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**Cities and migration in Latin America and the Caribbean:  
updated estimates of key socio-demographic effects<sup>1</sup>**

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<sup>1</sup> Jorge Rodriguez Vignoli, CELADE-Population Division of ECLAC. The author thanks for the support of Marta Duda-Nyczak, Associate Population Affairs Officer of CELADE-Population Division of ECLAC and Daniela Gonzalez, Research Assistant of CELADE-Population Division of ECLAC, as well as David Candia, Mario Acuna, Luis Rodriguez and Katherine Paez, consultants of CELADE-Population Division of ECLAC.

# **Cities and migration in Latin America and the Caribbean: updated estimates of key socio-demographic effects<sup>2</sup>**

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# 1. Introduction

This paper aims to update the existing literature and the evidence about socio-demographic effects of migration (mainly internal migration) on the Latin American cities, either individual or as part of a group<sup>3</sup> in the National Settlements System (NSS). These effects can be classified as: i) the well known “growth effect” due to the net migration and net migration rate; ii) “the redistribution effect” due to the differences in net migration rates between spatial units (provinces, counties, cities); iii) the composition effect – for instance sex, age and educational structure- due to the magnitude of migration as well as the differences between the socio-demographic profiles (such as sex, age and education) of migrants (both: in-migrant and out-migrants) and non-migrants<sup>4</sup>; and finally, iv) the “spatial differentiation/inequality” due to the differences in net migration rates between social groups across spatial units (counties, districts or neighborhoods).<sup>5</sup>

In order to accomplish this goal, a wealth of national census microdata sets were processed. These datasets are stored by ECLAC at the request of the countries (mostly from Latin America and the Caribbean as well as some from Africa and Asia) in order to: i) protect and back up the census data; ii) use the census data for research and follow up of migration trends and patterns; iii) use the census data as a main source to calculate migration indicators included in comparative databases created and maintained by CELADE.<sup>6</sup>

In order to estimate these effects, both “traditional” and “new” procedures and indicators were used. The limited length of this technical paper, however, does not allow for an in-depth explanation of the methodologies involved in the “new” procedures.<sup>7</sup>

The indicators reflecting these effects were systematized in a detailed way, estimating relative figures for the region as a whole, individual countries, and cities within each country. In some cases, the latter could only be achieved by pooling cities into intuitive, functional and summary categories, since there are more than two thousand cities in the region (1,700 examined in this note). The criterion chosen to pool the cities was their demographic size, a feature which has been particularly useful in the LAC region due to its historical association with huge social, economic and political gaps between the cities (ECLAC, 2012; DEPUALC database). This organization according to the settlement size is one of the most used in the studies or statistics on population distribution in cities, urban systems or the NSS<sup>8</sup>. Population Division of DESA uses own classification in its publication World Population Prospects<sup>9</sup>. Alternative categories are used in this document as census microdata allow for more disaggregated pooling.

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<sup>3</sup> In this paper: according to their population size.

<sup>4</sup> For most of scholars selectivity is a generic concept: “*Selectivity in migration has been recognized from the earliest times. Ravenstein (1885) certainly recognized that migrants were different than the average resident of the United Kingdom. Moreover, Thomas’s (1938) reference to “migration differentials” was clearly a reference to the selective nature of migration.*” (Greenwood, 2016, p. 37). However, according to the IUSSP “*The term selectivity of migration 7 indicates that the comparison is between the in-migrants and the population from which they were drawn, at the area of origin (801-4). When comparing the characteristics of the in-migrants to those of the population at the place of arrival (801-5) the term differential migration or migration difference is sometimes used.*” ([http://en-ii.demopaedia.org/wiki/Selectivity\\_of\\_migration](http://en-ii.demopaedia.org/wiki/Selectivity_of_migration), 08/09/2017, 9:48 AM, Santiago, Chile time zone). In this paper, the IUSSP definition will be adhered to.

<sup>5</sup> This last effect is strongly linked to the so-called “segregation effect”, which will be mentioned but not estimated and analyzed in this paper. For more details about this effect, see ECLAC 2014, chapter five, and Rodríguez y Rowe, 2017a (IPC-IUSSP, Cape Town forthcoming).

<sup>6</sup> MIALC ([www.cepal.org/celade/migracion/migracion\\_interna/](http://www.cepal.org/celade/migracion/migracion_interna/)) and DEPUALC ([www.cepal.org/celade/depualc/](http://www.cepal.org/celade/depualc/)) databases.

<sup>7</sup> For additional details and technical explanations of these “new” procedures, please see: Rodríguez and Rowe (2017a and 2017b), ECLAC (2014, 2012); Aroca and Rodríguez (2013), Rodríguez, J. 2013a, 2013b, 2011a, 2011b and 2008.

<sup>8</sup> NSS differs from the two previous entities, because it includes all the localities: metropolitan areas, cities, towns, villages, hamlets and even scattered population, as opposed to cities only.

<sup>9</sup> <https://esa.un.org/unpd/wup/Publications/Files/WUP2014-Report.pdf>

## 2. National settlement systems and migration: population growth and population redistribution effects

Overall, the lower categories of the national settlement system (NSS) –i.e., smaller cities (less than 100 thousand inhabitants), counties without cities<sup>10</sup> or “rest”<sup>11</sup> are clearly repulsive categories, while intermediate cities<sup>12</sup> are clearly attractive categories. The upper part of the NSS (cities whose population surpasses 1 million inhabitants, or large cities in this note) is still an attractive category, but only due to the draw of cities under 10 million inhabitants, because all the megapolis<sup>13</sup> have net out-emigration, some of them dating back to the 1980’s (Table 1 and Chart 1, Villa and Rodriguez, 1998, 1997).<sup>14</sup>

The repulsive condition of smaller cities as well as the category labeled “rest” explains a surprising and even paradoxical finding: despite the well documented progress of urbanization in the region<sup>15</sup>, most of the cities in Latin America registers net out-migration, because most of the small cities –less than 100 thousand inhabitants, which are the bulk of the city system– record net out-migration (Chart 2).<sup>16</sup>

Table 1 also gives an alternative way to estimate rural-urban migration directly. This estimation is the net migration of the category labeled "rest" in the table. The figures are informative and unambiguous: category "rest" has the highest repulsion rates among all the categories of the NSS included in Table 1, followed by the smallest cities.<sup>17</sup> The figures indicate that this repulsion condition softened during the first decade of the 21st century; however, it is too early to announce a reversal of the historical push-out conditions of the bottom categories of the NSS, especially considering recent figures about the widening poverty gap<sup>18</sup> between urban and rural areas (Chart 3). Censuses from the 2020 round as well as other sources in some selected countries of the region will provide fresh evidence about the persistence of this trend.

Another relevant finding that emerges from Table 1 is that the upper category of the NSS recorded slight net in-migration according to the 2010 round of censuses –200 thousand, which is less than a quarter of that registered during the 2000 census round –, and a rate that barely reaches 0.3 per thousand. During the period of 1985-2010, intermediate cities (100 thousand to 1 million inhabitants) were the most attractive category, reaching net in-migration of roughly 1 million although with a decreasing rate (from 3 per thousand in 1995-2000 to 2.4 per thousand in 2005-2010). This is a piece of evidence supporting the hypothesis of de-concentration, but limited to intermediate cities only, and not to the smallest cities (less than 50 thousand inhabitants) or the rural areas, because both, as already said, registered loss of population by migration (net out-migration).

Table 1 unveils a fall in the number of migrants, as was already observed in the region at other scales by Rodriguez 2013c and worldwide by Bell and Muhidin 2009<sup>19</sup>, among others. However, by showing two estimations of migration in Table 1 (one of them including the intra-category movements within the city system and the other one excluding them), it allows to derive the migration within each category by residual. These results are shown in Chart 4. The results point out that migration within each category of the city

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<sup>10</sup> Localities with 20 thousand inhabitants or more.

<sup>11</sup> This category constitutes the backbone of the rural areas.

<sup>12</sup> Localities from 100 thousand to 1 million inhabitants

<sup>13</sup> 10 million inhabitant or more

<sup>14</sup> Chavez et al, 2016..

<sup>15</sup> Due to the persistent population transfer from rural areas to urban areas (Jedwab et al, 2017; Rodriguez, 2016, ECLAC, 2012).

<sup>16</sup> This finding was already presented and discussed by Rodriguez (2011) and ECLAC (2012).

<sup>17</sup> 20 thousand to 50 thousand inhabitants.

<sup>18</sup> Rural-Urban poverty relation: Rural poverty/Urban Poverty

<sup>19</sup> Rodríguez (2013c); Bell y Muhidin (2009)

system migration within each category of the city system grew in the last inter-census period, which suggests an upward horizontal migratory exchange.

