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INSTITUTO DE ECONOMÍA INTERNACIONAL

Income spillovers from cultural diversity. The remarkable case of Spain

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Motivation

MIGRATION HAS BECOME MORE GLOBAL, MASSIVE AND HETEROGENEOUS IN TERMS OF ORIGIN AND DESTINATION THAN NEVER (Arango et al. 2009)

✓ Transnational movements of people has been particularly important in **developed economies** (OECD, 2018)

✓ **Southern European countries** are not apart from this phenomenon: They have **experienced an unprecedented historical reversal process in terms of migration flows** (Anthias and Lazaridis, 2018).

✓ Among them, **the case of Spain requires special attention**

Motivation

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THE CASE OF SPANISH IMMIGRATION IN RECENT TIMES HAS BEEN EXCEPTIONAL

✓ From the end of the 20th century to the early years of the 21th century, Spain has moved itself from being **a net source of migrants to a net recipient** (Alamá et al., 2014)

✓ 1st decade of 21st C. (economic "boom"): **this country suffered one of the largest wage of migration in Europe**, becoming in **2007** in **the Europe's main target for immigrants**

- From 1997 to 2007, Spain grew at an average rate of 3.9%. The unemployment rate moved down from 20.6% to 8.2%.

✓ In 2017, Spain represented the **4th European country in number of immigrants** (after Germany, UK and France)

Motivation

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The share of foreign population over total population in Spain (1998-2018)

Share of foreing population at Spain
1998-2018
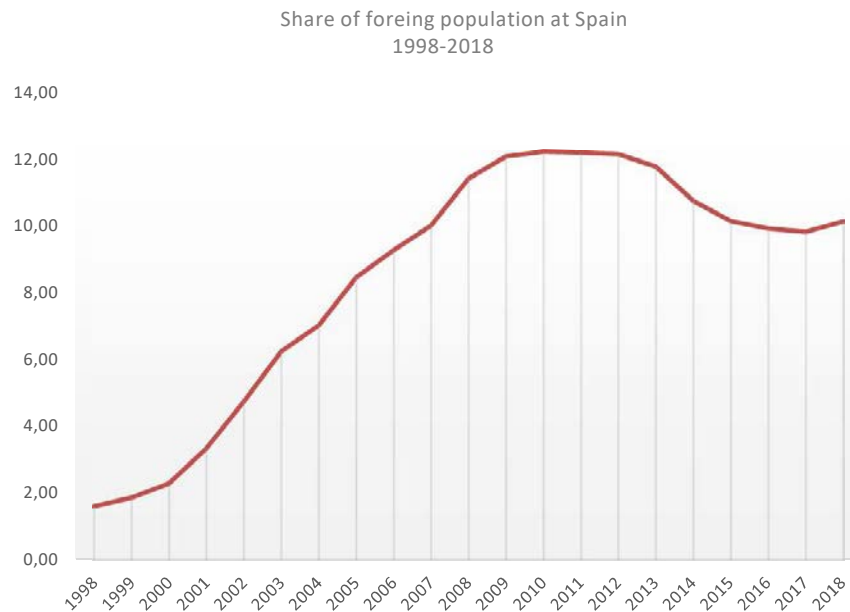
Despite the crisis and the decline in the migration inflows, these continue to represent an important weight in Spain.

In 2017 foreign population grew by 3.2% . In 2018 foreign citizens registered in Spain increased for the first time since 2011.

Source: author's own elaboration based on INE data

Understanding the consequences of this massive immigration on the Spanish economy is precisely the concern of this paper

Motivation

➤ BUT compared to other migration stories in developed world, there is a **striking peculiarity in the pattern of migration in Spain**

➤ <u>Two types of migrants</u>:

  ➤ **"Working migration"**: Spain is an important recipient of people active at work that come from developing economies

  ➤ **"Residential tourist"** or **"retirement migration"**: older people coming from rich European countries. North European citizens have chosen to live along the Spanish coast and enjoy the warm weather and the highly developed social facilities (Alamá, Bernat and Alguacil, 2014)

Motivation

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"...The issue of migrant flows across the Mediterranean from Africa is hardly going away. Even with the number of arrivals to Italy under 6,000 so far this year, more than 50,000 migrants crossed to Spain and Greece. And how European countries deal with the sea crossings will remain contentious and of urgent concern to human rights observers."

(Megan Williams/CBS, Sept 16, 2019)

"Spain's Far-right Party Leader Wants a Wall at Ceuta, Melilla Borders"

(Morocco World News, Mar 30, 2019)

Motivation

Veinte años del 'boom' de la inmigración latinoamericana

El legado de los migrantes sigue vivo pese a que muchos emprendieron el viaje de regreso

(El País, Jan 21, 2018)

La inmigración vuelve a ser un fenómeno latinoamericano

Los ciudadanos del otro lado del Atlántico son de nuevo mayoría entre los extranjeros

(Altántico, Sept 02, 2019)

Motivation

Twenty years of the "boom" of Latin American immigration

The legacy of migrants is still alive despite the fact that many undertook the return trip

(El País, Jan 21, 2018)

Immigration is again a Latin American phenomenon

Citizens on the other side of the Atlantic are again a majority among foreigners

(Altántico, Sept 02, 2019)

La incertidumbre del Brexit impulsa un 10% el registro de británicos en España

La comunidad británica afincada en el país no ha dejado de crecer desde que existen registros

(El País, Sep 15, 2019)

España alberga la mayor población británica de la UE y la más vulnerable al 'brexit'

- Eurostat refleja que el número de británicos en edad de jubilación en España se ha duplicado en tan solo una década.

