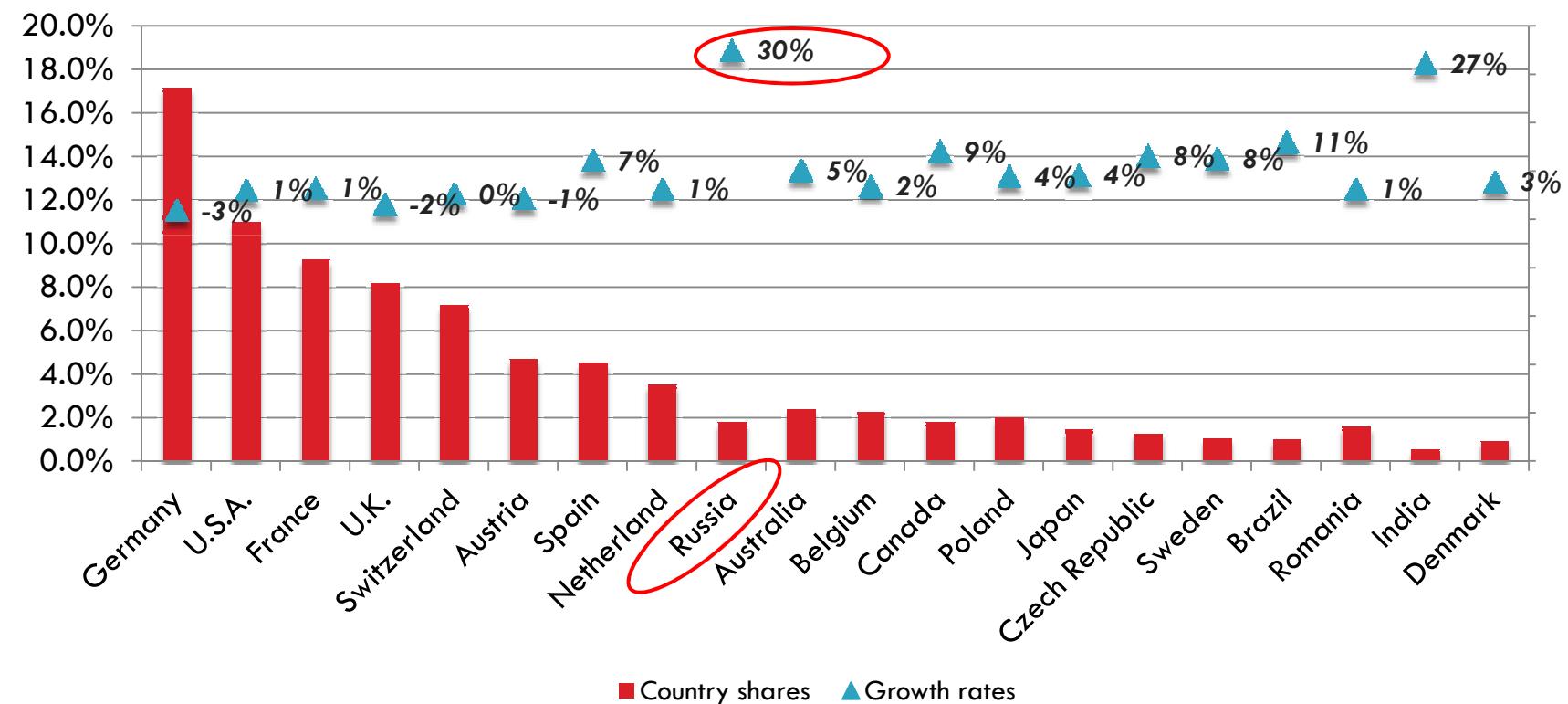


**Figure 2. Tourism arrivals by purpose of visit: top 20 countries (2005-2011).**

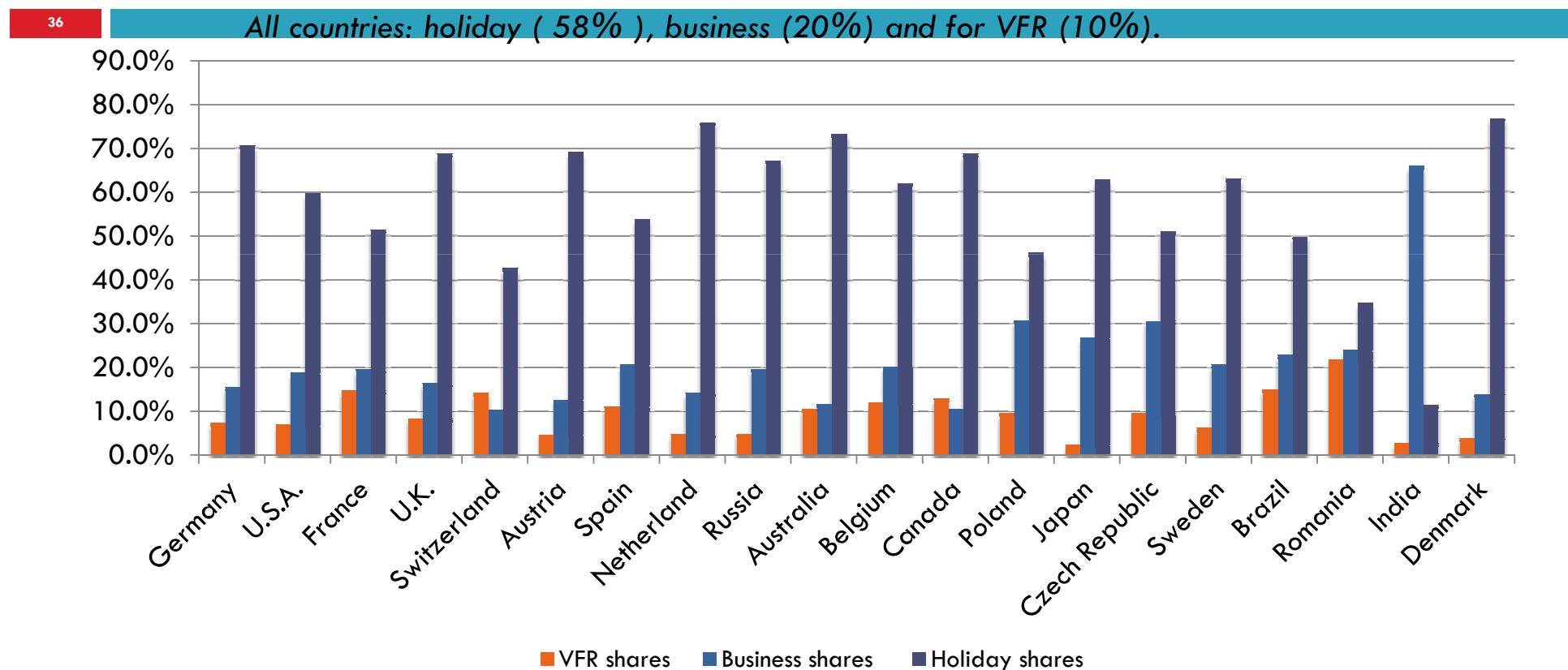
All countries: holidays (59%), business (23%) and VFR (13%).



