

**The Economic Case for  
Combating Racial and Ethnic Exclusion  
in Latin American and Caribbean Countries**

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# **The Economic Case for Combating Racial and Ethnic Exclusion in Latin American and Caribbean Countries**

## **Executive Summary**

A clear understanding of the socioeconomic status of excluded racial and ethnic groups is crucial for designing and implementing effective programs and policies that promote development with equity. This research report uses information provided by the 1997 and 1998 household surveys from Bolivia, Brazil, Guatemala and Peru to demonstrate the negative economic impact of the social exclusion of Afro-descendant and indigenous groups in Latin American and Caribbean countries.

To understand the socioeconomic status of any racial or ethnic group, it is necessary to differentiate between two mutually dependent aspects of their poverty and deprivation: social exclusion and low income level. This report focuses on the exclusion of Afro-descendant and indigenous groups from fully participating in their country's investment in human capital and productive employment as both the causes and consequences of low income, economic inequality and the slow economic growth of Latin American and Caribbean countries. Disaggregated data regarding the distribution of mean earnings in terms of racial/ethnic identity, sex, age, and educational achievement were obtained from household surveys conducted in Latin America and the Caribbean; these were used to estimate the loss of aggregate production and income resulting from racial and ethnic exclusion.

Afro-descendant and indigenous groups have systematically lagged behind the white population in terms of educational achievement and skill accumulation over many generations in Latin America and the Caribbean. In addition, labor market discrimination and market segmentation along racial and ethnic lines have led to the restricted access of Afro-descendant and indigenous individuals to high productivity jobs and high growth industries. As a consequence, there is a disproportionate number of Afro-descendant and indigenous individuals in jobs and industries with lower than average productivity. Gaps in the accumulation of human capital, labor market discrimination, and a subordinate role in a segmented economy explain the persistent lower mean earnings of Afro-descendant and indigenous groups relative to whites in the region.

Following Brimmer's methodology, this study presents the projected gains in the economies of Bolivia, Brazil, Guatemala and Peru which could be generated from two different sources: i) potential gains in aggregate production and income arising from the full use of the existing education, skills, and experience of Afro-descendant and indigenous individuals in the jobs that they actually hold; and ii) potential gains in aggregate production and income due to expanding the education and skills of Afro-descendant and indigenous individuals to levels similar to those of the white population in those countries. The joint result from these two sources is the gain that would accrue to GDP if the human capital and productivity gaps in the labor force of Afro-descendant and indigenous groups relative to whites were eliminated.

The economies of Bolivia, Brazil, Guatemala and Peru would potentially expand at least by 36.7, 12.8, 13.6 and 4.2 percent respectively, as a result of ending the long-term social exclusion of Afro-descendant and indigenous groups. The materialization of these gains would, of course, only occur over many years. Such gains would require a systematic attack on the social exclusion of Afro-descendant and indigenous groups through multiple policy fronts, accompanied by

substantive changes in the productive and occupational structures of Latin American and Caribbean countries. The relevance of Brimmer's seminal approach lies in his demonstration of the gains for society as a whole--not just for the excluded groups--of ending racial and ethnic exclusion.

# **The Economic Case for Combating Racial and Ethnic Exclusion In Latin American and Caribbean Countries**

## ***Introduction***

This research report presents evidence that demonstrates the negative economic impact of the social exclusion of Afro-descendant and indigenous groups in Latin American and Caribbean countries. Afro-descendant groups account for 29 percent (150 million) and indigenous groups for 8 percent (40 million) of the population in the region. In Bolivia these racial and ethnic groups make up 51 percent of the population, in Brazil 45 percent, in Guatemala 49 percent, and in Peru 18 percent, as estimated by the responses to the household surveys which constitute the primary source of the data used in this report. This report uses information provided by household surveys in Bolivia, Brazil, Guatemala and Peru to argue that the social exclusion of Afro-descendant and indigenous groups and the concomitant racial and ethnic inequality generates an economic cost that the entire society of those countries pays.<sup>1</sup> Gaps in investment in human capital, low wages, and concentrated poverty among Afro-descendant and indigenous groups lead to losses in national production, income, and wealth creation.

A clear understanding of the socioeconomic status of excluded racial and ethnic groups is crucial for designing and implementing effective programs and policies that promote development with equity. The estimated losses in GDP that are incurred as a result of underinvestment in human capital and occupational discrimination against Afro-descendant and indigenous groups are sizable. These losses demonstrate the importance of the problem and underline the need for explicit attention by governments, members of the development community, and civil society organizations to address racial and ethnic exclusion in order to achieve more equitable and greater economic growth in the region.

The next section of this report discusses the concept of social exclusion and its interaction with human capital accumulation, poverty, income inequality and economic growth. The third section presents a quantitative analysis of the economic gains from ending racial and ethnic exclusion. It offers new evidence to argue the case for implementing policies and programs that target traditionally excluded groups. The final section summarizes the argument of the report and emphasizes the need for a common economic understanding and reasoning to overcome the political resistance to addressing the issue of racial and ethnic exclusion in Latin America and the Caribbean.

