Chapter

2

The State of Human Opportunities for Children in the Latin American and Caribbean Region: 1995-2010

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Since the mid-1990s, policy makers in Latin America and the Caribbean have increased spending on basic social services, reflecting the increased priority placed on these services in poverty reduction and development strategies. To what extent have these efforts translated into improved opportunities for the children of Latin America and the Caribbean (LAC) to access basic social services, regardless of their circumstances? This chapter reviews the Human Opportunity Index (HOI) for children in the region over the past 15 years and assesses how effective countries have equitably expanded access to the basic education and housing services that a child needs to be able to lead a life of her choosing.

The results reveal slow but steady progress in the region as a whole, but they also underscore that progress has not been uniform and that children in some countries face significantly higher obstacles. Since 1995, opportunities for children in the LAC region have expanded by 1 percentage point per year. However, it will take a projected 24 years—an entire generation—to achieve universal provision of basic education and housing services in the region, based on the recent pace of progress and 2010 estimates. If current trends continue, Central American countries will take longer on average—37 years—while Andean countries are poised to achieve universality in 18 years.

Countries in the LAC region show significant variation in children's opportunities to access basic services. In Chile, 95 percent of children have an equal opportunity to access basic services, compared to only 51 percent of the children in Honduras. Chile, Uruguay, Mexico, Costa Rica, Venezuela, and Argentina all have HOI scores above 85, while four Central American countries remain below 60.

Overall, countries have been more successful in providing equitably allocated opportunities in the area of education than in housing. Just over four-fifths of the region's children have equal access to basic education services, with the greatest challenges relating to the quality of those services (ability to finish sixth grade on time) compared with access alone (school enrollment). Just over two-thirds of all children have equal opportunities to access basic housing services, with water and sanitation being the most challenging for countries to provide.

What are the main drivers behind inequality of opportunities for children in the region? The results suggest that among the seven circumstances

considered, parental education, income and location are the most important in determining inequality of opportunity. Parental education has the largest effect on inequality of opportunity for education, suggesting important constraints for inter-generational mobility. Whether or not a child lives in a rural or urban area, and to a lesser extent per capita family income, are the most important circumstances affecting equality of opportunity for housing.

More than half (about 55 percent) of the improvement in the LAC HOI in the last 15 years reflects changes in the seven circumstances of children that are tracked by the study. That is, more than half of the change in the HOI is due to the fact that fewer children are in disadvantaged circumstance groups, for example because parental education improved, per capita family income increased, or families migrated from rural to urban areas.

By contrast, less than half (45 percent) of the improvements in the HOI are explained by changes in the likelihood that children with a given set of circumstance (i.e., residence in rural areas, with illiterate parents, with four siblings, etc.) will be able to access basic services. Of that 45 percent, most of the change reflects improved coverage rates for all children, while only 10 percent arises from a reduction in inequality of opportunity—the relative expansion of access to basic services for children in vulnerable circumstance groups vis-à-vis non-vulnerable groups. Improving the targeting policies of basic services to children in vulnerable circumstance groups could lead to a significant rise in the HOI.

This chapter is organized as follows. Section 2.1 characterizes the expansion of the HOI across the 19 LAC countries and discusses data sources and methodology. Section 2.2 discusses the current state of the HOI in the LAC region, while Section 2.3 focuses on the evolution of the HOI over time and Section 2.4 reviews the drivers of this evolution. Section 2.5 outlines the forces behind inequality of opportunity, as an input to policymakers to better target policies in favor of excluded circumstance groups.

2.1. Progress in Improving Human Opportunities in LAC—Although Universality Remains a Generation Away

Human opportunity in LAC has expanded markedly over the last 15 years. The HOI for the 18 countries surveyed grew by an average of 1 percent per year between 1995 and 2010, reflecting improvements in the overall coverage rate and equity of access, as well as fewer children in disadvantaged circumstance groups (Table 2.1).[1] The HOIs are estimated using data from 37 household surveys for 19 LAC countries over a period of more than a decade (circa 1995 and circa 2008) (Annex Table A2.1). Together, the surveys represent more than 200 million children ages 0-16.

The expansion of coverage rates played a larger role in improving the HOI, but the penalty for unequal access to human opportunities also declined, with its negative impact on the overall HOI decreasing from 11 percent in circa 1995 to 7 percent in circa 2008. The exception was Honduras, Guatemala and Nicaragua, where the penalty either increased or remained constant as little progress was achieved in improving access among opportunity-vulnerable groups relative to non-opportunity-vulnerable groups.

[1] Bolivia is an exception, for which only one year of data was used. Consequently estimates of rates of change or of extrapolated values and future projections were not possible for Bolivia. In addition, the varying dates of surveys used for the HOI pose serious comparison challenges. To reduce this comparability problem, we use the two point estimates to extrapolate forward and obtain an estimate for 2010 overall HOI, given the recent level and pace of change of the overall HOI for each particular country in the sample. Similarly, we interpolate all countries to a common base year, 1995. This adjustment permits us to assess countries at a similar point in time.