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



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

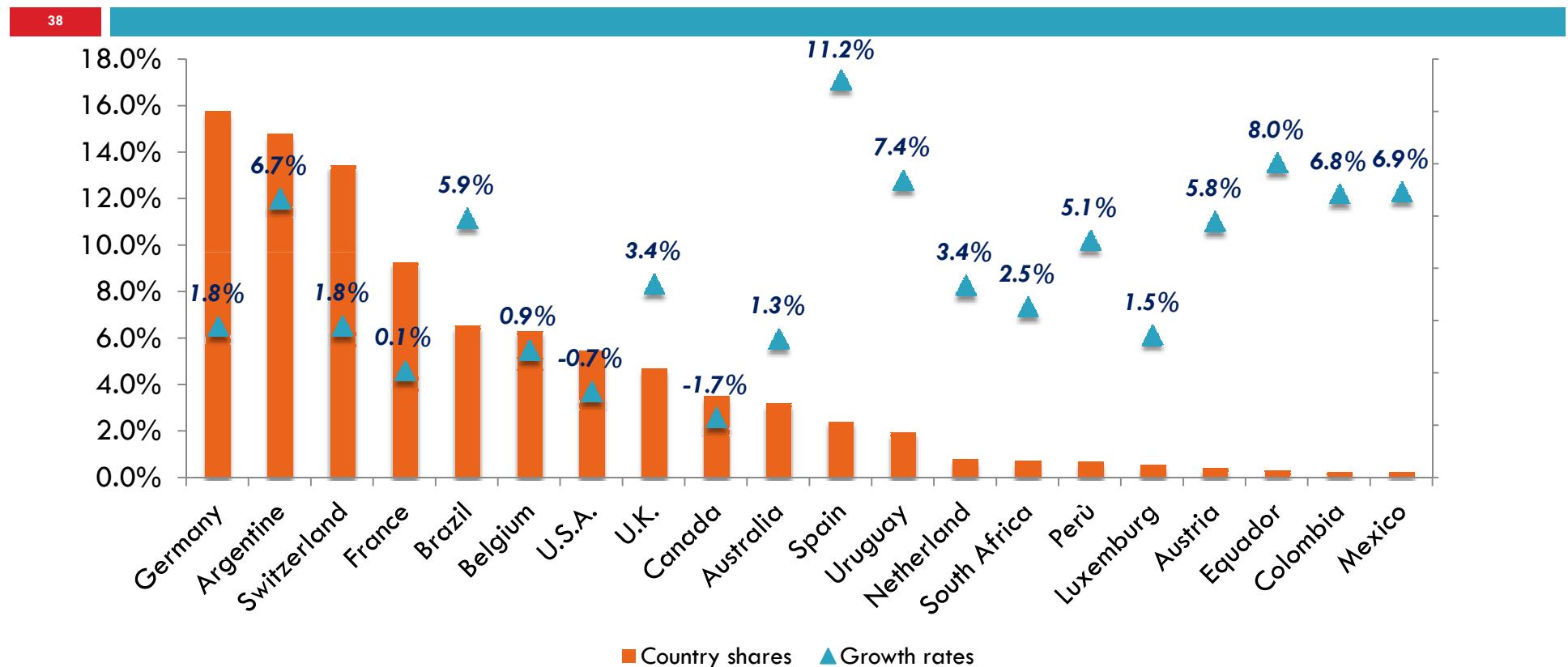


# Patterns and trends of Italian migration

## EMIGRATION

- The history of Italian international migration has been characterized by massive emigration flows
- During the last decades of nineteenth century and up to WWI, the flows headed towards trans-oceanic destinations (mainly to North and South America).
