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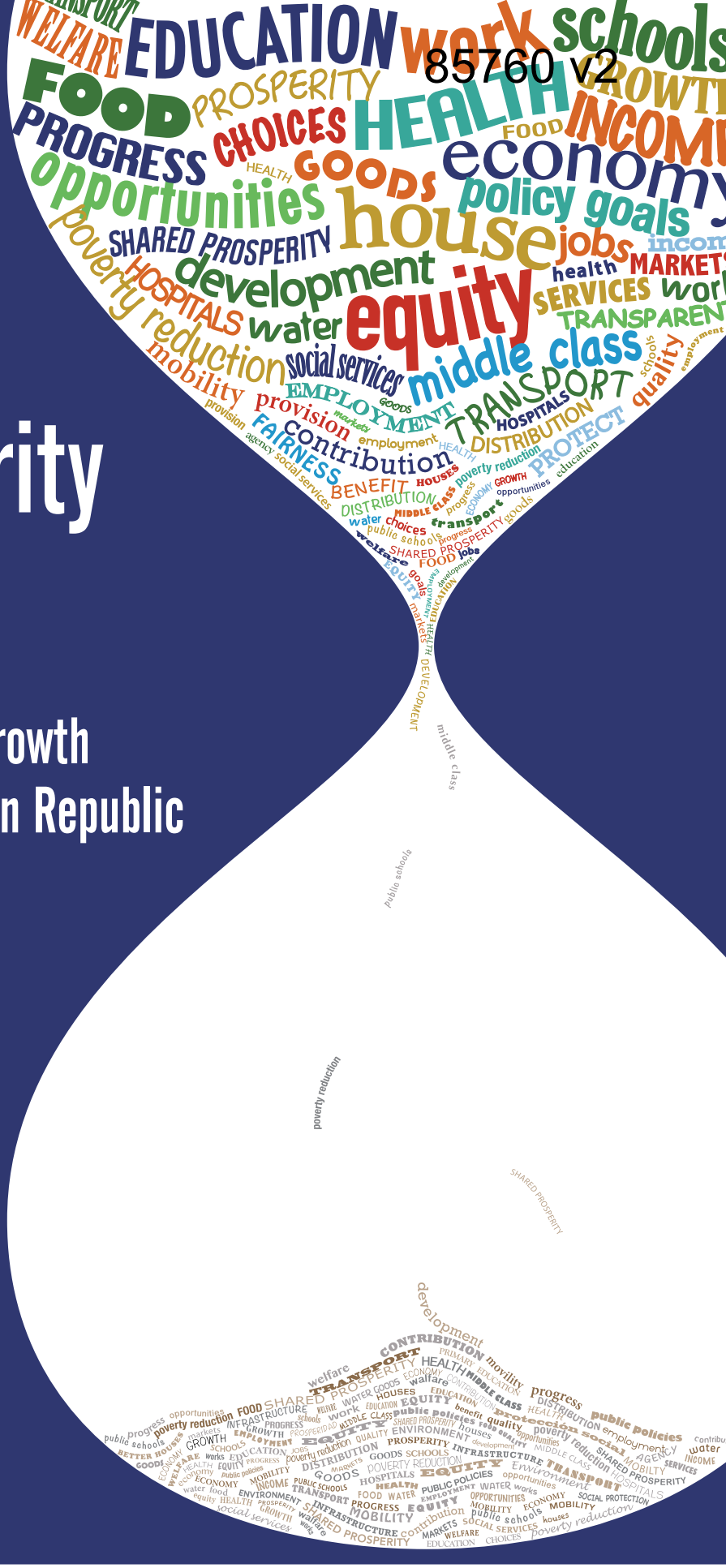
When Prosperity is not Shared

The Weak Links between Growth and Equity in the Dominican Republic



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When Prosperity is not Shared:

The Weak Links between Growth and Equity in the Dominican Republic

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The views and interpretations expressed here are the sole responsibility of the authors and should not be attributed to the World Bank, the Board of Executive Directors or the countries that they represent.

Summary

Despite strong economic growth over the past decade, large inequities persist in Dominican society and are declining more slowly than expected. GDP per capita rose almost 50 percent from 2000 to 2011, yet many of the country's 10 million people missed out on the benefits. Moderate poverty has fallen by only half of the dramatic spike that followed the decade's only growth setback, a 2003-2004 economic crisis. Chronic poverty—in which people endure long spells of being poor—remains high. Of greater concern, almost one third of the population is poor despite having the skills and assets to generate higher income.

The Dominican Republic also has low economic mobility, with less than 2 percent of its people climbing to a higher income group during the decade, compared to an average 41 percent in the Latin America and Caribbean region as a whole. Despite improving access to basic goods and services such as water and education, coverage and quality remain uneven, thus limiting the economic opportunities of many disadvantaged people. This reflects their inability to influence the system to their benefit, a manifestation of weak political agency.