Table 2.1 Human Opportunity Index, Coverage Rate and Penalties, Circa 1995 and 2008

Human Opportunity Index, Coverage Rate and Penalties, Circa 1995 and 2008

Country	HOI (Circa 1995)	HOI (Circa 2010)	Annual Change	Coverage Rate (Circa 1995)	Coverage Rate (Circa 2010)	Penalty (Circa 1995)	Penalty (Circa 2010)
Argentina	86.1 (1998)	88.3 (2008)	0.22	89	91	3	2
Bolivia		69 (2007)			77		
Brazil	57 (1995)	76 (2008)	1.44	66	80	9	5
Chile	83 (1996)	92 (2006)	0.86	88	94	5	2
Colombia	67 (1997)	79 (2008)	1.06	77	85	10	6
Costa Rica	77 (1994)	88 (2009)	0.73	82	91	5	2
Dominican Republic	64 (2000)	73 (2008)	1.11	71	78	8	6
Ecuador	60 (1995)	76 (2006)	1.45	68	82	8	6
El Salvador	44 (1998)	53 (2007)	0.99	54	61	10	8
Guatemala	43 (2000)	51 (2006)	1.36	51	59	8	8
Honduras	42 (1999)	48 (2006)	0.83	50	57	8	9
Jamaica	79 (1996)	81 (2002)	0.29	82	84	3	2
Mexico	65 (1996)	86 (2008)	1.74	73	90	8	4
Nicaragua	35 (1998)	46 (2005)	1.61	43	56	8	9
Panama	66 (1997)	69 (2003)	0.49	75	76	9	8
Paraguay	61 (1999)	71 (2008)	1.14	65	76	4	5
Peru	55 (1998)	69 (2008)	1.39	65	76	10	8
Uruguay	89 (2006)	90 (2008)	0.71	92	93	3	2
Venezuela, R.B de	82 (1995)	87 (2005)	0.45	86	90	4	3
LAC Average	64	73	0.99	71	79	7	5

Source: Author's calculations based on household surveys
(Actual survey years in parenthesis)

A Generation to Universalize Basic Services in LAC

Based on the recent rates of progress and assuming linear expansion, the region is projected, on average, to take 24 years starting in 2010 to universalize the basic services contained in the overall HOI (Table 2.2), thus providing all children with a level playing field.[2] Central America and the Caribbean will take longer than the regional average—37 and 30 years, respectively—while the Southern Cone and Andean nations are projected to take on average 18 years. Mexico and Brazil will require six and 15 years respectively to achieve the goal of universal access to basic services.

[2] Assuming a linear expansion, we estimate the year of achieving universal coverage by: (100-current HOI)/annual rate of growth. The results are essentially the same if we assume that "universality" is achieved with a coverage rate of 98 percent. With this latter assumption it will take 22 years instead of 24 to universalize the basic services contained in the HOI. The linearity assumption can be also seen as optimistic. If we consider that there is a slowdown in the pace of progress as the HOI approaches universality, as the evidence suggests (see Chapters 3 and 4), it will take much longer to universalize the set of basic services considered.

Table 2.2 Estimated 2010 Overall Human Opportunity Index and Simulated Arrival Date by Sub-region

Estimated 2010 Overall Human Opportunity Index and Simulated Arrival Date by Sub-region

Country	Estimated HOI 2010	Rate	Simulated Years to arrival	Simulated Arrival Date
Andean Countries	81	1.1	18	2028
Bolivia				
Colombia	81	1.1		
Ecuador	82	1.4		
Peru	71	1.4		
Venezuela	89	0.5		
Brazil	79	1.4	15	2025
Caribbean Countries	79	0.7	30	2040
Dominican Republic	75	1.1		
Jamaica	84	0.3		
Central America	63	1.0	37	2047
Costa Rica	89	0.7		
El Salvador	56	1.0		
Guatemala	57	1.4		
Honduras	51	0.8		
Nicaragua	54	1.6		
Panama	73	0.5		
Mexico	90	1.7	6	2016
Southern Cone	87	0,7	18	2028
Argentina	89	0.2		
Chile	95	0.9		
Paraguay	73	1.1		
Uruguay	92	0.7		
LAC Average	77	1.0	24	2034

Source: Author's calculations based on household surveys

The region will take, on average, almost a generation—22 years—to universalize basic education services, based on the 2010 levels and recent growth rates (Table 2.3). Mexico is expected to universalize access to education opportunities within the next decade, and the Andean countries will follow by 2023. Central American countries and Brazil will take longer than the LAC average—27 years—while the Southern Cone countries will require 38 years to reach an education HOI of 100. Looking at the two basic services contained in the education component of the HOI—completing sixth grade on time and attending school for 10-14 year-olds—suggests that the greatest challenges are in completing sixth grade on time, especially in Central American countries.

Table 2.3 Estimated 2010 Human Opportunity Index for Education and Simulated Arrival Date by Sub-region

Estimated 2010 Human Opportunity Index for Education and Simulated Arrival Date by Sub-region

	2010 Estimates of HOI for					
Country	Sixth grade on time	School attendance	Education	Rate	Simulated years to arrival	Simulated Arrival Date
Andean Countries	79	93	86	1.0	13	2023
Bolivia						
Colombia	74	94	84			
Ecuador	85	88	87			
Peru	79	96	87			
Venezuela	79	96	87			
Brazil	38	99	68	1.2	27	2037
Caribbean Countries	77	96	87	0.6	22	2032
Dominican Republic	57	96	77			
Jamaica	97	96	96			
Central American	52	91	71	1.1	27	2037
Costa Rica	67	96	82			
El Salvador	47	92	70			
Guatemala	30	85	57			
Honduras	52	87	70			
Nicaragua	41	91	66			
Panama	74	93	84			
Mexico	90	94	92	1.1	7	2017
Southern Cone	77	95	86	0.4	38	2048
Argentina	82	97	89			
Chile	85	99	92			
Paraguay	58	92	75			
Uruguay	81	94	88			
LAC Average	68	94	81	0.9	22	2032

Source: Author's calculations based on household surveys

TThe LAC region will take, on average, approximately 25 years to universalize access to the three basic services included in the housing HOI—access to water, sanitation and electricity—based on 2010 levels and recent growth rates (Table 2.4). Brazil and Mexico are expected to universalize access to housing services within the next decade, while the Southern Cone countries are posed to achieve universal access by 2022, and the Andean countries by 2032. In contrast, it will take the Central American countries almost two generations (48 years) to provide full coverage to all children to basic opportunities in housing, and 36 years for the Caribbean countries.