- 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 20<sup>th</sup> century, Italy experienced a transition from being one of the most important sending countries to becoming one of the principal host countries.
- As a result we have two important types of community: Italians resident abroad, and foreign-born immigrants resident in Italy

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



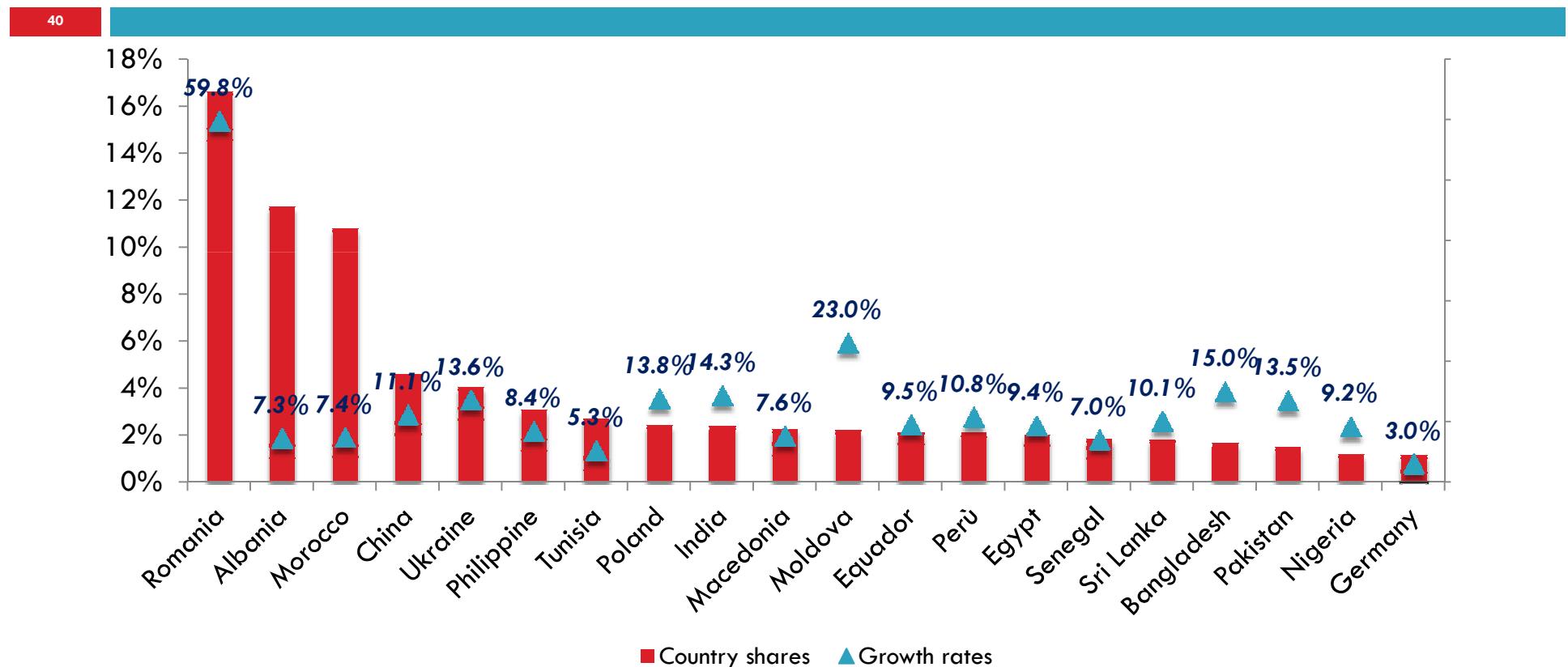
# Patterns and trends of Italian migration