## ***The Social Exclusion of Afro-Descendant and Indigenous Groups, Inequality and Economic Growth***

Racial and ethnic differences permeate poverty and inequality indicators in Latin American and Caribbean countries. In particular, the exclusion of Afro-descendant and indigenous individuals from participation in and access to opportunities and activities is a crucial nonmaterial dimension of inequality and poverty. Manifestations of this exclusion are lack of access to: justice and the opportunity for social and political participation; assets and credit markets; adequate

infrastructure (water and sanitation, transportation, housing); relevant social services (health and education); and the labor market (employment and satisfactory earnings), among other aspects.

Sen (2000) emphasizes the need to differentiate between two mutually dependent aspects of poverty, deprivation and the freedom to lead minimally decent lives, that is, impoverished lives and lowness of income. Impoverished lives are manifestations of "relational failures." They express the exclusion from enriching social relations, the inability of individuals and groups to interact freely and productively with others, and to take part in the full economic, social and political life of a community (local or national). Bhalla and Lapeyere (1997) suggest that social exclusion also can be interpreted in terms of the mechanisms that limit part of the population from the most fruitful economic, social and political life of a community at the local and/or national levels. Incomplete citizenship or denial of civil rights (freedom of expression, rule of law, right to justice), of political rights (right and means to participate in the exercise of political power), and of socioeconomic rights (economic security and equality of opportunities) are key dimensions of impoverished social lives.

This research report focuses specifically on the lack of access of Afro-descendant and indigenous individuals to: i) opportunities for investment in human capital; and ii) productive employment as both the cause and consequence of shortage of income, economic inequality and slow economic growth. Specific and disaggregated information regarding the distribution of mean earnings in terms of the racial/ethnic group, age, sex, and educational achievement obtained from multipurpose household surveys in Latin America and the Caribbean were used to estimate the losses in aggregate income and production resulting from these two dimensions of racial and ethnic exclusion (see Tables 1 and 2). These estimates and the methodology used for their calculation are described in the next section of the report.

Human capital is the knowledge, skills, competencies and other attributes embodied in individuals that are relevant to economic activity. It is formed through different types of investment: it is nurtured by families and community organizations; formal education and training; on-the-job training; informal environments; and social capital (networks, norms, and relationships). Human capital is an intangible asset that enhances and supports employability, innovation, productivity, and income growth. (OECD 1998)

Over many generations, Afro-descendant and indigenous groups have systematically lagged behind the white population in terms of access to education, educational achievement and skills. The next section of the report presents summary evidence from 1997 and 1998 regarding racial and ethnic exclusion in formal education.

Discrimination in labor markets (due to employer and consumer preferences, or to perceived or real gaps in human capital of excluded groups) takes the form of: lower wages for Afro-descendant and indigenous individuals relative to that of white individuals given the same formal education and skill levels, and similar productive tasks performed under similar working conditions; of the segregation of Afro-descendant and indigenous individuals with similar formal education and skills as white individuals into lower productivity and lower paying jobs; and employers' requirement that Afro-descendant and indigenous individuals have higher qualifications than whites to earn the same wages. This discrimination persists over time when institutional rigidities, such as lack of government action, remain in place.

Persistent discrimination in the labor market can also lead to an economy segmented along racial and ethnic lines. In this type of segmented economy, the access of Afro-descendant and indigenous individuals to higher productivity and growth industries is restricted. As a

consequence, there is a disproportionate number of Afro-descendant and indigenous individuals in jobs and industries with lower than average productivity, which constrains their earning levels comparative to those of white individuals with similar levels of education and skills.

Labor market discrimination and market segmentation along racial and ethnic lines may also reproduce a disincentive--a lower rate of return--for Afro-descendant and indigenous individuals to invest in their own human capital. The negative impact of this disincentive on productivity growth is further enhanced when discriminatory employers invest less in training Afro-descendant and indigenous individuals than whites and when--due to the legacy of social exclusion and restricted access to political and social capital--governments, development institutions, and civil society organizations fail to invest in the human capital of Afro-descendant and indigenous individuals. The lower than average wages of the Afro-descendant and indigenous work force facilitate the survival of less innovative business firms and the reproduction of lower than average productivity firms and industries. Consequently, labor market discrimination and a segmented economy along racial and ethnic lines detract from aggregate production and income, and retard productivity growth and economic development.

Labor market discrimination against Afro-descendant and indigenous groups, gaps in their accumulation of human capital, and their subordinated role in a segmented economy explain their persistent lower mean earnings relative to whites in Latin America and the Caribbean. Initiatives leading to the expanded access to more productive employment and human capital investment by Afro-descendant and indigenous individuals would reverse the current pattern of inequality and translate into aggregated production and income gains for society as a whole. Consequently, these gains would facilitate the economic and financial conditions for enriching the lives of Afro-descendant and indigenous individuals and contribute positively on ending their social exclusion. The overall result would be to create a spiral of equitable development in those Latin American and Caribbean countries where excluded racial and ethnic groups represent a large proportion of the total population, as is the case of the four countries included in this study.