Table 2.4 Estimated 2010 Human Opportunity Index for Housing and Simulated Arrival Date by Sub-region

Estimated 2010 Human Opportunity Index for Housing and Simulated Arrival Date by Sub-region

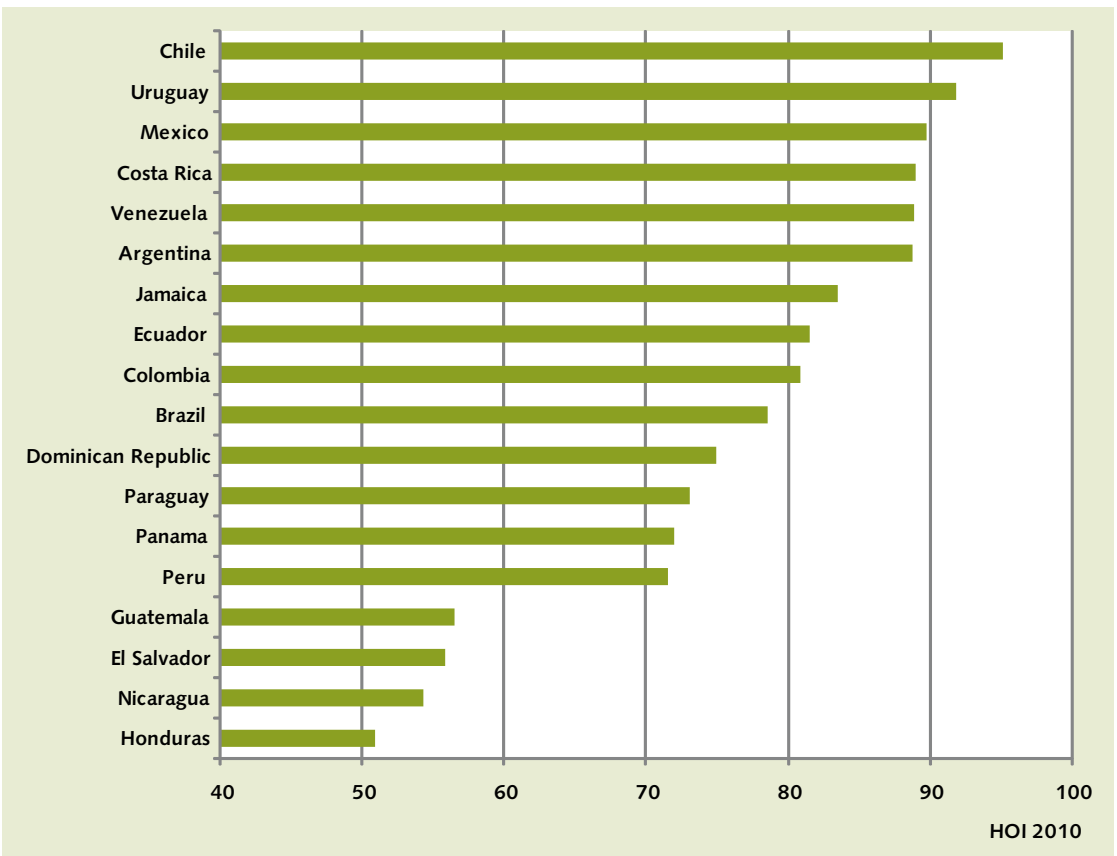
	2010 Estimated HOIs for						
Country	Water	Electricity	Sanitation	Housing	Rate	Simulated years to arrival	Simulated Arrival Date
Andean Countries	71	88	66	75	1.1	22	2032
Bolivia							
Colombia	71	94	69	78			
Ecuador	82	94	53	76			
Peru	43	67	58	56			
Venezuela	87	99	85	90			
Brazil	86	99	81	89	1.7	7	2017
Caribbean Countries	43	98	74	72	0.8	36	2046
Dominican Republic	71	98	50	73			
Jamaica	16	98	98	71			
Central America	51	72	42	55	0.9	48	2058
Costa Rica	95	99	94	96			
El Salvador	18	88	19	42			
Guatemala	68	73	26	56			
Honduras	22	54	21	32			
Nicaragua	16	55	58	43			
Panama	85	64	33	60			
Mexico	88	100	75	88	2.4	5	2015
Southern Cone	89	99	76	88	1.0	11	2021
Argentina	98	100	66	88			
Chile	98	100	94	97			
Paraguay	69	96	48	71			
Uruguay	93	99	97	96			
LAC Average	67	88	62	72	1.1	25	2035

Source: Author's calculations based on household surveys

2.2. Opportunities for Children to Access Basic Services in the LAC Region

The distribution of human opportunities estimated for 2010 is highly varied across the region. The playing field is almost level for children in Chile, where 95 percent of basic housing and education services are available and equitably allocated, whereas in Honduras just over half (51 percent) of the services are available and distributed equitably among children. Chile, Uruguay, Mexico, Costa Rica, Venezuela, and Argentina lead the region in moving towards universal access of basic services for their children. For each of these countries, the estimated 2010 overall HOI is higher than 85, meaning more than 85 percent of the services required for universal coverage are available and allocated equitably. Four countries from Central American are at the bottom of the ranking, with HOIs lower than 60: Honduras, Nicaragua, El Salvador, and Guatemala.

