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**RACE, ETHNICITY, IMMIGRATION AND LIVING  
CONDITIONS IN COSTA RICA**

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# INTRODUCCIÓN

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Costa Rica is a small, middle-income country traditionally outstanding for having economic and political stability and social cohesion well above the usual levels in the Central American and Caribbean region.<sup>1</sup> Due to its particular history, the national identity of this country was constructed based on the myth of an egalitarian, pacific, and white nation (e.g. Putnam, 1999) in a predominantly non-white area dominated by high inequality and instability. The population in Costa Rica is, however, diverse and presents important inequalities along racial and ethnic lines. This was highlighted by the recent release of the 2011 Census, which gave greater visibility to ethnic minorities in the country.

Complying with the requests from local ethnic organizations and following most recent international recommendations, the national statistical office has included for the first time a question addressed to all Costa Ricans about their ethnic and racial self-identification. As a result, more than 11% of a population of 4.3 million ascribed themselves to any of the racial/ethnic minorities of the country. The largest minority, 334,437 (7.8%) Costa Ricans, is the population of (possible) African ancestry,<sup>2</sup> a result of colonization and immigration flows. More specifically, 45,228 (1.1%) Costa Ricans considered themselves as blacks or of African descent, and 289,209 (6.7%) as mulattoes. However, although these two groups probably share a common African ancestry, they differ in history and socioeconomic background, and for that reason we will mostly analyze them separately. The second-largest minority in the country (104,143; 2.4%) is made up of the different indigenous peoples that historically inhabited the region (including neighboring countries) before the arrival of Europeans. There is also a small and affluent Chinese minority (9,170; 0.2%), and 36,334 (0.8%) Costa Ricans included themselves in the “other race/ethnicity” category. The majority of the population (84%) ascribed themselves to the mixed white/mestizo category, while the remaining 5% refused to identify with any of these categories.

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1 Several studies have analyzed the recent trends in income distribution in Latin America and Caribe (e.g. ECLAC, 2012; Gindling and Trejos, 2013; Medina and Galván, 2008). For example, Medina and Galván (2008) ranked Costa Rica as having the second-lowest Gini inequality among 17 Latin American and Caribbean countries circa 2005 (only above Uruguay), with three Central American and Caribbean countries at the top (Honduras, Nicaragua, and the Dominican Republic). Gindling and Trejos (2013), using various inequality indices, noted that around 1990, Costa Rica had inequality well below that of Guatemala, Honduras, Nicaragua, and El Salvador. However, the opposite trends followed by these countries ever since, with inequality increasing in Costa Rica and Honduras and decreasing in the other countries, but especially in El Salvador, have substantially reduced the gap, and around 2010 the latter was the country with the lowest inequality in this group (followed by Costa Rica). Long-term trends in poverty and inequality in Costa Rica are described by Trejos (2012).

2 Determining the accuracy of the self-classification of mulattoes would require further investigation, as it is possible that this category just reflects darker skin that could have a different origin (e.g. indigenous).

Another dimension of the ethnic diversity is nationality, because there was a significant flow of immigration into the country by disadvantaged groups of people born in Nicaragua (287,766; 6.7%) and Panama (11,250; 0.3%). This immigration flow involved people of any race or ethnicity but with significant numbers of mulattoes, blacks, and indigenous people. Other, more affluent groups come from the US and Colombia (about 16.000 of each nationality), among other countries.

When it comes to the living conditions of these population groups, Costa Rica presents some common features with other countries in the area and some distinctive traits. Mulattoes and indigenous people, as well as immigrants from Nicaragua and Panama, have traits that do not differ much from the traditional social disadvantages of these minorities found elsewhere in Latin America and Caribe: They are over-represented at low-income and wellbeing levels, and present poorer socioeconomic endowments (lower achieved education, higher unemployment, precarious low-paid jobs, and so on).<sup>3</sup> However, the black minority of Costa Rica is an outstanding case that deserves further investigation. The particular history of West Indians (mostly Jamaicans) who settled on the Caribbean coast of Costa Rica between the end of the 19th Century and the beginning of the 20th makes them an interesting case for study. They made up a differentiated racial (black), ethnic (British Antillean) group that had to struggle with serious discrimination in a predominantly Catholic, white/mestizo, and Hispanic country, and despite that, were able to achieve better education and more qualified jobs than other population groups.

The aim of this paper is, thus, to investigate the extent and the nature of inequalities in wellbeing across racial and ethnic lines in Costa Rica. We proxy wellbeing here using a synthetic index constructed using Multiple Correspondence Analysis with the information about living conditions from the 2011 Census. To identify the main factors explaining such racial and ethnic inequalities, we use regression-based counterfactual analysis. By comparing the actual difference with what remains when the minority is given the characteristics of the majority, we estimate the characteristics and coefficients effects of the gap in wellbeing between population groups. The characteristics effect provides an idea of how much of the differential in wellbeing is explained by one group having better attributes (such as education, labor attachment, location, and so on) than the other. The coefficients effect quantifies the extent to which these factors associate with a differential impact on wellbeing in each group (one group takes more advantage of or is less harmed by some attributes). A detailed decomposition provides a quantification of the contribution of specific attributes to each of these effects. We undertake this analysis at the mean of wellbeing (Blinder, 1973; Oaxaca, 1973) and at different quantiles along its distribution (Firpo, Fortin, and Lemieux, 2007 and 2009).

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3 The disadvantaged situation of Afro-descendants and indigenous peoples in Latin America has been recently documented, among others, by Hall and Patrinos (2006), Bello and Paixão (2009), IACHR (2011), and Ñopo (2012). Gradín (2009) analyzed in detail the higher poverty rates of Afro-Brazilians. Marquette (2006) analyzed the case of Nicaraguan immigrants.

The remainder of the paper is as follows. The next section describes the data used. Section 3 provides a glimpse of the different population groups in Costa Rica. We present the methodology in Section 4 and discuss the empirical results in Section 5. Finally, the last section closes by summarizing the main conclusions.



## 2. DATA

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The database used in this study is a public-use sample extracted from the 2011 decennial Census (*X Censo Nacional de Población y Vivienda*) undertaken by the *Instituto Nacional de Estadísticas y Censos* (INEC), which accounts for about 10% of Costa Rica's population living in private households (427,972 observations). Its advantage with respect to other data sources is the detailed information about race and ethnicity, not available elsewhere, as well as its larger sample size.

The decision to include (and how) the racial/ethnic dimension in statistics is a controversial issue in most Latin American countries. Admitting a diversity of ethnicities and cultures still generates strong resistance in societies whose national identities were typically constructed on the basis of being composed by homogenous populations (mestizo in most cases; whites in the case of Costa Rica, as in some South American countries). Even when some diversity is accepted, the idea of racial democracy which denies the racial/ethnic dimension of social inequalities is also quite common in the region, and Costa Rica is a prominent example due to its higher equality levels. This has generally lead to the invisibility of ethnic minorities, mostly Afro-descendants and indigenous people, in modern statistics all over the region (with the outstanding exception of Brazil), although the situation is changing rapidly due to increasing concern about making minorities visible as a first step to recognize the diversity and overcome discrimination.<sup>4</sup>

In this line, Costa Rican statistics did not recognize minorities until very recently. As in other countries, the earliest censuses (between 1864 and 1950) in Costa Rica classified the population on the basis of race. After omitting race/ethnicity in the 1963, 1973 and 1984 censuses the authorities first re-introduced it in the 2000 Census, which included a question about self-identification with ethnic minorities (culture): black/African descents; Chinese; Indigenous people; none. But there was no explicit category either for whites or for people of mixed race (such as mestizos or mulattoes). Some specific questions addressed to indigenous people were restricted to indigenous territories. The authorities' interest was to identify minorities rather than allowing any Costa Rican to self-identify and, as a result, the proportion of ethnic minorities (3.8%) was underestimated, compared to the 2011 Census (11.2%) when the question extended to embrace the race or ethnicity of all Costa Ricans.<sup>5</sup>

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4 See, for example, Antón and Del Popolo (2009), Lennox and Minott (2011), or Cruces et al. (2012) for a throughout discussion of the visibility of Afro-descendants in Latin American statistics and the recent debate on the issue.

5 Additionally, the Household Survey of Multiple Purposes (*Encuesta de Hogares de Propósitos Múltiples*) in 2002 included a racial question asking whether any member of the household was indigenous, black, mulatto, Chinese, or other. About 1.3% was indigenous, 1.1% black, 4.1% mulatto, and 0.2% Chinese (the remaining 93% was included in the "other" category).

Several international organizations, particularly the Economic Commission for Latin America and the Caribbean (ECLAC), strongly recommended all Latin American countries undertaking the 2010 round of national censuses include self-identification of all the population according to their ethnicity (a concept generally preferred over race).<sup>6</sup> Costa Rica complied with these recommendations in the 2011 Census. National ethnic organizations have long claimed for this, and INEC agreed with them on the main questions to include.

The Census first asked each individual about his or her indigenous condition, and if the answer was positive, about the specific people (*pueblo*) and whether or not the respondent spoke any indigenous language. For non-indigenous people, there was a question about race/ethnicity asking whether the respondents considered themselves the following categories: i) black or Afro-descendant, ii) mulatto, iii) Chinese, iv) white or mestizo, v) other, or vi) none.<sup>7</sup> This implied a weird treatment of mixed-race people: blacks and mulattoes are collected in separate categories, while whites and mestizos are included in the same category. It also neglects the linguistic dimension in the case of Caribbean blacks (who might speak Creole English).

There were some criticisms from ethnic groups regarding the implementation of the census in the field, especially referring to the lack of sufficient training for interviewers and advertisements to make citizens aware of the ethnic/racial self-identification (see, for example, Campbell, 2012). There is, however, a great consensus among analysts that this round implied a great improvement over the way the ethnic/racial information was collected before.

There is a common practice, especially in Brazil, of pooling blacks (*preto*) and people of mixed race with presumable African ancestry (*pardo*) in a wider category of Afro-descendants because the lines between both groups are unclear and the choice might be influenced by the degree of ethnic self-esteem, the environment, and individual characteristics (e.g. Telles, 2002). This is consistent with the claim for higher statistical visibility pursued by the emerging black movement in Latin America. However, Costa Rica is a particular case because blacks and mulattoes strongly differ in their characteristics and have significant ethnic identities, as we will discuss below, reasons for which we will undertake a separate analysis of both groups in most of the empirical analysis.

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6 In this line, ECLAC (2009) reports the discussions and recommendations on the matter of a seminar held with more than 100 experts before the 2010 census round.

7 The process that led to the inclusion of the racial/ethnic identification in the 2011 Census in Costa Rica is discussed in detail by López (2013).

The census questionnaire also asked about the country of birth, which allows us to identify first-generation immigrants from different countries, of which we single out two disadvantaged groups of immigrants, from Nicaragua and Panama. To measure living conditions, the census does not collect information about any source of income, but it does have detailed information regarding basic characteristics of the dwelling, including equipment and available utilities, as well as healthcare insurance. We will use this information to construct a composite index of material wellbeing or wealth using Multiple Correspondence Analysis (MCA). The census also provides information on an array of individual characteristics such as location, mobility, education, labor market attachment, occupation, and more, which we will use to explain the differential in wellbeing among ethnic/racial groups.





### 3. RACE AND ETHNICITY IN COSTA RICA

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In this section, we briefly describe the main Costa Rican racial/ethnic groups to clarify the context of the results presented below. The three main groups are Europeans, Afro-descendants<sup>8</sup> and indigenous peoples, but as in the rest of Latin America, miscegenation created a large population of mixed races, such as mestizos and mulattoes, of which the census only singles out the latter.

The oldest settlers in Costa Rica are eight indigenous populations (*pueblos*): Bribri, Brunca/Boruca, Cabécar, Chorotega, Huetar, Maleku/Guatuso, Ngöbe/Guaymí, and Teribe/Térraba. Their traditional territories or reservations are protected under the 1977 Indigenous Act and are under the supervision of a public organization, the National Commission of Indian Affairs (*Comisión Nacional de Asuntos Indígenas*, CONAI). Costa Rica has also ratified the 1992 ILO Convention No. 169 on indigenous rights, but still “continues to be one of the countries with the lowest level of constitutional recognition of indigenous rights in the region” (IWGIA, 2013a). These legal instruments have not been effective in protecting their cultural, political, and socioeconomic rights, and people of indigenous ancestry are left behind all the other groups.

The largest concentration of indigenous people is found near the Panamanian border, with the highest numbers in the cantons of Talamanca (14%) and Buenos Aires (13%). About one-third (34%) of the indigenous population lives across the 24 officially recognized indigenous territories, although another significant group lives in nearby areas. For example, about 25% of them live in the same cantons but outside the reservations. Indigenous people in or near reservations are more likely to preserve their native language and cultural traits and live in harsher conditions. Not all indigenous people were born in Costa Rica. One out of six indigenous people was born abroad, mainly in Nicaragua (especially Miskito, not identified as such in the Census) and Panama (mainly from the binational group of Ngöbe).<sup>9</sup> There is also an increasing non-indigenous population settling in traditional indigenous territories (26% of their population in 2011), a source of great conflict (e.g. IWGIA, 2013b).