### ***A Measure of Long-term Discrimination Against Afro-Descendant and indigenous Groups***

This section of the report presents estimates of the economic gains for society as a whole of ending long-term discrimination against Afro-descendant and indigenous groups in Latin American and Caribbean countries. The methodology adopted to estimate the gains in Gross Domestic Product (GDP) resulting from the social inclusion of these large groups is based on the original work by Brimmer (1966, 1995). Following Brimmer's approach, this study presents the gains for the economies of Bolivia, Brazil, Guatemala and Peru which originated from two different sources: i) the gains in aggregate production and income arising from the full use of the existing education, skills, and experience of Afro-descendant and indigenous individuals in the jobs which they actually hold; and ii) the gains in aggregate production and income due to expanding the potential education and skills of Afro-descendant and indigenous individuals to levels similar to that of the White population in these countries. The combined result of these two sources is the potential gain that would accrue to GDP if the human capital and productivity gaps of the labor force of Afro-descendant and indigenous groups relative to whites were eliminated.

The materialization of these gains can only occur over many years. These gains require an attack on the social exclusion of Afro-descendant and indigenous groups through multiple policy fronts and substantive changes in the productive and occupational structures of these Latin

American and Caribbean countries. The full impact of initial increases in production and earnings from the excluded racial and ethnic groups would result in multiple rounds of income increases, analogous to the effect of the investment multiplier in income creation. The relevance of Brimmer's seminal approach lies in demonstrating the gains for society as a whole--not just for the excluded groups--of ending racial and ethnic discrimination. Brimmer's approach focuses exclusively on the estimation of these autonomous increases in GDP, that is, the initial stage of the multiple rounds of production and income expansion.

The first step in the procedure adopted in this report was to estimate the gains in production and income that would occur if the existing educational achievement and skills of Afro-descendant and indigenous individuals were fully used. Household surveys implemented in Bolivia, Brazil, Guatemala and Peru in 1997 and 1998 provided the primary data to initially answer the following question: What would be the gain in GDP if Afro-descendant and indigenous individuals with a given level of education and skills had the same average productivity and earnings as whites? For each age-sex-education group (ages 15 years and above) reported in the household surveys, the mean earnings from all jobs of Afro-descendant and indigenous individuals were multiplied by the number of individuals in each category and the results were totaled to produce the amount of monetary income received from all jobs by Afro-descendant and indigenous individuals in a given year. This monetary income was called the Base Income. Next, for each of the same age-sex-education categories, the mean earnings of Afro-descendant and indigenous individuals were changed to equal the mean earnings of whites and the multiplication and summation operations used in the Base Income were repeated. The resulting percentage increases in earnings from all jobs were called the Adjusted Case I: Full Use of Present Education.<sup>2</sup>

In the second step of the procedure, an estimate was made of the gains in money income from all jobs that would result if the educational levels of Afro-descendant and indigenous individuals were improved to the point where they equaled the education level of the white labor force, and if Afro-descendant and indigenous individuals had the same mean earnings as whites at the same level of education. The percentage increases in income resulting from these calculations relative to the income amount of Adjusted Case I were called the Adjusted Case II: Full Use of Improved Education. The Adjusted Case III: Total Gain in Income from Full Use of Present and Improved Education is the result from adding the first two percentage increases in the earnings of Afro-descendant and indigenous individuals. Table 1 presents the base levels of earnings from all jobs by Afro-descendant and indigenous individuals and the absolute gains in earnings used to calculate the percentage increases of Adjusted Cases I, II and III for Bolivia, Brazil, Guatemala and Peru.

The final step used the income increases of Afro-descendant and indigenous individuals obtained in Adjusted Cases I, II and III to calculate the corresponding gains in GDP for the four countries in this study. These gains are presented in Table 2. The economic cost of racial and ethnic exclusion for the society as a whole is visible in the four countries included in this study. The economies of Bolivia, Brazil, Guatemala and Peru would potentially expand at least by 36.7, 12.8, 13.6 and 4.2 percent respectively as a result of ending the long-term social exclusion of Afro-descendant and indigenous groups.

These estimates reflect the significant differentials of years of schooling and mean earnings between Afro-descendant/indigenous and white individuals as well as the distribution of total population in each country between these two racial and ethnic categories. Tables 3, 4 and 5 summarize the relevant information. In the case of Peru, the low estimate for the gains in GDP in

Table 2 is a direct expression of the very low percentage of indigenous groups in the total population captured in the household survey.

**Table 1**

**Gains in earnings from full use of present and potential educational achievement of Afro-descendant and indigenous groups  
Bolivia (1997), Brazil (1997), Guatemala (1998) and Peru (1997)**

Country and Currency	Base Income abs. (1)	Adjusted Case I		Adjusted Case II		Adjusted Case III	
		abs. (2)	% (3) = (2)/(1)	abs. (4)	% (5) = (4)/(1)	abs. (6)	% (7) = (6)/(1)
Bolivia (Peso 1,000)	12,390,288	7,164,339	57.8	8,188,829	66.1	15,353,168	123.9
Brazil (Real 1,000)	114,726,744	42,075,308	36.7	69,212,557	60.3	111,287,865	97.0
Guatemala (Quetzal 1,000)	17,242,528	5,560,216	32.2	10,951,149	63.5	16,511,365	95.8
Peru (Nuevo Sol 1,000)	8,505,871	3,053,778	35.9	4,255,390	50.0	7,309,168	85.9