Table 1

Latin America and the Caribbean (selected countries), 1995-2000 and 2005-2010: migration indicators by settlement size. Two estimations (with and without considering intra-category migrants)

OPTION 1: EXCLUDING MIGRATION BETWEEN SIZE CATEGORIES OF SETTLEMENTS											
CENSUS ROUND	Size categories of settlement	RESIDENT POPULATION IN 2010	RESIDENT POPULATION IN 2005	NO MIGRANTS (2005-2010)	IN-MIGRANTS	OUT-MIGRANTS	NET MIGRATION	GROSS MIGRATION	IN-MIGRATION RATE (in thousands)	OUT-MIGRATION RATE (in thousands)	NET MIGRATION RATE (in thousands)
2010 (migration time period: 2010-2005)	<b>1 million or more</b>	<b>130,957,264</b>	<b>130,757,276</b>	<b>127,202,365</b>	<b>3,754,900</b>	<b>3,554,911</b>	<b>199,988</b>	<b>7,309,811</b>	<b>5.7</b>	<b>5.4</b>	<b>0.3</b>
	500000-999999	27,406,682	27,056,232	25,962,344	1,444,338	1,093,889	350,449	2,538,226	10.6	8.0	2.6
	100000-499999	51,970,165	51,451,091	49,160,957	2,809,207	2,290,134	519,073	5,099,341	10.9	8.9	2.0
	50000-99999	22,172,936	22,256,688	20,871,167	1,301,769	1,385,521	-83,752	2,687,290	11.7	12.5	-0.8
	20000-49999	35,997,837	36,297,085	34,021,489	1,976,348	2,275,596	-299,249	4,251,944	10.9	12.6	-1.7
	Less than 20000	114,506	116,831	104,718	9,788	12,112	-2,324	21,901	16.9	20.9	-4.0
	<b>Rest</b>	<b>78,073,209</b>	<b>78,757,395</b>	<b>74,954,991</b>	<b>3,118,218</b>	<b>3,802,405</b>	<b>-684,186</b>	<b>6,920,623</b>	<b>8.0</b>	<b>9.7</b>	<b>-1.7</b>
	<b>Total</b>	<b>346,692,599</b>	<b>346,692,599</b>	<b>332,278,031</b>	<b>14,414,568</b>	<b>14,414,568</b>	<b>0</b>	<b>28,829,136</b>	<b>8.3</b>	<b>8.3</b>	<b>0.0</b>
2000 (migration time period: 2000-1995)	<b>1 million or more</b>	<b>99,306,010</b>	<b>98,419,025</b>	<b>95,171,096</b>	<b>4,134,913</b>	<b>3,247,929</b>	<b>886,985</b>	<b>7,382,842</b>	<b>8.4</b>	<b>6.6</b>	<b>1.8</b>
	500000-999999	25,189,355	24,735,987	23,572,789	1,616,566	1,163,197	453,368	2,779,763	13.0	9.3	3.6
	100000-499999	41,343,343	40,825,305	38,482,860	2,860,483	2,342,444	518,038	5,202,927	13.9	11.4	2.5
	50000-99999	18,736,768	18,786,657	17,343,752	1,393,016	1,442,905	-49,889	2,835,921	14.8	15.4	-0.5
	20000-49999	28,553,605	29,084,249	26,740,465	1,813,140	2,343,783	-530,643	4,156,924	12.6	16.3	-3.7
	Less than 20000	6,066,723	6,110,868	5,568,626	498,097	542,242	-44,145	1,040,340	16.4	17.8	-1.5
	<b>Rest</b>	<b>66,417,807</b>	<b>67,651,520</b>	<b>63,481,708</b>	<b>2,936,099</b>	<b>4,169,813</b>	<b>-1,233,713</b>	<b>7,105,912</b>	<b>8.8</b>	<b>12.4</b>	<b>-3.7</b>
	<b>Total</b>	<b>285,613,611</b>	<b>285,613,611</b>	<b>270,361,297</b>	<b>15,252,314</b>	<b>15,252,314</b>	<b>0</b>	<b>30,504,628</b>	<b>10.7</b>	<b>10.7</b>	<b>0.0</b>
OPTION 2: INCLUDING MIGRATION BETWEEN SIZE CATEGORIES OF SETTLEMENTS											
CENSUS ROUND	Size categories of settlement	RESIDENT POPULATION IN 2010	RESIDENT POPULATION IN 2005	NO MIGRANTS (2005-2010)	IN-MIGRANTS	OUT-MIGRANTS	NET MIGRATION	GROSS MIGRATION	IN-MIGRATION RATE (in thousands)	OUT-MIGRATION RATE (in thousands)	NET MIGRATION RATE (in thousands)
2010 (migration time period: 2010-2005)	<b>1 million or more</b>	<b>130,957,264</b>	<b>130,757,276</b>	<b>126,049,248</b>	<b>4,908,016</b>	<b>4,708,028</b>	<b>199,988</b>	<b>9,616,043</b>	<b>7.5</b>	<b>7.2</b>	<b>0.3</b>
	500000-999999	27,406,682	27,056,232	25,812,021	1,594,661	1,244,211	350,449	2,838,872	11.7	9.1	2.6
	100000-499999	51,970,165	51,451,091	48,626,464	3,343,700	2,824,627	519,073	6,168,328	12.9	10.9	2.0
	50000-99999	22,172,936	22,256,688	20,767,434	1,405,503	1,489,254	-83,752	2,894,757	12.7	13.4	-0.8
	20000-49999	35,997,837	36,297,085	33,730,438	2,267,398	2,566,647	-299,249	4,834,045	12.5	14.2	-1.7
	Less than 20000	114,506	116,831	104,718	9,788	12,112	-2,324	21,901	16.9	20.9	-4.0
	<b>Rest</b>	<b>78,073,209</b>	<b>78,757,395</b>	<b>74,954,991</b>	<b>3,118,218</b>	<b>3,802,405</b>	<b>-684,186</b>	<b>6,920,623</b>	<b>8.0</b>	<b>9.7</b>	<b>-1.7</b>
	<b>Total</b>	<b>346,692,599</b>	<b>346,692,599</b>	<b>330,045,315</b>	<b>16,647,284</b>	<b>16,647,284</b>	<b>0</b>	<b>33,294,569</b>	<b>9.6</b>	<b>9.6</b>	<b>0.0</b>
2000 (migration time period: 2000-1995)	<b>1 million or more</b>	<b>99,306,010</b>	<b>98,419,025</b>	<b>94,225,768</b>	<b>5,080,242</b>	<b>4,193,257</b>	<b>886,985</b>	<b>9,273,499</b>	<b>10.3</b>	<b>8.5</b>	<b>1.8</b>
	500000-999999	25,189,355	24,735,987	23,463,233	1,726,122	1,272,754	453,368	2,998,876	13.8	10.2	3.6
	100000-499999	41,343,343	40,825,305	37,980,943	3,362,400	2,844,362	518,038	6,206,762	16.4	13.8	2.5
	50000-99999	18,736,768	18,786,657	17,232,333	1,504,435	1,554,324	-49,889	3,058,759	16.0	16.6	-0.5
	20000-49999	28,553,605	29,084,249	26,486,306	2,067,299	2,597,943	-530,643	4,665,242	14.3	18.0	-3.7
	Less than 20000	6,066,723	6,110,868	5,548,557	518,166	562,311	-44,145	1,080,477	17.0	18.5	-1.5
	<b>Rest</b>	<b>66,417,807</b>	<b>67,651,520</b>	<b>63,481,708</b>	<b>2,936,099</b>	<b>4,169,813</b>	<b>-1,233,713</b>	<b>7,105,912</b>	<b>8.8</b>	<b>12.4</b>	<b>-3.7</b>
	<b>Total</b>	<b>285,613,611</b>	<b>285,613,611</b>	<b>268,418,848</b>	<b>17,194,763</b>	<b>17,194,763</b>	<b>0</b>	<b>34,389,525</b>	<b>12.0</b>	<b>12.0</b>	<b>0.0</b>

Source: censuses microdata (special processing). MIALC y DEPUALC databases

10 countries included in 2010 round: Plurinational State Bolivia (2012), Brazil (2010), Costa Rica (2011), Ecuador (2010), Honduras (2013), Mexico (2010), Panama (2010), Uruguay (2011), Bolivarian Republic of Venezuela (2011).

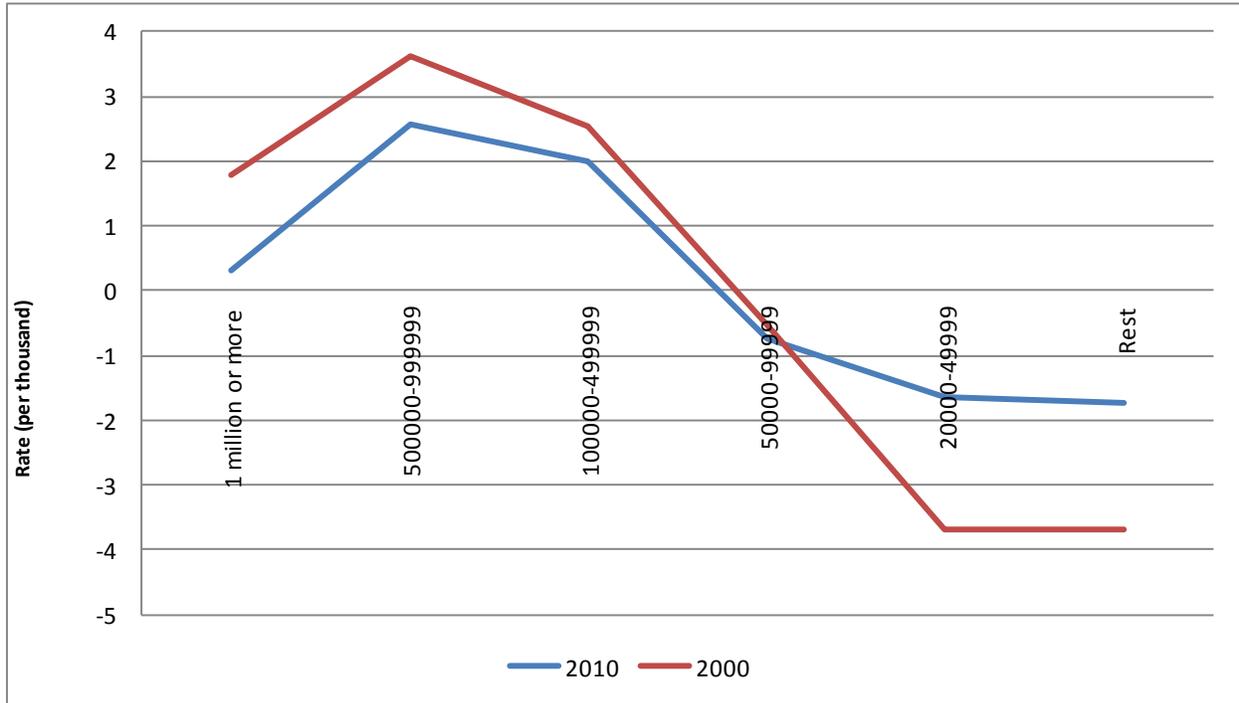
8 countries included in 2000 round: Brazil (2000), Costa Rica (2000), Dominican Republic (2000); Ecuador (2001), Honduras (2001), Mexico (2000), Panamá (2000), Bolivarian Republic of Venezuela (2001).