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8 Note that the use of the term Afro-descendant (*afrodescendiente* in Spanish) seems to be gaining adepts in Latin America to refer to those people of African descent, given that it emphasizes the ethnic dimension, as opposed to race (such as black). This was especially true after the UN World Conference against Racism held in Durban, 2001. However, many Afro-descendants are better ascribed to color categories such as black or mulatto; therefore the need to use mixed categories of ethnicity and race persists.

9 A detailed description of the socioeconomic characteristics of the indigenous population in Costa Rica can be found in Solano (2004) and PNUD (2012), based on the 2000 Census; and Fuentes (2013), based the on 2011 Census.

There is an increasing degree of alienation among the indigenous population. About one-quarter of the population claiming indigenous ethnicity does not identify with any *pueblo*. This proportion is insignificant in the reservations; it is about 18% in the areas near reservations, but rises to 50% in the rest of the country. It is possible that this growing alienation results in an underestimation of the actual indigenous population, if some people of this ancestry decline to claim this ethnicity and are included as mestizos or even mulattoes, for example.

Costa Rica was a Spanish colony between the early 1500s until its independence in the early 1800s (as part of the Central American federation of nations). Therefore, the first European settlers were Spanish. However, it was a poor, peripheral colony and was scarcely populated by Europeans when the republic was born.

Later immigration of Europeans and mestizos from neighboring countries helped to make up the main ethnic group of the country. The country promoted European immigration after independence in the context of whitening policies that also became popular in other countries in the region. At the same time, immigration of Chinese and Africans, among other non-white groups, was banned in 1862. In the context of the convulsive 1980s, immigrants and refugees from other Central American countries and Colombia started to arrive to the country, with Nicaraguans making up the largest group.

Most Afro-Costa Ricans arrived in two different waves.<sup>10</sup> A first group of people of African descent came as slaves during the Spanish colony, settling especially in different plantations in Matina (Caribbean coast), Nicoya (Pacific coast), as well as in the central valley villages (such as in Cartago). Due to the lack of large plantations, Costa Rica was never an outstanding slave economy like Cuba or Brazil, and the number of slaves was relatively small. Slavery was abolished in 1824. There was an intense miscegenation and this population was eventually assimilated into the predominant culture (e.g. Murillo, 1999). As a consequence, their descendants often do not accept their African ancestry, and it is reasonable to expect these people are mostly included as mulatto in the current racial/ethnic classification.<sup>11</sup>

A second wave of Afro-descendants came from the Caribbean region thanks to an exception to the bans imposed on non-white immigration. The most important inflow started to arrive in Costa Rica in 1872 for the construction of the railway connecting San José, in the central valley, with Limón harbor at the Caribbean coast, to open a new way out for coffee exports. People came from several Caribbean countries until the 1920s, especially from Jamaica, to work not only in the railway company but also in the harbor and in banana and cocoa plantations. The whole economic activity of the region was ruled by the US-based United Fruit Corporation (UFCO).

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10 See Meléndez and Duncan (2012) for a detailed history of Afro-Costa Ricans.

11 Although the term used in the Census (*mulato* in Spanish) originally meant person of mixed African and European ancestry, its wider use might just refer to people with darker skin.

This immigration created a solid, distinct, Antillean ethnic group—Protestant and Anglophone in a predominantly Hispanic and Catholic country. They had their own churches, schools, and fraternity associations. Immigrants during the first decades did not make much effort to integrate in the host society, expecting to return soon to their countries of origin, and there were constant population flows between Costa Rica and neighboring countries.

At the time, most Costa Ricans showed strong racial and xenophobic prejudices towards Afro-Caribbeans, whom they saw as foreigners who often took the best jobs. As a consequence, blacks had limited geographical mobility (e.g. they could not leave Limón for long, they were banned in 1934 from working on the South Pacific banana plantations when the UFCO moved their activities there due to the Panama disease), and they did not obtain Costa Rican citizenship until the 1950s, right after the short civil war. The economy in Limón stagnated after the collapse of banana plantations in the Caribbean coast, and once the limitations of mobility were removed, many Afro-Caribbeans moved to the more prosperous central valley around San José looking for better job opportunities. There was also an intense migration to the US or other countries in the area that significantly decimated the population, while a growing Hispanic population settled in Limón and became the majority of the population there.<sup>12</sup>

Despite the existence of anti-discriminatory legislation (e.g. Minott, 2005), this culturally differentiated Afro-Caribbean community lacks any official recognition from the state (e.g. Rangel, 2009). It also still faces negative prejudices from a significant part of the population. For example, 27% of interviewed Costa Ricans agreed in a survey that Afro-descendants are more aggressive and dangerous than the rest of the nation; 38% of these claimed this was determined biologically (Sandoval et al., 2010).

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12 A detailed description of the Afro-descendant population based on 2000 and 2011 censuses can be found in Putnam (2004) and Campbell (2012), respectively.



## 4.METHODOLOGY

### 4.1 Composite index of wellbeing

Let  $c_1, \dots, c_Q$  be a set of categorical variables describing the wellbeing of a population of size  $N$ , where  $c_q$  is coded with consecutive integers  $1, \dots, n_q$ . Let  $Z^q$  be the  $N \times n_q$  binary indicator matrix associated with  $c_q$ , with  $Z_{ij}^q=1$  if and only if the  $q$ th categorical variable for the  $i$ th individual  $c_{iq}=j$ . Let  $Z=(Z^1, \dots, Z^Q)$  be the  $N \times J$  indicator matrix of the set of variables, where  $J=n_1+ \dots+n_Q$  is the total number of categories.

For each variable  $c_q$  we estimate coordinates  $s_q^1, \dots, s_{n_q}^q$  using the first extracted dimension with Multiple Correspondence Analysis (MCA).<sup>13</sup> Let  $\bar{s}=\bar{s}^1, \dots, \bar{s}^Q$  and  $\underline{s}=\underline{s}^1, \dots, \underline{s}^Q$  be, respectively, the vectors with the highest and lowest scores associated with the  $Q$  categorical variables. Given that higher scores are associated here with lower wellbeing,  $\bar{s}$  and  $\underline{s}$  represent the worst and best possible profiles in terms of wellbeing.

We define  $y_i$  to be a wellbeing composite index that summarizes the living conditions profile for the  $i$ th person as a weighted sum of the categories for this individual, where the weights are based on coordinates and represent the relative marginal contribution to the individual wellbeing of being in each category, compared with being in the worst category, normalized by the maximum possible contribution. The variables we used referred to the existence of healthcare insurance, available utilities, and dwelling characteristics (type, ownership, predominant materials, conditions, and equipment). They are shown in Table A1 in the Appendix, jointly with the distribution for each population group and estimated scores and weights for each category. Thus, the index is normalized to increase in wellbeing and to range between 0, the value corresponding to the worst possible profile, and 1, that for the best possible profile<sup>14</sup>:

$$y_i = \frac{\sum_{q=1}^Q \sum_{j=1}^{n_q} Z_{ij}^q w_j^q}{\sum_{q=1}^Q (s_q^1 - s_q^{n_q})}, i = 1, \dots, N; \text{ with } w_j^q = \frac{s_q^1 - s_j^q}{s_q^1 - s_q^{n_q}}$$

13 This first dimension explains 61.5% of the total variability (inertia); the second dimension only adds an additional 10%. We use MCA (instead of principal factor analysis) because the variables are all defined as ordinal. However, the choice is irrelevant from an empirical point of view (the correlation is about 98% between indices computed using both methods). As expected, the wellbeing index was positively and highly (although not perfectly) correlated with the log of per capita household net income (about 60%), using the 2011 Household National Survey (Encuesta Nacional de Hogares, with similar variables). Correlation with income levels is lower because there are not many attributes that allow us to identify the distance between the most affluent individuals properly. For this reason, we might also interpret the index as an index of material deprivation. The correlation with the index constructed using a set of similar variables but all of them defined as binary (deprived or not deprived, as in Gradín, 2013a for South Africa) is also very high: 97%.

14 This index is just a linear transformation of the predicted value, usually standardized to have zero mean and standard deviation equal to 1.

## 4.2 Decomposing the gap in wellbeing

To obtain a decomposition of the gap in wellbeing between whites/mestizos and racial/ethnic minorities in Costa Rica (and between native-born and immigrants), we use the well-known regression-based Blinder (1973) and Oaxaca (1973) approach. The original approach was applied to decompose intergroup differences in the average values of wages into the part that was explained by characteristics and the part that remained unexplained. Later researchers extended the approach to deal with gaps at different quantiles of the distribution of the variable of interest. Among the various extensions, we here follow the one proposed by Firpo, Fortin, and Lemieux (2007, 2009) based on unconditional quantile regressions.<sup>15</sup>

We split the population into two groups. Let  $y^g$ , be the vector indicating the level of wellbeing index for members of group  $g$ , where  $g=0$  indicates the reference group (white/mestizo in the case of race/ethnicity; people born in Costa Rica in the case of country of birth), and  $g=1$  the target group (minority). We first estimate separately for each group the level of wellbeing as a function of a vector  $X^g=(x_1^g, \dots, x_k^g)$  of household's characteristics:  $\hat{y}^g=X^g \hat{\beta}^g$ , where  $\hat{\beta}^g$  is the associated OLS vector of estimated coefficients.

Among the explanatory variables for explaining the race/ethnicity gap, we included several that might affect the wellbeing in a household. We measured location by a dummy variable indicating whether the area is urban or rural and by the region of residence.<sup>16</sup> We also considered the number of children (0-15 years old) in the household, and householder's age (less than 35, 35-50, 51-64, 65 or more), sex, and immigration status.<sup>17</sup> In addition, we included the achieved level of education of the household head (none, primary, high school, and college) and the percentage of all adults in the household at each education level. Labor market performance includes the householder's labor status (not in the labor force, unemployed, and occupation and industry at 1 digit disaggregation), the percentages of adults employed and unemployed, and a dummy indicating whether the household receives or does not receive remittances from abroad. In the case of the analysis by country of origin, all variables are the same, except that the head of the household's immigration status is replaced by individual race (black or mulatto, white or mestizo, indigenous, or other).

Given that wellbeing is defined by the characteristics of the dwelling and all explanatory variables are collected at the household level, we estimated robust standard errors, taking into account any correlation between observations within the same sample cluster (here the dwelling), while assuming independence across clusters (see Cappellari

<sup>15</sup> For a similar distributive approach but using income, see Gradín (2013b).

<sup>16</sup> Great Metropolitan Area, Rest of Central Region, Chorotega, Pacific Central, Brunca, Atlantic Huetar, and Northern Huetar.

<sup>17</sup> This includes information about householder birthplace (same canton, another canton, Nicaragua, Panama, rest of Central America, US or Canada, another country), place of residence five years ago (same canton, another canton, another country), and whether the household is sending remittances abroad.

and Jenkins, 2004). The average wellbeing in group  $g$ ,  $\bar{y}^g$  is equal to the average predicted probability for this group (with population  $N^g$ ):

$$\bar{y}^g = \frac{1}{N^g} \sum_{i=1}^{N^g} \hat{y}_i^g = \bar{X}^g \hat{\beta}^g.$$

In the counterfactual average wellbeing distribution  $\bar{X}^0 \hat{\beta}^1$ , we gave minorities the characteristics (on average) of the reference group while keeping their own estimated coefficients (the impact of characteristics on wellbeing). By adding and subtracting the counterfactual and re-arranging terms, we can rewrite the differential in average wellbeing between the majority and the minority as the sum of the *aggregate characteristics effect* (gap explained by shifting characteristics valued at the coefficients of the target group) and the *aggregate coefficients effect* (unexplained gap due to characteristics having a different impact for each group):

$$\bar{y}^0 - \bar{y}^1 = \bar{X}^0 \hat{\beta}^0 - \bar{X}^1 \hat{\beta}^1 = (\bar{X}^0 - \bar{X}^1) \hat{\beta}^1 + \bar{X}^0 (\hat{\beta}^0 - \hat{\beta}^1).$$

Given the linearity of the regressions, the evaluation of the individual contribution of each variable  $x_k$  ( $k=1, \dots, K$ ) to the characteristics and coefficients effects, we can estimate the detailed decomposition respectively as  $W_k^{\Delta X} = (\bar{x}_k^0 - \bar{x}_k^1) \hat{\beta}_k^1$  and  $W_k^{\Delta \beta} = \bar{x}_k^0 (\hat{\beta}_k^0 - \hat{\beta}_k^1)$ . Thus, the individual effects sum up the corresponding aggregate effects. To prevent the identification problem associated with the detailed decomposition of the coefficients effect—the results for categorical variables depend on which is the omitted category (Oaxaca and Ransom, 1999)—we use the normalization proposed in Yun (2005, 2008).<sup>18</sup>

The previous approach allows the decomposition only at the mean. However, it is important to ask how much the pattern of differences in wellbeing between two given groups varies along its whole distribution. For that, we used an extension of the previous approach that allows us to evaluate the impact of changes in the distribution of household attributes on different quantiles of the unconditional (marginal) distribution of wellbeing (Firpo, Fortin, and Lemieux, 2007, 2009). The decomposition of the gap in quantiles is technically more complicated than the decomposition at the mean. This method solves these problems by applying the conventional Blinder-Oaxaca decomposition but using regressions of the recentered influence function (RIF) of unconditional quantiles of the variable of interest (instead of the variable of interest) on the explanatory variables.