This report identifies three broad goals for addressing the underlying causes of economic inequity in the Dominican Republic.

1. Promote equitable, efficient and sustainable fiscal policy,

2. Build fair, transparent and efficient institutions that will improve the provision and quality of public goods and services, expand economic opportunities, increase upward mobility and better protect economically vulnerable Dominicans, and

3. Strengthen access of the poor to labor markets and increase the demand for their labor, so as to make efficient use of human capital and allow the poor to benefit from economic growth.

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» Overview

When Prosperity is not Shared: The Weak Links between Growth and Equity in the Dominican Republic

Growth and equity in the Dominican Republic: The puzzle

Contrary to the overall experience of the Latin America and Caribbean region (LAC), strong economic growth in the Dominican Republic over the past decade has not been accompanied by strong improvement across a number of equity dimensions. These dimensions include the right to be free from absolute poverty, fairness in access to economic opportunities and the ability of individuals to make effective choices and transform those choices into outcomes. This disconnection between growth and shared prosperity in the Dominican Republic signals weak fundamentals of equity. From 2000 to 2011, GDP per capita in the Dominican Republic grew at an annual rate of 3.8 percent compared to a LAC annual average of 2.9 percent. A small contraction of the Dominican Republic's economy during the 2003-2004 financial crisis led to a dramatic increase in poverty, with nearly half the population engulfed by it. By 2011, the poverty rate had fallen to 40.4 percent, which is higher than the LAC average and remains higher than the Dominican Republic's own level in 2000 (32 percent). This trend is more marked in the Dominican Republic's urban areas, where there are now twice as many poor people as there were in 2000. In these areas, levels of income inequality have barely changed, while a moderate reduction has occurred in rural areas. Overall, total income inequality in the Dominican Republic has been falling at a slower rate than in LAC.

Looking at types of poverty in the Dominican Republic reveals that two thirds of income-poor Dominicans, in principal, have the skills and assets needed to generate higher incomes for themselves but have been unable to do so. The other portion of the poor consists of people caught in chronic poverty—long, in some cases life-long, spells of deprivation. This remains a critical issue as these are likely the most disadvantaged members of society. Indeed, the Dominican Republic has very low economic mobility with less than 2 percent of the population moving to a higher economic group over the past decade compared to the regional average of 41 percent. In fact, over 19 percent of Dominicans actually experienced a worsening in economic status from 2000 to 2011. The Dominican Republic is also underperforming compared to LAC in regards to promoting equitable access to basic goods and services for children. This limits the economic opportunities of disadvantaged people.

In the Dominican Republic, following a pattern observed in other countries in the region, the middle class tends to opt out of the social contract by demanding private services and refusing to contribute to public goods. This generates a vicious cycle of low tax compliance, low public services quality and exclusion of the poor (Sanchez and Senderowitsch 2012; Ferreira et al. 2012). Strengthening the capacity of institutions to provide quality services could reverse this process and reinforce a more cohesive social contract.

The fundamentals of equity, clearly weaker in the Dominican Republic than in other countries of the region, can be strengthened by focusing on three broad policy goals to tie growth to equity and generate a positive cycle of shared prosperity.

1. Promote equitable, efficient and sustainable fiscal policy,

2. Build fair, transparent and efficient institutions that will improve the provision and quality of public goods and services, expand economic opportunities, increase upward mobility and better protect the poor and vulnerable from economic shocks and

3. Strengthen access of the poor to labor markets and increase the demand for their labor, so as to make efficient use of human capital and allow the poor to benefit from economic growth.

A conceptual framework for equity analysis

This report uses a comprehensive definition of "equity" which entails that citizens must have equal access to opportunities, be able to live in dignity and have the autonomy and voice to participate fully in their communities and decide on life plans that they have reason to value. The conceptual framework is based on a tripartite definition of equity, an *equity triangle*. The first dimension of equity, *fairness*—or independence from original circumstances—lies in the notion that initial background characteristics of individuals that are out of their control, such as gender or area of residence, should not limit the set of opportunities available to them and dictate their achievement. The second dimension, the *elimination of absolute poverty*, entails that all members of a society are guaranteed a well-defined minimum standard to live with dignity. All must have sufficient access to goods and services that they are able to achieve well-defined outcomes. The third dimension is *process freedom*, which is about strengthening individuals' capacity to set goals, make choices and transform those choices into desired actions and outcomes (represented by the notion of *agency*). This framework allows for a cohesive characterization of intra- and inter-generational economic mobility, chronic and transient poverty, and between-group inequities that potentially prevent certain vulnerable populations from fully participating and benefiting from the development process.