**Note 1:** The "less than 20 000" category in the 2000 census round corresponds to cities that did not have 20 000 inhabitants in that census, but reached that population in the 2010 census and are therefore considered as cities in the migration matrices of both censuses. The "less than 20 000" category in 2010 corresponds to cities that had 20 000 or more inhabitants in the 2000 census round, but in the 2010 census round they had fewer than 20 000 and are therefore considered as cities in the migration matrices of both censuses.

**Note 2:** Migrants are defined according to the comparison between city of current residence and city of residence 5 years before the census (fixed date question), except in the case of Panama where the comparison is between city of current residence and a new variable derived from two questions: residence time in the current city of residence (limited to 5 years) and last city of residence.

**Chart 1**

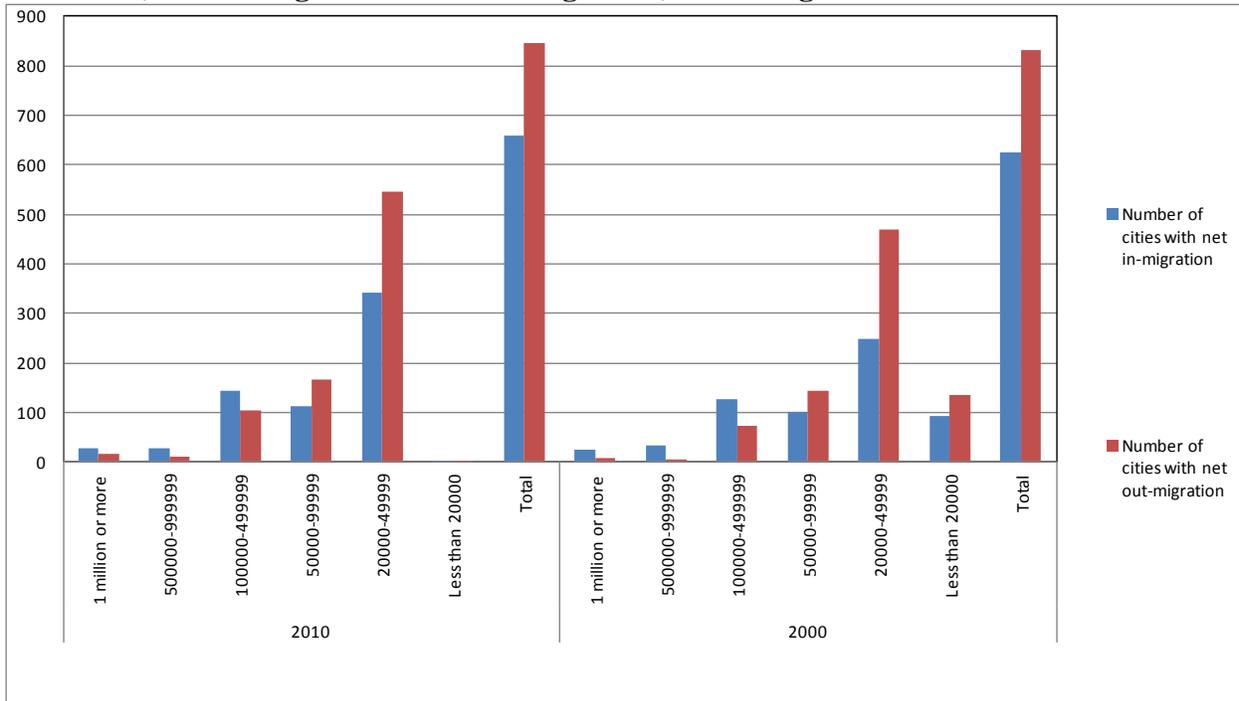
**Latin America and the Caribbean, selected countries: net migration rates by settlement size**



Source: Table 1

**Chart 2**

**Latin America and the Caribbean, selected countries: number of cities by net migration condition (net out-migration or net in-migration) according to settlement size**

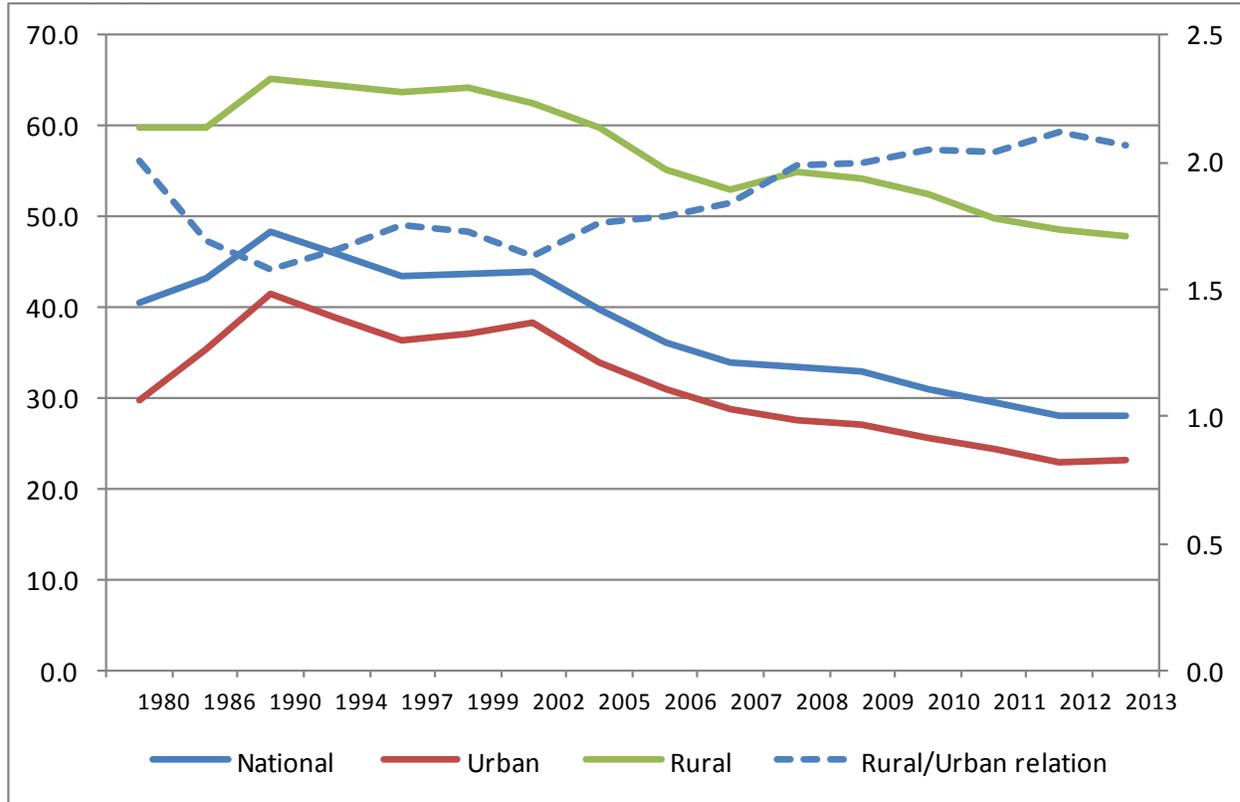


Source: Table 1

Note: The number of cities in 2000 is “inflated” because of comparative reasons. They include roughly 300 cities whose did not have 20 thousand inhabitants in 2000 round census but they exceeded this threshold in 2010 round census (category less than 20 000 in table 1)

### Chart 3

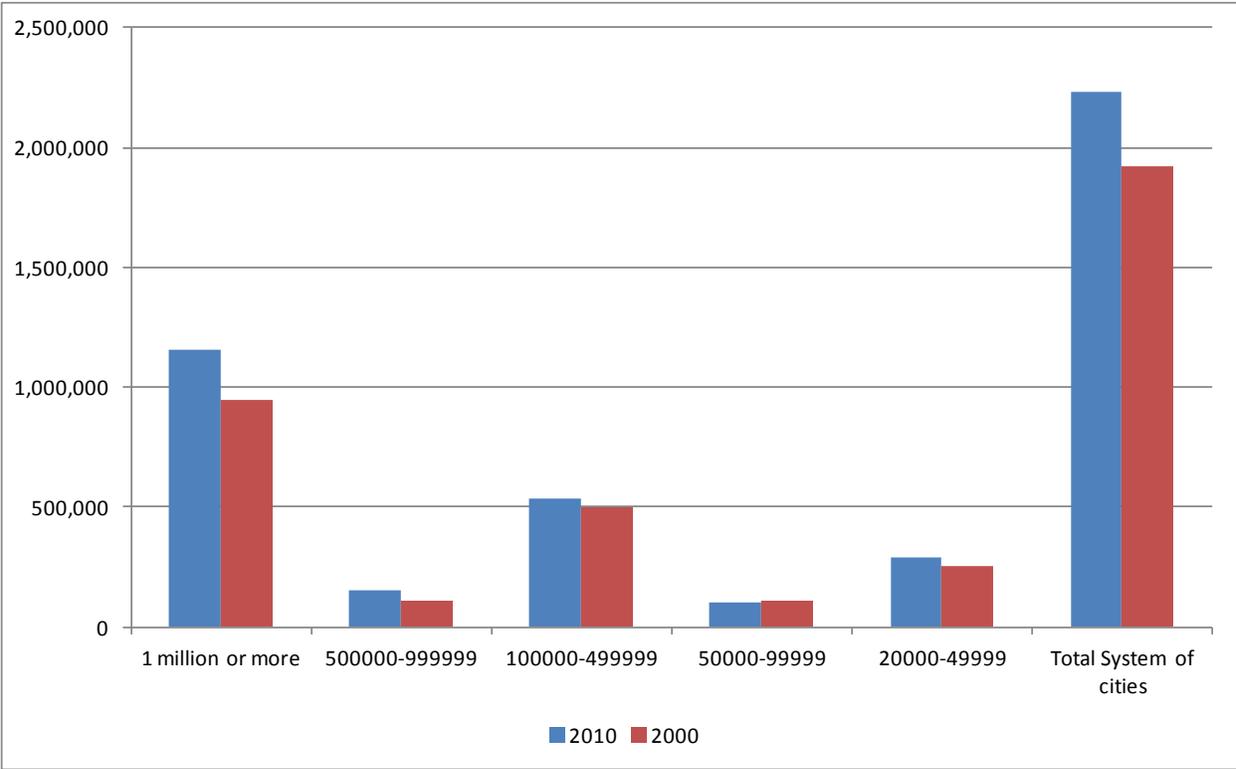
#### Latin America and the Caribbean: poverty percent by residence zone and rural to urban poverty gap