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<sup>18</sup> We obtained the results using the OAXACA Stata module (RePEc:boc:bocode:s456936) written by B. Jann.

For any  $\tau$ -th quantile of the wellbeing distribution,  $q_\tau$ , we want to decompose the differential  $q_\tau^0 - q_\tau^1$ . For that, we first compute its recentered influence function  $RIF(y; q_\tau)$ , which we derive by adding the quantile to its influence function  $IF(y; q_\tau)$ :

$$RIF(y; q_\tau) = q_\tau + IF(y; q_\tau) = q_\tau + [\tau - \mathbf{1}(y \leq q_\tau)]/f(q_\tau)$$

Where  $\mathbf{1}()$  is an indicator function that takes value 1 if the specified condition is satisfied and 0 otherwise. If we label  $\hat{\gamma}_\tau^g$  the vector of coefficients estimated by regressing  $RIF(y^g; q_\tau)$  on  $X^g$ , we obtain the corresponding aggregate explained and unexplained effects:  $W^{\Delta X} = (\bar{X}^0 - \bar{X}^1) \hat{\gamma}_\tau^1$  and  $W^{\Delta \beta} = \bar{X}^0 (\hat{\gamma}_\tau^1 - \hat{\gamma}_\tau^0)$ . Similarly to the previous case, we estimate the detailed effects using the specific characteristics and their corresponding coefficients:  $W_k^{\Delta X} = (x_k^0 - x_k^1) \hat{\gamma}_{\tau k}^1$  and  $W_k^{\Delta \beta} = \bar{x}_k^0 (\hat{\gamma}_{\tau k}^1 - \hat{\gamma}_{\tau k}^0)$ .<sup>19</sup> Repeating the procedure for different quantiles (i.e. 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 90<sup>th</sup>) we are able to explain the ethnic gap along the entire distribution.

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19 We obtained the RIF of different unconditional quantiles using the RIFREG Stata code (<http://faculty.arts.ubc.ca/nfortin/datahead.html>) from Firpo, Fortin, and Lemieux (2009), and the OAXACA code for the decomposition.



## 5.RESULTS

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### 5.1 Wellbeing, race, and ethnicity in Costa Rica

Table 1 reports the values of the normalized wellbeing index estimated at different points of the distribution and for different partitions of the population. The average value of the index for the population is 0.75; that is, the average Costa Rican has a weighted wellbeing that is about three-quarters of the best possible profile, given the set of categorical variables we used to describe basic living conditions in the country. The values have an important variability: for example, it is 0.60 and 0.89 for the 10<sup>th</sup> and 90<sup>th</sup> percentiles, respectively.

The distribution of the index by characteristics follows the pattern we expected. Wellbeing is higher (at any quantile) in urban areas, in the central provinces (i.e. San José, Heredia, or Cartago), and for people at least 25 years old with a college degree or with a white-collar job. On the contrary, it is lower in rural areas, in peripheral provinces (Limón, Puntarenas, and Guanacaste), for people without any formal education, and for those working in blue-collar and agrarian occupations.

There is a significant gap regarding ethnicity and country of origin. Figures 1 to 4 make this clear: they display the adaptive kernel densities of the wellbeing index for different population groups in Costa Rica.<sup>20</sup> Table 1 and Figure 1 demonstrate that indigenous people stand out as generally showing the lowest levels of wellbeing (0.62 on average).<sup>21</sup> As Figure 2 highlights, there is also a large heterogeneity among indigenous people depending on whether they live on reservations (the lowest levels), in the nearby areas (outside the reservation but in cantons with a reservation), or in the rest of the country (with the highest wellbeing). On the opposite end of the spectrum, a small group of affluent Chinese concentrate at the highest levels of wellbeing among all population groups, followed by whites/mestizos, and then closely by blacks/Africans. Mulattoes are somewhere in between both extremes. Table 1 also shows that the wellbeing of Afro-descendants (black and mulatto) is determined by that of the largest group, mulattoes.

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20 Gaussian kernels with variable optimal bandwidth, which we estimated using the *akdensity* STATA module written by P. van Kerm.

21 At this point it is necessary to introduce a note of caution. We constructed the wellbeing index for the country as a whole and based on objective attributes. Thus, we associate living in traditional dwellings (constructed with natural materials, lack of domestic appliances, and so on) with severely poor living conditions. However, in the case of indigenous populations, especially for those in indigenous territories, it might also reflect the preservation of their cultural values. The problem with the use of this wellbeing index in this context does not differ much from that with the use of other indices of wellbeing such as consumption or income. Using a unique index to judge wellbeing in two population groups with different cultures and social values is always problematic.

Given the particular history of blacks in Costa Rica discussed in the previous sections, a more detailed look at the distribution of wellbeing in the Limón province is of particular interest. Figure 3 provides a summary of this information. Blacks in this generally poor province stand out as sharing the highest wellbeing, while there is almost no distinction in the distribution of mulattoes and whites/mestizos. Indigenous people, however, show no significant difference with their relative position for the whole country, because this is one of the main indigenous areas.

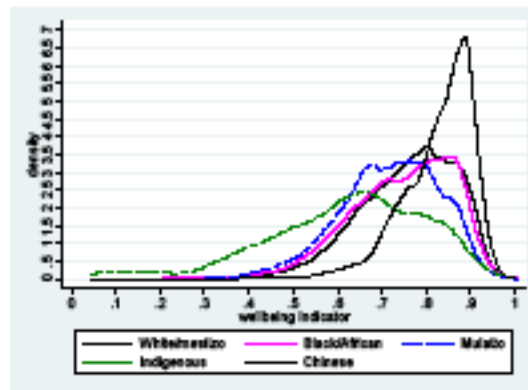
Similarly, as shown in Table 1 and Figure 4, there is a large gap in wellbeing between immigrants from Panama and Nicaragua compared with those born in Costa Rica and immigrants from other countries. As mentioned before, there is a strong relationship between the gaps in Figures 2 and 3, as many Nicaraguan and Panamanian immigrants are indigenous or Afro-descendants.<sup>22</sup>

Understanding the nature of these differences based on race/ethnicity and country of origin is the aim of this section, for which we will use the decomposition techniques described above. The main aim is to find the extent to which these differences are explained by the different composition of ethnic groups' characteristics such as education, location, performance in the labor market, and so on. Otherwise, it could be that a given characteristic has different implications across ethnic groups in terms of attained wellbeing.

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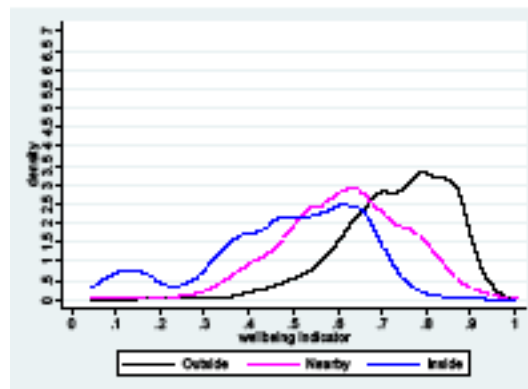
12 More specifically, 44% of immigrants from Panama are indigenous (but only 2% from Nicaragua), while 16% of immigrants from Nicaragua are mulatto, and nearly 2% are black. Similarly, 7% of immigrants from Panama are mulatto and are 5% black. The other side of this picture is that nearly 11% of blacks and 15% of mulattoes in Costa Rica are born in Nicaragua and 11% of indigenous people are either from this nationality or from Panama.

**Figure 1.**  
**Wellbeing distribution by race and ethnicity in Costa Rica**



Source: Own construction based on 2011 Census.

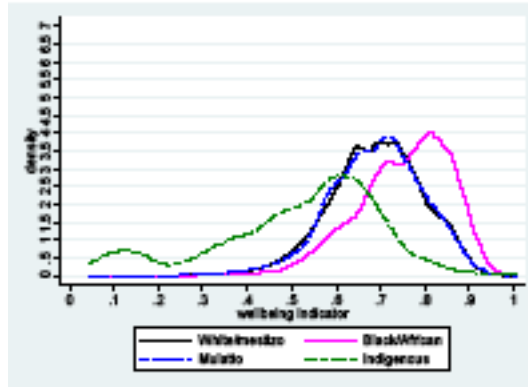
**Figure 2.**  
**Wellbeing distribution among indigenous people**



Note: Outside, inside or nearby (same canton) indigenous territories in Costa Rica.

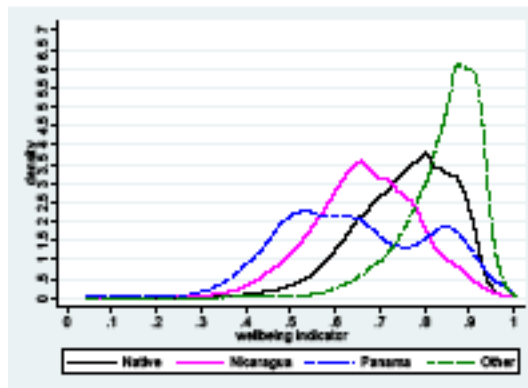
Source: Own construction based on 2011 Census.

**Figure 3.**  
Wellbeing distribution by race and ethnicity in Limón



Source: Own construction based on 2011 Census.

**Figure 4.**  
Wellbeing distribution by country of origin in Costa Rica



Source: Own construction based on 2011 Census.

**Table 1.**  
**Wellbeing distribution in Costa Rica**

	Population	Mean	Percentiles				
	%		10	25	50	75	90
<b>Total</b>	100	0.749	0.598	0.677	0.765	0.837	0.886
Black/African	1.0	0.743	0.584	0.666	0.761	0.837	0.882
Mulatto	6.7	0.716	0.567	0.644	0.725	0.801	0.859
Afro-descendants (black & mulatto)	7.7	0.720	0.569	0.646	0.728	0.806	0.863
Chinese	0.2	0.826	0.722	0.782	0.842	0.886	0.912
White/Mestizo	83.7	0.757	0.609	0.687	0.771	0.842	0.889
Other race/ethnicity	0.9	0.717	0.555	0.637	0.726	0.803	0.871
None race/ethnicity	2.9	0.730	0.583	0.656	0.743	0.813	0.870
Ignored race/ethnicity	2.2	0.730	0.565	0.649	0.744	0.822	0.878
Indigenous	2.4	0.617	0.372	0.510	0.639	0.755	0.838
Native-born	91.1	0.754	0.606	0.684	0.769	0.839	0.886
Nicaragua	6.6	0.666	0.512	0.590	0.668	0.749	0.817
Panama	0.3	0.648	0.440	0.518	0.638	0.791	0.873
Other Central America	0.9	0.822	0.693	0.770	0.842	0.893	0.925
US & Canada	0.4	0.849	0.752	0.814	0.864	0.899	0.926
Other countries	0.7	0.862	0.770	0.828	0.876	0.911	0.933
Urban	72.7	0.777	0.639	0.713	0.792	0.855	0.896
Rural	27.3	0.676	0.522	0.606	0.687	0.760	0.818
San José	32.7	0.780	0.639	0.712	0.794	0.861	0.901
Alajuela	19.7	0.740	0.587	0.670	0.759	0.824	0.871
Cartago	11.4	0.773	0.643	0.719	0.788	0.846	0.889
Heredia	10.1	0.794	0.644	0.737	0.815	0.874	0.909
Guanacaste	7.6	0.704	0.554	0.635	0.713	0.787	0.843
Puntarenas	9.6	0.692	0.545	0.623	0.699	0.775	0.833
Limón	9.0	0.679	0.535	0.613	0.689	0.761	0.828
Less than Primary	4.5	0.648	0.482	0.580	0.660	0.739	0.794
Primary	44.0	0.717	0.583	0.654	0.729	0.792	0.839
High School	28.9	0.778	0.652	0.722	0.792	0.846	0.883
College	22.7	0.848	0.751	0.815	0.865	0.899	0.922
Legislators, senior officials & managers	1.5	0.804	0.858	0.894	0.920	0.940	0.940
Professionals	14.3	0.782	0.834	0.877	0.906	0.926	0.927

	Population	Mean	Percentiles				
	%		10	25	50	75	90
Technicians & associate professionals	10.0	0.722	0.789	0.842	0.881	0.908	0.909
Clerks	7.9	0.700	0.764	0.820	0.865	0.894	0.895
Service workers, shop & market sales	20.2	0.644	0.710	0.780	0.837	0.878	0.880
Skilled agricultural and fishery workers	4.5	0.520	0.615	0.703	0.776	0.829	0.832
Crafts & related trades workers	11.6	0.621	0.688	0.762	0.822	0.867	0.869
Plant & machine operators/assemblers	8.7	0.650	0.716	0.776	0.825	0.864	0.865
Elementary occupations	21.4	0.547	0.621	0.694	0.764	0.820	0.823

Note: Education (25 years old or above). Occupation (16 years old or above).

Source: Own construction based on 2011 Census.