Figure 2.1: The 2010 Human Opportunity Index for LAC.



Source: Author's calculations based on household surveys

Children in LAC are more likely to have higher levels of equitably allocated services in education than housing: the HOI for education in the region is 81 compared to 72 for housing. Moreover, there is a wider range in accessing services equitably for housing than for education across countries in LAC.

The education HOI ranges from a high of 96 for Jamaica to a low of 57 for Guatemala, suggesting that children face almost a level playing field in accessing education in Jamaica while only slightly more than half of education services are available and equitably distributed in Guatemala. Eleven out of the 19 countries analyzed have an education HOI higher than 80. Jamaica, Mexico, and Chile each have an estimated education HOI higher than 90 for 2010.

Comparing the two indicators in the education HOI shows that countries in the region face more challenges in equitably ensuring that children complete sixth grade on time than ensuring that all children regardless of circumstances aged 10 to 14 attend school. While the average HOI for school enrollment is 94, the average HOI for completing sixth grade on time is only 68.

Similarly, the dispersion of the HOI for completing sixth grade on time is much higher than with school enrollment. While the HOI for completing sixth grade on time ranges from a high HOI of 97 for Jamaica to a low of 30 for Guatemala, the HOI for school enrollment ranges from 99 for Brazil and Chile to 85 for Guatemala in 2010. The leaders of the HOI for completing sixth grade on time are Jamaica, Mexico, Ecuador and Chile, each with an HOI at or higher than 85. By contrast, El Salvador, Nicaragua, Guatemala and Brazil have HOIs lower than 50 for this indicator.

The housing HOI presents higher dispersion than the overall HOI, underscoring the uneven rates of progress in expanding opportunities for quality housing in LAC. The housing HOI is nearly universal in Chile (97), while it dips to as low as 32 in Honduras, indicating that only one third of the housing services are available and equitably allocated. Four countries in the region have achieved coverage rates in housing services adjusted for equality of opportunity at or above 90 in 2010: Chile, Uruguay, Costa Rica, and Venezuela. Only seven countries out of the 19 considered have a housing HOI higher than 80.

Disaggregating the housing HOI reveals that countries in LAC have been more successful in providing children with equitable access to electricity than in delivering equitable opportunities for children to live in homes with clean water and sanitation. While the average HOI for electricity is 88, the regional averages for water and sanitation opportunities are substantially lower, at 67 and 62, respectively. Thus, at least one-third of the region's children do not have equitable access to water and sanitation opportunities.

Opportunities to access water, sanitation and electricity in the region are also more widely dispersed compared to educational opportunities. The sanitation HOI ranges from a high of 97 in Uruguay to a low of 19 in El Salvador, while the water HOI ranges from 98 in Argentina and Chile to 16 for Nicaragua. This means that in El Salvador and Nicaragua less than one out of five children have an equal opportunity to live in homes with access to both clean water and sanitation. For electricity, Chile is estimated to have achieved universal provision by 2010 while Nicaragua has an electricity HOI of 55, indicating that just over half of the children have equitably distributed access to electricity.

Argentina, Costa Rica, and Chile lead in the provision of opportunities to access water, with HOIs higher than 90. By contrast, Jamaica, Nicaragua, and El Salvador have HOIs lower than 20 for this service. In sanitation, the leaders are Uruguay, Chile, Jamaica, and Costa Rica, with HOIs higher than 90, compared to HOIs below 50 for Honduras, Paraguay, Panama, Guatemala, and El Salvador. In electricity, 12 countries out the 19 considered display an HOI higher than 90, and no country has electricity HOI lower than 55.

2.3 Expanding Human Opportunities in Latin America and the Caribbean: 1995-2010

Over the last 15 years, LAC countries have expanded children's opportunities for basic education and housing services. The overall HOI grew at an average pace of 1 percentage point per year since the mid-1990s (Table 2.5). Overall sanitation and sixth grade on time indicators saw the largest gains, with annual HOI growth rates of 1.3 points each. School enrollment and electricity, both of which have higher levels of HOIs, had smaller growth rates of 0.5 and 1 points per year, respectively.

Mexico showed the highest rate of improvement in the overall HOI, at 1.7 points per year, compared to a low of 0.2 points per year in Argentina. The five indicators that comprise the overall HOI show more variation over time, with expansion rates as high as 4.5 points annually for the sanitation HOI in Nicaragua and 4 points for the water HOI in Ecuador and Mexico. The fastest rate of expansion of the HOI for electricity was 1.9 points annually in El Salvador. In education, the fastest expansion of the HOI for completing sixth grade on time was 2.2 points annually in Peru, and 2.3 points annually for the school enrollment HOI in Mexico.