The uncertainty of Brexit drives 10% the registration of British in Spain.

The British community based in the country has not stopped growing since there are records.

(El País, Sept 15, 2019)

Spain hosts the largest British population in the European Union and the most vulnerable to "brexit"

- Eurostat reflects that the number of British of retirement age has doubled in just a decade   (EFE, Jul 4, 2014)

Motivation

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"… l'Alfàs del Pi: con 20.000 habitantes censados, más del 50% de la población es de origen extranjero y conviven en armonía residentes de un centenar de nacionalidades, lo que lo convierte en "un municipio hospitalario y abierto"

(INFORMACIÓN, May 17,2019)

Torrevieja cuenta con 85.231 habitantes, el 41,2 por cien de origen extranjero

(La Razón, Sept 17, 2019)

Motivation

"… L'Alfàs del Pi: with 20,000 inhabitants registered, more than 50% of the population is foreigner and they coexist in harmony with residents of a hundred nationalities, which makes it" a hospitable and open municipality"

(INFORMACIÓN, May 17,2019)

Torrevieja has 85,231 inhabitants, 41.2 percent of foreign origin

(La Razón, Sep 17, 2019)

Motivation

Foreign population in Spain in 2019 by nationalities

| Country	Population
Morocco	714,239
Romania	617,233
UK	287,292
Italy	244,148
Colombia	199,540
China	190,624
Germany	138,642
Ecuador	135,268
Venezuela	133,934
France	111,769

Source: author's own elaboration based on INE data

Filling this gap

The recent developments of migration in Spain has meant a rise of the diversity of nationalities, with different distribution across regions, and with economic consequences that are still uncertain

Birthplace diversity within the group of foreigners (fractionalization index). 2002-2015.

Source: Authors' own elaboration based on INE data.

Filling the gap

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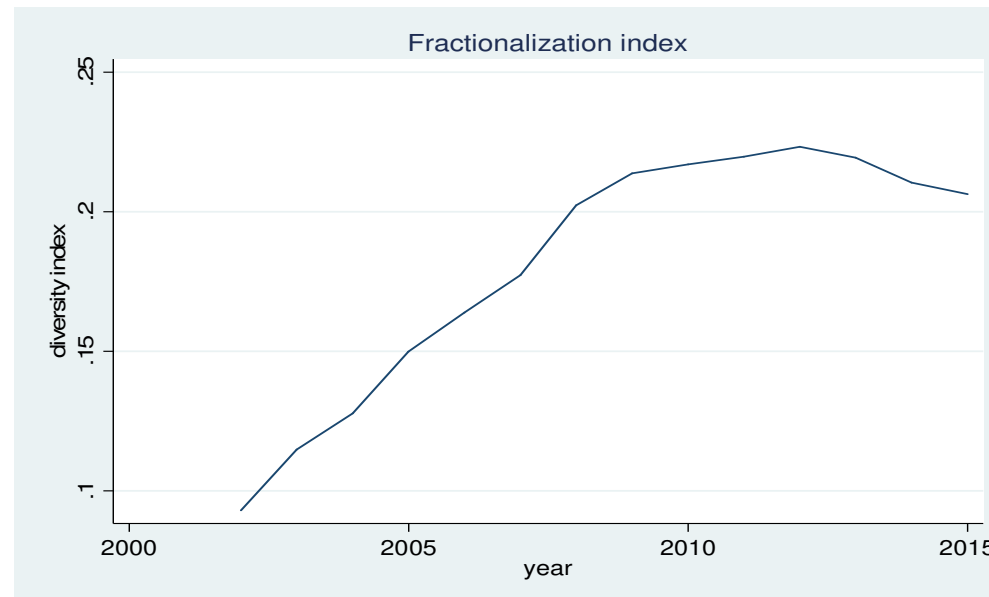
OUR GOAL

To analyse the **consequences of the higher cultural diversity** brought about by immigration **on the Spanish economy**

The increasing fear about the economic consequences of massive immigration flows and the absence of a coherent migration policy have led to a growing social and political tension that cannot alway find a clear answer from the academia

State of the Art

➤ **Main attention has been paid in the literature to the effects of total immigration on the labour market of destination countries**

- o Whether immigrants harm or improve the employment conditions and opportunities of native workers?

➤ **Mixed and confusing results**

- o Ortega and Peri (2009) and Boubtane et al (2013) found a significant and positive relationship between immigration and productivity for OECD countries

- o For Zorlu and Hartog (2005) show very small effects of migration on native' wage on Netherland, UK and Norway. Similar result is found by Ottaviano and Peri (2012) for UK

- o For Dustmann and Frattini (2014), immigration in UK depresses wage in the lower part of the wage distribution

- o According to Ruths and Vargas Silva (2017), the effects of immigration on the labour market (UK) critically depend on the skills of migrants and the skills of the existing workers. Similarly, Burzynski et al. (2018) conclude that the economic gains from migration varies across countries and skill groups

State of the Art

➢ Previous works leave in the background **the analysis of the potential spillovers from a greater cultural diversity**

    o <u>Heterogeneity of immigrants is incorporated recently into this debate</u>

➢ Yet, **the evidence remains quite ambiguous**

    ➡ **POSITIVE EFFECTS**

    o Rapoport (2018): People born in different countries complement each other in the labour market improving the production process and the overall performance of the economy.