Source: CEPALStat

([http://estadisticas.cepal.org/cepalstat/WEB\\_CEPALSTAT/estadisticasIndicadores.asp?idioma=e](http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/estadisticasIndicadores.asp?idioma=e))

**Chart 4**  
**Latin America and the Caribbean, selected countries: number of migrants between cities by settlement size**



Source: Table 1

Contrary to what is observed in the case of rural to urban migration – rooted in deep and persistent inequalities between rural and urban areas,<sup>20</sup> which become a natural structural explanation for this migration (Rodríguez 2016; ECLAC, 2012)– inequalities between cities grouped according to their demographic size, are more intricate. This phenomenon is displayed in Table 2. It shows that large cities do not always rank best in the set of selected indicators. However, the main visible finding is that small cities generally have lower living standards, which is an apparent push force for migration towards higher levels of the city system, i.e. larger cities.

<sup>20</sup> As illustrated in chart 3, these inequalities are systematically adverse for rural areas, despite modernization of agriculture, commodities boom and active (and relatively successful) social policies aimed at reducing poverty and improving living conditions in rural areas implemented in this century (Srinivasan and Rodríguez, 2016; ECLAC, 2012).

**Table 2**  
**Latin America and the Caribbean, selected countries, circa 2010: living conditions indicators by settlement size**

Size categories of settlement	Average Years of Schooling			Gross enrolment rate (primary)	Primary education completion rate	Literacy rate	Sex ratio in			Literacy
	Both sex	Male	Female				Primary education	Secondary education	Tertiary education	
1 million or more	10.0	10.3	9.7	80.6	98.3	98.9	1.02	0.99	0.94	98.3
500000-999999	10.2	10.5	9.9	74.6	96.8	98.7	1.02	0.97	0.91	97.0
100000-499999	9.7	9.8	9.5	82.5	97.2	98.8	1.02	0.99	0.88	97.2
50000-99999	8.6	8.9	8.3	78.2	97.8	98.4	1.02	0.98	0.94	96.6
20000-49999	8.2	8.5	8.0	78.7	96.5	98.0	1.02	0.96	0.90	96.1
Size categories of settlement	Percentage of population with access to running water	Percentage of population with access to sewerage	Percentage of population with access to electricity	Percentage of households with fixed phone	Percentage of households with cell phone	Percentage of households with computer	Percentage of households with Internet access	Sex ratio	Young relation	Old people relation
1 million or more	84.6	96.2	99.5	64.4	75.8	43.9	31.9	94.2	41.8	14.6
500000-999999	93.4	79.8	99.0	54.1	82.7	42.8	33.4	93.7	41.7	13.9
100000-499999	83.7	94.9	90.2	49.6	78.4	38.7	25.9	93.8	44.8	14.3
50000-99999	83.9	84.5	93.0	41.2	69.6	29.9	18.6	94.3	49.1	14.0
20000-49999	82.6	79.6	93.0	36.9	67.2	25.7	15.4	94.4	50.3	15.4

**Source:** DEPUALC database and censuses microdata bases (special processing)

**Note:** Countries included in the calculations are: Plurinational State of Bolivia, Costa Rica, Dominican Republic, Ecuador, Mexico and Uruguay.

### 3. National settlement systems and internal migration: compositional effects on sex, age and educational structure

The main results yielded by the new procedure developed by CELADE for estimation of the effect of internal migration on population composition (tables 1 to 7 of the Annex) can be summarized as follows:

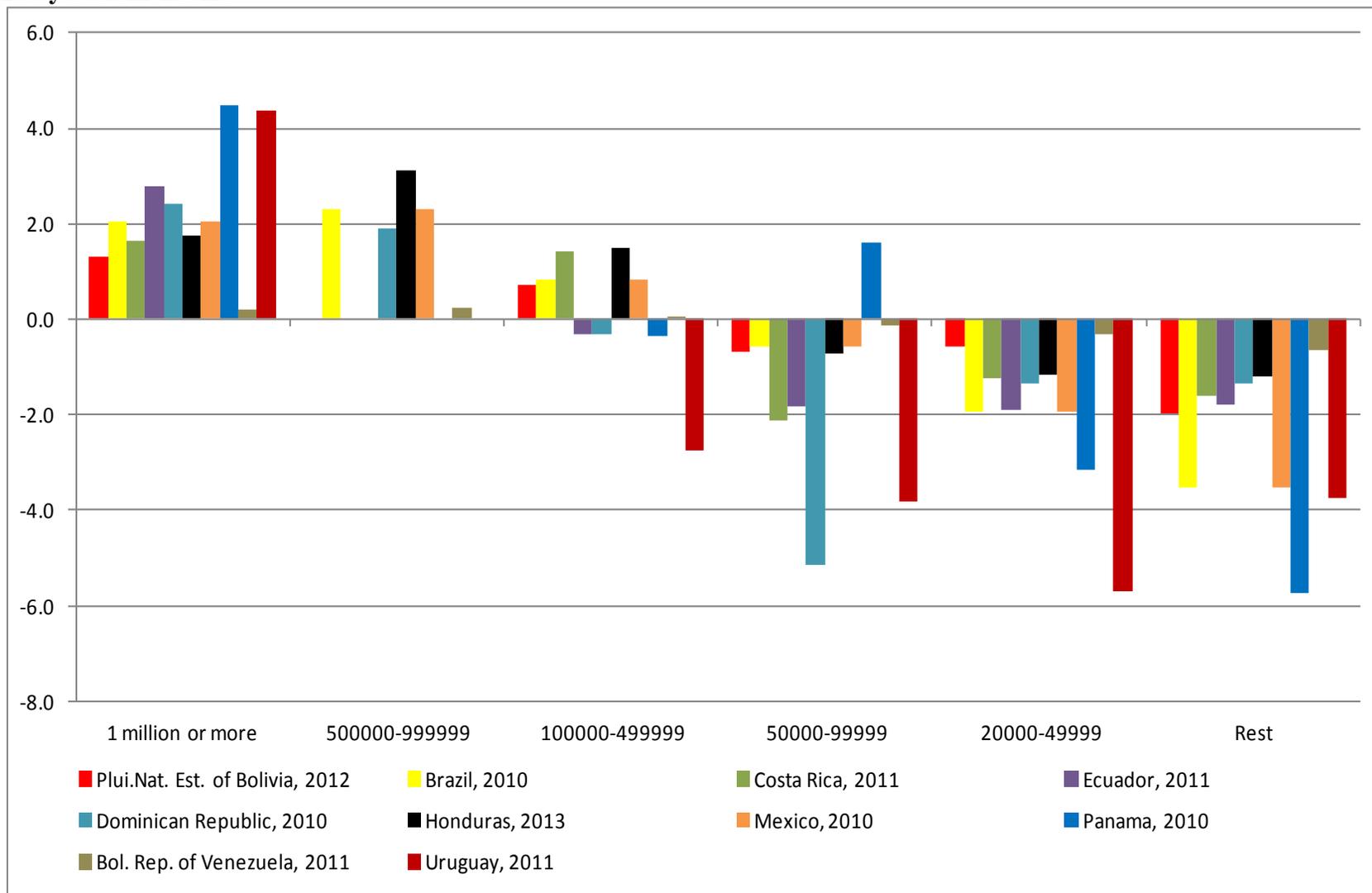
- i) In almost all countries, migration continues to reduce the masculinity index of large cities, although in a few cases such as San José and Panama City, this effect no longer exists, due to equal net migration rates between the sexes in these cities. In general, this "feminization" effect of internal migration –a historical feature of Latin American metropolitan areas (Bell and Muhidin, 2009; Rodriguez, 2011a; Alberts 1977)– has been decreasing with time, although in some countries there has been some volatility in the main trends. The greatest feminizing effect took place in the large cities of Ecuador between 1985 and 1990, when internal migration slashed the masculinity ratio by 1.4%. Although at first glance it does not appear to be a large figure, in comparative demographic terms it does represent an extraordinary change, because declines in masculinity of that magnitude in barely 5 years are very unusual and are primarily associated with major selective mortality or migration events, such as wars. The counterpart of the persistent feminization of large cities is the persistent "masculinization" effect of migration on small towns and rural areas. In some countries, these categories recorded an increase of up to 1% of their sex ratio due to migration (Table 1, Annex).
- ii) The "rejuvenating" effect of migration on large cities is fully corroborated (Table 3 Annex, chart 5). In almost all countries, internal migration increases the proportion of young people (15-29 years old) by at least 1% with respect to the non-migration scenario (counterfactual) in the last 5 years, and in several cases this figure exceeds 3%, reaching 5% in extreme cases, such as Panama City according to the 2000 census (Table 3). Why does net migration increase the percentage of young people in the cities?: because young people are heavily over-represented in in-migration flows. The case of large cities in Bolivia (2012-2007) is informative (Table 3) because the positive effect on the percentage of population aged 15-

29 (0.4 percentage points –the difference between factual and counterfactual values– or 1.3% –effect of 0.4 divided by the counterfactual) is totally due to in-migration (which causes a jump of 0.9 percentage points), because out-migration reduces the proportion of young people.