Table 2.5 Growth Rates by Indicators, Dimensions, and Overall Human Opportunity Index

Growth Rates by Indicators, Dimensions, and Overall Human Opportunity Index

Country	Sixth grade on time	School Attendance	Education	Water	Electricity	Sanitation	Housing	Overall HOI
Argentina	-0.17	-0.02	-0.10	0.32	0.10	1.21	0.54	0.22
Brazil	1.53	0.81	1.17	2.02	1.24	1.86	1.70	1.44
Chile	0.81	0.11	0.46	1.07	0.70	2.01	1.26	0.86
Colombia	1.82	0.61	1.21	0.24	0.63	1.83	0.90	1.06
Costa Rica	0.61	0.75	0.68	0.24	0.51	1.59	0.78	0.73
Dominican Republic	1.87	-0.06	0.91	0.97	1.59	1.41	1.32	1.11
Ecuador	1.35	0.62	0.98	3.98	0.91	0.84	1.91	1.45
El Salvador	1.60	0.92	1.26	0.02	1.92	0.23	0.73	0.99
Guatemala	1.31	1.11	1.21	1.35	1.62	1.55	1.51	1.36
Honduras	1.73	1.30	1.52	0.81	0.57	-0.93	0.15	0.83
Jamaica	0.52	0.10	0.31	-0.86	1.75	-0.09	0.27	0.29
Mexico	1.66	0.60	1.13	4.08	0.74	2.24	2.35	1.74
Nicaragua	1.48	1.24	1.36	0.42	0.73	4.46	1.87	1.61
Panama	0.48	0.32	0.40	0.62	0.79	0.32	0.58	0.49
Paraguay	1.21	0.12	0.67	2.25	1.24	1.13	1.56	1.11
Peru	2.24	0.30	1.27	0.50	1.67	2.36	1.51	1.39
Uruguay	1.40	-0.43	0.48	2.15	0.35	0.33	0.94	0.71
Venezuela	1.13	0.25	0.69	0.07	0.05	0.52	0.21	0.45
LAC Average	1.25	0.5	0.87	1.12	0.95	1.27	1.12	0.99

Source: Author's calculations based on household surveys

2.4. Unpacking Changes in the HOI: Scale, Equity and Evolving Circumstances

Understanding what is behind the changes in the HOI is important for policy makers interested in leveling the playing field for children and ensuring that they are equipped to pursue a life of their choosing. The sources of expansion of the HOI can be classified into two main groups: (i) changes in circumstance group-specific coverage rates and (ii) changes in population shares among the circumstance groups. Since the HOI is completely determined by the specific coverage rates and population shares, as discussed in Chapter 1, the HOI can only change when at least one of these elements changes. We refer to changes in the HOI due to changes in the distribution of circumstances as the composition effect. Changes in the HOI associated with changes in the group-specific coverage rates are referred to as the coverage effect.

Both Composition and Coverage Effects Drove Changes in the HOI

Slightly more than half (55 percent) of the improvement in the HOI can be explained by changes in the average circumstances of children in LAC, such as increased residence in urban areas and higher parental education and income levels. The remaining 45 percent of the observed expansion in the HOI reflects gains in group-specific coverage rates for housing and education services (Table 2.6). Changes in the average circumstances of children in LAC (i.e., the composition effect) dominate the expansion of all the HOIs considered, except school enrollment where both effects are equally important and electricity where coverage effects are stronger.

Table 2.6 Share of Composition Effect in Total Change of Human Opportunity Indices

Share of Composition Effect in Total Change of Human Opportunity Indices

	Sixth grade on time	School Attendance	Education	Water	Electricity	Sanitation	Housing	Overall HOI
(In Percentage Points per year)								
Composition Effect	0.7	0.2	0.5	0.7	0.3	1.0	0.6	0.5
Total Change	1.3	0.5	0.9	1.1	1.0	1.3	1.1	1,0
(In Percent)								
Share of Composition Effect	54	50	53	63	33	75	57	55
Share of Coverage Effect	46	50	47	37	67	25	43	45

Source: Author's calculations based on household surveys

The growing access to education opportunities and the increased equality of those opportunities reflects mainly improvements in the circumstances of the average child, due to past improvements in educational opportunities (parental education), overall economic growth (higher parental income) and/or the growing use of income transfer programs.[3] On the other hand, strong coverage effects may reflect significant efforts to improve the overall provision

[3] Changes in circumstances would not expand a child's opportunities in a society with completely equal opportunity, since all circumstance groups would have the same opportunities. However, in the context of significant inequality of opportunity, policies aimed at improving certain circumstances, such as family income or parents' education, may be instrumental in expanding a child's access to basic goods and services.

(scale effect) as well as the equitable allocation (equalization effect) of education services.

The composition and coverage effects contribute roughly equally to the expansion of the HOI for school enrollment among countries in the LAC region. In seven countries the coverage effect had a more prominent role; in seven other countries the composition effect was more prominent; in two countries these two effects contributed equally (Brazil and Guatemala); and in two countries these effects were of similar magnitude but in opposite directions (Argentina and the Dominican Republic). In El Salvador, circumstance groups with lower coverage rates increased their population shares, making the composition effect negative.