    o The seminal paper of Ottaviano and Peri (2006) confirms a positive impact of immigrant diversity on the wage of US born-workers. This is also confirmed by Sparber (2010), Ager and Brücker (2013), Kemeny and Cooke (2017), Docquier et al. (2018)

    o Similar results for other developed countries: Suedekum et al (2014), Delgado and Alguacil (2018) or Alesina et al. (2016)

    o Bove and Elia (2017): The positive effect of cultural diversity is even more consistent in developing economies than in developed ones

State of the Art

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➡ NEGATIVE OR NEGLIGIBLE EFFECTS

o **Easterly and Levine (1997)** and **Collier and Gunning (1999**) contemplate ethno-linguistic fractionalization as a main reason of the Africa's poor performance

o **Montalvo and Reynal-Querol (2007), Churchill and Smyth (2017)**: focusing on developing countries, they found a negative impact on growth of a rise in social polarization

o **Longhi (2013)** shows that the positive correlation between diversity in English Local Authority Districs and worker's wages disappears when we consider panel estimation

State of the Art

Issues under/unexplored:

- Economic prosperity itself attracts more immigrants from a wider range of nationalities → **reverse causality and endogeneity problem**

- Provinces are units of observation, which far from constituting separate compartments, are probably spatially related → **The presence of spatial effects may led to bias and/or inefficiency in the estimated coefficients**

Stylized Facts

High clustering of the GDP per capita in Spain

GDP per capita by provinces: 2002
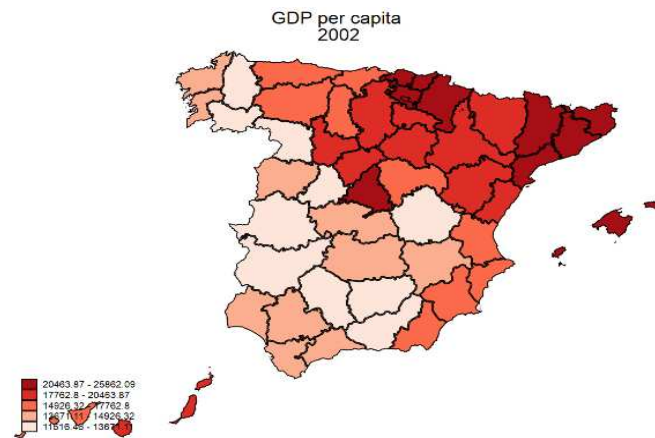
GDP per capita by provinces: 2015
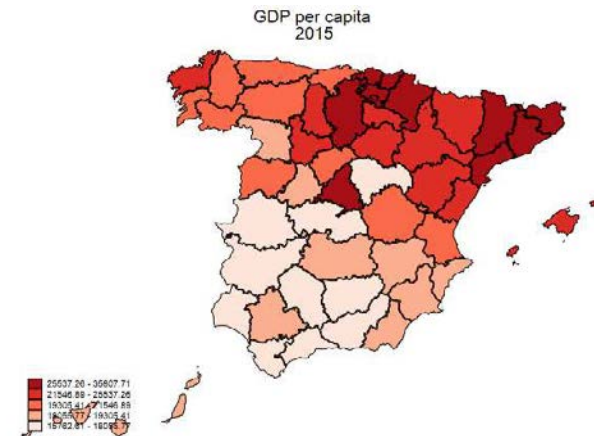
In spite of the changes in income levels between 2005 and 2015, provinces in both periods are grouped according to its income levels, making especially relevant to consider the spatial correlation of this variable.

Source: Developed by author based on INE data.

Our contribution

1) For the first time, **the connections between immigrant diversity and the economic performance of the Spanish provinces** have been analysed. Three immigrant diversity indexes (Kemeny and Cooke, 2018; and Alesina et al 2003) have been computed: *fractionalization*, *entropy* and *alesina*

2) To overcome with **endogeneity problem**, we use instrumental variables (IV) regression techniques. Concretely, we employ *the shift-share methodology*

3) Given the particular dual nature of Spanish migration, we take also into account the effects of variations in the weight of the two types of immigrants: **working migrants** and **retirement migrants**

4) We introduce in the analysis the **spatial dependence of variables**

The aim

❑ To study to what extent **cultural diversity brought about by immigration affects the economic activity of Spanish provinces**

➢ We use a database (INE and IVIE) on the **50 Spanish provinces** (NUTS-3) for the yearly period **2002-2015**

Measuring Cultural Diversity

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Based on **Kemeny and Cooke (2018):**

$$Fractionalization_j = 1 - \sum_{r=1}^{R} s_{rj}^2$$

Probability that two migrants, randomly selected, were born in different countries

$$Entropy_j = -\sum_{r=1}^{R} s_{rj} \cdot \ln(s_{rj})$$

Same as Fractionalization, but it provides a more accurate measure of diversity when the groups are of different sizes

$$Alesina_j = \sum_{r=2}^{R} \left[\frac{s_{rj}}{(1-s_1)} \cdot \left(1 - \frac{s_{rj}}{(1-s_1)}\right) \right] \cdot (1-s_1)^2$$