Sources: Household surveys and the Inter-American Development Bank

**Table 2**

**Estimated gains in GDP from full use of present and potential educational achievement of Afro-descendant and indigenous groups (%)  
Bolivia (1997), Brazil (1997), Guatemala (1998) and Peru (1997)**

Country	Adjusted Case I	Adjusted Case II	Adjusted Case III
Bolivia	17.12	19.56	36.68
Brazil	4.85	7.98	12.83
Guatemala	4.59	9.04	13.63
Peru	1.76	2.45	4.21

Sources: Household surveys and the Inter-American Development Bank

**Table 3**

**Total population and percentage of Afro-descendant and indigenous individuals in the economically active population (15 years old and more)**  
**Bolivia (1997), Brazil (1997), Guatemala (1998) and Peru (1997)**

Country	Population	Afro-descendant and indigenous individuals in the economically active population (%)
Bolivia	7,826,844	49.32
Brazil	156,046,423	43.94
Guatemala	10,553,326	44.70
Peru	24,328,072	17.82

Sources: Household surveys and the Inter-American Development Bank

**Table 4**

**Unemployment rates and years of education (15 years old and more)**  
**Bolivia (1997), Brazil (1997), Guatemala (1998) and Peru (1997)**

Country	Unemployment rate (%)		Average years of schooling	
	Afro-descendant and indigenous	Whites	Afro-descendant and indigenous	Whites
Bolivia	0.74	2.29	5.07	9.11
Brazil	8.95	7.44	4.57	6.67
Guatemala	0.92	2.34	2.59	5.42
Peru	1.49	4.83	5.87	9.16

Sources: Household surveys and the Inter-American Development Bank

**Table 5**

**Monthly mean earnings from all jobs  
Bolivia (1997), Brazil (1997), Guatemala (1998) and Peru (1997)**

Country and Currency	Afro-descendant and indigenous	Whites
Bolivia (Peso)	650.14	1,308.63
Brazil (Real)	324.70	651.30
Guatemala (Quetzal)	827.66	1.560.79
Peru (Nuevo Sol)	366.15	621.66

Sources: Household surveys and the Inter-American Development Bank

A comparison of the data from household surveys in Brazil for 1990 and 1997 shows an improvement in the aggregate mean earnings of Afro-descendants relative to whites. The ratio between the monthly mean earnings from all jobs of Afro-descendant and white individuals increased from 0.468 in 1990 to 0.499 in 1997. (Table 6) This positive change expresses the general redistributive effects of the macroeconomic reforms introduced in Brazil after 1993, rather than an explicit strategy to combat racial exclusion. Neri and Camargo (2000) present evidence that demonstrates the positive redistributive effects of price stabilization for all population groups. The Gini coefficient relative to the income from all jobs for the entire employed population declined from 0.600 in 1990 to 0.578 in 1997 and the Gini coefficient relative to all sources of income for the economically active population declined from 0.605 in 1990 to 0.583 in 1997.<sup>3</sup>

The change in mean earnings can be used to compare the gains in the total earnings of Afro-descendants and in GDP for 1990 and 1997 in Brazil.<sup>4</sup> The potential gains in total earnings from the full use of the present educational achievement of Afro-descendants (Adjusted Case I) would have declined from 41.4 percent in 1990 to 36.7 percent in 1997. (see Table 1) In addition to the relative gains in the mean earnings of Afro-descendants, this difference reflects a small increase in the Afro-descendant share of the Brazilian population from 44.2 percent in 1990 to 45.1 percent in 1997. The potential gains in GDP from the full use of the present educational achievement of Afro-descendant individuals (Adjusted Case I) would have declined from 5.48 percent in 1990 to 4.85 percent in 1997. If we disregard the minor improvements in the educational achievement of Afro-descendants relative to white individuals between 1990 and 1997, we can use this decline to estimate the total gains in GDP. The Adjusted Case III would

have been approximately 13.46 percent in 1990 instead of the 12.83 percent estimated for 1997. (see Tables 2, 6 and 7).

**Table 6**  
**Brazil: Changes in racial inequality in the 1990s**

Years and Currency	Monthly mean earning from all jobs Afro-descendants (1)	Whites (2)	(1)/(2)	Afro-descendants in total population (%)	Gains in GDP Adj. Case III (%)
1990 (Cruzeiro)	15,085.00	32,212.00	0.468	44.2	13.46
1997 (Real)	324.70	651.30	0.499	45.1	12.83

Sources: Household surveys and the Inter-American Development Bank

**Table 7**  
**Brazil: Changes in educational achievement in the 1990s**

Race and years of education	Distribution of individuals 10 and more years old (%)	
	1990	1997
<b>Whites</b>		
0 and less than 1	11.8	9.9
1 to 3	20.0	15.9
4 to 7	36.5	35.7
8 and more	31.7	38.4
Average years of education	5.9	6.5
<b>Blacks</b>		
0 and less than 1	28.3	22.3
1 to 3	26.5	23.5
4 to 7	31.2	33.8
8 and more	14.0	20.4
Average years of education	3.8	4.6
<b>Mulattos</b>		
0 and less than 1	26.3	21.8
1 to 3	27.0	24.6
4 to 7	30.5	33.0
8 and more	16.1	20.6
Average years of education	4.0	4.6

Sources: Household surveys and the Inter-American Development Bank

Here, a note of caution must be added to indicate the methodological limitations and precise economic meaning of the above estimates in Tables 1, 2 and 6. These estimates indicate the direction as well as the large magnitude of the changes in the volume of aggregated production and income that would result from ending occupational discrimination and increasing the investment in the human capital of Afro-descendant and indigenous individuals. Based on the characteristics of the labor market described in the second part of this report, the increases in the earnings of Afro-descendant and indigenous groups that would generate the gains in GDP are the direct result of ending the social exclusion of these groups.