- iii) The "rejuvenating" effect of migration applies to intermediate cities too (cities with 100,000 to 499,999 inhabitants in the case of Bolivia 2012). On the contrary, all the other categories of the NSS register a declining proportion of young people due to migration. In those cases out-migration is a powerful force modifying age structure, specifically decreasing the share of young people among the total population, in some instances sharply. For example, the proportion of young people in small cities and in the "rest" category was slashed by 6.6% in Panama in 2000 (Table 3 Annex) and almost by 6% in 2010 (Table 3 Annex, chart 5). In Uruguay, the proportion of young people living in small cities fell by more than 5% due to migration according to the 2011 census (Table 3, Annex, chart 5).
- iv) The opposite of this compression of the proportion of young people in small cities as well as the "rest" category, is the increasing share of other age groups, specifically children and old people (Tables 2, 4, 5 and 6 Annex). The outcome is that migration tends to lift the dependency ratio, weakening and shortening the demographic dividend in these places.
- v) Finally, in terms of education, the effects are rather subtle and certainly less pronounced than those observed in the case of age structure. According to the different size categories of settlements, large cities tend to register a slight drop in years of schooling due to migration. This finding seems to prove a well-established hypothesis about the downgrading effect of internal migration on human capital in large cities, due to lower education of in-migrants in these cities. However, a more detailed examination of data finds that this hypothesis is flawed in a contemporary setting. Migration undermines human capital indeed, but due to out-migration instead of in-migration. These results do not change after controlling for age. Over-representation of highly educated people in out-migration flows from large cities could be mainly triggered by quality life shortcomings in these cities, since young and educated families are particularly sensitive to these issues. It could be the case of upper-class and highly educated families who leave metropolitan areas to intermediate cities where they have access to employment, convenient services and housing, a much more comfortable and safer daily life and more friendly and clean environment, especially for child raising. Likewise it could be the case of wealthy families who leave the boundaries of metropolitan areas in order to move to close suburban areas, most of whom choose to live in gated communities (Rodríguez, 2016, Duhau, 2016, Sabatini et al. 2009; Roberts and Wilson, 2009). In fact, the latter could explain why the "rest" category does not present a generalized educational loss as might be expected in view of the massive out-migration of young people from those settlements (Tables 7 and 8, Annex). This finding deserves further research considering additional countries, as well as, the decomposition of the migration in its two components: in-migration and out-migration effects. Finally, a fraction of these out-migrants is composed of young professionals who travel to rural areas or to small cities within the framework of public programs aimed at strengthening services at the local level.

**Chart 5**

**Latin America and the Caribbean, selected countries, circa 2010: net migration effect on the percentage of population aged 15-29 by settlement size**



Source: Table 3, Annex.

**Table 3****Plurinational State of Bolivia, 2012-2007: Detailed indicators of the migration effect on the percentage of population aged 15-29 by settlement size**

Size category of settlement	Factual	Counter-factual	No migrants	Absolute Effect	Relative Effect	In-migration Effect	Out-Migration Effect
1 million or more	34.1	33.7	33.3	0.4	1.3	0.9	-0.4
100000-499999	35.3	35.1	33.9	0.2	0.7	1.4	-1.2
50000-99999	33.6	33.9	32.8	-0.2	-0.7	0.9	-1.1
20000-49999	32.6	32.7	31.0	-0.2	-0.6	1.5	-1.7
Less than 20000	34.5	34.5	34.1	0.0	0.0	0.3	-0.4
Rest	29.1	29.7	28.6	-0.6	-2.0	0.5	-1.1

**Source:** census microdata bases (special processing)

#### **4. Compositional effects of internal migration within metropolitan areas and spatial inequality effects<sup>21</sup>**

A key input for this analysis are overall migration trends by major zones of metropolitan areas, like the city centre (CBD or central zone or downtown), the periphery, the habitat of upper class, and an emerging gentrified periphery with some resemblance to up-scale suburbs around metropolitan areas in the United States (Rodriguez 2017 and 2016; Duhau 2016; ECLAC, 2012; Roberts and Wilson, 2009; Janoschka, 2002; Bähr and Mertins, 1993). According to ECLAC 2014 (pp. 210-211), there still exists a marked contrast between trends in the city centers (as migration senders) as opposed to trends in the peripheries (as receivers). Average annual net in-migration rates continue to exceed 20 per thousand in the peripheries of several cities, whereas most downtown zones are posting net out-migration. However, there are signs that these contrasting patterns are weakening. During the first decade of the 21st century, only a few cities experienced growing repulsion of central zones, with net out-migration rates falling in most cases. Meanwhile, very few cities posted an increase in net in-migration in their peripheries, whose attractiveness even diminished sharply in several cases. The periphery's declining pull for migrants may be the result of several factors, but is unlikely to be driven by specific urban or housing policies and programmes.<sup>22</sup> In fact, very few cities in the region have implemented operational measures to limit their horizontal expansion or urban sprawl. In short, the peripheries of the Latin American metropolitan areas still have the strongest migrant draw, while central districts continue to push population out; there are however some signs that both patterns are moderating in several cities. Additionally, flows towards the periphery have diversified, both in terms of their origin (especially in the case of intrametropolitan migrants) and social composition, as high- and middle-income households relocate to the periphery, in some cases establishing the so-called "gentrified peripheries".

The effects described in the previous chapter take place in every spatial unit. They can be calculated and displayed for specific cities as well as for their spatial components (counties, districts, neighborhoods, etc.) depending on the geographical scale used to collect migration data in the census. Since most of the censuses in Latin America captures migration data at county level, the new procedures used in the previous chapter were also applied to selected metropolitan areas in order to estimate the effect of internal migration on the socio-demographic and educational make-up of different city areas. An example of this exercise is presented in table 4 including five selected metropolitan areas, four from Brazil and one from Uruguay. Only two zones<sup>23</sup> are

<sup>21</sup> Adapted from ECLAC, 2014.

<sup>22</sup> Other than an indirect consequence of programmes to repopulate central areas (Contreras, 2017; ECLAC, 2012; Delgado, 2011; Salazar y Sobrino, 2010).

<sup>23</sup> Five zones analyzed in ECLAC, 2014.

inspected: i) traditional periphery (mostly poor); ii) gentrified periphery (poor in the past becoming less poor or even rich recently).

In terms of the age structure, considering only the results of the 2010 census round, internal migration is pulling down both the percentage of older people and to a lesser extent the percentage of children in the traditional periphery, suggesting the in-migration flows have an over representation of youngsters and young adults. In the gentrified periphery the pattern is similar, although in some cases internal migration increases the proportion of children due to the arrival of young families with children.

Regarding the educational levels, the picture is apparent in case of the gentrified periphery: internal migration triggers significant rises in the proportion of highly educated population (heads of households in the table); simultaneously, it diminishes the proportion of population with the lowest education level. It is a classic gentrification process (Pereira, 2014; Pacione, 2009)<sup>24</sup> despite its peripheral occurrence. In case of the traditional periphery, in most of the metropolitan areas internal migration reduces both the proportion of population with low and high educational levels. Therefore, internal migration does not have a stylized effect of social diversification of the periphery, a finding that seems a puzzle for the specialized literature.

**Table 4**  
**Latin America, selected metropolitan areas, 1995-2000: effect of internal migration on the age and educational composition of populations living in traditional and gentrified peripheries, 2000 and 2010 censuses (Percentages)**

Metropolitan Area	Broader zone	2000 round of census				2000 round of census			
		Children	Older people	Heads of household with low education level	Heads of household with high education level	Children	Older people	Heads of household with low education level	Heads of household with high education level
Belo Horizonte	Traditional Periphery	0.28	-5.11	-0.19	-2.40	-0.24	-2.66	-0.37	-0.19
	Gentrified Periphery	-0.26	-3.84	-2.88	29.81	-0.94	-2.38	-5.11	18.24
Rio de Janeiro	Traditional Periphery	-0.17	-0.91	-0.11	-0.37	-0.13	-0.17	0.26	-1.20
	Gentrified Periphery	-2.25	-3.35	-7.11	21.44	1.86	-3.71	-6.05	12.65
Salvador	Traditional Periphery	-1.08	1.34	-0.78	11.64	-0.19	-0.91	-0.87	0.75
	Gentrified Periphery	-4.54	-4.01	-7.71	33.94	-4.00	-1.53	-5.77	16.73
Sao Paulo	Traditional Periphery	-0.82	-2.99	-1.37	2.15	-1.11	-1.80	-0.35	1.25
	Gentrified Periphery	-0.58	-3.36	-0.24	5.85	-0.68	-1.11	-0.51	3.75
Montevideo	Traditional Periphery	0.4	-8.9	-4.56	2.89	-1.54	-3.12	-5.77	7.23
	Gentrified Periphery	0.7	-3.1	-0.42	-0.02	0.98	-0.91	0.22	-4.97

Source: ECLAC, 2014, pp. 218-219.