Measures diversity among those born abroad in a given place

where s ($0 \leq s \leq 1$) is the proportion of residents in an AC who were born in country r, R represents the maximum number of countries and s_1 the share of natives

Stylized Facts

Fractionalization Index (2002-2016)

Fractionalization index (average 2002-2015)
Spanish Provinces

.2669575 - .3902543
.1877316 - .2669575
.135292 - .1877316
.1093385 - .135292
.0566827 - .1093385
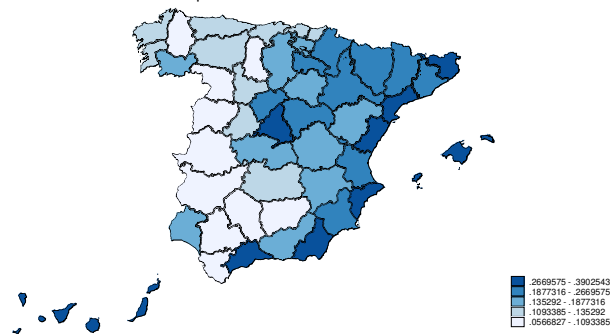
Entropy Index (2002-2016)

Entropy index (average 2002-2015)
Spanish Provinces

.873365 - 1.226951
.5900811 - .873365
.4691333 - .5900811
.3946245 - .4691333
.2162436 - .3946245
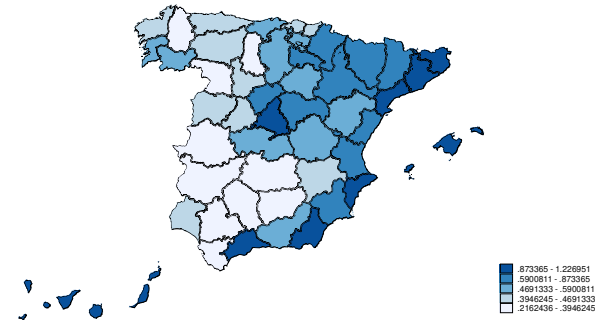
Alesina Index (2002-2016)

Alesina index (average 2002-2015)
Spanish Provinces

.020191 - .0466757
.0095899 - .020191
.0048318 - .0095899
.0032053 - .0048318
.0008276 - .0032053
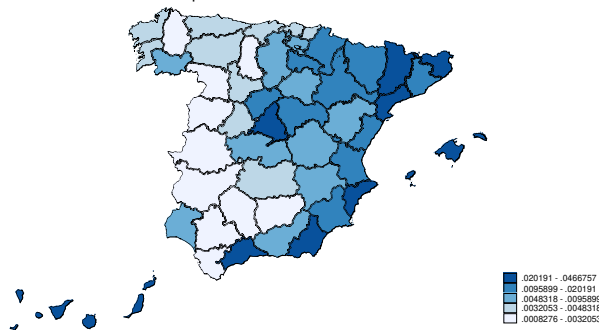
The higher cultural diversity is not homogeneous distributed along provinces

Mediterranean coastal provinces (combined working type immigrants with long-stay tourists) and Madrid present the highest cultural diversity

Source: Developed by author based on INE data.

Stylized Facts

Relationship between birthplace diversity and economic activity (2002-2015)
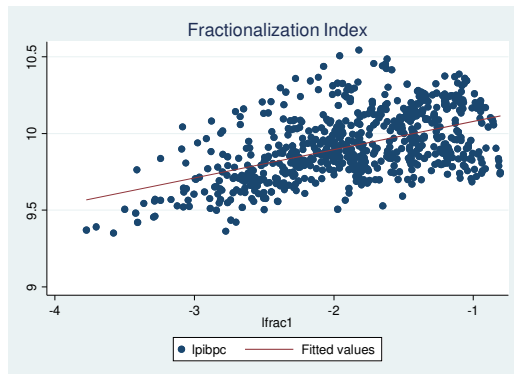
(a) Fractionalization index *vs*. log(GDPpc)
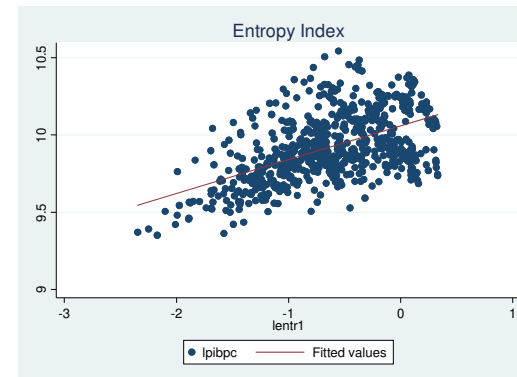
(b) Entropy index *vs*. log(GDPpc)
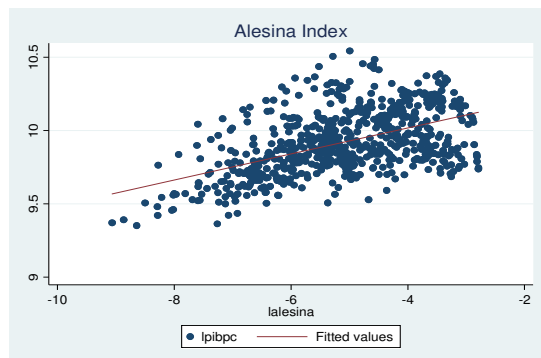
(c) Alesina index *vs*. log(GDPpc)

Clear positive relationship between the economic activity at province level and birthplace diversity

Source: Developed by author based on INE data.