The effective economic impact of the policy initiatives to eliminate the social exclusion of Afro-descendant and indigenous individuals, however, would depend additionally on the adjustment of a broad set of factors not made explicit in this empirical exercise. The relevant factors include multiple economic, social, political, institutional, and cultural aspects. Sustained and harmonious changes over time in these additional factors are requisites for the successful implementation of such policy initiatives.

The importance of this broader set of requisites for the social inclusion of racial and ethnic groups is suggested, for instance, by Lam's comparative study of schooling and earnings in South Africa and Brazil. Lam (1999) found out that schooling plays a very large role in explaining the differential levels of earning inequality in both countries. He also discovered that changes over time in schooling had a different impact on reducing income inequality in the two countries. In addition, he demonstrated that income inequality inertia was in part a result of differential rates of transmission of educational achievement across generations.<sup>5</sup>

The elimination of racial and ethnic exclusion, poverty and inequality in Latin America and the Caribbean constitutes, therefore, a tall order. It will demand, among other aspects, profound transformations in the economic structures as well as the mobilization of a vast amount of financial and human resources. In this sense, the analysis presented in this research report carries the risk of being perceived as an oversimplification of the complex processes involved in social transformation.

The methodological procedures presented in this report, nevertheless, seek to demonstrate that there are significant rewards to be gained from a strategy of social inclusion of Afro-descendant and indigenous individuals. This strategy could start by promoting more and better investment in human capital of Afro-descendant and indigenous individuals and by ending their occupational discrimination. These changes would generate an impact on their productivity and the levels of unemployment among these socially excluded groups, leading to increases in production, expenditure and income. National markets would thereby expand, leading to increases in the productivity of labor and capital, the incentives to investment in new plant and equipment, and the competitive strength of the economy as a whole, including those activities oriented to external markets. These changes would in turn help to sustain and reinforce over time the primary production and income effects of the social inclusion strategy.

### ***Concluding Remarks***

Racial and ethnic discrimination represents morally unacceptable elements in the process of development in Latin American and Caribbean countries that should and could be discontinued. A necessary starting point for confronting long-term racial and ethnic discrimination and designing policy initiatives to redress the resulting inequalities in

the region is to expand the availability and reliability of disaggregated data by race and ethnicity. Detailed knowledge about the nature and mechanisms of discrimination and social exclusion can help in the design of more effective programs of education, training, affirmative action, leadership promotion, access to credit, identity awareness and control of violence, among others, that deal openly with racial and ethnic discrimination.<sup>6</sup>

The mobilization of the political will and the purposeful design of specific inter-agency and community development programs and policy instruments to reach traditionally excluded groups is a complex endeavor. This political task should, however, benefit from the evidence that demonstrates the impact of social exclusion in the region and the need for explicit attention to racial and ethnic differences in order to achieve equitable growth. In particular, the political resistance that is often encountered when openly confronting racism and discrimination within the context of public policy debate can be effectively addressed by clearly showing the economic gains for society as a whole of ending racial and ethnic exclusion in the countries where persistent racial and ethnic inequality occurs.

Racial and ethnic exclusion and the low incomes of the socially excluded groups are two different yet interrelated aspects of poverty and inequality in Latin America and the Caribbean. This report investigated how the social exclusion of Afro-descendant and indigenous groups, as expressed in their lack of access to opportunities of investment in human capital and to productive employment, negatively affected aggregate production and income levels in the region. The estimated gains in aggregate production and income from eliminating income inequality among Afro-descendant, indigenous and white individuals demonstrate that a strategy oriented to combating social exclusion due to race and ethnicity can generate the economic returns commensurate with the political resistance involved in adopting such a strategy.

## *Notes*

1. The disaggregated information on mean earnings and population used in this study is based on original data from the household surveys produced by government and private agencies in the four countries. (see Appendix) The MECOVI-Programa para el Mejoramiento de las Encuestas y la Medicion de Las Condiciones de Vida en America Latina y el Caribe has published the results of these household surveys as part of its efforts to disseminate best practices in the elaboration of economic and social statistics. MECOVI is a program sponsored by the Inter-American Development Bank (IDB), the International Bank for Reconstruction and Development (IBRD), and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) to provide technical assistance to individual countries in all phases of data production, from questionnaire design to data analysis. MECOVI seeks to develop, maintain and update a data bank in the region on household surveys to help in the construction of social indicators to be used in policy design and analysis. The introduction to the appendix describes the survey procedures used to identify the Afro-descendant and indigenous groups referred to in this report. For an earlier application of Brimmer's technique, see Zoninsein (2001).