Table 2.7 Expansion of Human Opportunity Indices in Education: Contribution of the Composition and Coverage Effects

Expansion of Human Opportunity Indices in Education: Contribution of the Composition and Coverage Effects

	Completing Sixth Grade on Time			School attendance (ages 10-14)		
Country	Total change (p.p)	Composition effect (p.p)	Coverage effect (p.p)	Total change (p.p)	Composition effect (p.p)	Coverage effect (p.p)
Argentina	-0.2	0.5	-0.7	0.0	0.1	-0.1
Brazil	1.5	1.1	0.5	0.8	0.4	0.4
Chile	0.8	0.6	0.2	0.1	0.1	0.0
Colombia	1.8	0.5	1.3	0.6	0.2	0.4
Costa Rica	0.6	0.6	0.0	0.7	0.3	0.5
Dominican Republic	1.9	1.4	0.4	-0.1	0.2	-0.2
Ecuador	1.3	-0.5	1.8	0.6	0.5	0.2
El Salvador	1.6	-0.4	2.0	0.9	-0.3	1.2
Guatemala	1.3	0.8	0.5	1.1	0.6	0.6
Honduras	1.7	0.6	1.2	1.3	0.2	1.1
Jamaica	0.5	0.2	0.3	0.1	0.0	0.1
Mexico	1.7	1.2	0.4	0.6	0.5	0.1
Nicaragua	1.5	0.5	1.0	1.2	0.4	0.8
Panama	0.5	0.7	-0.2	0.3	0.3	0.0
Paraguay	1.2	1.1	0.1	0.1	0.2	-0.1
Peru	2.2	0.7	1.6	0.3	0.2	0.1
Uruguay	1.4	1.1	0.3	-0.4	0.4	-0.8
Venezuela, R.B de	1.1	1.5	-0.3	0.3	0.2	0.1
LAC Average	1.3	0.7	0.6	0.5	0.2	0.2

Source: Author's calculations based on household surveys

The composition effect was more prominent in the housing HOI (Table 2.8), which is not surprising given the importance of location in determining access to better housing. The composition effect had a larger contribution than the coverage effect on expanding the water HOI in 12 out of 18 countries considered. Similarly, the composition effect had a larger contribution than the composition effect in 11 out of 18 countries in the case of the sanitation HOI, and 12 out of 18 countries in the case of the electricity HOI.

Table 2.8 Expansion of the Human Opportunity Indices in Housing: Contributions by the Composition and Coverage Effect

Expansion of the Human Opportunity Indices in Housing: Contributions by the Composition and Coverage Effects

	Water			Sanitation			Electricity		
Country	Total change (p.p)	Composition effect (p.p)	Coverage effect (p.p)	Total change (p.p)	Composition effect (p.p)	Coverage effect (p.p)	Total change (p.p)	Composition effect (p.p)	Coverage effect (p.p)
Argentina	0.3	0.4	-0.1	1.2	2.5	-1.3	0.1	0.0	0.0
Brazil	2.0	1.1	0.9	1.9	2.0	-0.2	1.2	1.0	0.2
Chile	1.1	0.8	0.3	2.0	1.4	0.7	0.7	0.5	0.2
Colombia	0.2	0.5	-0.2	1.8	1.4	0.4	0.6	0.4	0.2
Costa Rica	0.2	0.1	0.1	1.6	0.7	0.9	0.5	0.2	0.3
Dominican Republic	1.0	1.2	-0.2	1.4	2.4	-1.0	1.6	1.4	0.2
Ecuador	4.0	-1.9	5.9	0.8	-2.6	3.5	0.9	-3.0	3.9
El Salvador	0.0	-0.9	0.9	0.2	-0.9	1.1	1.9	-0.9	2.9
Guatemala	1.3	0.8	0.5	1.5	1.0	0.6	1.6	1.2	0.4
Honduras	0.8	0.4	0,4	-0.9	0.5	-1.4	0.6	0.5	0.0
Jamaica	-0.9	0.2	-1.1	-0.1	0.0	-0.1	1.8	-0.2	2.0
Mexico	4.1	2.6	1.5	2.2	2.5	-0.2	0.7	0.5	0.2
Nicaragua	0.4	0.6	-0.2	4.5	0.4	4.0	0.7	0.8	-0.1
Panama	0.6	0.5	0.1	0.3	0.8	-0.5	0.8	1.0	-0.2
Paraguay	2.5	1.6	0.9	1.1	1.6	-0.5	1.2	0.7	0.6
Peru	0.5	0.7	-0.2	2.4	0.7	1.6	1.7	0.8	0.9
Uruguay	2.1	3.1	-0.9	0.3	1.0	-0.7	0.4	0.5	-0.1
Venezuela, R.B de	0.1	1.0	-1.0	0.5	1.8	-1.3	0.0	0.2	-0.1
LAC Average	1.1	0.7	0.4	1.3	1.0	0.3	1.0	0.3	0.6

Source: Author's calculations based on household surveys

The Equalization and Scale Effects

The coverage effect—the contribution of changes in the coverage rates of different circumstance groups—can be further decomposed into the equalization and scale effects. The scale effect captures the impact of proportional change in coverage rates for all circumstance groups, whereas the equalization effect captures improved coverage rates specifically for circumstance groups with below-average coverage rates vis-à-vis groups with above-average coverage rates. The equalization effect is at the heart of equality of opportunities. A society that wants to level the playing field will focus on expanding opportunities mainly for

the vulnerable circumstance groups, and the equalization effect is a clear indicator of progress toward this goal.