## 5.2 Explaining the gap in wellbeing of mulattoes and indigenous people

We display in Table A3 in the Appendix the results of the aggregate and detailed decomposition of the gap in wellbeing between whites/mestizos and mulattoes and indigenous people, for the mean and for different quantiles of the wellbeing distribution (10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 90<sup>th</sup>).<sup>23</sup> We summarize the results of the aggregate decomposition in Figure 5. The observed gap with whites/mestizos is decreasing in the case of the indigenous people, while it is more stable, except for the top quantile, in the case of mulattoes. Generally speaking, a large proportion of the mean gap in wellbeing between whites/mestizos and these two disadvantaged minorities can be explained by the latter having poorer endowments: about 77% and 66%, respectively. However, a look at the distributive pattern shows that the proportion thus explained is relatively low at the bottom of the distribution (38% and 52% at the 10<sup>th</sup> quantile), and then sharply increases for higher quantiles (161% and 96% at the 90<sup>th</sup>). This is the result of the gap explained by characteristics that are increasing (except at the top) in both cases. That is, the gap by race/ethnicity is not only larger among the poor, but a larger proportion of it remains even when people are compared with similar characteristics. On the contrary, the whole gap among the most affluent people is explained by minorities having a higher prevalence of characteristics associated with lower wellbeing.

23 All the regressions used to obtain the results are available upon request but omitted here.

Looking at the factors that explain the gap in wellbeing at the mean, both groups share some similarities, as we report in Figure 6. The lower education in their households turns out to be the most important single factor, associated with about one-quarter of the mean gap. The higher number of children (7-8% of the gap) and the worst performance of these groups in the labor market (10-13%) also play a significant role. However, these groups also differ in the relevance of other factors. The larger proportion of immigrants plays a substantial role only in the case of mulattoes (16%), given the larger share of people of this group born abroad (i.e. Nicaragua). Additionally, other demographic factors (head of household's age or sex) matter only for mulattoes, although marginally (3%). For indigenous people, location matters most, explaining about one-third of the gap altogether, due to their overrepresentation in rural areas (20% of the gap) and in the poorest regions of the country (14%). This is the reason why the proportion of the gap explained for this group is larger than in the case of mulattoes, who have a geographical distribution similar to that of whites/mestizos.

The magnitude of the characteristics effect is not the only thing that varies across the distribution of wellbeing. The relevant factors also change substantially, with both groups showing different distributive patterns. In the case of mulattoes, the gap explained by education and labor variables increases for higher quantiles, at the same time that location and some demographic factors, such as the number of children and immigration, become less important.<sup>24</sup> In the case of indigenous people, education tends to explain the largest gap in the bottom of the distribution and labor variables in the middle. The region of residence is more important for explaining the differential in higher quantiles in this group, while the type of area of residence (rural or urban) and the number of children, among other factors, are less important. Thus, in the case of mulattoes, the largest contributions to explain the wellbeing differential at the bottom of the distribution come from the accumulation of a larger share of immigrants, their larger number of children, their lower achieved education, and their overrepresentation in the poorest regions. In the case of Indigenous people, the largest contributions come from their lower level of education, their overrepresentation in rural areas and their large number of children.

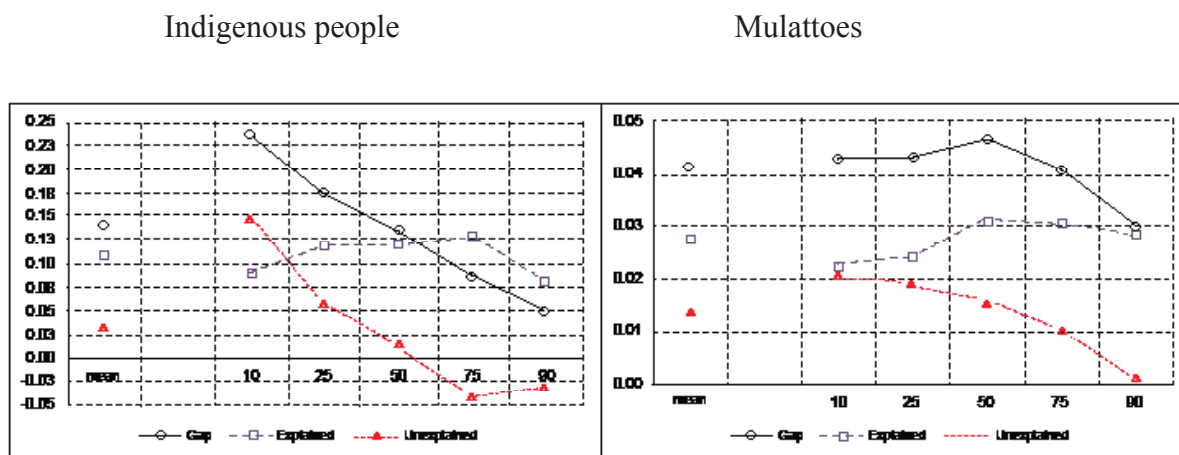
For both minorities, had they shared the same characteristics as the reference group, there would remain an unexplained gap that is higher at the bottom of the distribution of wellbeing (see Table A3). The unexplained gap at the top becomes nearly zero for mulattoes and negative for indigenous people, meaning that the observed gap for the latter group should be even larger than it is. Therefore, it is interesting to ask whether we can identify which characteristics have a different

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<sup>24</sup> Gradín (2009) found a similar distributive trend (increasing importance of education, decreasing relevance of demographic factors), explaining the income gap between whites and Afro-descendants (blacks and mixed race) in Brazil, using a different regression-based procedure (re-weighting).

effect on wellbeing by population group and that explain higher poverty levels among ethnic minorities.<sup>25</sup> In the case of mulattoes, the coefficients effects at the mean tend to be small and not significant. However, at the bottom of the distribution, where the unexplained gap is largest, we find positive and significant effects of the number of children (10<sup>th</sup> quantile) and region (25<sup>th</sup>), meaning that living in the poorest regions and having children tends to lower the wellbeing of mulattoes more than for whites/mestizos.<sup>26</sup> In the case of indigenous people, the region of residence and the number of children have similar effects for mulattoes, but performance in the labor market and immigration status also tend to have a substantial and significant differential effect on this group at the bottom of the distribution, leading to a larger unexplained gap. On the opposite side, it is worth noting that their wellbeing is generally less affected by education and living in rural areas (coefficient effects are negative and significant).

**Figure 5.**  
**Aggregate decomposition of the gap in wellbeing at different points**  
 Mean and selected quantiles



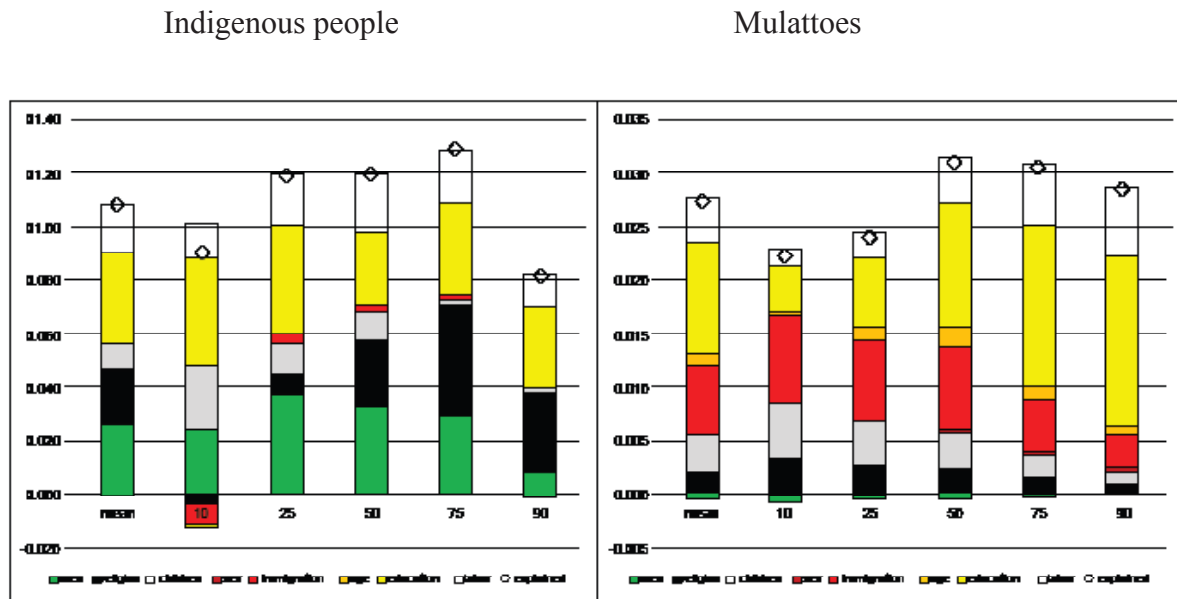
Source: Own construction based on 2011 Census.

25 We look here at the extent to which this happens, but not at the mechanisms. For that, a detailed analysis of the gap in the earnings generation process would be more appropriate.

26 There are also large effects of education and immigration status (10<sup>th</sup> and 25<sup>th</sup> quantiles), but these have high standard errors and thus are not significant. This might be the result of the large penalty on education faced by Nicaraguan immigrants that we analyze in the next subsection.



Figure 6.  
**Detailed decomposition (characteristics effect) of the gap in wellbeing**  
Mean and selected quantiles



Source: Own construction based on 2011 Census.

### 5.3 Explaining the gap in wellbeing of Nicaraguan and Panamanian immigrants

We show the results of the decomposition of the gap in wellbeing by country of origin (immigrants from Panama and Nicaragua, compared with native-born people) in Table A4 in the Appendix and summarize them, as before, in Figures 7 and 8. The proportion of the immigrant gap that explained by their poorer endowments (Figure 7) is large for the people from Panama (79%) but relatively small for those born in Nicaragua (only 45%). Similar to the case of racial/ethnic minorities, the gap in wellbeing explained by characteristics is small at the bottom (37% and 21% respectively) but increases for higher quantiles, such that in both cases, more than 100% is explained at the top. This is the result of a sharply shrinking gap in the case of Panamanians, with an explained gap that is largest at the middle of the distribution. In the case of Nicaraguans the gap is more stable, declining at the top, but the explained gap is increasing with higher quantiles. In particular, this means the large unexplained gap found on average for Nicaraguans is mainly driven by what happens at the bottom of the distribution.

Regarding the driving factors (Figure 8), these groups have many things in common with racial/ethnic minorities. In the difference at the mean, the lower achieved education again plays the most significant role at around 20% for both groups, and there is an important contribution from the labor market (around 10%). The other demographic factors are not of much relevance, except that the householder's age explains about 4% of the gap for both

groups, and the higher number of children explains a similar share in the case of Nicaraguans.

There are two main differences between immigrants from Panama and Nicaragua that explain the mean gap for the former to a large extent, while more than a half of the gap for the latter remains unexplained. First, 24% of the gap in wellbeing between people born in Panama and those born in Costa Rica comes from differences in ethnicity because 44% of Panamanians are indigenous and another 13% are Afro-descendants. Second, another quarter of the gap is due to Panamanian immigrants being overrepresented in rural areas (13%) and the poorest regions of the country (10%). On the other hand, neither race/ethnicity nor location are especially relevant for explaining the gap in wellbeing for Nicaraguans. This suggests that the remaining gap must come from elsewhere, probably associated with how differently their endowments are valued in the labor market, either the result of some sort of discrimination against people of this nationality, or from a lower quality of their endowments (e.g. of their human capital) in the host market.

Similar to what we found for mulattoes, in the case of Nicaraguans, there is an increasing gap for higher quantiles that is mostly explained by education and labor variables, and a decreasing relevance of the number of children and location. However, for Panamanians, education and labor variables tend to explain the largest gap in the middle of the distribution. The region of residence is more important in explaining the differential in higher quantiles, as with indigenous people, while the area of residence and the number of children, among other factors, decrease in importance.

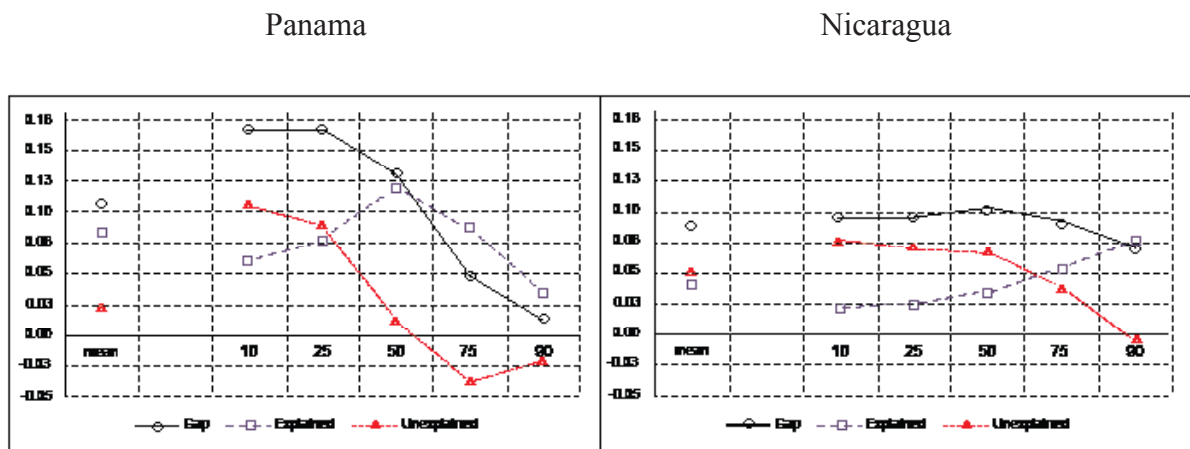
As a result, when it comes to explaining the wellbeing differential at the bottom of the distribution, the largest contribution in the case of Nicaraguans comes from their lower attained education and to a lower extent, from their higher number of children, their poorer performance in the labor market, and their overrepresentation in poorer regions. In the case of Panamanians, the main factor is their higher proportion of Indigenous people (who are poorer regardless of their characteristics), their lower achieved education, and their higher proportion living in rural areas. In the case of both foreign minorities, had the groups shared the same characteristics as the reference group, there would remain an unexplained gap that is especially higher in the case of Nicaraguans, but significant also for Panamanians. Thus, it is interesting to ask again whether we can identify which characteristics have a different effect on wellbeing by population group (Table A4).