2. In addition to racial and ethnic background (differentiated among three general categories-- Afro-descendants, indigenous and white individuals) and sex, the specific groups for which the economically active population and mean earnings from all jobs served as the basis for all calculations were differentiated in terms of age (four categories: 15-24; 25-34; 35-44; and 45 years old and more) and educational achievement (five categories: zero years of education; some elementary school education; completed elementary school education; secondary education; college and graduate studies).

3. Gini coefficients are aggregate inequality measures and can vary from 0 (perfect equality) to 1 (one person holds all income). The Gini coefficient for countries with highly unequal income distributions typically lies between 0.50 and 0.70, while for countries with relatively equitable distributions it lies between 0.20 and 0.35.

4. Since the disaggregated information on mean earnings and population in terms of the racial/ethnic, sex, age, and educational achievement categories was not available for 1990, the aggregate mean earnings for Afro-descendant and white individuals provided in the household surveys for 1990 and 1997 in Brazil were used to estimate the changes in the potential income and GDP gains between these two years. The lack of information for the other three countries included in this study precluded a comparative assessment of the changes in the 1990s.

5. Some of the direct and indirect links between parent's higher schooling and children's schooling are: parent's expanded ability to help children with homework, improvements in the language skills of the parents, changes in income, social opportunities in the community, and neighborhood characteristics resulting from increases in parents's income.

6. For a discussion of the importance of addressing racial and ethnic discrimination in the context of economic and social reform in Latin America and the Caribbean, see Birdsall and Torre (2000). For an analysis of the relationship between ethnic identity and economic reform, see Healy and Paulson (2000).

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## *Appendix*

The household surveys used in this report were produced by government agencies: in Bolivia (Encuesta Nacional de Empleo, executed by INE-Instituto Nacional de Estadística); Brazil (Pesquisa Nacional por Amostra de Domicílios, executed by the FIBGE-Fundação Instituto Nacional de Geografia e Estatística) and Guatemala (Encuesta Nacional de Ingresos y Gastos Familiares, executed by INE-Instituto Nacional de Estadística). In Peru, the Encuesta Nacional de Hogares sobre Medición de Niveles de Vida, was produced by Instituto Cuanto S.A., a private research organization. The Inter-American Development Bank processed the data that is presented in this appendix.

Detailed information on the social aspects of development, particularly that related to racial and ethnic dimensions, has been conspicuously absent from statistical reports on Latin America and the Caribbean until recently. The data used in this report are an expression of the coordinated effort at the regional level to overcome this gap. Mejía and Moncada (2001) discuss some of the difficulties encountered in the definition for statistical purposes of the concept of "indigenous population" or "racial group." Ideally, the definition of these populations and groups requires the use of multiple criteria regarding characteristics such as geography; language; religion; traditions, values, and symbols; literature production, music, folklore; nutrition habits; economic, social and political organizations; and subjective feelings and statements regarding racial and ethnic background. However, due to practical reasons, the questionnaires used in the census and household surveys had adopted a narrower procedure to capture and instrumentalize these racial or ethnic variables. The preeminent approach currently in use has been to identify race and ethnic background by asking questions about the first language (mother tongue) used by the individual. More recently, the self-identification of the individual has also been included in the questionnaires. The option to identify the race or ethnic background of individuals on the basis of their physical appearance, their modes of dress, etc., as characteristics observed by the person conducting the questionnaire has been avoided, given the subjective component involved in such an assessment.

In the cases of Peru and Bolivia, the ethnic variable was created on the basis of language information. In Peru, the relevant household survey question was: "What is the first language that you speak?" The following options were included in the questionnaire: 1) Castellano; 2) Quechua; 3) Aymara; 4) Campa; 5) Shipibo; 6) Other national language; 7) English; 8) Other foreign language. Indigenous individuals were identified by primary use of languages 2-6 (above). In Bolivia, the survey question was: "What languages do you speak?" The following alternatives were listed in the questionnaire: 1) Castellano; 2) Quechua; 3) Castellano and Quechua; 4) Aymara; 5) Castellano and Aymara; 6) Quechua and Aymara; 7) Castellano, Quechua and Aymara; 8) Guarani; 9) Castellano and Guarani; 11) Castellano, Quechua and Guarani; 12) Aymara and Guarani; 13) Castellano, Aymara and Guarani; 16) Other not native language; 17) Castellano and other native language; 20) Aymara and other native language; 21) Castellano, Aymara and other native language; 22) Quechua, Aymara and other native language; 23) Castellano, Quechua, Aymara, and other native language; 32) Foreign language; 33) Castellano and foreign; 35) Castellano, Quechua and foreign; 37) Castellano, Aymara and foreign. Indigenous individuals were identified by their primary use of languages 2-23, 35 or 37. Not indigenous peoples speak 1, 32 or 33.

In Brazil, the racial variable in the household survey was defined through self-identification based on color or race. The individuals interviewed were asked to identify their color or race as: 0) indigenous; 2) white; 4) black; 6) yellow; 8) mulatto. In Guatemala, the ethnic variable was

defined by using a survey question regarding the ethnic self-identification of the individual in terms of: 1) indigenous; 2) not-indigenous.