Growth and equity are key outcomes to sustain a robust process of shared prosperity. While economic growth is important for increasing welfare, how equitable a society is also plays a primary role in driving progress. Moreover, an equity-driven policy agenda may enhance the capacity to grow in a sustained manner. Enabling people who are currently marginalized to improve their conditions will unleash their inherent economic potential, increasing overall productivity and thus spurring growth. Beyond normative reasons, increasing equity has an important instrumental value. It contributes to poverty reduction, increases efficient utilization of human and physical resources and potentially increases the sustainability of the social contract by making institutions more responsive to all members of society. This report argues that designing policy options in the Dominican Republic to address both equity and growth as interconnected outcomes will maximize economic progress and enhance social and economic inclusion.

The weak links between economic growth and poverty reduction in the Dominican Republic

Recently, the Dominican Republic has experienced tremendous growth in comparison to LAC, closing the gap with the region. GDP per capita in the Dominican Republic grew by almost 50 percent from 2000 to 2011. The figure for the Latin America and Caribbean (LAC) region as a whole was 26 percent. This gap has been a recurrent pattern in the last few decades: GDP growth in the Dominican Republic exceeded the region's in the 1980s and 1990s as well. This has led to strong, sustained convergence in average incomes between the Dominican Republic and LAC. In 1990, the average income in the region was 90 percent higher than in the Dominican Republic; by 2011, it was just 24 percent higher. While the country was hit by a severe domestic economic crisis in 2003 and 2004 that contracted its GDP, the growth rate quickly recovered. All in all, the economy has been remarkably resilient to the recent global economic crises.

Given this level of growth, poverty has not declined as much as would be expected. An extreme increase in poverty due to the economic crisis and slow recovery thereafter shifted poverty levels from below those in the LAC region at the start of the decade to above by the end. In 2000, 32 percent of Dominicans were poor, more than 10 percentage points below the overall LAC figure. The economic crisis in the Dominican Republic caused the figure there to shoot up by 17 percentage points, peaking at 50

percent in 2004 to surpass the LAC average of 41 percent. In the years that followed, the Dominican Republic did reduce poverty, but levels failed to decline at the same pace as in LAC and the gap widened. By 2011, poverty in the Dominican Republic was at 40.4 percent, dropping only 9 of the 17 percentage points that it gained during the crisis and remaining above the level at the start of the decade.[1] In contrast, poverty fell substantially in LAC during the 2000s, reaching 27 percent. Nearly 70 million people emerged from poverty.

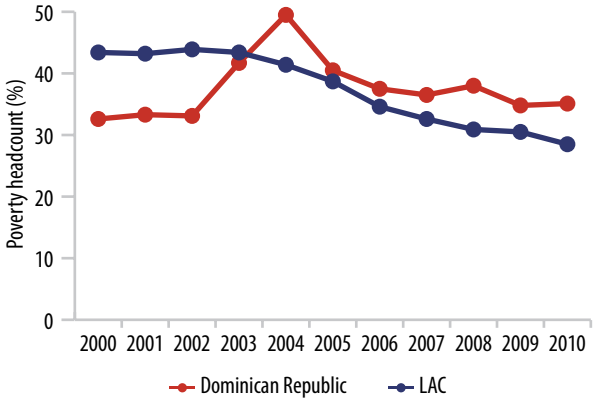
A particular characteristic of poverty in the Dominican Republic is its asymmetric response to business cycles. Compared with other countries in the region, the poverty rate in the Dominican Republic is especially sensitive to economic shocks. Though GDP declined by just 0.3 percent in 2003, the start of the crisis, poverty shot up by 52 percent. It took much larger declines in GDP to bring about commensurate poverty increases in Mexico in 1995 and Argentina in 2001. Conversely, the Dominican Republic's recovery period, which saw economic growth soar to around 10 percent in 2005 and 2006, reversed only about half of the increase in poverty suffered in 2003 and 2004. So, while the crisis in the Dominican Republic in 2003 and 2004 affected the overall economy relatively less than other country crises in the region, it exposed the vulnerability to poverty of a large portion of the Dominican population with lasting effects.

Poverty in the Dominican Republic is becoming more urban. While it is still higher in rural areas than in urban areas, the gap between the two has lessened over the decade. This was primarily due to a net increase in urban poverty following the economic crisis. Though poverty declined in urban areas post-crisis by 7.6 percentage points, this was slower than the 11.5 percentage point reduction in rural poverty, leaving urban areas with a poverty headcount which was 54 percent higher in 2011 than in 2000 while rural poverty returned to 2000 levels. Technical analysis confirms that this "urbanization" of poverty is primarily the result of new poor in urban areas as opposed to rural poor migrating to urban areas.