In the case of Nicaraguans, the group with the largest unexplained effect, there is a positive and significant contribution of most detailed effects, which suggests this group is taking less advantage of their endowments than native-born Costa Ricans. The most outstanding case is the large and significant coefficient effect of education (27% of the gap). This means Nicaraguans not only have lower education but also have more difficulties in transforming it into better living conditions. Although why this is the case would need a more detailed analysis of the labor market, this is consistent with either lower quality of their education (at least as perceived by the host market, the well-known limited transferability of human capital) and with any sort of discrimination (e.g. limited access to better jobs given

their education and lower wages for the same job). This is reinforced by the large effects also found for labor market variables (12% of the gap). Another salient coefficient effect is that of race/ethnicity, that in this context might be interpreted as an interaction effect of ethnicity and immigration: Nicaraguans belonging to an ethnic minority (Afro-descendants or indigenous) tend to be worse off than those who are white or mestizo.

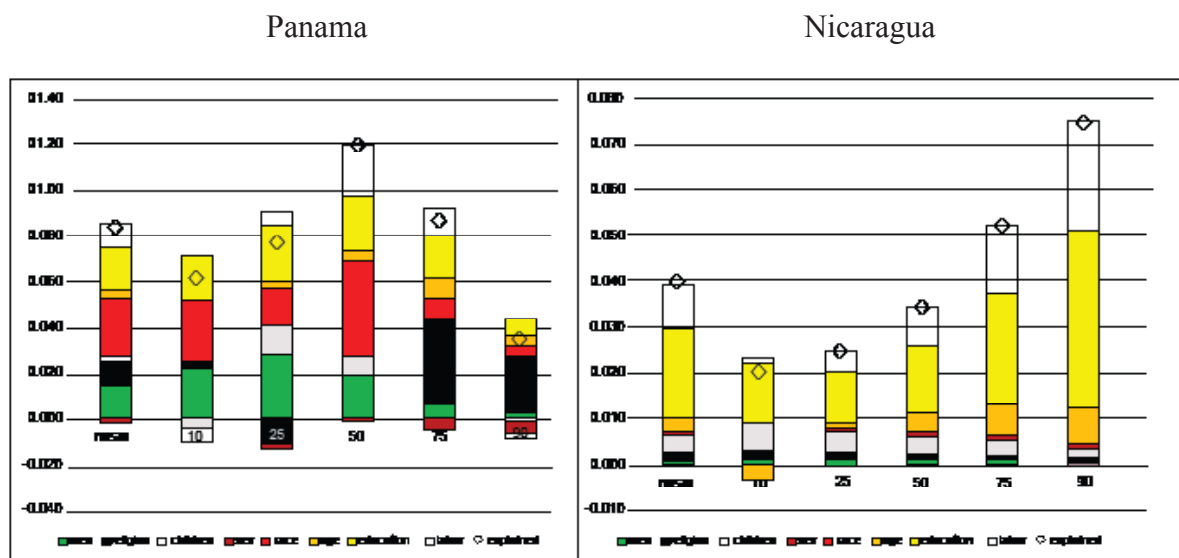
For Panamanians, there are only two significant effects and both are negative. Therefore, the wellbeing of this population is less diminished by their having more children and living in rural areas; it may be the consequence of the specific economic activities in which this people engage. The gap in wellbeing would be about 20% higher if the effects were the same as those for native-born.

**Figure 7.**  
**Aggregate decomposition of the gap in wellbeing**  
Mean and selected quantiles



Source: Own construction based on 2011 Census.

**Figure 8.**  
**Detailed decomposition (characteristics effect) of the gap in wellbeing**  
 Mean and selected quantiles



Source: Own construction based on 2011 Census.

#### 5.4 The special case of blacks

Finally, we undertake the same decomposition exercise for the gap between whites/mestizos and blacks (Table a5 in the Appendix). Although the gap is, on average, pretty small, its decomposition (Figure 9 and 10) will reveal some interesting features of the situation of this particular minority. On the one hand, as with the other cases, blacks have a higher prevalence of some characteristics associated with a lower wellbeing that jointly explain about 50% of the average gap (there is, however, a smaller absolute magnitude than other minorities): a larger share of immigrants (20% of the gap), more people living in poor regions (i.e. Atlantic Huetar, 17%), and more children in their households (9%). On the other hand, the distinctive fact of Costa Rican blacks is that, at the same time, they also have a higher prevalence of some characteristics associated with higher wellbeing (negative characteristics effects): higher attained education and higher proportion of population living in urban areas.<sup>27</sup> If the distribution of these two characteristics among blacks were the same as among whites and mestizos, the gap in wellbeing should be nearly 60% larger (respectively 36% and 21%).

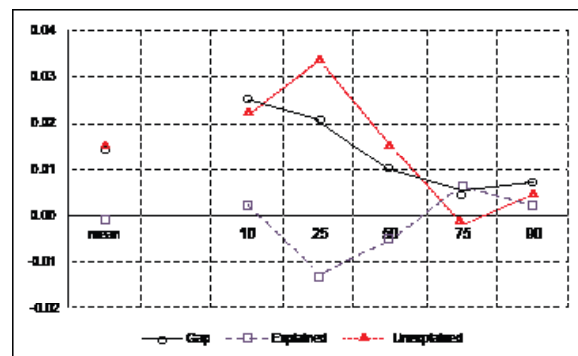
<sup>27</sup> Gradín (2012) studied the implications of this to explain observed occupational segregation by race in Costa Rica, along with other Latin American countries, using the 2000 Census. Of particular noteworthiness was the segregation of black women into the best occupations due to their relatively higher achieved education.

The negative effects are larger than the positive effects, and the explained portion of the overall gap is negative, although small. This means the whole observed gap remains unexplained (it is even a bit higher) after controlling for characteristics, and its magnitude is similar to that of mulattoes (0.015 versus 0.014). Comparing the results for blacks and mulattoes, blacks have an average higher wellbeing than that of mulattoes because of their higher achieved education, better jobs, and higher urbanization, combined with a lower number of children and lower proportion of (Nicaraguan) immigrants among them.

The gap between whites/mestizo and blacks also shows a particular distributive pattern. The observed gap is largest at the bottom of the distribution and cannot be explained by characteristics, because as with the mean gap, the positive contribution of some characteristics is compensated by the negative effect associated with others. The explained gap is even negative at the 25<sup>th</sup> and 50<sup>th</sup> quantiles. It is worth noting that the gap explained by education is negative over the entire distribution (although not significant at the 10<sup>th</sup> percentile), as is the contribution of the area of residence.

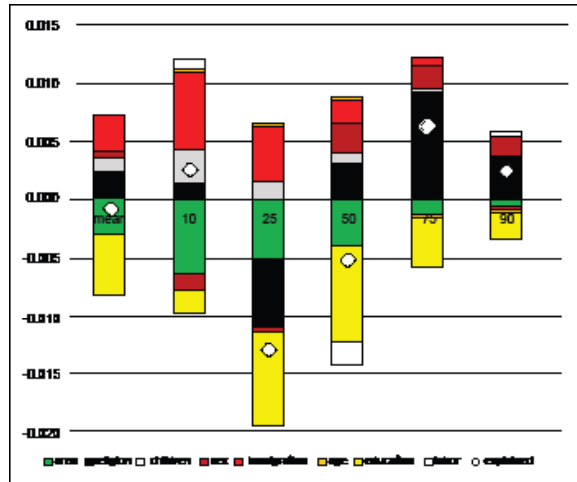
Among the detailed unexplained effects (Table A5), the large and significant positive effect of education is remarkable (it is significant at 10% at the mean and 25<sup>th</sup> percentile), indicating that some blacks take little advantage of their higher levels of education when it comes to translating that into a higher level of wellbeing. This is a reflection of this group having lower economic opportunities, which is consistent with their high rates of migration and the perception of discrimination in the labor market against them.

**Figure 9.**  
**Aggregate decomposition of the gap in wellbeing: Blacks**  
Mean and selected quantiles



Source: Own construction based on 2011 Census.

**Figure 10.**  
**Detailed decomposition (characteristics effect) of the gap in wellbeing: Blacks**  
 Mean and selected quantiles



Source: Own construction based on 2011 Census.

## 6.CONCLUSIONS

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Mulattoes and indigenous people show levels of wellbeing generally lower than those who claim to be white/mestizo in Costa Rica. The gap for mulattoes is relatively constant along the distribution, while for indigenous people it is the largest at the bottom. Most of the average differential in wellbeing in both groups is explained by their poorer endowments, especially their lower achieved education, poorer performance in the labor market, as well as the higher rate of immigrants among mulattoes and the concentration of indigenous people in the poorest rural areas of the country.

The factors that are more explicative for racial/ethnic differences among the poor diverge for both minorities. The higher number of children is important for both minorities, but while lower attained education and higher concentration in rural areas are the most important to explain the gap for indigenous people, the higher rate of immigration explains the largest portion for mulattoes. However, it is important to note that the racial/ethnic gap among the poor tends to remain substantial after controlling for inter-group differences in characteristics. We have identified a number of factors that have a substantial different impact on the wellbeing of minorities and the majority. This is the case of the region of residence or the number of children but, in the case of indigenous people, also labor market or immigration status.

We found similar patterns for immigrants from Nicaragua and Panama compared with those born in Costa Rica. While their lower attained education is the main factor explaining lower wellbeing among poor Nicaraguans, the main factor in the case of Panamanians is their higher proportion of Indigenous people (generally poorer), although also their lower achieved education and higher proportion living in rural areas are important factors. Nicaraguans stand out for showing large and significant unexplained effects of education and labor market variables at the bottom of the distribution, indicative of their struggle to be accepted in the host country.

We have shown that blacks also have a higher rate of immigrants, are overrepresented on the poor Caribbean coast, and have more children than whites/mestizos. However, compared with the other minorities, the impact of these factors on wellbeing is smaller. And, unlike whites/mestizos, blacks have a higher prevalence than the majority of some characteristics associated with higher wellbeing, such as higher achieved education, or a higher proportion living in urban areas. Consequently, the gap should be reversed (blacks having better wellbeing) if they had the same characteristics as whites/mestizos. The lower advantage that some blacks take of their higher education, compared with whites/mestizos, is also an important aspect for this group.

This all indicates the existence of a clear divide in wellbeing along racial/ethnic/national lines, especially among the poor. A higher visibility of minorities in all type of statistics would be important for investigating in more depth the nature of these inequalities. Although Costa Rica has traditionally shown the lowest levels of poverty and inequality in the region, the recent trends point out that the country is catching up with its neighbors in this regard.



## REFERENCES

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Antón, J. and F. Del Popolo (2009), “Visibilidad estadística de la población afrodescendiente de América Latina: aspectos conceptuales y metodológicos”, in Antón, J., A. Bello, F. Del Popolo, M. Paixão, and M. Rangel, *Afrodescendientes en América Latina y el Caribe - del reconocimiento estadístico a la realización de derechos*, Series Población y Desarrollo, 87, pp. 13-38, ECLAC, UN: Santiago de Chile.

Bello, A. and M. Paixão (2009), “Una mirada a la situación de los derechos de los afrodescendientes en América Latina”, in Antón, J., A. Bello, F. Del Popolo, M. Paixão, and M. Rangel, *Afrodescendientes en América Latina y el Caribe - del reconocimiento estadístico a la realización de derechos*, Series Población y Desarrollo, 87, pp. 39-85, ECLAC, UN: Santiago de Chile.

Blinder, A.S. (1973), “Wage discrimination: reduced form and structural estimates”, *Journal of Human Resources*, 8 (4): 436–55.

Campbell, E. (2012), “Afrodescendientes y Multiculturalismo según el Censo 2011”, presentation in Simposio ‘Costa Rica a la luz del Censo 2011, INEC, San José, Costa Rica.

Cappellari, L. and S.P. Jenkins (2004), “Modeling low income transitions”, *Journal of Applied Econometrics*, 19: 593–610.

Cruces, G., C. García, and F. Pinto (2012), “Visibilidad estadística Datos sobre población afrodescendiente en censos y encuestas de hogares de América Latina” Proyecto regional Población afrodescendiente de América Latina II, United Nations Development Program: Panama.

ECLAC (2009), *Censos 2010 y la inclusión del enfoque étnico: hacia una construcción participativa con pueblos indígenas y afrodescendientes de América Latina*. Serie Seminarios y Conferencias 57, Economic Commission for Latin America, United Nations: Santiago de Chile.

ECLAC (2012), *Social Panorama of Latin America 2012*. Santiago, Chile: Economic Commission for Latin America, United Nations.