The Model

$$ln\left(ypc_{c,t}\right)$$
$$= \beta_0 + \beta_1 \; ln\left(birthplace\_index_{c,t}\right)^k + \beta_2 \; ln\left(inv_{c,t}\right) + \beta_3 \; ln\left(hk_{c,t}\right) + \beta_4 \; ln\left(ind_{c,t}\right)$$
$$+ \; \beta_5 \; ln\left(netmigr_{c,t}\right) + \; \beta_6 \; ln\left(migr\_total_{c,t}\right) \; + \varepsilon_c + \varepsilon_t + \varepsilon_{c,t}$$

where c stands for each province and t denotes time and $k \in [1,3]$ indicates each of the three indexes calculated

The Model

$$
\begin{aligned}
ln\left(ypc_{c,t}\right) \\
= \beta_0 + \beta_1 \, ln(birthplace\_index_{c,t})^{k} + \beta_2 \, ln(inv_{c,t}) + \beta_3 \, ln(hk_{c,t}) + \beta_4 \, ln(ind_{c,t}) \\
+ \, \beta_5 \, ln(netmigr_{c,t}) + \beta_6 \, ln(migr\_total_{c,t}) + \varepsilon_c + \varepsilon_t + \varepsilon_{c,t}
\end{aligned}
$$

where c stands for each province and t denotes time and $k \in [1,3]$ indicates each of the three indexes calculated

birthplace_index: *fractionalization* index, *alesina* index, *entropy* index

The Model

$$ln\left(ypc_{c,t}\right)$$
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$$+ \beta_5 \; ln\left(netmigr_{c,t}\right) + \beta_6 \; ln\left(migr\_total_{c,t}\right) + \varepsilon_c + \varepsilon_t + \varepsilon_{c,t}$$

where *c* stands for each province and *t* denotes time and $k \in [1,3]$ indicates each of the three indexes calculated

birthplace_index: *fractionalization* index, *alesina* index, *entropy* index

inv: Stock of physical capital per worker
hk: Skilled labor (share of population with middle-high education level –Docquier et al., 2018)
ind: Share of workers employed in industrial sector (Suedekum et al. 2014)
netmigr: Interprovincial net migration rate with respect to natives (capture other unobservable regional shocks, Suedekum et al., 2014)
migr_total: Share of foreign population (Docquier et al., 2018)

The Model

The extended model:

$$
\begin{aligned}
ln\left(ypc_{c,t}\right) \\
= \beta_0 + \beta_1 \ ln\left(birthplace\_index_{c,t}\right)^{k} + + \beta_2 \ ln(inv_{c,t}) + \beta_3 \ ln\left(hk_{c,t}\right) + \beta_4 \ ln(ind_{c,t}) \\
+ \ \beta_5 \ ln\left(netmigr_{c,t}\right) + \ \beta_6 \ ln(migr\_total_{c,t}) + \beta_7 \ ln(\boldsymbol{retir\_migr}_{c,t}) \\
+ \ \beta_8 \ ln(\boldsymbol{working\_migr}_{c,t}) + \varepsilon_c + \varepsilon_t + \varepsilon_{c,t}
\end{aligned}
$$

retir_migr: Percentage of immigrants from countries with high income over total foreign population

working_migr: Percentage of immigrants from countries with middle income over total foreign population

AIM: To examine the implications in the economic activity of changes in the composition of the immigrants by regions of origin

Estimation results using FE: log(*ypc*)

VARIABLES	Fractionalization	Entrophy	Alesina	Fractionalization	Entrophy	Alesina
fractionalization	0.080***			0.063***		
	[0.000]			[0.000]		
entropy		0.099***			0.077***	
		[0.000]			[0.000]	
alesina			0.041***			0.031***
			[0.000]			[0.000]
inv	0.034***	0.036***	0.035***	0.033***	0.034***	0.034***
	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]	[0.000]
hk	0.438***	0.448***	0.447***	0.423***	0.430***	0.429***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.039***	0.042***	0.040***	0.036***	0.038***	0.036***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total	-0.015***	-0.014***	-0.015***	-0.013***	-0.013***	-0.014***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
retir_migr				0.265	0.291	0.267
				[0.147]	[0.115]	[0.145]
working_migr				0.423**	0.450**	0.432**
				[0.018]	[0.012]	[0.016]
Constant	9.621***	9.517***	9.665***	9.230***	9.123***	9.255***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	700	700	700	700	700	700
R-squared	0.914	0.914	0.914	0.916	0.916	0.916
N. province	50	50	50	50	50	50
Time effects	yes	yes	yes	yes	yes	yes
Regions effects	yes	yes	yes	yes	yes	yes
Haussman test	59.52**	29.50***	41.89	289.38***	186.25**	227.46**

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	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]	[0.000]
hk	0.438***	0.448***	0.447***	0.423***	0.430***	0.429***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.039***	0.042***	0.040***	0.036***	0.038***	0.036***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total	-0.015***	-0.014***	-0.015***	-0.013***	-0.013***	-0.014***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
retir_migr				0.265	0.291	0.267
				[0.147]	[0.115]	[0.145]
working_migr				0.423**	0.450**	0.432**
				[0.018]	[0.012]	[0.016]
Constant	9.621***	9.517***	9.665***	9.230***	9.123***	9.255***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	700	700	700	700	700	700
R-squared	0.914	0.914	0.914	0.916	0.916	0.916
N. province	50	50	50	50	50	50
Time effects	yes	yes	yes	yes	yes	yes
Regions effects	yes	yes	yes	yes	yes	yes
Haussman test	59.52**	29.50***	41.89	289.38***	186.25**	227.46**