Income inequality fell moderately during the 2000s, mostly driven by an improvement in income distribution in rural areas. The Gini coefficient, a standard measure of income inequality, fell from 0.51 to 0.48 between

1 Extreme poverty followed a similar trend as moderate poverty in the Dominican Republic.

Figure 1: Moderate poverty rate: Dominican Republic v. LAC



Note: Poverty line used for the calculation is the LAC level of $4 PPP per capita per day.
Source: Study team's own estimates using SEDLAC (Socio-Economic Database for Latin American and the Caribbean)

2000 and 2011. While the Gini, like poverty, increased in 2003 with the advent of the crisis, it peaked during the recovery at 0.52 in 2006, before falling in subsequent years. Thus, while the Gini did fall over the decade and remained lower than the LAC average (0.53 in 2011), the difference between the Dominican Republic and LAC shrank by 0.02 points (see Figure 2a). Disaggregation by area suggests that most of this income inequality reduction was attained in the rural parts of the country. While income inequality in urban areas fluctuated between 0.49 and 0.52 during the period of analysis, and was just one point lower in 2011 than in 2000, rural inequality fell by four points (nearly 9 percent) over the period, from 0.45 to 0.41.

Rising monetary labor incomes have been the most important factor behind the modest poverty reduction in the Dominican Republic. While the incomes of the poor did not show any positive growth between 2000 and 2004, they grew moderately during the post-crisis period: around 19 percent in total between 2004 and 2011. Labor income, the most important income source of households, has thus been the largest contributor to poverty reduction. This effect is larger for rural households. Non-labor income such as public transfers also boosted family incomes and helped eliminate poverty, particularly in the second half of the decade. This is probably explained by the implementation of *Solidaridad*, a targeted conditional cash transfer scheme linked to education and health. This program was created in September 2005 to enhance a previously minimal and fragmented social safety net. In 2012, this program expanded into *Progresando con Solidaridad*. Now covering 80-90 percent of

Table 1: Moderate and extreme poverty rates (2000–2011)

Poverty line	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Moderate	Total	32.0	32.8	32.7	41.5	49.8	47.8	44.2	43.6	44.2	42.1	41.6	40.4
	Rural	47.3	47.5	47.2	55.4	59.9	57.0	54.0	51.8	55.2	50.8	50.4	48.4
	Urban	23.7	24.8	24.9	33.9	44.1	42.8	38.8	39.1	38.8	37.9	37.3	36.5
Extreme	Total	8.1	7.8	8.7	12.0	15.5	16.6	13.7	13.2	13.4	11.8	11.4	10.2
	Rural	14.7	13.2	16.1	19.4	22.9	23.7	19.8	18.4	20.6	17.9	16.9	15.3
	Urban	4.6	4.9	4.8	7.9	11.4	12.6	10.4	10.4	9.9	8.8	8.7	7.7

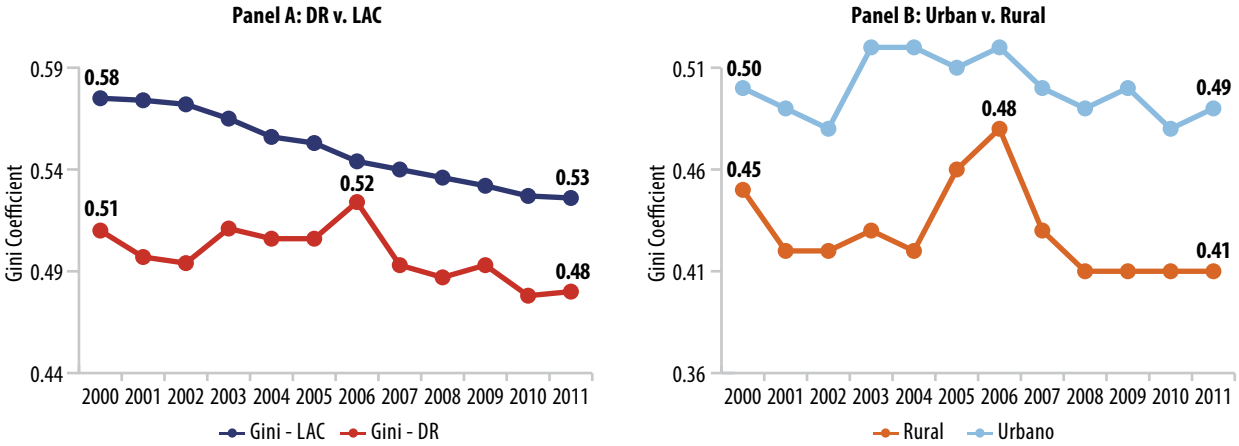
Source: Study team's own estimates based on ENFT 2000-2011

Table 2: Gini coefficient (2000–2011)

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	0.510	0.497	0.494	0.511	0.506	0.506	0.524	0.493	0.487	0.493	0.478	0.480
Rural	0.448	0.417	0.418	0.431	0.415	0.455	0.484	0.434	0.408	0.413	0.412	0.411
Urban	0.498	0.489	0.483	0.516	0.515	0.507	0.520	0.500	0.489	0.500	0.482	0.486

Source: Study team's own estimates based on ENFT 2000-2011

Figure 2: Gini Coefficient (2000-2011)