Firpo, S., N.M. Fortin, and T. Lemieux, (2007), “Decomposing Wage Distributions Using Recentered Influence Function Regressions,” Unpublished Manuscript, University of British Columbia.

Firpo, S., N.M. Fortin, and T. Lemieux, (2009), “Unconditional Quantile Regressions”, *Econometrica*, 77: 953–973.

Fuentes, E. (2013), “Características demográficas y socioeconómicas de las poblaciones indígenas de Costa Rica (Censo 2011)”, mimeo, INEC, San José, Costa Rica.

Gindling, T.H. and J.D. Trejos (2013), “The distribution of income in Central America”, Institute for Labor Studies (IZA) Discussion Paper No. 7236, IZA, Bonn, forthcoming in D. Sánchez-Ancochea and S. Martí (eds.), *The Handbook of Central American Governance*, Routledge Publishers.

Gradín, C. (2009), “Why is poverty so high among Afro-Brazilians? A decomposition analysis of the racial poverty gap”, *Journal of Development Studies*, 45(9): 1-38.

Gradín, C. (2012), “Occupational Segregation of Afro-Latinos”, in J.A. Bishop and R. Salas (ed.) *Inequality, Mobility and Segregation: Essays in Honor of Jacques Silber* (Research on Economic Inequality, Vol. 20), Emerald Group Publishing Limited: 63-90.

Gradín, C. (2013a), “Race, poverty, and deprivation in South Africa”, *Journal of African Economies*, 22(2): 187-238.

Gradín, C. (2013b), “Rural Poverty and Ethnicity in China”, Paper presented at the Workshop ‘Poverty Reduction in Asia’, Asian Development Bank and Sogang University, Seoul.

Gradín, C. (2014), “Race and income distribution: Evidence from the US, Brazil and South Africa”, forthcoming in *Review of Development Economics*.

Hall, G. and H.A. Patrinos (Eds.) (2006), *Indigenous Peoples, Poverty and Human Development in Latin America: 1994–2004*, Palgrave-Macmillan.

IACHR (2011), “The Situation of People of African Descent in the Americas”, Inter-American Commission on Human Rights, Organization of American States.

IWGIA (2013a), “Indigenous peoples in Costa Rica”, <http://www.iwgia.org/regions/latin-america/costa-rica>, International Work Group for Indigenous Affairs, Copenhagen.

IWGIA (2013b), *The Indigenous World 2013*, International Work Group for Indigenous Affairs, Copenhagen.

Lennox, C. and Minott (2011), “Inclusion of Afro-Descendants in Ethnic Data Collection: Towards Visibility”, *International Journal on Minority and Group Rights*, 18: 257–275.

López, L.A. (2013), “Evaluación metodológica de la pregunta étnico-racial del censo 2011 de Costa Rica”, Proyecto regional Población afrodescendiente de América Latina II, United Nations Development Program: Panama.

Marquette, C.M. (2006), “Nicaraguan Migants in Costa Rica”, Población y Salud en Mesoamérica, 4(1): 1-30.

Medina, F. and M. Galván (2008), “Descomposición del coeficiente de Gini por fuentes de ingreso: Evidencia empírica para América Latina 1999-2005”, Serie Estudios estadísticos y prospectivos No 63, Santiago, Chile: Economic Commission for Latin America, United Nations.

Meléndez, C. and Q. Duncan (2012), *El Negro en Costa Rica*, Editorial Costa Rica, 12<sup>th</sup> edition, San José.

Minott, C. (2005), “Historia y avances legislativos de Costa Rica en materia de discriminación”, Seminario internacional sobre el avance de equidad e inclusión social, Brasilia.

Murillo, C. (1999), “Vaivén de arraigos y desarraigos: identidad afrocaribeña en Costa Rica, 1870-1940”, *Revista de Historia*, 39: 187-206.

Ñopo, H. (2012), *New Century, Old disparities: Gender and Ethnic Earning Gap in Latin America and the Caribbean*, Inter-American Development Bank and World Bank: Washington.

Oaxaca, R. L. (1973), “Male-female wage differentials in urban labor markets”, *International Economic Review*, 14 (3): 693–709.

Oaxaca, R.L. and M.R. Ransom (1999), “Identification in detailed wage decompositions”, *Review of Economics and Statistics*, 81: 154-157.

Putnam, E. (1999), “Ideología Racial, Práctica Social y Estado Liberal en Costa Rica”, *Revista de Historia*, 39: 139-186.

Putnam, E. (2004), “La población afrocostarricense según los datos del censo de 2000”, en L. Rosero (ed.) *Costa Rica a la luz del censo del 2000*, Centro Centroamericano de Población de la Universidad de Costa Rica: San José, Costa Rica.

Rangel, M. (2009), “Una panorámica de las articulaciones y organizaciones de los afrodescendientes en América Latina y el Caribe”, in Antón, J., A. Bello, F. Del Popolo, M. Paixão, and M. Rangel, *Afrodescendientes en América Latina y el Caribe - del reconocimiento estadístico a la realización de derechos*, Series Población y Desarrollo, 87, pp 87-103, ECLAC, UN: Santiago de Chile.

Sandoval I., A.S. Solano, and C. Minott (2010), *Percepciones de los costarricenses sobre la población afrodescendiente*, UNICEF-IDESPO: San José, Costa Rica.

Solano, E. (2004), “La población indígena en Costa Rica según el censo 2000”, en L. Rosero (ed.) *Costa Rica a la luz del censo del 2000*, Centro Centroamericano de Población de la Universidad de Costa Rica: San José, Costa Rica.

Telles, E.E. (2002), “Racial ambiguity among the Brazilian population”, *Ethnic and Racial Studies*, 25(3): 415-441.

Trejos, J.D. (2012), “Pobreza, desigualdad y oportunidades: una visión de largo plazo”, Serie de Divulgación Económica, IICE-16, Instituto de Investigaciones en Ciencias Económicas, Universidad de Costa Rica, San José.

UNDP (2012), *Análisis de la situación socioeconómica de la población afroperuana y de la población afrocostarricense y su comparación con la situación de las poblaciones afrocolombiana y afroecuatoriana*, Proyecto Regional Población afrodescendiente de América Latina II, United Nations Development Program: Panama.

Yun, M.S. (2005), “A simple solution to the identification problem in detailed wage decompositions”, *Economic Inquiry*, 43: 766–772.

Yun, M.S. (2008), “Identification problem and detailed Oaxaca decomposition: a general solution and inference”, *Journal of Economic and Social Measurement*, 33 (1), pp. 27-38.

## **APPENDIX**



**Table A1.**  
**Summary variables used to construct the wellbeing composite index**

		MCA (1 <sup>st</sup> dimension)		Distribution (%)						
				Black	Mulato	white/ Mestizo	Indg.	Native	Nicaragua	Panama
Type of dwelling	independent house	0.02	7.28	91.8	94.0	94.7	90.1	95.2	89.7	92.0
	independent house in condominium	-3.04	9.44	1.2	0.7	1.4	0.3	1.2	1.0	1.1
	apartments building	-1.04	8.03	3.8	2.7	2.5	1.6	2.3	3.7	4.2
	apartment building in condominium	-2.58	9.11	0.8	0.3	0.4	0.2	0.3	0.3	0.6
	indigenous traditional	10.36	0.00	0.0	0.0	0.0	5.9	0.2	0.0	1.0
	room in bunkhouse	2.31	5.67	0.8	0.5	0.2	0.3	0.1	1.9	0.2
	Shack	5.26	3.59	1.5	1.7	0.6	1.3	0.6	3.1	0.8
	Other	0.93	6.64	0.2	0.1	0.1	0.2	0.1	0.3	0.1
Ownership of dwelling	Owned, already paid	-0.10	2.50	55.9	53.4	60.3	67.2	62.6	28.7	39.2
	owned, still paying	-1.49	3.48	11.0	9.3	11.9	5.5	11.7	5.5	5.8
	Rented	0.09	2.37	22.8	23.5	18.3	11.0	16.4	43.6	14.7
	provided by employer	2.13	0.93	4.3	4.3	2.9	8.6	2.6	10.3	32.3
	free by other reason	1.77	1.18	3.4	5.2	4.5	4.9	4.6	4.4	6.0
	Squatter	3.45	0.00	2.2	3.4	1.3	0.7	1.2	6.8	0.7
	Other	1.44	1.41	0.5	0.8	0.7	2.1	0.7	0.6	1.3
Predominant wall material	block or brick	-0.98	8.69	58.4	49.6	59.2	31.8	58.4	40.4	38.6
	baseboard (cement-wood/fibrocement)	1.07	7.24	8.6	10.3	10.7	11.1	10.7	11.7	12.7
	wood	2.36	6.34	14.6	16.6	12.5	30.2	12.6	25.2	29.6
	prefabricated or tile	0.14	7.90	12.4	14.8	12.2	17.5	12.9	9.3	10.7
	fibrolit, ricalit (fibrocement sheet)	0.96	7.32	3.6	4.7	3.5	2.9	3.5	5.7	3.6
	natural fibers	11.36	0.00	0.0	0.0	0.0	3.9	0.1	0.0	0.5
	waste material	6.47	3.44	0.2	0.3	0.2	0.3	0.1	0.9	0.1
	other (zinc, adobe)	3.07	5.83	2.1	3.8	1.7	2.4	1.6	6.8	4.1
Predominant roof material	zinc	0.01	7.29	97.6	97.9	97.9	92.5	97.9	97.7	96.9
	fibrocement	-0.97	7.98	2.0	1.5	1.4	0.8	1.3	1.3	0.8
	natural material	10.36	0.00	0.0	0.0	0.0	5.9	0.2	0.0	1.0

		MCA (1 <sup>st</sup> dimension)		Distribution (%)						
				Black	Mulato	white/ Mestizo	Indg.	Native	Nicaragua	Panama
	waste material	8.06	1.62	0.1	0.1	0.1	0.2	0.1	0.3	0.1
	other	-2.22	8.86	0.4	0.4	0.7	0.5	0.6	0.7	1.2
Interior ceiling	yes	-0.98	2.05	65.2	55.1	68.7	39.1	67.6	44.8	49.6
	no	1.94	0.00	34.8	44.9	31.3	60.9	32.4	55.2	50.4
Predominant material in floor	ceramic, terrazzo ...	-1.09	8.82	60.7	51.2	65.8	31.5	64.9	36.9	36.0
	cement	1.60	6.93	26.5	37.0	25.5	37.1	26.1	43.7	38.2
	wood	2.07	6.60	10.4	8.9	6.9	20.1	7.1	13.0	21.7
	natural material	11.44	0.00	0.0	0.0	0.0	1.0	0.0	0.0	0.1
	other material	-0.11	8.13	0.3	0.3	0.3	0.2	0.3	0.5	0.2
	none (dirt floor)	5.64	4.08	2.1	2.7	1.4	10.1	1.5	5.8	3.9
Condition of walls	poor	3.42	0.00	10.7	12.8	8.6	18.6	8.7	19.0	18.4
	fair	1.27	1.52	30.6	36.9	28.2	35.4	28.5	43.3	37.0
	good	-1.12	3.19	58.7	50.3	63.2	46.0	62.8	37.7	44.6
Condition of roof	poor	2.90	0.00	10.9	13.3	9.2	15.8	9.4	17.7	15.4
	fair	1.21	1.19	30.6	33.7	27.1	34.1	27.4	39.7	37.3
	good	-1.00	2.75	58.6	53.0	63.7	50.2	63.2	42.5	47.3
Condition of floor	poor	3.41	0.00	9.6	12.7	8.6	19.2	8.7	18.7	16.9
	fair	1.47	1.36	27.7	32.9	24.3	33.4	24.6	39.8	38.7
	good	-1.05	3.14	62.6	54.4	67.1	47.3	66.7	41.6	44.5
People/Bedrooms	0-1	-0.77	2.43	30.5	19.2	26.7	22.3	26.2	15.7	21.3
	1-2	-0.33	2.13	43.8	50.7	53.7	39.0	53.9	40.8	35.8
	2-3	1.19	1.05	13.4	17.3	12.6	16.8	12.7	21.8	19.6
	>3	2.69	0.00	12.3	12.9	7.1	22.0	7.2	21.7	23.4
People/other rooms	0-1	-0.92	1.75	25.8	15.7	23.7	17.6	23.1	12.6	19.4
	1-2	-0.35	1.35	36.3	37.2	40.6	28.5	40.6	30.5	27.2
	2-3	0.42	0.80	18.2	23.3	20.4	20.8	20.5	24.4	19.0
	>3	1.56	0.00	19.7	23.7	15.4	33.0	15.8	32.4	34.5
Water Source (pipe)	rural or communal	0.73	1.81	16.8	22.2	24.4	28.0	24.6	24.1	20.2
	municipal	-0.76	2.86	5.6	11.5	16.4	5.5	16.0	9.9	5.8
	public	-0.41	2.62	66.6	53.6	47.9	32.7	47.9	50.1	43.0
	private	-1.12	3.11	3.9	4.7	5.0	3.0	4.7	4.8	6.6
	well	2.40	0.63	5.7	5.5	3.7	7.4	3.7	8.4	14.0
	river or stream	3.13	0.12	0.9	1.7	2.0	22.2	2.6	1.6	8.3
	other source	3.30	0.00	0.5	0.7	0.5	1.2	0.5	1.0	2.0