## 5. International migration and cities in Latin America<sup>25</sup>

Some Latin American cities absorbed large number of international migrants, mostly from Europe, in the first half of the twentieth century. Initial spatial concentration occurred at that time too, after which the descendants

<sup>24</sup> Although the results are not sufficient to conclude if an exodus or an expulsion process of lower class population is taking place in reality. Data are available to make the calculation in next research

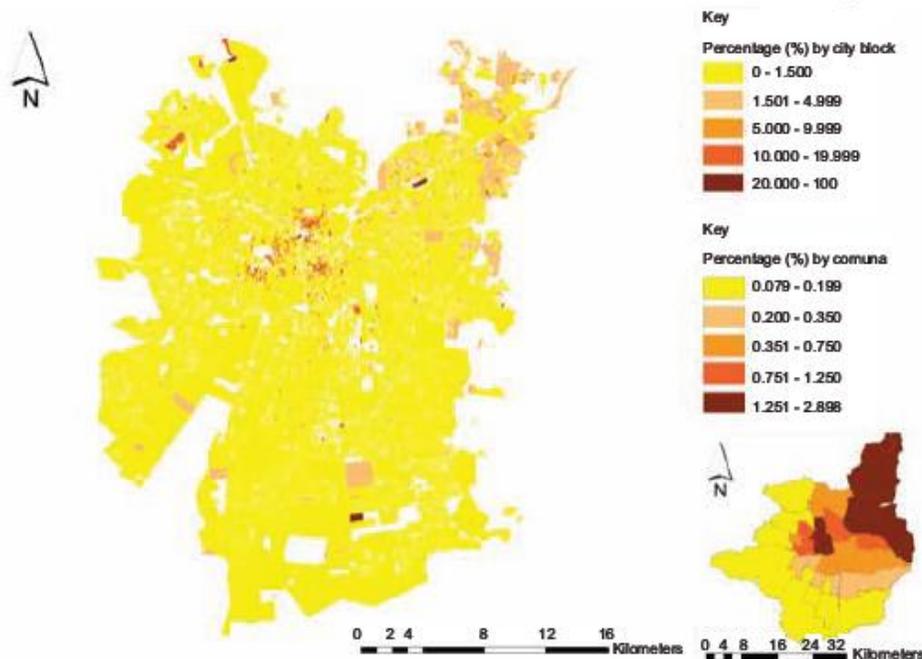
<sup>25</sup> There is no mention to the important issue of Refugees in this note. The main reason are lack of data or even literature. This is mostly due to the low profile this issue still has in the region. Some countries have certainly a number of internally displaced persons (for instance, Colombia), largely re-settled in cities (like Bogotá). However, international refugees are still a rather rare phenomenon in the region).

of the first generation gradually spread through the cities. Buenos Aires is a typical example in this regard. Today, Buenos Aires and other cities, such as Santiago and Panama City, receive large flows of immigrants from other Latin American countries. The drivers of these flows are characteristics of both origin and destination areas. Regarding the origin, massive emigration has been usually associated with social and political conflicts, economic crisis, structural poverty and natural disasters, as is the case with Venezuela, Colombia, Haiti, Peru, Bolivia, Paraguay, Dominican Republic, Cuba and Ecuador. With regards to the destination, Buenos Aires has a long tradition of an arrival hub with strong immigrant networks. Santiago and Panama City have experienced sustained economic growth and a flexible and dynamic labor market, facilitating the incorporation of immigrants.

Unsurprisingly, these areas have the highest concentration of immigrants. However, these concentrated settlements are highly differentiated in terms of location within the city, as illustrated by Santiago (2002) and Panama City (2010). On one hand, Peruvian immigrants in Santiago tend to take up residence in some city centre neighborhoods that, although precarious on average, have good connectivity and abundant rental property options (map 1); additionally, a significant fraction of Peruvian immigrants in Santiago live in the East End of the city either because they are wealthy (for instance: white collar employees of international corporations) or because they are poor and find employment as domestic workers (such as maids who live in their employers' houses). On the other hand, foreigners in Panama City (many of them Colombian) settle in well-off neighborhoods close to the financial and commercial centre (map 2). Thus, in both cases a territorially grouped settlement is a strategy for dealing with the complexities of adapting to the destination country. However, the place chosen to settle depends crucially on the resources that immigrants have, and on other factors that are more difficult to measure, such as acceptance and non-discrimination on the part of local residents.

### Map 1

**PERUVIAN MIGRANT POPULATION RESIDING IN GREATER SANTIAGO, 2002 CENSUS<sup>a</sup>**

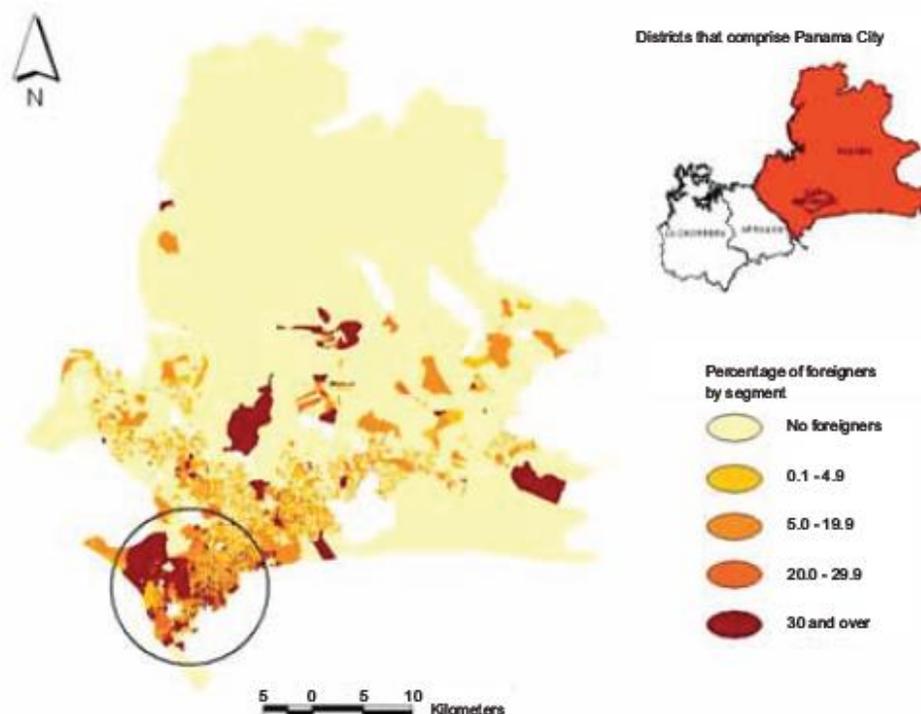


**Source:** ECLAC, 2012, p. 190.

**Note:** The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

## Map 2

### FOREIGN POPULATION RESIDING IN PANAMA CITY, 2010 CENSUS



**Source:** ECLAC, 2012, p. 190.

**Note:** The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

Despite the growing numbers of international immigration to some cities of the region as well as the rising recognition of this issue among the general public and the media, there are few studies on the spatial segregation of immigrants in Latin American cities. In Uruguay, Macadar and others (2002, page 19) concluded that Montevideo resembled Buenos Aires in that it had “low levels of spatial segregation among immigrant groups, and is therefore among the least ethnically segregated cities in the world”. Brenes (2003 and 2004, cited in Morales, 2008) asserted that the spatial segregation of Nicaraguans in Costa Rica was relatively modest and very similar to that of Hispanic immigrants residing in urban areas of the United States, while much lower than that of the Afro-descendant population of that country. In Chile, Arriagada (2011, pages 217-218) concluded that “*ethnic ghettos do not exist in Santiago, insofar as no habitats have been identified that are exclusively or predominantly inhabited by foreigners*” (ECLAC, 2012). Generally, these studies draw attention to certain vulnerabilities among immigrant groups. They also quantify demands and define priorities for policy interventions, some of which are governed by the general idea of the need for integration and which agree on preventing exclusion (for example, in the real estate market). There is no doubt that this issue deserves more research. Hopefully, the next census round will provide enough data to carry out this research with a universal scope. Surveys and registers have provided some evidence (Dureau et al 2014), but sample limitations, among other shortcomings, prevent a wider and deeper use of these sources.

## 6. Final remarks

Some facts presented in this note suggest opportunities and challenges for current international agreements regarding sustainable urban development -like ICPD Programme of Action, the 2030 Agenda for Sustainable Development, the New York Declaration Refugees and Migrants and the New Urban Agenda.

For large cities massive net in-migration is no longer a disruptive phenomenon almost impossible to cope with. The huge waves of migrants during the so called “rural exodus” have faded and the pressure on the infrastructure, public services, labor market, and housing sector, among others, has sharply moderated. Overall, targets 11.1 to 11.3 of 2030 Agenda for Sustainable Development are more feasible to meet in this context.

Intermediate cities are currently the most attractive category within the national settlement system. There, the three principles of the New Urban Agenda –*Leave no one behind, Sustainable and inclusive urban economies, and Environmental sustainability* (paragraph 14)– seems more likely to be met. In fact in LAC region a fourth principle has been added: effective and democratic governance because it is widely recognized as major challenge in large cities, while is easier to implement in intermediate cities

The two previous finding support the hypothesis of a NSS de-concentration as well as growing complexity and diversification of national settlement systems. However, another finding, namely the persistent net out-migration of small cities or rural areas, warrants caution about the expectations of radical changes in the NSS structure due to migration. This fact certainly compromises the accomplishment of ODS goal 11.3, because most of the cities seems to be ill-prepared to inroad towards sustainable development. Likewise, it jeopardizes a mayor commitment of the New Urban Agenda, namely, “... *building integrated systems of cities and human settlements...*” (paragraph 15).