Only 10 percent of overall HOI change was due to increased equality of opportunity—the equalization effect—in the sample of 18 LAC countries considered during the period covered.[4] That is, improved targeting of basic services to children in vulnerable circumstance groups only accounted for about 10 percent of overall improvement. About 13 percent of the change of the HOI for education is due to increased equality of opportunity (13 percent in completing sixth grade on time and 15 percent on school attendance for ages 10-14). Only about 8 percent of the change of the HOI for housing is due to increased equality of opportunity (4 percent in water, 4 percent in sanitation, and 18 percent in electricity). Equality of opportunity could accelerate more quickly if services were better targeted to under-served circumstance groups in the region.

The expansion of the education HOI due to the coverage effect is on the whole dominated by the scale effect (Table 2.9). That is, improved coverage rates came mainly by increasing education service provision for the entire population, not necessarily more to those who were previously under-served. However, there are eight cases out of 36 (18 countries for each of the two basic opportunities considered) where the equalization effect is the same size as the scale effect, and two cases where the equalization effect is a bit bigger than the scale effect (Guatemala and Paraguay for completion of sixth grade on time).

[4] For more details see Annex Tables A2.2 to A2.4.

Table 2.9 Coverage Effect in Education Human Opportunity Indices: Contributions by the Equalization and Scale Effects

Coverage Effect in Education Human Opportunity Indices: Contributions by the Equalization and Scale Effects

	Completing Sixth Grade on Time			School attendance (ages 10-14)		
Country	Total coverage effect (p.p)	Equalization effect (p.p)	Scale effect (p.p)	Total coverage effect (p.p)	Equalization effect (p.p)	Scale effect (p.p)
Argentina	-0.7	-0.1	-0.6	-0.1	0.0	-0.1
Brazil	0.5	0.2	0.3	0.4	0.1	0.3
Chile	0.2	0.1	0.1	0.0	0.0	0.0
Colombia	1.3	0.5	0.8	0.4	0.1	0.3
Costa Rica	0.0	0.0	0.0	0.5	0.1	0.4
Dominican Republic	0.4	0.2	0.3	-0.2	0.0	-0.2
Ecuador	1.8	0.4	1.4	0.2	0.1	0.1
El Salvador	2.0	0.4	1.6	1.2	0.2	1.0
Guatemala	0.5	0.3	0.2	0.6	0.1	0.5
Honduras	1.2	0.2	0.9	1.1	0.2	0.8
Jamaica	0.3	0.0	0.3	0.1	0.0	0.1
Mexico	0.4	0.1	0.3	0.1	0.0	0.0
Nicaragua	1.0	0.1	0.9	0.8	0.2	0.6
Panama	-0.2	0.0	-0.2	0.0	0.0	0.0
Paraguay	0.1	0.1	0.0	-0.1	0.0	-0.1
Peru	1.6	0.4	1.2	0.1	0.1	0.1
Uruguay	0.3	0.1	0.3	-0.8	-0.2	-0.6
Venezuela, R.B de	-0.3	0.0	-0.3	0.1	0.0	0.0
LAC Average	0.6	0.2	0.4	0.2	0.1	0.2

Source: Author's calculations based on household surveys

Regarding changes of the housing HOI driven by the coverage effect, the scale effect also is generally dominant (Table 2.10). This indicates that in housing as well, progress has mainly been achieved through greater overall coverage rates, rather than improved targeting to reach children in under-served circumstance groups. However, in three out of 53 cases (18 countries for access to water and sanitation, and 17 countries for access to electricity) the equalization effect dominates: Panama and Paraguay in the case of water and Mexico in the case of sanitation. In the case of Mexico, the overall coverage effect has been contractive. That is, changes in the coverage specific rates, especially reduced coverage among the vulnerable groups, have contributed to reducing the HOI for sanitation in Mexico.

Table 2.10 Coverage Effect in Housing Human Opportunity Indices: Contributions by the Equalization and Scale Effects

Coverage Effect in Housing Human Opportunity Indices: Contributions by the Equalization and Scale Effects

	Water			Sanitation			Electricity		
Country	Total coverage effect (p.p)	Equalization effect (p.p)	Scale effect (p.p)	Total coverage effect (p.p)	Equalization effect (p.p)	Scale effect (p.p)	Total coverage effect (p.p)	Equalization effect (p.p)	Scale effect (p.p)
Argentina	-0.1	0.0	0,0	-1.3	-0.3	-1.0	0.0	0.0	0.0
Brazil	0.9	0.3	0.5	-0.2	0.0	-0.2	0.2	0.1	0.1
Chile	0.3	0.1	0.2	0.7	0.2	0.4	0.2	0.1	0.1
Colombia	-0.2	0.1	-0.3	0.4	0.1	0.3	0.2	0.1	0.1
Costa Rica	0.1	0.0	0.1	0.9	0.3	0.6	0.3	0.1	0.2
Dominican Republic	-0,2	0.0	-0.2	-1.0	-0.3	-0.7	0.2	0.1	0.2
Ecuador	5.9	0.1	5.7	3.5	0.3	3.2	3.9	1.0	2.8
El Salvador	0.9	0.0	0.8	1.1	0.1	1.0	2.9	0.9	2.0
Guatemala	0.5	0.1	0.4	0.6	0.2	0.3	0.4	0.2	0.2
Honduras	0.4	0.2	0.2	-1.4	-0.6	-0.8	0.0	0.0	0.0
Jamaica	-1.1	-0.4	-0.7	-0.1	0.0	-0.1	2.0	0.3	1.7
Mexico	1.5	0.5	1.0	-0.2	-0.2	0.0	0.2	0.1	0.1
Nicaragua	-0.2	-0.1	-0.1	4.0	0.7	3.4	-0.1	-0.1	0.1
Panama	0.1	0.2	-0.1	-0.5	-0.1	-0.4	-0.2	0.0	-0.2
Paraguay	0.9	-0.6	1.6	-0.5	-0,2	-0.3	0.6	0.2	0.4
Peru	-0.2	0.0	-0.2	1.6	0.6	1.0	0.9	0.4	0.5
Uruguay	-0.9	-0.4	-0.5	-0.7	-0.2	-0.5	-0.1	-0.1	-0.1
Venezuela, R.B de	-1.0	-0.2	-0.7	-1.3	-0.4	-0.9	-0.1	0.0	-0.1
LAC Average	0.4	0.0	0.4	0.3	0.0	0.3	0.6	0.2	0.5