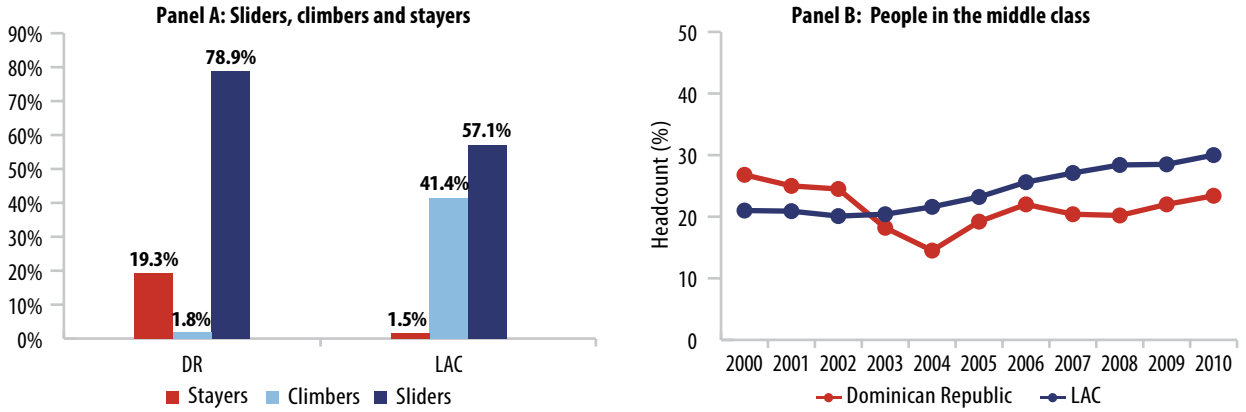
Note: Gini coefficient for Dominican Republic and LAC is based on income per capita. Source: Study team's own estimates based on ENFT 2000-2011 and SEDLAC (Socio-Economic Database for Latin American and the Caribbean)

eligible households in extreme and moderate poverty, it represents a commitment by the government to alleviate poverty in the short term and shield vulnerable populations from future large shocks. The prominence of labor income and non-labor incomes in reducing poverty is consistent with the pattern observed in LAC as a whole.

Escaping poverty and staying away from it: Income dynamics and the lack of upward economic mobility

Economic mobility is a key element of economic development. This type of mobility means the ability of individuals, families or other groups of people to improve their economic and social status—either by individuals over time (intra-generational) or by families across generations (inter-generational). The analysis presented in this study analyzes mobility within generations by measuring *directional income movement*, i.e., the net upward or downward movement in individual incomes over time. To do so, it defines three economic groups: (1) the *poor*, those below the Dominican Republic's moderate monetary poverty line of $4.70 per day 2005 purchasing power parity in urban areas and $4.20 in rural areas, (2) the *vulnerable*, people with between $4.70 a day and $9 in urban areas and $4.20 and

Figure 3: Economic mobility across groups and the size of the middle class (2000–2011)



Note: The numbers in Panel A cover the period 2000-2011 for the Dominican Republic and circa 1995-2010 for LAC. Indicators of economic mobility ("sliders," "climbers" and "stayers") are measured in percentages on the left-hand Y-axis. "Middle class" consists of individuals with a per capita income per day higher than $10 in LAC and $9 and $7.35 in the Dominican Republic for urban and rural households, respectively. Both values are expressed in 2005 $ purchasing power parity (PPP).
Source: Study team's own estimates based on ENFT 2000-11, World Bank (2013) with data from SEDLAC (Socio-Economic Database for Latin American and the Caribbean) and WDI.

$7.35 in rural areas, incomes levels that place them out of poverty but with a 10 percent or greater chance of falling back into it and (3) the *middle class*, individuals who have daily incomes above $9 (urban) and $7.35 (rural) and an upper income threshold of $25.