The causes behind this continued contrast between the top and the bottom of the national settlement systems are structural.

On the one hand, the well-documented accumulation of problems and deficits in Latin American large cities (Glaeser and Henderson, 2017; ECLAC, 2012; Jordan et. al., 2010; UNFPA, 2007) tends to hide some historical and current advantages (Mortero and García, 2017; Chavez and others, 2016; Cunha, 2015; Ribeiro, 2015; ECLAC 2014 and 2012,). Some of these advantages depend on huge economic and social investments concentrated in them; most of these investments are difficult to move although some countries have made progress in relocation of public institutions and spending. Other source of advantages is the enormous demographic, economic and social weight of these cities, in which almost four out of ten Latin American people live. This weight turns into political influence through many channels, which affect public and private investments. Moreover, this research constitutes a powerful indication of vitality and capacity for renewal of these cities: their attractiveness to young people, even among the megapolis where net out-migration predominates in overall figures. The arrival of young people contributes directly to the demographic dividend and to the rejuvenation of the labor force (Florida, 2005; UNFPA, 2007; Williamson, 1988). There is no doubt that it also involves demands and risks, but in a context in which technological capacities have a significant generational gradient, the arrival of young people basically implies potentialities and benefits to large cities. This over-representation of young people let large cities in a good shape to accomplish the first mean of implementation of the New Urban Agenda, which includes “...*access to science, technology, and innovation...*” (paragraph 126).

On the other hand, the persistent repulsion condition of the bottom categories of NSS is associated to several gaps, lags and shortcomings in social, economic and political dimensions. Beyond bucolic narratives about the advantages of living in small towns, migration data suggest that they have little retention capacity and insufficient attractiveness, revealing that their potential advantages tend to be overcome by their deficits and shortcomings. Of course, these are not insurmountable problems of these cities. In fact, in other regions of the world, these cities have become alternatives for many people as well as companies, institutions and investments; moreover, in some countries these cities harbor important productive, technological and university complexes. Reversing the expulsive trend of small cities means endowing them with attractions that complement the advantages they offer, an objective completely aligned with targets of the 2030 for Sustainable Development as well as commitments of the New Urban Agenda -for instance: “...*strengthening the role of small and intermediate cities and towns in enhancing food security and nutrition systems, providing access to sustainable, affordable, adequate, resilient, and safe housing, infrastructure, and services*” (paragraph 95). Some shortcomings in small cities could be faced with the support of new technologies that have demonstrated

a great capacity to spread territorially even in rural areas. However this would be not enough because small cities also require educational and labor options for the local population and this ranges from public investment and powerful incentives for the relocation of industrial plants, to research and development centers, service activities and educational facilities, including universities. For these categories of NSS out-migration is a serious challenge because most out-migrants are young people, usually with higher educational levels than people who remain there. That way, migration tends to increase their already higher dependency rates, compromising their demographic dividend.<sup>26</sup>

Intermediate cities have ranked top during the last two decades, because they have registered above average living standards, maintaining an appeal for migrants, mostly youngsters and young adults. Some of these cities have profited from productive changes set in motion in last decades of the 20th century, becoming regional economic hubs due to their close location to activities related to commodities value chains (mining, fishing, agriculture, etc.). Additionally, several of these cities have taken advantages of new ICT facilities, which are more portable than in the past. In fact, there are intermediate cities on a par with large metropolitan areas in terms of the modern lifestyle offered. There is nonetheless a lot of uncertainty about the future of this category, closely linked to the unknown about the consequences of emerging phenomena such as the fourth industrial revolution, big data and artificial intelligence over economic and political concentration patterns.

Finally, this research provides new and valuable insights into an ongoing discussion about the dynamics of the national settlement systems in Latin America. The results obtained by means of new technical procedures developed by CELADE corroborate some statements or hypotheses set up in the specialized literature, such as the emergence of a gentrified periphery due to in-migration of wealthy and mostly young families there. Simultaneously, the results reject other hypotheses, particularly one on the transformation of traditional periphery due to migration and one on the reduction of residential segregation thanks to migration. These topics, as well as the emergent issue of international in-migration in several cities of the region, deserve much more research. Hopefully, the 2020 round of censuses will provide fresh evidence useful to deepen these subjects.

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<sup>26</sup> National expression of the issue identified in paragraph 44 the New York Declaration for Refugees and Migrants: *44. recognizing that the lack of educational opportunities is often a push factor for migration, particularly for young people, we commit to strengthening capacities in countries of origin, including in educational institutions. We commit also to enhancing employment opportunities, particularly for young people, in countries of origin. We acknowledge also the impact of migration on human capital in countries of origin.*

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# ANNEX

TABLE 1

Latina America and the Caribbean, selected countries: migration effect on sex ratio by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	-0.9	-0.5	-0.2	-	0.0	-0.6	-1.4	-0.7	-0.4	-	-0.9
500000-999999	-	-0.5	-0.2	-2.0	-	-	-	-	-	-0.8	-0.5
100000-499999	-0.5	-0.2	-0.1	-	-0.1	0.2	-0.8	-0.4	-0.3	-0.7	-0.6
50000-99999	-0.4	-0.1	0.1	-0.5	0.0	0.2	-0.6	-0.6	0.1	0.2	0.0
20000-49999	0.3	0.5	0.3	1.0	0.0	0.1	0.6	0.7	0.3	0.1	0.4
Less than 20000	0.3	0.7	0.0	0.7	0.0		1.2	1.1		1.0	-
Rest	1.2	1.0	0.4	1.8	0.2	0.3	1.2	0.8	0.5	0.6	0.5
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	0.1	-0.2	-	-0.3	0.0	-0.7	-0.7	-0.3	-0.4	-0.7	-0.2
500000-999999	-0.3	-0.4	-1.3	-	-	-0.5	-0.9	-	-	-0.4	0.0
100000-499999	0.0	0.2	-	-0.7	0.2	0.3	0.3	-	0.1	-0.1	0.0
50000-99999	0.0	0.0	-0.5	-	-0.6	1.2	1.5	-1.3	0.4	0.4	0.0
20000-49999	0.5	0.0	-0.5	0.3	0.1	1.1	1.6	-1.0	-0.1	0.7	0.3
Less than 20000	-0.1	-	1.5	1.4		2.1	-	1.9	-	0.2	-
Rest	0.4	0.3	1.9	1.9	0.8	0.2	0.7	2.1	0.5	0.9	0.1

Source: census microdata (special processing)

TABLE 2

Latin America and the Caribbean, selected countries: migration effect on proportion population aged 5-14 by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	-0.5	-0.6	-1.1	-	-1.3	-1.4	-1.2	-1.7	-1.0	-	-1.2
500000-999999	-	-0.4	-1.0	-1.4	-	-	-	-	-	-2.4	-1.8
100000-499999	0.7	0.0	-0.4	-	-0.5	-1.1	0.7	0.6	0.1	-0.1	-0.9
50000-99999	0.3	0.2	0.3	0.1	0.3	1.0	2.0	0.7	0.6	-0.2	0.4
20000-49999	0.5	0.6	1.0	0.1	1.0	1.0	1.3	0.8	0.3	0.2	0.6
Less than 20000	-0.5	0.6	1.7	1.0	0.8	-	-0.1	1.0	-	1.1	-
Rest	0.1	1.2	1.9	1.3	1.4	1.3	0.4	1.2	0.7	1.4	0.6
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000.0	2010.0	1990.0	2000.0	2010.0	2000.0	2010.0	1996.0	2011.0	2001.0	2011.0
1 Million or more	-1.1	-0.7	-	-5.0	-4.5	-1.2	-1.4	-1.3	-1.7	-1.1	-0.4
500000-999999	-0.3	-0.5	-0.8	-	-	-1.1	-1.7	-	-	-0.6	-0.4
100000-499999	-0.3	0.0	-	-0.3	-0.1	-0.3	0.0	-	1.0	-0.3	0.0
50000-99999	0.5	0.4	1.1	-	1.0	1.7	2.3	1.4	0.8	0.8	0.1
20000-49999	0.9	1.1	1.4	2.5	3.2	1.7	2.6	2.3	1.4	0.6	0.1
Less than 20000	1.1	-	0.3	6.9	-	3.1	-	-1.8	-	0.9	-
Rest	1.3	0.8	0.8	6.9	6.1	0.8	1.5	0.8	1.8	0.9	0.6

Source: census microdata (special processing)

TABLE 3

Latin America and the Caribbean, selected countries: migration effect on proportion population aged 15-29 by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	1.3	2.5	2.0	-	1.8	1.6	3.8	4.1	2.8	-	1.8
500000-999999	-	1.4	2.3	2.0	-	-	-	-	-	4.0	3.1
100000-499999	0.7	0.1	0.8	-	1.5	1.4	-0.7	-0.8	-0.3	0.5	1.5
50000-99999	-0.7	-1.0	-0.6	0.4	-1.3	-2.1	-3.6	-2.2	-1.8	0.0	-0.7
20000-49999	-0.6	-2.1	-1.9	-0.2	-2.0	-1.3	-3.1	-2.5	-1.9	-0.6	-1.2
Less than 20000	0.0	-1.6	-4.4				-1.2	-2.9	-	-2.0	-
Rest	-2.0	-3.1	-3.5	-1.8	-2.3	-1.6	-1.4	-2.4	-1.8	-2.5	-1.2
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	2.3	0.9	-	4.9	4.5	1.9	2.4	3.8	4.4	1.0	0.2
500000-999999	0.3	0.6	3.1	-	-	2.4	1.9	-	-	1.0	0.2
100000-499999	0.5	0.2	-	0.0	-0.4	0.5	-0.3	-	-2.8	-0.1	0.0
50000-99999	-1.1	-1.0	-0.7	-	1.6	-3.6	-5.2	-2.0	-3.8	-1.2	-0.1
20000-49999	-1.7	-1.2	-1.2	-1.7	-3.2	-2.9	-3.8	-5.1	-5.7	-1.5	-0.3
Less than 20000	-1.7	-	-0.9	-8.2	-	-5.5	-	-0.9	-	-1.2	-
Rest	-2.6	-1.7	-3.8	-6.6	-5.7	-0.7	-1.4	-3.8	-3.8	-2.2	-0.7