The following tables present information on the distribution of the populations in terms of race/ethnic group, sex, age and educational achievement for the four countries included in this report.

## 1. Economically active population

Bolivia - 1997

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
Indigenous males					
15-24	5,381	34,939	117,800	19,005	4,647
25-34	6,077	46,640	103,971	28,648	17,525
35-44	15,772	74,380	94,544	19,600	25,589
45 more	100,591	141,502	98,396	12,776	23,383
Not indigenous males					
15-24	4,234	17,471	122,773	45,881	18,169
25-34	2,300	23,086	85,175	48,988	63,885
35-44	4,581	28,783	64,920	30,076	56,537
45 more	23,933	51,395	64,159	25,570	52,238
Indigenous females					
15-24	11,540	45,687	99,787	5,563	4,099
25-34	23,256	49,202	66,542	12,003	2,846
35-44	48,973	61,056	46,499	7,174	13,428
45 more	176,475	66,158	32,897	4,829	9,323
Not indigenous females					
15-24	1,988	14,616	68,931	31,009	15,004
25-34	4,832	19,469	44,203	25,424	49,428
35-44	10,027	19,954	40,391	15,557	42,842
45 more	22,517	22,761	28,992	8,507	27,736

Sources: Household survey and the Inter-American Development Bank

**Brazil - 1997**

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
<b>Afro-descendant males</b>					
15-24	728,678	1,211,625	3,353,563	358,930	58,954
25-34	837,997	955,009	2,456,264	634,320	179,243
35-44	831,653	813,686	1,694,730	462,244	187,937
45 more	1,887,605	1,079,958	1,276,158	202,877	140,234
<b>Not Afro-descendant males</b>					
15-24	240,860	515,609	3,878,916	795,037	306,749
25-34	327,135	618,178	3,168,274	1,251,675	828,049
35-44	365,129	647,509	2,602,949	933,488	897,027
45 more	1,008,346	1,221,530	2,371,964	542,446	745,710
<b>Afro-descendant females</b>					
15-24	216,069	495,650	2,076,100	483,847	74,448
25-34	315,451	444,780	1,506,312	715,927	212,438
35-44	465,563	505,421	1,160,914	405,159	190,299
45 more	959,251	522,349	681,857	187,117	102,320
<b>Not Afro-descendant females</b>					
15-24	91,780	210,306	2,388,283	927,588	372,725
25-34	131,258	343,701	1,980,672	1,158,481	958,793
35-44	192,219	426,728	1,628,596	821,798	900,197
45 more	482,592	598,949	1,328,260	417,606	462,804

Sources: Household survey and the Inter-American Development Bank

**Guatemala - 1998**

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
<b>Indigenous males</b>					
15-24	66,432	164,569	130,553	11,820	5,038
25-34	77,526	93,961	55,361	9,947	5,032
35-44	92,212	70,952	31,476	3,565	5,631
45 more	181,869	95,695	21,849	3,075	1,181
<b>Not indigenous males</b>					
15-24	40,437	123,688	178,726	22,328	14,455
25-34	38,007	69,306	113,117	42,383	24,345
35-44	35,869	66,971	89,802	21,160	26,914
45 more	149,234	133,578	81,662	16,778	27,962
<b>Indigenous females</b>					
15-24	63,095	90,396	72,077	6,234	1,423
25-34	60,866	42,905	22,678	9,810	2,689
35-44	75,561	34,612	10,211	3,669	596
45 more	121,069	26,583	7,858	713	1,049
<b>Not indigenous females</b>					
15-24	14,841	47,151	77,891	33,065	16,400
25-34	13,140	51,907	62,741	30,406	20,689
35-44	41,071	48,015	43,323	24,560	17,666
45 more	87,745	74,835	44,842	16,794	9,085

Sources: Household survey and the Inter-American Development Bank

**Peru - 1997**

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
<b>Indigenous males</b>					
15-24	1,615	19,113	133,830	41,906	12,226
25-34	7,578	41,213	115,161	49,462	41,042
35-44	8,279	78,868	141,919	50,248	38,907
45 more	56,222	149,115	136,999	38,121	25,094
<b>Not indigenous males</b>					
15-24	13,285	74,480	511,962	438,616	211,823
25-34	17,259	62,020	365,283	415,078	463,158
35-44	14,244	71,784	296,489	336,255	308,342
45 more	101,776	275,010	436,320	258,401	253,215
<b>Indigenous females</b>					
15-24	8,406	33,381	142,094	11,297	12,216
25-34	29,692	89,938	108,360	20,700	14,205
35-44	53,525	77,588	66,826	14,991	8,936
45 more	164,116	86,144	46,821	3,363	5,695
<b>Not indigenous females</b>					
15-24	7,546	53,362	373,848	318,232	215,736
25-34	29,793	82,325	270,635	385,558	385,558
35-44	42,431	103,919	221,729	198,456	199,510
45 more	176,904	172,787	224,946	109,582	83,467