Estimation results using FE with lagged variables: log(ypc)

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VARIABLES	Fractionalization	Entropy	Alesina	Fractionalization	Entrophy	Alesina
Fractionalization(-1)	0.051***			0.031**		
	[0.000]			[0.031]		
Entropy(-1)		0.059***			0.032*	
		[0.000]			[0.078]	
Alesina(-1)			0.025***			0.014*
			[0.000]			[0.066]
inv(-1)	0.031***	0.033***	0.033***	0.031***	0.032***	0.032***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
hk(-1)	0.242**	0.254***	0.251***	0.226**	0.234**	0.232**
	[0.011]	[0.008]	[0.008]	[0.016]	[0.013]	[0.013]
ind(-1)	0.049***	0.051***	0.050***	0.045***	0.048***	0.047***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr(-1)	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total(-1)	-0.012***	-0.012***	-0.012***	-0.011***	-0.011***	-0.011***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
retired_migr(-1)				0.283	0.280	0.276
				[0.109]	[0.117]	[0.121]
working_migr(-1)				0.468***	0.474***	0.468***
				[0.006]	[0.006]	[0.007]
Constant	9.883***	9.801***	9.899***	9.429***	9.372***	9.432***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations	650	650	650	650	650	650
R-squared	0.882	0.881	0.881	0.886	0.885	0.885
N. prov	50	50	50	50	50	50
Time effects	yes	yes	yes	yes	yes	yes
Regional effects	yes	yes	yes	yes	yes	yes

Endogeneity

FE estimation does not consider a potential endogeneity problem or reverse causality

Highly productive workers may have a particular preference for diversity

Solution: 2SLS by using an instrumental variable (IV)

"Predicted diversity": An index constructed as the predicted change in the number of immigrants (Ottaviano and Peri, 2006)

Assumption: The initial share of immigrants by country of origin is a good predictor of subsequent migration inflows, as migrants tend to be attracted to regions where other immigrants from the same country locate (Gagliardi, 2015).

IV: Predicted Diversity

① Growth rate of immigration for each group according to their birthplace:

$$(g_r)_{y1-y2} = \frac{(s_{rj})_{y2} - (s_{rj})_{y1}}{(s_{rj})_{y1}}$$

② "Attributed" share of people born in country j and residing in province c in year 2:

$$(\widehat{s_{rj}^c})_{y2} = (s_{rj}^c)_{y1} \cdot [1 + (g_r)_{y2-y1}]$$

③ **The "attributed" share of foreign-born individuals is used** to obtain the corresponding **instruments for each diversity index**:

$$\widehat{div}_{c,y_2}^F = 1 - \sum_i (\widehat{s_{rj}^c})_{y2}^2$$

$$\widehat{div}_{c,y_t}^E = - \sum_{r=1}^R \hat{s}_r^c \cdot \ln(\hat{s}_r^c)$$

$$\widehat{div}_{c,y_t}^A = \sum_{r=2}^R \left[\frac{\hat{s}_r^c}{(1 - s_{1,t})} \cdot \left(1 - \frac{\hat{s}_r^c}{(1 - s_{1,t})} \right) \right] \cdot (1 - s_{1,t})^2$$

Estimation results using IV-2SLS: log(*ypc*)

VARIABLES	Fractionalization	Entropy	Alesina	Fractionalization	Entropy	Alesina
fractionalization	0.060***			0.045**		
	[0.001]			[0.031]		
entropy		0.079***			0.054***	
		[0.000]			[0.006]	
alesina			0.037***			0.027***
			[0.000]			[0.000]
inv	0.037***	0.038***	0.037***	0.035***	0.036***	0.035***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
hk	0.462***	0.465***	0.455***	0.437***	0.443***	0.436***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.044***	0.045***	0.041***	0.040***	0.042***	0.039***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total	-0.014***	-0.014***	-0.015***	-0.013***	-0.013***	-0.013***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
retir_migr				0.213	0.229	0.241
				[0.248]	[0.210]	[0.182]
working_migr				0.401**	0.419**	0.420**
				[0.023]	[0.017]	[0.017]
Observations	700	700	700	700	700	700
R-squared	0.914	0.914	0.914	0.916	0.916	0.916
N_prov	50	50	50	50	50	50
Regional effects	yes	yes	yes	yes	yes	yes
Year effects	yes	yes	yes	yes	yes	yes
AIC	-3054.39	-3053.15	-3053.35	-3065.50	-3064.27	-3064.96

Spatial Correlation

The economic development of a region depends not only on its own characteristics, but also to the characteristics of the neighbours (Basile et al. 2012)

The omission of spatial effects among variables provides biased results

Solution: 2SLS estimator for spatial autoregressive (SAR) models

$$\log(ypc_{c,t}) = \beta_0 + \rho W(\log(ypc_{c,t})) + \beta_1 \left[birthplace_{index_{c,t}} \right]^k + \sum_j \alpha_j \, C(j)_{c,t}$$
$$+ \, \varepsilon_c + \varepsilon_t, + \varepsilon_{c,t}$$

As in Kelejian et al. (2004), to instrument the spatially lagged dependent variable, we consider as IV the explanatory variables weighted by W matrix.