39

## IMMIGRATION

- In the last decade the number of foreign-born immigrants has grown considerably.
- The annual average growth rate is above 10% for the period 2005-2011.
- In 2011 there were 4.5 million foreigners residing in Italy (ISTAT, 2011). Foreign immigrants represent more than 7% of the total Italian population.

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



## Empirical estimation

- The assumed model of tourism demand is the following:

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

$i = 1, 2, \dots, 65$  (countries of origin)

$t = 2005, 2006, \dots, 2011$ .

$m$  stands for purpose, that is total, VFR, business and holidays

$d$  stands for the tourist demand measure, namely arrivals, expenditure and nights.

Panel ( $N = 65$  ;  $T = 7$ )

## Empirical estimation

- The econometric model

$$\begin{aligned}y_{i,t,m,d} = & \beta_0 + \beta_1 y_{i,t-1,m,d} + \beta_2 m\_ita_{i,t} + \beta_3 m\_for_{i,t} \\& + \beta_4 gdp_{i,t} + \beta_5 rer_t + \beta_6 dist_i + \beta_7 CONT_i \\& + \gamma_t + \mu_i + \varepsilon_{i,t}\end{aligned}$$

- $\mu_i$  are country-specific fixed effects;
- $\gamma_t$  are time-specific effects
- dynamic panel data model
- System GMM (Arellano & Bover, 1995; Blundell & Bond, 1998)

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

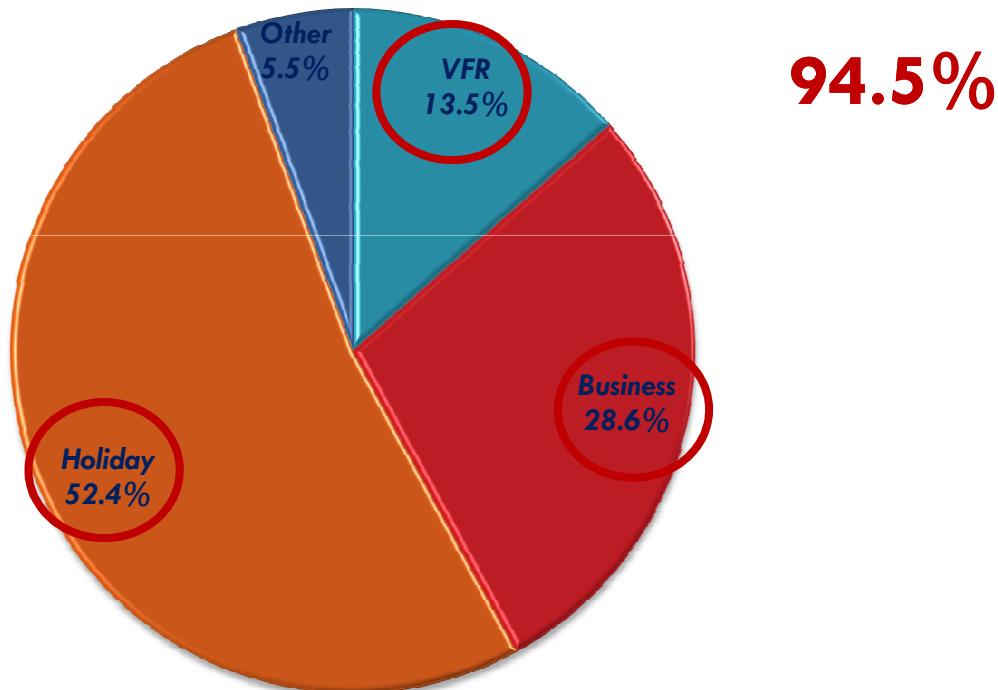
<i>y</i> = expenditure	Purpose of visit			
Explanatory Variables	TOTAL	VFR	BUSINESS	HOLIDAYS
$y_{i,t-1}$	0.736*** (0.000)	0.191*** (0.009)	0.289*** (0.000)	0.129 (0.306)
$m_{ita_{i,t}}$	0.045* (0.055)	0.338*** (0.001)	0.060 (0.370)	0.243*** (0.008)
$m_{for_{i,t}}$	0.100** (0.017)	0.307*** (0.001)	0.343*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