Source: Author's calculations based on household surveys

In summary, only rarely has the equalization effect played a more prominent role within the coverage effect. The default situation seems to be a dominance of the scale effect. In only four cases (out of 89 considered) does the equalization effect dominate and have a positive effect. This indicates that Latin American countries could make far more effective use of their resources to provide basic opportunities to their children by improving the targeting of social service provision to those most in need.

2.5 The Inequality of Opportunity Profile

To level the playing field for all children, policy makers need to know the equality of opportunity profile for a given society to design effective public policies for accelerating the equitable expansion of human opportunities. This section analyzes the main circumstances affecting equality of opportunity for access to a basic service, and the relative effect on this opportunity of a specific circumstance—such as gender, where a child lives, or their parent's income—compared to other circumstances.

The equality of opportunity measure D—the methodology for which is explained in Chapter 1—is a synthetic measure that aggregates the differences in coverage among all groups arising

from a defined set of circumstances.[5] In addition, it is also possible to measure the equality of opportunity associated with only one specific circumstance. For policy design, it may be important to analyze how each circumstance contributes to overall inequality of opportunity. Moreover, a constant level of overall equality of opportunity over time may hide important changes. For example, equality of opportunity in education resulting from urban or rural location may be increasing, while inequality of opportunity in education resulting from differences in a parent's education may be declining.

To compute the synthetic D-index, all circumstances are considered simultaneously. An equality of opportunity profile can also be defined by computing a specific D-index for each circumstance (gender, parent's education, and so forth), and then comparing them to identify which specific circumstances elicit larger inequality in a given basic good or service. There are complementary ways of reporting an equality of opportunity profile for the LAC region: (i) a profile based on the average D-indices in the region, and (ii) a profile based on the number of countries where one specific circumstance is more important in characterizing existing equality of opportunity.

A specific D-index can be computed for each of the seven circumstances for each of the basic goods and services considered, averaged across the LAC region (Table 2.11; country results are reported in Annex Tables A.2.5–A2.9). These numbers represent the proportion of the available basic good or service that would have to be redistributed among children for equality of opportunity to prevail, if only one circumstance was considered. For example, for access to water, the average D-indices calculated for each circumstance range from 0.3 percent for gender of the child to 7 percent for area of residence. Hence, if the only circumstance considered is area of residence, 7 percent of available water connections need to be reallocated to eliminate the differences in access to water across different groups. When considering a child's gender, only 0.3 percent of available water connections need to be reallocated in LAC to eliminate the differences in access to water.

The inequality of opportunity profile for education shows that in LAC, parental education and income continue to influence whether or not a child has fair access to education opportunities. In short, parental characteristics affect the ability of a child to improve her situation

[5] The equality of opportunity measure, D, is used to estimate the penalty that discounts the overall coverage rate. As discussed in Chapter 1, the penalty is the product of the inequality of opportunity measure and the overall coverage rate (P=C*D).

over time and achieve inter-generational mobility. For completing sixth grade on time, the most important circumstance in LAC countries is parental education, and to a lesser extent the gender of the child and number of siblings. A complementary profile, based on the number of countries where one specific D-index dominates, confirms these findings. Parental education dominates the rankings in 17 out 18 countries; while the number of siblings dominates the rankings in one country (Annex Table A2.5).

For school enrollment for children aged 10-14, the inequality of opportunity profile is also driven mainly by parental education. The profile based on number of countries shows that parental education dominates the rankings in 15 countries. The presence of two parents in a child's household tops the rankings in two countries, while per capita family income dominates in one country (Annex Table A2.6).

Table 2.11 D-Index by Circumstance and Opportunity, Circa 2010

D-Index by Circumstance and Opportunity, Circa 2010

Circumstances	Sixth Grade on Time	School Attendance	Water	Sanitation	Electricity
Parent's education	5.2	1.2	4.3	7.5	1.6
Gender	2.4	0.3	0.4	0.2	0.1
Gender of Household Head	1.0	0.3	1.2	1.5	0.5
Per Capita Income	2.2	0.4	5.8	8.8	2.1
Urban or Rural	2.0	0.4	10.8	13.6	4.2
Presence of Parents	1.0	0.4	1.5	1.7	0.2
Number of Siblings	2.5	0.2	1.2	1.6	0.4

Source: Author's calculations based on household surveys

For access to water, sanitation, and electricity, the inequality of opportunity profile is driven mainly by where a child lives (rural vs. urban residence), and to lesser extent by per capita family income. In the profile based on number of countries, location circumstance dominates the rankings in 13 countries (out of 18) in the case of water, 12 countries in sanitation, and 16 countries (out of 17, Argentina excluded) in the case of electricity (Annex Tables A2.7-A2.9).