W: The squared inversed distance between units

Spatial Correlation

Moran's I statistics (panel database)
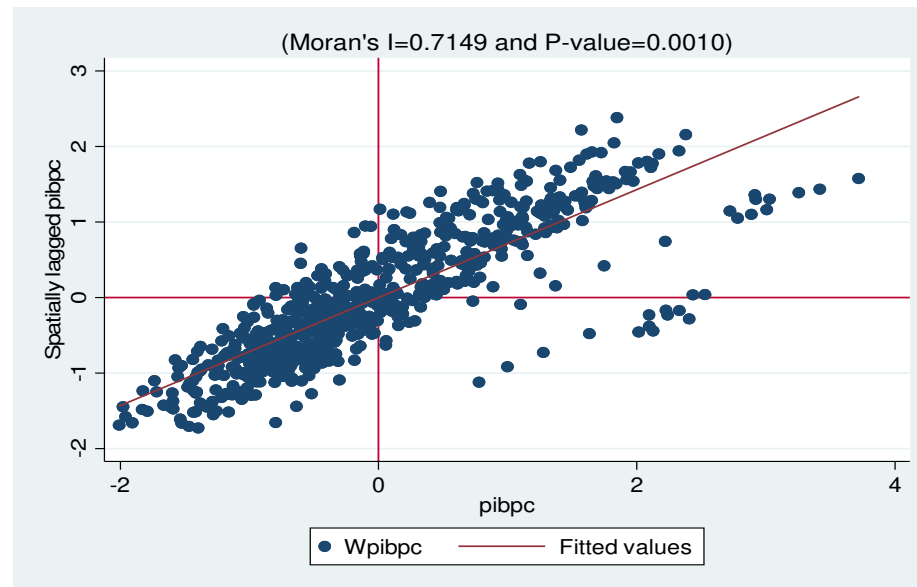
A positive and significant value indicates that neighbor provinces have similar income per capita levels

Estimation results using 2SLS-SAR: log(*ypc*)

	Fractionalization	Entropy	Alesina	Fractionalization	Entropy	Alesina
fractionalization	0.054***			0.069***		
	[0.001]			[0.000]		
entropy		0.072***			0.031***	
		[0.000]			[0.000]	
alesina			0.048**			0.048**
			[0.010]			[0.010]
wy (spatial lag)	0.461***	0.461***	0.443***	0.446***	0.444***	0.443***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
inv	0.032***	0.032***	0.032***	0.032***	0.031***	0.032***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
hk	0.383***	0.385***	0.380***	0.379***	0.375***	0.380***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ind	0.045***	0.046***	0.041***	0.041***	0.038***	0.041***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
netmigr	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
migr_total	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
retir_migration			0.327*	0.374**	0.369**	0.327*
			[0.062]	[0.031]	[0.032]	[0.062]
work_migration			0.389**	0.423**	0.414**	0.389**
			[0.020]	[0.012]	[0.013]	[0.020]
Observations	700	700	700	700	700	700
R-squared	0.923	0.923	0.924	0.924	0.924	0.924
prvinces	50	50	50	50	50	50
Regional FE	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes
AIC	-3133.283	-3132.358	-3131.224	-3134.418	-3134.008	-3133.729
Sargan Statistics	3.269	2.747	2.473	4.416	4.324	4.458
p-value	[0.51]	[0.60]	[0.64]	[0.62]	[0.63]	0.6149

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Summing up

o   In recent times, **Spain** has become **one the largest recipients of immigrants in Europe**

o   The importance of this phenomenon has fuelled the **debate about its economic consequences**

o   **Traditional literature** has paid special attention to **the potential substitution effects** from more expensive native workers to cheaper foreign workers

o   But a **new perspective focussing on the heterogeneity of immigrants has incorporated to this debate**

Summing up

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- Despite the *sui generis* nature of recent immigration in Spain (with a high proportion of "permanent tourists"), **the cultural variability** is also shown as **beneficial for the economic activity of the Spanish provinces**

- We further prove that **domestic capital, skilled labour and a higher industrialization rate are positive related with economic prosperity**

- We find a **significant influence of interprovincial net migration rate**

- The estimates reveal the **importance of migration coming from middle-income countries to encourage economic development in the Spanish provinces. The benefits from a higher share of immigrants coming from countries with high income are** less robust (**only significant when we control for spatial effects**)

Policy implications

☐ For a complete evaluation of the impact that immigration may have on recipients economics, **policy makers should take into account the effects on cultural diversity and the implications on the level of skilled labour** that emerge from the inflows of foreign workers

☐ **Danger of focusing on one single side of the coin** on the political debate

Future research

FUTURE RESEARCH (when data be available)

- ❖ Effects of the increase in the level of skilled labor that emerges from the inflows of foreign workers

- ❖ What does it happen with non-registered immigration?