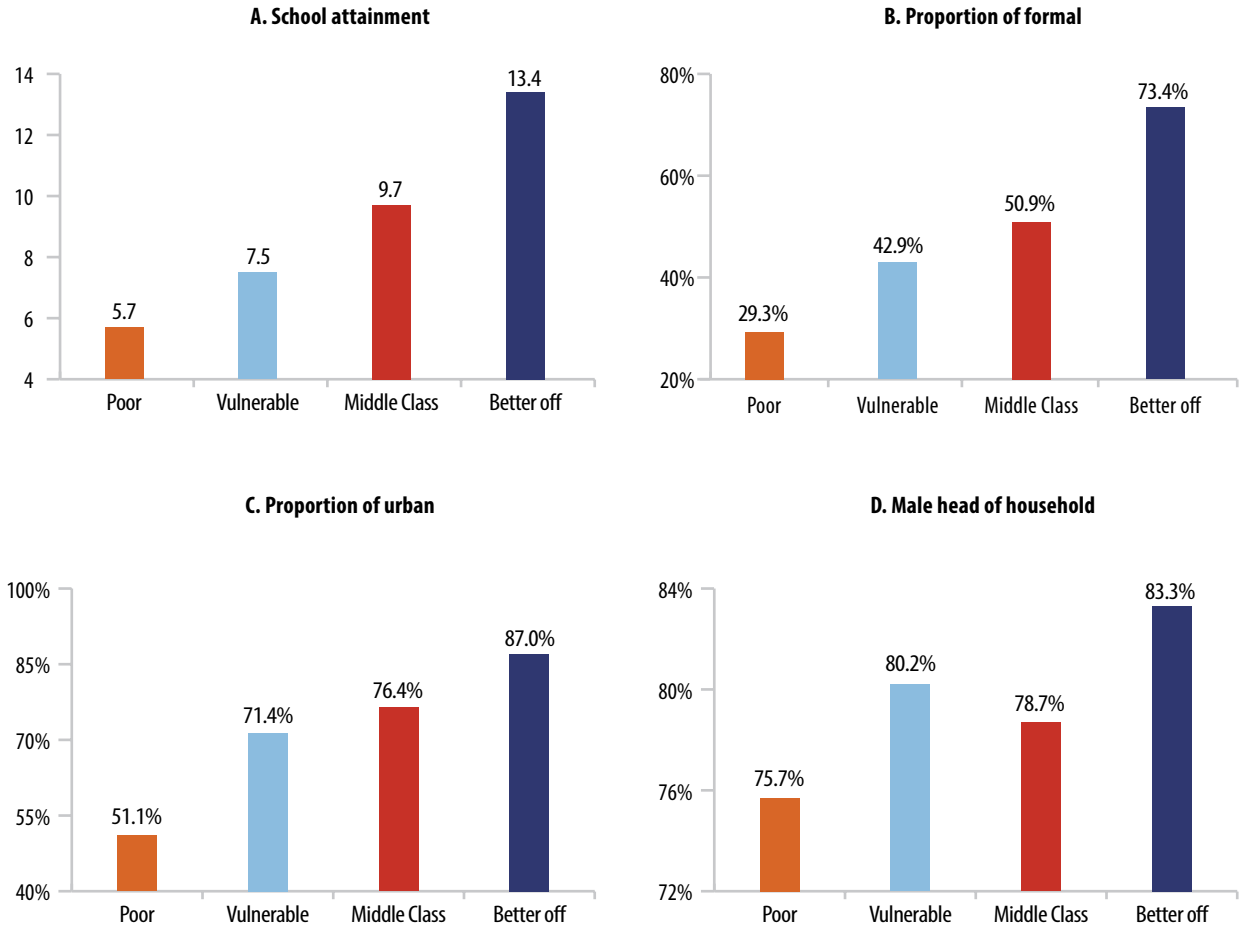
In addition to limited poverty reduction, the Dominican Republic has fostered very little upward economic mobility over the past decade, resulting in a stagnant middle class. While the 2003-2004 crisis brought an increase in downward economic mobility, the great economic growth during the pre- and post-crisis periods did not substantially raise people out of poverty or economic vulnerability, meaning limited economic mobility and few entrants into the middle class. From 2000 to 2011, just under 2 percent of the population in the Dominican Republic experienced upward mobility (e.g., escaping poverty to move into the vulnerable group or moving from vulnerable to the middle class), while 19 percent of the population slid down in economic status, and the overwhelming majority, 79 percent, had no change in economic status. A miniscule 3.2 percent of Dominicans who were initially poor in 2000 had escaped poverty by 2011, but all of them remained vulnerable to falling back into poverty. As a result of these trends, the share of people in the middle class remained fixed over the long term. By contrast, in LAC, 41 percent of people entered a higher economic group from 1995 to 2010, and of the people initially in poverty, almost half had climbed out by 2010. Furthermore, in the last decade, the middle class in the region increased by almost half, from 21 to 30 percent. Now, for the first time in the recorded history of LAC, the number of people in the middle class exceeds the number of people who are poor. Such an inflection point remains far away for the Dominican Republic.

Unsurprisingly, initial endowments, assets and economic opportunities matter for economic mobility. Households that are today in the middle or better-off classes are headed by individuals with higher initial school attainment than heads of households that are in poverty or vulnerability. In fact, middle class household heads in 2011 had on average four years more education 11 years earlier than heads of households that were poor (9.7 compared to 5.7) (Figure 4). Likewise, half of households in the middle class and three quarters in the well off in 2011 had heads who were employed in the formal sector in 2000. This contrasts with the less than 30 percent of household heads initially employed in the formal sector among typical poor families in 2011. A similar trend emerges when analyzing location: Current middle class and well off household heads were more likely to have resided in urban areas in 2000.