Sources: Household survey and the Inter-American Development Bank

## 2. Monthly mean earnings from all jobs

### Bolivia - 1997 Peso

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
Indigenous males					
15-24	379.02	511.66	635.08	896.67	560.60
25-34	317.48	609.29	708.60	880.54	923.34
35-44	314.74	593.24	883.59	855.30	1,178.09
45 more	253.51	560.09	660.20	1,279.67	1,755.27
Not indigenous males					
15-24	712.84	598.13	664.94	784.00	1,019.29
25-34	783.66	785.89	1,052.27	1,287.52	2,042.35
35-44	468.37	922.58	1,372.86	1,654.20	2,605.28
45 more	529.61	1,053.26	1,679.44	2,414.19	4,294.33
Indigenous females					
15-24	207.16	211.84	324.29	465.54	394.00
25-34	293.43	486.23	506.49	672.89	729.38
35-44	556.57	480.03	661.01	952.94	995.78
45 more	302.47	592.16	719.29	492.23	1,012.31
Not indigenous females					
15-24	172.48	307.45	353.20	631.96	857.34
25-34	517.25	415.63	627.68	857.44	1,428.16
35-44	368.43	679.87	913.12	1,467.87	1,879.17
45 more	463.17	528.87	683.36	1,085.89	1,675.26

Sources: Household survey and the Inter-American Development Bank

**Brazil - 1997**  
**Real**

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
<b>Afro-descendant males</b>					
15-24	126.11	150.12	219.60	374.42	489.53
25-34	170.63	233.63	364.31	612.42	1,174.15
35-44	203.77	298.75	474.65	873.87	1,757.73
45 more	178.64	322.51	503.38	1,194.67	2,142.01
<b>Not Afro-descendant males</b>					
15-24	202.91	193.34	293.82	472.39	673.45
25-34	254.75	307.34	504.80	877.48	1,696.99
35-44	249.96	411.53	648.67	1,209.31	2,344.83
45 more	264.67	435.32	737.04	1,496.31	2,781.13
<b>Afro-descendant females</b>					
15-24	106.68	104.45	146.27	253.68	450.67
25-34	101.50	133.00	198.28	346.50	746.68
35-44	125.14	161.94	236.03	434.87	932.92
45 more	116.16	163.26	246.10	510.01	1,132.84
<b>Not Afro-descendant females</b>					
15-24	170.74	138.13	197.38	327.94	551.42
25-34	170.76	164.72	266.53	480.47	1,005.93
35-44	195.96	210.39	320.91	619.98	1,289.75
45 more	151.83	209.82	344.85	738.74	1,371.39

Sources: Household survey and the Inter-American  
Development Bank

**Guatemala - 1998**  
**Quetzal**

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
Indigenous males					
15-24	459.26	485.45	570.95	823.28	1,710.65
25-34	762.70	990.47	1,610.68	1,731.02	3,073.64
35-44	952.16	1,059.48	1,747.91	2,292.23	4,090.78
45 more	697.97	2,487.25	2,239.27	2,160.57	5,106.92
Not indigenous males					
15-24	538.42	651.05	942.81	1,464.54	1,991.85
25-34	881.34	1,327.04	1,766.42	2,456.50	4,784.40
35-44	1,401.70	1,411.29	2,536.26	3,932.11	7,117.19
45 more	948.61	1,403.71	2,265.20	9,389.86	7,543.14
Indigenous females					
15-24	199.76	271.14	416.05	1,134.87	2,510.74
25-34	225.60	377.84	1,278.33	1,272.78	1,975.73
35-44	376.96	594.32	691.40	2,926.60	2,083.81
45 more	301.18	520.92	609.39	2,232.85	4,203.13
Not indigenous females					
15-24	430.18	435.80	677.41	1,124.07	1,636.19
25-34	352.09	497.22	957.54	2,858.41	3,282.18
35-44	491.73	773.80	1,074.18	1,928.73	3,814.28
45 more	444.80	629.86	884.63	1,793.43	4,244.80

Sources: Household survey and the Inter-American Development Bank

**Peru - 1997**  
**Nuevo Sol**

Race, sex and age	0 years	Educational Achievement			
		no schooling	some primary	completed primary	college
indigenous males					
15-24	-	233.79	186.49	372.71	511.06
25-34	308.42	256.81	315.51	330.55	564.56
35-44	183.09	311.38	458.84	579.71	871.98
45 more	153.40	383.84	424.49	571.94	999.59
Not indigenous males					
15-24	133.09	317.11	322.85	439.18	497.82
25-34	200.36	407.40	447.73	617.08	1,013.44
35-44	248.82	546.40	516.49	796.53	1,725.28
45 more	330.43	456.69	582.77	877.49	1,734.61
indigenous females					
15-24	94.02	229.59	131.77	276.58	295.20
25-34	144.25	202.36	252.31	335.77	605.95
35-44	154.55	249.06	373.97	335.13	700.79
45 more	200.83	344.54	298.06	612.37	307.84
Not indigenous females					
15-24	89.64	181.60	246.44	398.06	484.69
25-34	164.54	198.89	283.76	393.55	643.93
35-44	130.40	201.58	334.70	401.18	962.66
45 more	189.85	237.93	339.47	437.98	776.15

Sources: Household survey and the Inter-American Development Bank

**This study (draft) can also be found on the CD-ROM "Dialogue on Race, Ethnicity and Inclusion", BID, 2001.**