THANK YOU FOR YOUR ATTENTION

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Main nationalities: share over total of foreign population

Rank	2002		2015	
1	Morocco	13.79	Morocco	12.23
2	Ecuador	10.13	Romania	11.10
3	Colombia	8.00	Ecuador	6.90
4	Germany	6.74	Colombia	5.82
5	France	6.64	United Kingdom	4.69
6	United Kingdom	5.48	Argentina	4.13
7	Argentina	4.63	France	3.35
8	Venezuela	2.79	Peru	3.08
9	Romania	2.67	Germany	3.05
10	Portugal	2.62	China	2.90

Source: author's own elaboration based on INE data

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The share of immigrants from countries with high, upper-middle, lower-middle and low income over total foreign population

Share immigrants (over total of immigrants)

■ 2015 ■ 2002
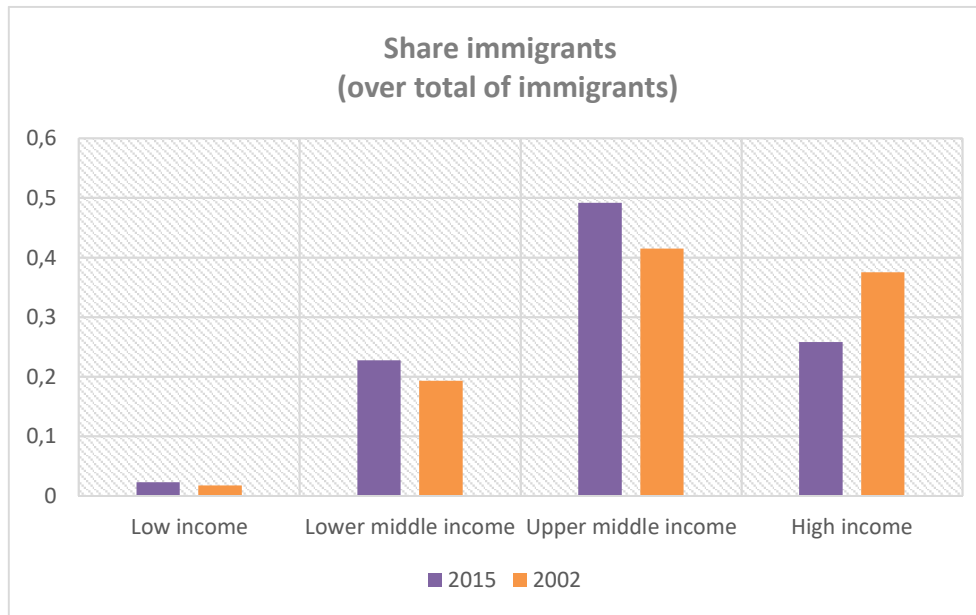
Decrease importance of immigrants that come from high-income countries, in favor of migrant inflows from middle-income countries

Source: author's own elaboration based on INE data

- Immigrants with a highest weight over foreign population were those coming from developing countries (Morocco, Ecuador or Colombia)
- Immigrants from high-developed countries (UK, Germany, France) have also great importance

Definition and data source of variables

Variable	Description	Source
fractionalization	Diversity foreign population (Fractionalization index), in logs	Author's calculations based on the INE[§]
alesina	Diversity foreign population (Alesina index), in logs	Author's calculations based on the INE[§]
entropy	Diversity foreign population (Entropy index), in logs	Author's calculations based on the INE[§]
y	Gross Domestic Product in constant 2010 divided by population	INE[§]
inv	Natural log of Gross Fixed Capital in constant 2010 divided by employment	IVIE[⊥]
hk	Share of population with middle-high studies divide by population	IVIE[⊥]
ind	Number of workers in industries divides by total workers	INE[§]
migr_total	Foreign population divided by total population	INE[§]
Netmigr[*]	Interprovincial net migration native population divided by total population, in logs	INE[§]
retired_migr	Share of immigrants from countries with high income divided by total of immigrants	Author's calculations based on the INE[§] and Gross Domestic Income per capita reported by World Bank
working_migr	Share of immigrants from countries with upper and lower middle income divided by total of immigrants	Author's calculations based on the INE[§] and Gross Domestic Income per capita reported by World Bank

Estimation results of the first stage regressions

Variables	Basic Model			Extended Model		
	Fractional.	Entropy	Alesina	Fractional.	Entropy	Alesina
$\widehat{div}$	0.800***	0.079***	0.930***	0.728***	0.840***	0.916***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
inv	0.062***	0.013	0.012	0.046**	0.010	0.010
	[0.005]	[0.116]	[0.182]	[0.022]	[0.197]	[0.257]
hk	1.058***	0.080	-0.025	0.773***	0.044	-0.044
	[0.000]	[0.330]	[0.776]	[0.000]	[0.581]	[0.609]
ind	0.105***	0.012	0.008	0.080***	0.011	0.009
	[0.000]	[0.123]	[0.364]	[0.000]	[0.166]	[0.295]
netmigr	-0.001	0.001*	0.001***	-0.001	0.001**	0.001***
	[0.227]	[0.037]	[0.003]	[0.363]	[0.026]	[0.002]
migr_total	-0.033***	-0.009***	-0.003***	-0.020***	-0.006***	-0.001
	[0.000]	[0.000]	[0.001]	[0.000]	[0.000]	[0.450]
resi_tour				0.466	0.019	-0.045
				[0.151]	[0.884]	[0.748]
work_tour				1.198***	0.305***	0.230***
				[0.000]	[0.000]	[0.000]
Observations	700	700	700	700	700	700
Underidentification test (Anderson canon. corr. LM statistic)	295.851***	570.830***	634.275***	294.703***	558.999***	631.270***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Weak identification test (Stock-Yogo)	527.13***	4549.601***	25451.75***	521.728***	3863.812***	21000***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]