**Source:** census microdata (special processing)

**TABLE 4**  
Latin America and the Caribbean, selected countries: migration effect on proportion population aged 30-44 by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	-1.1	-1.2	-0.8	-	-1.1	-1.4	-2.8	-2.2	-1.6	-	-1.2
500000-999999	-	-0.7	-0.6	-1.6	-	-	-	-	-	-2.3	-2.1
100000-499999	-1.6	0.0	-0.2	-	0.0	0.0	0.1	0.2	-0.1	-0.5	-0.6
50000-99999	1.0	0.2	0.0	-0.1	0.4	0.5	1.2	1.1	1.0	0.2	0.2
20000-49999	0.9	0.7	0.6	0.1	0.8	0.6	2.0	1.1	1.3	0.3	0.7
Less than 20000	0.6	1.0	0.4	1.2	-0.2	-	2.0	2.0	-	0.9	-
Rest	1.7	1.4	1.2	1.2	0.9	1.2	1.3	1.2	1.3	0.9	0.9
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	-0.9	-0.4	-	0.9	1.0	-0.9	-0.8	-1.6	-2.0	-0.9	-0.3
500000-999999	-0.3	-0.4	-2.0	-	-	-1.2	-1.3	-	-	-0.3	0.0
100000-499999	-0.1	0.1	-	0.7	-0.6	-0.3	-0.3	-	0.9	0.4	0.3
50000-99999	0.7	0.7	-0.4	-	-1.1	0.7	1.0	1.4	1.9	0.9	0.3
20000-49999	0.7	0.5	0.2	-1.2	-1.3	0.7	0.6	1.9	1.9	1.1	0.4
Less than 20000	0.9	-	1.3	-0.9	-	0.2	-	-0.3	-	1.1	-
Rest	0.8	0.6	2.3	-3.2	-2.8	0.8	0.8	1.8	2.5	1.5	0.3

**Source:** census microdata (special processing)

TABLE 5

Latin America and the Caribbean, selected countries: migration effect on proportion population aged 45-59 by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	-0.8	-1.5	-0.9	-	0.0	0.2	-1.8	-2.1	-1.2	-	-0.6
500000-999999	-	-0.8	-1.3	-0.3	-	-	-	-	-	-2.1	-1.2
100000-499999	-0.5	-0.2	-0.6	-	-1.4	-0.9	-0.1	0.2	0.1	-0.3	-0.9
50000-99999	-0.5	0.8	0.2	-0.5	0.8	1.3	2.8	1.6	0.8	0.2	0.5
20000-49999	-0.8	1.6	0.9	-0.2	0.7	0.4	1.3	1.8	1.2	0.3	0.4
Less than 20000	-0.2	0.8	2.3	0.0	-0.5	-	0.3	1.9	-	0.8	-
Rest	1.3	1.9	1.7	0.5	0.6	0.2	0.5	1.0	0.8	1.0	0.4
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	-1.1	-0.1	-	-2.7	-1.7	-0.9	-1.3	-0.8	-0.8	0.3	0.1
500000-999999	0.3	0.0	-2.1	-	-	-0.7	0.1	-	-	-0.6	-0.1
100000-499999	-0.4	-0.3	-	-0.4	0.8	0.1	0.5	-	0.6	-0.1	-0.2
50000-99999	0.1	0.0	0.1	-	-1.1	2.6	3.4	-0.7	0.6	-0.1	-0.2
20000-49999	0.7	0.1	0.2	0.7	0.8	1.3	1.7	0.3	1.2	0.6	0.0
Less than 20000	0.6	-	-0.5	3.6	-	2.5	-	0.7	-	-0.1	-
Rest	1.1	0.6	2.8	2.8	1.4	-0.4	-0.1	1.5	0.6	1.0	0.2

Source: census microdata (special processing)

TABLE 6

Latin America and the Caribbean, selected countries: migration effect on proportion population aged 60+ by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	0.0	-1.4	-0.5	-	0.4	0.4	-1.8	-1.1	-0.5	-	-0.1
500000-999999	-	-0.4	-0.8	0.1	-	-	-	-	-	-1.5	-0.4
100000-499999	0.2	0.3	-0.4	-	-1.6	-0.6	0.7	0.7	0.6	-0.1	-0.8
50000-99999	0.3	1.3	0.7	-1.1	1.6	1.6	3.6	1.9	0.7	-0.1	0.6
20000-49999	-0.8	2.1	1.2	0.3	0.8	0.1	2.7	1.7	0.9	0.2	0.6
Less than 20000	0.7	1.2	4.4	0.5	-0.4	-	1.3	1.1	-	0.4	-
Rest	0.4	1.4	1.1	-0.2	0.3	-0.5	0.1	0.3	0.0	1.0	0.0
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	-1.8	0.0	-	-2.8	-2.4	0.4	-0.3	-1.2	-0.9	0.9	0.4
500000-999999	0.3	0.3	-1.8	-	-	-0.7	1.1	-	-	-0.1	0.2
100000-499999	-0.4	-0.1	-	-0.5	0.8	-0.3	0.6	-	1.6	0.2	-0.3
50000-99999	0.5	0.5	0.2	-	-1.6	3.0	4.2	0.1	1.6	-0.5	-0.4
20000-49999	0.8	0.3	0.3	2.4	3.1	1.4	1.7	2.7	2.6	-0.2	-0.2
Less than 20000	0.5	-	-0.5	4.8	-	4.1	-	2.6	-	-1.1	-
Rest	1.3	0.5	2.4	4.3	3.2	-1.1	-0.9	0.9	-0.4	0.0	-0.2

Source: census microdata (special processing)

TABLE 7

Latin America and the Caribbean, selected countries: migration effect on average years of schooling population aged 25+ by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	Sin datos			-	-0.4	0.0	-0.9	-1.0	-0.5	-	-0.5
500000-999999				-0.2	-	-	-	-	-	-1.1	-0.7
100000-499999				-	0.4	0.5	0.4	-0.1	-0.1	-0.7	0.1
50000-99999				0.4	0.0	-0.2	0.7	1.3	1.6	-0.2	0.1
20000-49999				-0.3	0.3	0.0	0.3	-0.1	0.7	0.2	0.4
Less than 20000				0.0	-0.2	-	1.1	0.7	-	-0.2	-
Rest				-0.2	0.2	0.2	0.7	0.5	0.7	0.4	0.9
Size category of settlement	Mexico		Panama			Dominic Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	0.0	0.1	-	-0.8	-0.4	-0.7	-0.5	-0.5	NA	0.0	0.0
500000-999999	-0.1	0.0	-0.2	-	-	-0.5	-0.4	-		0.2	0.1
100000-499999	0.0	0.2	-	-1.5	-1.4	0.0	-0.2	-		0.3	0.1
50000-99999	0.1	0.2	-0.6	-	-0.9	-0.3	-0.9	0.6		0.2	0.0
20000-49999	0.0	0.0	0.3	-3.4	-2.5	0.0	-0.9	0.2		0.4	0.0
Less than 20000	0.2	-	0.5	-0.7	-	-0.3	-	-0.3		1.1	-
Rest	-0.6	0.0	0.4	-4.7	-2.9	0.5	-0.1	1.3		0.9	0.0

Source: census microdata (special processing)

TABLE 8

Latin America and the Caribbean, selected countries: migration effect on average years of schooling population aged 45-59 by size category of settlement (per hundred)

Size category of settlement	Bolivia (EP) 2012	Brazil		Costa Rica			Ecuador			Honduras	
		2000	2010	1984	2000	2011	1990	2001	2010	2001	2013
1 Million or more	Sin datos			-	-0.2	0.0	-0.7	-0.9	-0.4	-	-0.2
500000-999999				0.0	-	-	-	-	-	-0.8	-0.5
100000-499999				-	0.1	0.3	0.1	-0.1	0.1	-0.6	-0.3
50000-99999				0.4	-0.2	0.1	0.6	1.2	1.3	-0.2	0.1
20000-49999				-0.6	0.0	0.1	-0.1	0.1	0.3	0.1	0.2
Less than 20000				-0.8	-0.5	-	-0.6	0.6	-	-0.1	-
Rest				-1.0	0.3	0.0	0.0	0.7	0.6	0.3	0.7
Size category of settlement	Mexico		Panama			Dominican Republic		Uruguay		Venezuela (RB)	
	2000	2010	1990	2000	2010	2000	2010	1996	2011	2001	2011
1 Million or more	-0.3	0.0	-	-0.9	-0.4	-0.6	-0.5	-0.3	NA	0.2	0.0
500000-999999	0.2	0.2	-0.1	-	-	-0.4	-0.2	-		0.2	0.0
100000-499999	-0.3	0.0	-	-1.6	-0.8	-0.1	-0.3	-		0.2	0.0
50000-99999	0.0	0.2	-0.4	-	0.0	-0.2	-0.3	-0.1		0.1	0.0
20000-49999	0.0	0.1	-0.3	-2.6	-1.6	0.3	-0.4	-0.2		0.5	0.0
Less than 20000	-0.1	-	-0.2	-0.3	-	0.0	-	-0.5		1.2	-
Rest	-0.5	-0.3	0.6	-3.0	-1.7	0.0	-0.3	0.7		0.9	0.0

Source: census microdata (special processing)