# Concluding remarks

- The link between migration and tourism is strong and goes beyond the VFR channel
- The result is robust also to the alternative definition of VFRs and non-VFRs advocated by Backer (2012)
- 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.
- The 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)
- The results from the expenditure model suggest that migration also has an important economic impact in terms of tourism receipts

**Etzo, I., Massidda C., Piras, R. (2014). Migration and Outbound  
Tourism: Evidence From Italy. Annals of Tourism Research.**

Etzo, I., Massidda C., Piras, R. (2014). Migration and Outbound Tourism: Evidence From Italy. Annals of Tourism Research.



## Empirical estimation : empirical model and data

$$y_{i,t,k} = \beta_0 + \beta_1 y_{i,t-1,k} + \beta_2 m\_ita_{i,t} + \beta_3 m\_for_{i,t} + \beta_4 p_{i,t} + \beta_5 gdp_t + \beta_6 dist_i + \beta_7 CONT_i + \beta_8 CRT_i + \beta_9 (p_{i,t} \times CRT_i) + \gamma_t + \mu_i + \varepsilon_{i,t}$$

*i* = destination country (65 countries)

*t* = year (2005, 2006, ..., 2011)

*k* = Purpose of visit (Holiday, Business, VFR)

Variable (Log)	Explanatory Notes	source
TRIPS ( <i>y</i> )	Number of tourism trips from Italy to 65 destination countries.	Bank of Italy
TRIP_VFR ( <i>y</i> )	Number of tourism trips from Italy to 65 destination countries whose main purpose is VFR.	Bank of Italy
TRIP_NO-VFR ( <i>y</i> )	Number of tourism trips from Italy to 65 destination countries whose main purpose is not VFR.	Bank of Italy
TRIP_BUSINESS ( <i>y</i> )	Number of tourism trips from Italy to 65 destination countries main purpose is Business.	Bank of Italy
TRIP_HOLIDAY ( <i>y</i> )	Number of tourism trips from to 65 destination countries main purpose is Holiday.	Bank of Italy

$$y_{i,t,k} = \beta_0 + \beta_1 y_{i,t-1,k} + \beta_2 m\_ita_{i,t} + \beta_3 m\_for_{i,t} + \beta_4 p_{i,t} + \beta_5 gdp_t + \beta_6 dist_i + \beta_7 CONT_i + \beta_8 CRT_i + \beta_9 (p_{i,t} \times CRT_i) + \gamma_t + \mu_i + \varepsilon_{i,t}$$

Variable	Explanatory Notes	source
<i>m_ita</i>	Stock of Italians residing abroad (Log).	AIRE
<i>m_for</i>	Stock of foreign immigrants residing in Italy (Log).	ISTAT
<i>p</i>	price competitiveness index (Log).	Own calc. - World Bank
<i>gdp</i>	Real GDP per capita (constant 2005 international \$) (Log).	World Bank
<i>dist</i>	Geo distance between the two most important cities/agglomeration (Log).	Mayer & Zignago
<i>CONT</i>	Dummy variable indicating whether Italy and the destination country are contiguous.	Mayer & Zignago
<i>CRT</i>	Dummy variable taking on value 1 if the destination country has at least the same GDP per capita than Italy and 0 otherwise.	Own calc. - World Bank

$$P_{i,t} = \frac{P_{i,t}^{PPP}}{P_{ITA,t}^{PPP}} = \frac{GDP_{i,t}/GDP_{i,t}^{PPP}}{GDP_{ITA,t}/GDP_{ITA,t}^{PPP}},$$