		MCA (1 <sup>st</sup> dimension)		Distribution (%)						
				Black	Mulato	white/ Mestizo	Indg.	Native	Nicaragua	Panama
Piped water	yes	-0.11	3.29	97.3	96.7	98.1	81.9	97.8	94.3	87.8
inside	no	4.56	0.00	2.7	3.3	1.9	18.1	2.2	5.7	12.2
Sewage	public sewer	-1.14	4.36	30.0	19.9	19.8	10.1	19.3	18.9	14.3
	septic tank	0.02	3.54	65.0	72.9	76.4	59.7	76.5	67.7	56.7
	direct to ditch, river...	1.94	2.19	1.1	2.2	1.0	1.0	0.9	3.7	1.4
	pit or latrine	5.05	0.00	3.4	4.4	2.5	28.3	2.9	9.2	25.8
	no toilet	4.71	0.24	0.5	0.6	0.3	1.0	0.4	0.5	1.8
Source of electric lighting	public	-0.19	4.63	91.0	88.7	88.0	66.3	87.5	82.7	81.1
	cooperative	0.74	3.98	7.4	9.7	11.2	12.0	11.2	14.6	7.0
	solar panel	4.22	1.53	0.1	0.1	0.1	2.0	0.1	0.1	0.7
	other source	3.70	1.89	0.2	0.3	0.1	0.7	0.1	0.4	0.8
	no electricity	6.39	0.00	1.3	1.2	0.6	19.1	1.0	2.3	10.4
Cooking fuel	electricity	-0.66	2.65	47.9	48.9	54.8	29.2	54.4	40.3	23.1
	gas	0.25	2.01	44.9	42.6	37.7	30.6	37.3	47.1	51.7
	firewood, charcoal	3.10	0.00	6.6	8.1	7.1	39.3	7.9	12.0	24.2
	other	2.76	0.24	0.2	0.1	0.1	0.4	0.1	0.1	0.3
	none	1.51	1.12	0.4	0.3	0.3	0.4	0.3	0.6	0.7
Trash disposal	collected by sanitation service	-0.47	3.74	84.2	82.7	84.1	45.3	83.1	77.5	55.5
	Buried	2.24	1.83	3.7	4.9	4.9	20.8	5.3	6.2	17.3
	burned	2.32	1.78	10.8	11.3	9.8	27.0	10.3	14.7	21.6
	thrown away on vacant lots	4.85	0.00	0.2	0.2	0.2	5.4	0.4	0.6	3.2
	thrown away on river	3.73	0.79	0.0	0.1	0.1	0.1	0.1	0.2	0.2
	...									
	Other	0.59	2.99	1.0	0.8	0.9	1.4	0.9	0.8	2.3
Selective collection of plastic, glass, aluminum	yes	-0.38	0.46	36.3	38.3	42.7	41.5	42.3	36.6	36.9
	no	0.28	0.00	63.7	61.7	57.3	58.5	57.7	63.4	63.1
Selective collection of paper	yes	-0.47	0.52	32.2	32.9	36.6	35.4	36.1	31.8	32.9
	no	0.27	0.00	67.8	67.1	63.4	64.6	63.9	68.2	67.1
Selective collection	yes	-0.02	0.02	35.9	37.8	40.3	41.8	40.4	34.3	34.9



		MCA (1 <sup>st</sup> dimension)		Distribution (%)						
				Black	Mulato	white/ Mestizo	Indg.	Native	Nicaragua	Panama
of organic waste	no	0.01	0.00	64.1	62.2	59.7	58.2	59.6	65.7	65.1
Radio, sound system	yes	-0.31	1.08	78.9	76.0	80.4	68.9	80.2	71.0	70.8
	no	1.22	0.00	21.1	24.0	19.6	31.1	19.8	29.0	29.2
Landline phone	yes	-0.92	1.55	56.7	47.6	60.2	33.6	60.3	28.1	32.0
	no	1.29	0.00	43.3	52.4	39.8	66.4	39.7	71.9	68.0
TV (plasma, LCD, LED)	yes	-1.80	1.59	19.6	14.9	21.2	10.2	20.5	11.3	14.9
	no	0.46	0.00	80.4	85.1	78.8	89.8	79.5	88.7	85.1
TV (conventional)	yes	-0.10	0.78	90.0	90.7	91.9	67.4	91.6	88.1	72.4
	No	1.01	0.00	10.0	9.3	8.1	32.6	8.4	11.9	27.6
TV (cable/satellite)	Yes	-1.26	1.63	51.1	40.5	47.1	23.9	46.2	32.1	30.2
	No	1.06	0.00	48.9	59.5	52.9	76.1	53.8	67.9	69.8
Water heater	Yes	-2.08	1.64	13.0	8.5	11.3	4.7	10.6	6.3	8.9
	No	0.26	0.00	87.0	91.5	88.7	95.3	89.4	93.7	91.1
Water tank	Yes	-0.86	0.70	13.5	10.5	13.0	10.0	12.6	10.2	12.3
	no	0.13	0.00	86.5	89.5	87.0	90.0	87.4	89.8	87.7
Desktop PC	yes	-1.47	1.60	31.6	27.1	36.9	16.8	36.4	16.5	18.9
	no	0.80	0.00	68.4	72.9	63.1	83.2	63.6	83.5	81.1
Laptop	yes	-1.81	1.74	25.6	18.0	28.2	14.0	27.3	10.6	18.5
	no	0.66	0.00	74.4	82.0	71.8	86.0	72.7	89.4	81.5
Internet	yes	-1.83	1.95	34.0	24.1	35.6	15.9	34.6	13.5	22.3
	no	0.94	0.00	66.0	75.9	64.4	84.1	65.4	86.5	77.7
Car (private use)	yes	-1.44	1.64	27.1	27.0	40.3	18.8	39.6	14.2	22.3
	no	0.89	0.00	72.9	73.0	59.7	81.2	60.4	85.8	77.7
Motorcycle (private use)	yes	-0.36	0.29	8.1	11.4	12.4	7.2	12.6	6.9	4.3
	no	0.05	0.00	91.9	88.6	87.6	92.8	87.4	93.1	95.7
Adults/ cellphone lines	none	2.11	0.00	11.3	9.7	8.7	35.8	9.4	13.0	31.0
	0-1	-0.77	2.03	45.8	45.4	48.6	23.7	48.2	35.2	29.2
	1-2	0.13	1.39	32.5	31.7	30.6	24.6	30.4	35.0	24.4
	2-3	0.81	0.92	6.1	7.6	7.3	8.6	7.3	9.6	6.1
	>3	1.31	0.56	4.3	5.6	4.7	7.2	4.7	7.2	9.3
Condition of dwelling	poor	3.58	0.00	10.0	11.9	7.9	17.6	8.0	17.8	17.1
	fair	1.40	1.53	31.1	36.9	28.4	37.0	28.8	43.5	40.1

		MCA (1 <sup>st</sup> dimension)		Distribution (%)						
				Black	Mulato	white/ Mestizo	Indg.	Native	Nicaragua	Panama
	good	-1.16	3.34	59.0	51.2	63.7	45.4	63.2	38.7	42.8
Public	yes	-0.20	1.05	82.7	81.9	87.0	84.6	87.5	71.6	64.4
insurance (householder)	no	1.29	0.00	17.3	18.1	13.0	15.4	12.5	28.4	35.6

Source: Own construction based on 2011 Census.

**Table A2.**  
**Sample composition (%) by race/ethnicity and country of origin**

	White/ mestizo	Black	Mulatto	Indigenous	Native- born	Nicaragua	Panama	All
<b>Location</b>								
Great Metropolitan Area	52.5	33.5	51.2	23.0	50.6	54.1	25.2	51.3
Rest of Central Region	11.8	2.8	7.0	10.1	11.7	5.8	8.3	11.2
Chorotega	7.1	7.1	8.0	9.9	7.6	7.6	0.9	7.6
Pacific Central	5.5	5.0	7.8	2.9	5.8	4.6	1.5	5.7
Brunca	7.7	3.3	5.7	24.4	8.2	1.4	35.3	7.7
Atlantic Huetar	8.0	42.5	11.5	25.5	9.0	9.5	27.7	9.0
Northern Huetar	7.5	6.0	8.8	4.2	7.1	16.9	1.1	7.6
Urban	73.5	80.1	74.5	41.2	72.7	70.4	49.5	72.7
Rural	26.5	19.9	25.5	58.8	27.3	29.6	50.6	27.3
<b>Demographics</b>								
Male head	73.5	62.8	71.0	75.2	73.0	75.2	83.2	73.2
Female head	26.5	37.3	29.0	24.8	27.0	24.8	16.8	26.8
Head aged <35	21.5	23.2	27.7	25.5	21.4	33.4	33.5	22.1
Head aged 35-50	41.3	38.5	42.5	38.0	41.0	44.4	38.1	41.3
Head aged 51-64	24.4	26.0	20.6	22.2	24.7	15.2	18.9	24.1
Head aged 65+	12.8	12.3	9.2	14.3	12.9	6.9	9.5	12.6
N Children	1.3	1.4	1.5	1.9	1.29	1.60	2.54	1.3
<b>Education</b>								
Head: less than Primary	4.0	5.2	5.6	17.3	4.0	12.0	19.3	4.5
Head: primary	47.7	36.3	52.1	52.3	48.7	50.5	42.4	48.1
Head: high School	28.4	34.6	30.7	19.2	28.3	29.2	20.3	28.3
Head: college	20.0	23.8	11.6	11.2	19.1	8.3	18.0	19.1

	White/ mestizo	Black	Mulatto	Indigenous	Native- born	Nicaragua	Panama	All
% Adults with primary	39.6	31.3	44.6	48.3	40.4	45.6	37.4	40.1
% Adults with secondary	35.7	41.2	38.6	26.0	35.6	36.9	26.8	35.7
% Adults with college	21.5	23.4	12.3	12.0	20.7	8.3	17.9	20.5
<b>Immigration</b>								
Head born in same canton	46.6	45.8	39.2	56.1				46.3
Head born in another canton	42.4	33.7	38.2	27.9				41.2
Head born in Nicaragua	8.4	14.1	20.4	6.8				9.6
Head born in Panama	0.2	2.0	0.5	7.6				0.4
Head born in rest of CA	1.1	2.5	1.2	0.9				1.2
Head born in US & Canada	0.4	0.4	0.2	0.2				0.4
Head born in another country	0.9	1.4	0.4	0.5				1.0
Living same canton 5 years ago	88.3	87.1	86.4	89.0				88.1
Living in another canton 5 years ago	9.9	9.3	11.3	7.8				10.0
Living in another country 5 years ago	1.8	3.6	2.3	3.2				1.9
Household sends remittances	3.7	6.6	6.8	3.1				4.0
Household does not send remittances	96.3	93.4	93.2	96.9				96.1
<b>Race/ethnicity</b>								
Black or mulatto					7.0	17.2	12.5	7.7
White or mestizo					84.8	72.1	40.5	83.7
Indigenous					2.3	2.2	44.0	2.4
Other race/ethnicity					5.9	8.5	3.1	6.1
<b>Labor (head)</b>								
Unemployed	1.4	2.6	2.0	1.9	1.5	2.0	1.1	1.5
Not in the labor force	25.3	29.8	23.7	32.2	26.3	16.6	20.4	25.6
Legislators, senior officials & managers	1.4	1.4	0.7	0.4	1.3	0.5	1.7	1.3
Professionals	8.5	9.5	4.5	4.3	8.0	2.4	7.2	7.9
Technicians & associate professionals	7.2	5.1	5.6	3.6	7.1	3.4	5.7	6.9
Clerks	3.3	4.7	3.4	1.6	3.3	1.6	2.0	3.2
Service workers, shop & market sales	13.8	13.8	15.3	9.3	13.6	15.2	9.7	13.8
Skilled agricultural and fishery workers	4.8	3.0	3.8	13.8	5.2	3.3	5.8	5.0

	White/ mestizo	Black	Mulatto	Indigenous	Native- born	Nicaragua	Panama	All
Crafts & related trades workers	10.6	8.3	12.5	5.5	10.2	16.6	4.6	10.6
Plant & machine operators/ assemblers	8.3	5.3	8.4	3.8	8.4	5.5	2.7	8.1
Elementary occupations	15.5	16.6	20.4	23.7	15.1	33.0	39.2	16.1
Industry 1-9	13.0	11.5	13.3	30.9	13.1	20.7	42.0	13.5
Industry 10-19	4.9	3.6	5.0	2.7	4.8	5.5	2.0	4.8
Industry 20-29	2.7	1.6	2.9	0.9	2.6	2.7	1.1	2.6
Industry 30-39	3.6	2.5	3.1	2.1	3.6	2.9	1.9	3.5
Industry 40-49	22.3	15.2	24.1	11.7	21.8	25.6	13.9	22.1
Industry 50-59	4.2	8.6	5.5	2.8	4.2	6.0	2.3	4.4
Industry 60-69	3.8	2.7	2.5	1.5	3.6	1.9	1.9	3.6
Industry 70-79	1.7	1.7	1.3	0.6	1.6	1.2	1.5	1.7
Industry 80-89	12.3	14.1	11.3	8.6	12.4	7.8	8.4	12.1
Industry 90-99	4.8	6.2	5.3	4.2	4.6	7.2	3.6	4.8
<b>Labor (household)</b>								
Household receives remittances	3.1	9.0	3.3	2.9	2.8	4.0	6.3	3.2
Household does not receive remittances	96.9	91.1	96.7	97.1	97.2	96.0	93.7	96.8
% Adults Employed	54.0	52.0	54.0	46.4	53.0	59.5	49.9	53.6
% Adults unemployed	1.7	2.8	2.3	1.8	1.8	2.2	1.2	1.8

Source: Own construction based on 2011 Census.