Multidimensional poverty and its dynamics: The persistent and increasing risk of becoming chronically poor

Widening the lens of poverty measurement to include non-monetary indicators allows for a more comprehensive characterization of disadvantaged people, aiding policy design and targeting. Identifying the chronic poor requires information about the same individuals over time, which is generally not available in the Dominican

Figure 4: Initial characteristics and economic class in 2011

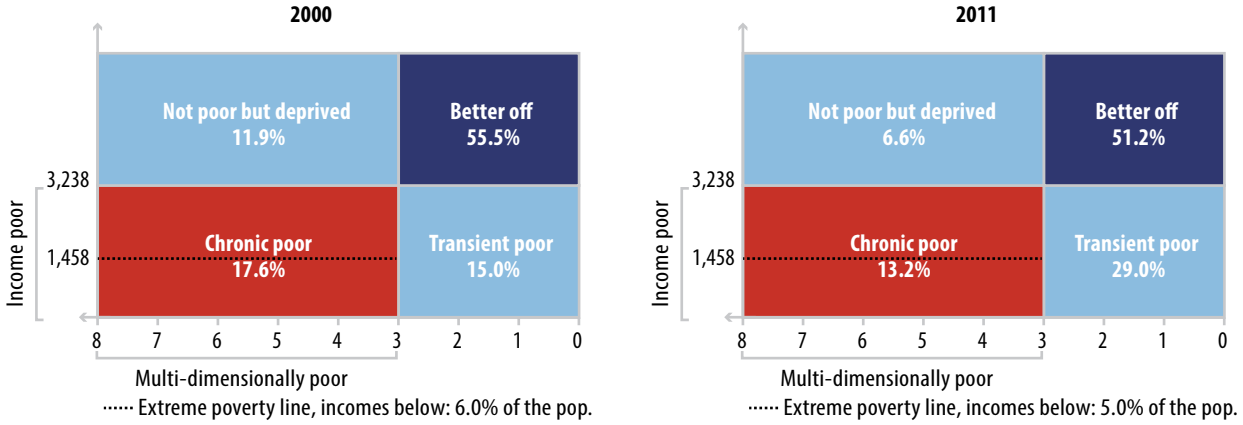


Note: Initial characteristics calculated in 2000 include: (a) household head's years of education (b) portion of household heads whose main job was in the formal sector, (c) portions of households residing in urban areas and (d) portions of households headed by a male. Source: Study team's own estimates based on ENFT 2000–2011

Republic. However, non-monetary indicators of poverty tend to be associated with its persistence. These indicators include access to services such as electricity, clean water, sanitation, quality housing and education, as well as asset ownership. When a person is deprived across multiple indicators, he or she is classified as "multi-dimensionally" poor. Combining this measure of multi-dimensional poverty with income-based measures creates four groups with which to categorize the population. The first two groups are people who are multi-dimensionally poor: the *chronic* poor are multi-dimensionally poor but also poor in a monetary sense, while the *not-income poor but deprived* group is comprised of the multidimensional poor whose incomes are above the poverty line. Among the *chronic* poor, those in extreme monetary poverty are identified as the severe poor given the intensity of their monetary poverty. The proportion of the population who have incomes below the moderate poverty line but are not multi-dimensionally poor are the *transiently poor,* while the remaining members of the population, those who are neither multi-dimensionally poor nor income poor, are part of the *better off*.

Despite the progress the Dominican Republic has made in improving access to a spectrum of basic services, the country has experienced a persistent problem of "chronic" poverty over the last decade. While the incidence of multi-dimensional poverty is closely related to that of monetary poverty in the Dominican Republic, the gap in access to basic services between the monetary poor and non-poor has narrowed as a result of a consistent decline in multi-dimensional poverty. This decline was precipitat-

Figure 5: Matrix of multidimensional and income poverty in Dominican Republic, 2000-2011 (selected years)



Note: Dotted line shows the monetary extreme poverty line, $2.12 for urban residents and $2.03 for rural. Severe poor (i.e. people below the extreme poverty line) and MPI poor in 2000 = 5.9 percentage points and in 2011 = 4.9 percentage points. X-axis measures the number of household deprivations; Y-axis is the household per capita income (R$).
Source: Study team's own estimates based on ENFT 2000 and 2011

ed by the Dominican Republic's success over the decade in providing greater access to a range of services, particularly schooling and sanitation, and improving the figures on house quality and overcrowding. In fact, the proportion of Dominicans classified as poor in both a monetary and a multi-dimensional sense (the *chronically* poor) fell from 17.6 to 13.2 percent between 2000 and 2011. However, the *severe poor* fell by only 1 percentage point (from 6 to 5 percent), a decline which pales in comparison to the achievements of other countries in the region, such as Brazil, which managed to reduce severe multi-dimensional poverty by almost five and a half percentage points (from 7.1 to 1.5 percent) between 1999 and 2011. Behind this limited decline in severe poverty over the decade was its rise to 9.2 percent in 2004, outpacing the growth in chronic poverty in general. This suggests that the slow recovery from the economic crisis may be due to the depth of poverty into which people were thrown. Those who did not have access to basic services sank ever-deeper, thereby making it harder to escape during times of growth.