*P<sub>i,t</sub>* is the price level of country i and is equal to the GDP per capita in exchange rate US\$ relative to GDP per capita in PPP US\$.

Variable	TOT	VFR	NON-VFR	HOLIDAY	BUSINESS
$y_{i,t-1}$	<b>0.807 ***</b>	<b>0.53 ***</b>	<b>0.73 **</b>	<b>0.543 ***</b>	<b>0.597 ***</b>
t-stat	16.1	6.3	13.59	3.7	10.51
$m_{ita_{i,t}}$	<b>0.064 ***</b>	<b>0.142 ***</b>	<b>0.096 ***</b>	<b>0.194 ***</b>	<b>0.115 ***</b>
t-stat	2.99	3.95	3.63	2.93	4.6
$m_{for_{i,t}}$	<b>0.049 **</b>	<b>0.231 ***</b>	<b>0.055 **</b>	<b>0.069</b>	<b>0.119 ***</b>
t-stat	2.29	4.11	2.06	0.97	3.35
$p_{i,t}$	<b>0.29 *</b>	<b>0.575 **</b>	<b>0.372</b>	<b>1.175</b>	<b>0.476 *</b>
t-stat	1.69	2.36	1.48	1.38	1.84
$gdp_t$	<b>2.334 **</b>	<b>3.639</b>	<b>1.8 *</b>	<b>8.835 **</b>	<b>1.334</b>
t-stat	2.59	1.48	1.85	2.19	1.27
$CRT_i$	<b>-0.093</b>	<b>-0.055</b>	<b>-0.117</b>	<b>-0.57</b>	<b>0.126</b>
t-stat	-1.06	-0.4	-0.93	-1.41	0.9
$(p_{i,t} \times CRT_i)$	<b>-0.565 **</b>	<b>-1.043 ***</b>	<b>-0.788 **</b>	<b>-1.691 *</b>	<b>-1.05 ***</b>
t-stat	-2.55	-3.16	-2.51	-1.84	-3.03
$dist_i$	<b>-0.118 **</b>	<b>-0.381 ***</b>	<b>-0.164 ***</b>	<b>-0.222 **</b>	<b>-0.239 ***</b>
t-stat	-2.32	-3.84	-2.95	-2.32	-3.18
$CONT_i$	<b>0.103</b>	<b>0.392 ***</b>	<b>0.152</b>	<b>0.411</b>	<b>0.104</b>
t-stat	1.23	2.82	1.25	1.16	0.62
Diagnostic tests					
A-Bond AR(1)	-3.46	-4.09	-3.9	-1.87	-4.34
p-value	[0.001]	[0.000]	[0.000]	[0.062]	[0.000]
A-Bond AR(2)	0.25	-0.44	0.68	-0.84	-0.1
p-value	[0.803]	[0.662]	[0.497]	[0.400]	[0.923]
Hansen test	18.82	27.06	23.43	31.35	20.48
p-value	[0.596]	[0.169]	[0.321]	[0.068]	[0.491]
F-test ( $H_0: \beta_4 = \beta_9 = 0$ )	3.30	5.06	3.72	2.01	4.71
p-value	[0.043]	[0.009]	[0.029]	[0.142]	[0.012]

# Concluding remarks

- The extensive interpretation of MLT hypothesis has been tested in a dynamic panel data framework by considering the twofold impact from migration (i.e. at both origin and destination)
- tourism demand has been modeled according to the three main purposes of visit (i.e. holiday, business and VFR), which allowed to control for the presence of heterogeneity in tourist behavior
- the empirical analysis has been carried out using a wide panel of 65 destination countries, representing more than 93% of total Italian outbound tourism trips.
- Strong empirical evidence for the role played by Italian migrants as a pull factor in the destination countries is found for all the different groups of tourists.
- Foreign-born people resident in Italy do not push Holiday trips.