**Table A3.**  
**Decomposition of the gap in wellbeing (100·index) by race/ethnicity**

	Mulatto						Indigenous people					
	mean	p10	p25	p50	p75	p90	mean	p10	p25	p50	p75	p90
<b>White/mestizo</b>	75.73	60.94	68.66	77.13	84.20	88.89	75.73	60.94	68.66	77.13	84.20	88.89
	0.09	0.13	0.12	0.11	0.08	0.05	0.09	0.13	0.12	0.11	0.08	0.05
<b>Race/ethnic minority</b>	71.61	56.66	64.35	72.47	80.12	85.92	61.73	37.19	51.01	63.87	75.55	83.84
	0.14	0.26	0.20	0.18	0.15	0.14	0.40	0.92	0.64	0.48	0.45	0.33
<b>Gap</b>	4.12	4.28	4.30	4.66	4.08	2.98	14.00	23.75	17.64	13.26	8.65	5.06
	0.12	0.25	0.19	0.16	0.14	0.13	0.38	0.91	0.63	0.46	0.43	0.31
<b>Explained</b>	2.73	2.23	2.41	3.10	3.05	2.85	10.81	8.99	11.91	12.00	12.89	8.16
	0.10	0.17	0.12	0.13	0.11	0.11	0.35	0.84	0.52	0.39	0.38	0.33
<b>Region</b>	0.21	0.33	0.27	0.24	0.16	0.11	1.95	-0.28	0.72	2.51	4.03	3.01
	0.03	0.08	0.04	0.04	0.03	0.03	0.20	0.42	0.37	0.32	0.38	0.30
<b>Area</b>	-0.03	-0.06	-0.04	-0.04	-0.02	-0.01	2.73	2.42	3.76	3.29	3.06	0.86
	0.01	0.03	0.02	0.02	0.01	0.00	0.17	0.46	0.33	0.30	0.28	0.23
<b>Children</b>	0.33	0.54	0.41	0.33	0.20	0.10	0.98	2.35	1.13	0.91	0.25	0.08
	0.03	0.07	0.05	0.04	0.02	0.02	0.22	0.60	0.48	0.20	0.12	0.07
<b>Sex</b>	0.03	0.01	0.01	0.04	0.04	0.04	0.01	0.04	0.04	0.02	-0.04	-0.05
	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.04	0.03	0.02	0.02	0.03
<b>Age</b>	0.11	0.03	0.12	0.17	0.13	0.08	0.00	-0.11	-0.02	0.02	0.04	0.09
	0.02	0.05	0.04	0.03	0.03	0.02	0.05	0.12	0.08	0.05	0.04	0.03
<b>Education</b>	1.05	0.44	0.65	1.18	1.50	1.56	3.32	4.10	4.09	2.78	3.45	2.97
	0.05	0.07	0.06	0.06	0.08	0.09	0.26	0.66	0.48	0.25	0.23	0.22
<b>Immigration</b>	0.64	0.79	0.75	0.78	0.49	0.31	0.05	-0.80	0.36	0.30	0.12	-0.01
	0.04	0.09	0.06	0.06	0.04	0.04	0.12	0.45	0.25	0.14	0.12	0.09
<b>Labor</b>	0.40	0.14	0.23	0.40	0.55	0.65	1.77	1.27	1.84	2.18	1.98	1.19
	0.04	0.07	0.05	0.05	0.05	0.06	0.20	0.55	0.40	0.19	0.26	0.22
<b>Unexplained</b>	1.39	2.05	1.89	1.57	1.02	0.12	3.19	14.76	5.73	1.26	-4.24	-3.11
	0.09	0.20	0.15	0.12	0.13	0.16	0.19	0.45	0.31	0.31	0.39	0.46
<b>Region</b>	0.09	0.31	0.64	0.33	-0.20	-0.43	0.58	2.91	3.17	0.91	-2.40	-2.72
	0.08	0.18	0.17	0.14	0.10	0.10	0.17	0.36	0.36	0.25	0.39	0.37
<b>Area</b>	0.04	0.10	0.12	-0.07	-0.07	-0.06	-1.24	-0.37	-1.62	-1.61	-1.87	-0.55
	0.06	0.16	0.12	0.09	0.06	0.05	0.12	0.33	0.24	0.21	0.20	0.17
<b>Children</b>	0.38	0.55	0.12	0.42	0.46	0.33	0.52	2.15	0.12	0.43	-0.10	-0.03
	0.09	0.25	0.18	0.13	0.11	0.09	0.35	1.02	0.86	0.33	0.21	0.13

	Mulatto						Indigenous people					
	mean	p10	p25	p50	p75	p90	mean	p10	p25	p50	p75	p90
<b>Sex</b>	-0.01	-0.13	0.08	0.05	-0.01	-0.16	0.36	0.55	0.72	0.67	-0.11	-0.42
	0.05	0.15	0.08	0.08	0.06	0.07	0.12	0.42	0.30	0.15	0.15	0.14
<b>Age</b>	0.01	-0.19	0.03	0.09	0.05	-0.03	0.40	0.40	0.71	0.34	0.31	0.00
	0.05	0.12	0.09	0.07	0.06	0.06	0.15	0.53	0.27	0.13	0.13	0.10
<b>Education</b>	-0.90	1.37	1.20	-1.67	-3.33	-2.72	-3.61	-2.49	-10.05	-3.05	-5.48	-3.29
	1.06	3.83	1.74	1.06	0.69	0.48	1.56	6.34	3.08	1.61	1.21	0.89
<b>Immigration</b>	0.09	1.05	1.27	-0.02	-0.92	-0.49	0.77	3.34	3.65	0.07	-0.89	0.54
	0.34	0.91	0.60	0.51	0.60	0.70	1.21	3.61	1.74	1.26	1.37	1.62
<b>Labor</b>	0.33	-0.83	-1.06	1.03	1.56	1.02	1.86	4.86	1.32	-0.22	1.61	-0.18
	0.33	0.70	0.53	0.53	0.55	0.58	0.79	2.42	1.51	1.07	1.18	1.30
<b>Intercept</b>	1.35	-0.19	-0.51	1.40	3.50	2.66	3.54	3.42	7.70	3.72	4.68	3.54
	1.16	3.97	2.01	1.28	0.95	1.04	2.30	7.50	3.75	2.35	2.12	2.04

Source: Own construction based on 2011 Census.

**Table A4.**  
Decomposition of the gap in wellbeing (100-index) by country of birth

	Nicaragua						Panama					
	mean	p10	p25	p50	p75	p90	mean	p10	p25	p50	p75	p90
<b>Born in Costa Rica</b>	75.37	60.64	68.42	76.88	83.87	88.61	75.37	60.64	68.42	76.88	83.87	88.61
	0.11	0.15	0.13	0.12	0.09	0.06	0.11	0.15	0.13	0.12	0.09	0.06
<b>Foreign minority</b>	66.61	51.16	59.04	66.80	74.86	81.71	64.76	44.01	51.79	63.82	79.10	87.30
	0.16	0.31	0.23	0.19	0.18	0.19	0.80	1.21	1.09	1.35	1.13	0.61
<b>Gap</b>	8.76	9.47	9.38	10.08	9.01	6.90	10.62	16.63	16.63	13.06	4.77	1.31
	0.12	0.28	0.19	0.15	0.15	0.17	0.78	1.21	1.07	1.33	1.11	0.60
<b>Explained</b>	3.94	1.98	2.47	3.42	5.22	7.47	8.33	6.07	7.66	11.91	8.65	3.42
	0.15	0.36	0.21	0.15	0.15	0.21	0.88	1.50	1.33	1.48	1.34	0.84
<b>Region</b>	0.16	0.21	0.14	0.12	0.13	0.08	1.10	0.24	-1.16	0.01	3.82	2.55
	0.08	0.24	0.13	0.07	0.06	0.09	0.38	0.57	0.64	0.78	0.95	0.68
<b>Area</b>	0.08	0.11	0.11	0.09	0.07	0.04	1.40	2.11	2.73	1.89	0.54	0.20
	0.02	0.03	0.03	0.03	0.02	0.01	0.26	0.58	0.51	0.59	0.36	0.20
<b>Children</b>	0.38	0.56	0.47	0.37	0.34	0.21	0.20	-0.51	1.31	0.73	-0.05	-0.15
	0.03	0.07	0.05	0.04	0.03	0.03	0.23	0.47	0.52	0.45	0.31	0.09
<b>Sex</b>	-0.01	0.01	0.00	-0.02	-0.01	-0.03	-0.21	0.12	-0.19	-0.14	-0.50	-0.53

	Nicaragua						Panama					
	mean	p10	p25	p50	p75	p90	mean	p10	p25	p50	p75	p90
	0.01	0.01	0.01	0.01	0.01	0.01	0.13	0.29	0.18	0.15	0.24	0.22
<b>Age</b>	0.35	-0.31	0.13	0.40	0.67	0.77	0.36	0.01	0.26	0.46	0.86	0.39
	0.04	0.12	0.06	0.05	0.06	0.07	0.15	0.39	0.28	0.23	0.23	0.15
<b>Education</b>	1.88	1.35	1.12	1.46	2.39	3.89	1.94	1.92	2.44	2.41	1.82	0.69
	0.07	0.13	0.08	0.09	0.12	0.18	0.40	1.00	0.78	0.64	0.55	0.22
<b>Race/ethnicity</b>	0.08	-0.02	0.06	0.14	0.11	0.14	2.53	2.64	1.67	4.25	0.94	0.45
	0.02	0.06	0.04	0.03	0.04	0.04	0.58	1.12	1.09	1.03	0.85	0.40
<b>Labor</b>	1.01	0.08	0.44	0.85	1.52	2.38	1.02	-0.48	0.59	2.29	1.22	-0.18
	0.08	0.16	0.11	0.10	0.10	0.16	0.39	0.91	0.72	0.65	0.62	0.41
<b>Unexplained</b>	4.83	7.49	6.91	6.66	3.79	-0.57	2.29	10.56	8.97	1.16	-3.88	-2.11
	0.15	0.32	0.23	0.18	0.19	0.27	0.62	1.08	0.96	1.20	1.23	0.96
<b>Region</b>	0.55	0.16	0.98	1.15	0.62	-0.13	-0.35	1.80	1.83	0.58	-4.61	-1.57
	0.10	0.26	0.16	0.12	0.13	0.15	0.50	0.51	0.72	0.88	1.27	0.81
<b>Area</b>	-0.07	0.36	-0.03	-0.17	-0.35	-0.34	-0.59	-0.60	-1.56	-1.07	-0.18	-0.11
	0.07	0.15	0.12	0.10	0.09	0.07	0.21	0.53	0.43	0.54	0.35	0.19
<b>Children</b>	-0.09	-0.69	-0.37	0.14	0.77	0.65	-1.43	-3.50	-0.95	-0.65	-0.67	-0.38
	0.11	0.25	0.21	0.13	0.12	0.12	0.22	0.46	0.32	0.39	0.31	0.08
<b>Sex</b>	0.16	0.06	0.17	0.23	0.30	-0.04	-0.23	0.22	-0.22	0.09	-0.74	-0.92
	0.06	0.16	0.10	0.08	0.08	0.11	0.28	0.65	0.40	0.34	0.52	0.46
<b>Age</b>	0.29	-0.35	0.03	0.30	0.72	0.72	-0.10	0.11	-0.39	-0.40	0.82	0.45
	0.05	0.14	0.08	0.06	0.08	0.11	0.20	0.54	0.35	0.30	0.41	0.25
<b>Education</b>	2.39	6.03	4.00	0.83	-2.46	-4.17	3.51	13.52	5.74	-4.04	-2.85	-2.92
	0.71	2.44	1.46	0.75	0.76	0.83	2.39	7.80	6.98	4.12	2.88	1.12
<b>Race/ethnicity</b>	1.47	3.92	1.72	-0.15	-0.58	-0.65	0.21	2.42	-0.25	-2.13	0.16	-0.51
	0.19	0.52	0.31	0.26	0.21	0.22	0.55	0.99	0.96	1.01	1.26	0.59
<b>Labor</b>	1.05	-1.82	0.08	1.11	2.56	4.24	-1.81	-1.16	-0.89	-9.61	3.98	1.02
	0.38	0.77	0.53	0.53	0.62	0.76	1.52	3.21	2.64	2.57	2.49	2.65
<b>Intercept</b>	-0.92	-0.18	0.33	3.22	2.19	-0.85	3.08	-2.26	5.67	18.39	0.20	2.83
	0.76	2.40	1.65	0.95	1.03	1.16	3.22	8.92	7.36	5.38	3.91	3.16

Source: Own construction based on 2011 Census.