In addition to the persistence of multi-dimensional poverty among the extreme poor, the growth of the percentage of people who are transiently poor poses another important challenge to the country. Even though there were significant drops in the chronic poor above the extreme monetary poverty line and the group that is not income-poor but is deprived , the proportion of people who are classified as transiently poor in the Dominican Republic almost doubled over the past decade, from 15 to 29 percent. This too is largely the result of the economic crisis, with the middle class shrinking as more people became income-poor. Transient poverty remains high seven years after the crisis, suggesting that though the Dominican Republic has endowed people who are transiently poor with physical and human capital (as they are not multi-dimensionally poor by classification), there are conditions, particularly in the labor markets and enterprise development, that impede them from translating these human and physical assets into higher earnings and better standards of living. In addition to the possibility of being hit by a serious economic shock, there is also a chance that some of their productive assets, for instance, job skills, will depreciate over time, raising the risk that the transiently poor will become chronically poor.

Fairness: Is there equality of opportunities for all?

The notion of fairness as equality of "life chances" involves equitable access to key goods and services that allow a person to progress in life, independently of that person's origin or circumstances. The chances of enjoying a fully productive life are largely influenced by access to—and quality of—basic goods and services (denoted here as *opportunities*) such as food, school enrollment, clean water, sanitation and electricity, as well as by the ownership of a minimum set of key assets. The concept of fairness followed in this report refers to the idea that personal *circumstances* that are out of the control of children, such as birthplace, gender, race, wealth, parental education and area of residence, should not determine their human *opportunities*. For example, all children should enjoy access to safe water irrespective of whether they live in an urban or rural location.

Table 3: HOI for education, safe water and sanitation, housing and assets ownership

Year	Education		Safe water & sanitation		Housing	Assets
	Enrollment	Completing 6th grade on time	Water	Sanitation	House with hard floor	Asset ownership
2000	97	43	61	37	87	62
2004	98	56	64	44	92	59
2011	96	68	61	55	95	62

Note: Values are expressed in percentages and denote coverage rates adjusted by how equitably they are distributed.
Source: Study team's own estimates based on ENFT 2000, 2002, 2004 and 2011

Equitable access to services has expanded in the last decade, pointing in the direction of enhanced equality of opportunities. However, the rate of improvement has been sufficiently slow that it would take more than a generation to level the playing field for children in the Dominican Republic. The Human Opportunity Index (HOI) is a measure of the coverage rate of *opportunities* that is adjusted according to how equitably they are distributed amongst different subgroups based on *circumstances*. It shows that access for children to key basic services and goods has increased over time and that some opportunities, such as school enrollment, are close to universal. Increases in access for circumstance-specific disadvantaged groups (those with below-average coverage rates for services) has fostered equitable allocation of opportunities, helping improve the country's HOI. The Conditional Cash Transfer program and a parallel effort to close supply gaps in basic health and education services has also contributed to this achievement. Interestingly, the economic crisis that began in 2003 did not seem to impede improvements in the HOI—the index grew on average by approximately 1 percent per year between 2000 and 2011. At this pace, however, it would take the Dominican Republic just under 30 years to universalize the opportunities captured in the HOI. This is similar to the amount of time it would take for Central America, 36 years, while the LAC region as a whole is projected to achieve this objective earlier, in approximately 24 years.

Factors such as place of residence (urban or rural), education level of parents, family income and gender of the child still constrain equality of opportunity and economic mobility across generations. These circumstances help explain why the Dominican Republic has been less successful in providing children with equitable access to key services (clean water and sanitation) and goods linked with better quality of life (refrigerator, telephone and clean cooking fuel stove) as well as the opportunity to complete 6th grade on time. The four factors account for almost 90 percent of the inequality in opportunities. In isolation, parental education and family income each explain a quarter of the uneven distribution of opportunities measured in the HOI. Parental background continues to be a strong determinant of the human capital of children and thus of their ability to progress in life. Not only do children of more-educated parents complete more years of education but there are also substantial differences in the *quality* of schooling that they receive. In sum, limited human capital, parents' inability to earn higher income and the gender of the child are key elements that appear to limit the child's opportunities. This restrains social inter-generational mobility.

The third element of the equity triangle, the notion of agency, is associated with gaps in service provision and differences in service quality. Different groups have different capacity to influence the system (*empowerment*), which results in institutions offering differentiated responses to these groups (UNDP 2008). Scant service provision is a very basic indicator of weak agency. Indeed, the political economy of service provision, the patterns of exclusion and the overall sense of "fairness" in the system become particularly important in the analysis of mobility and middle classes.[2]

Policy options to strengthen the links between economic growth and equity

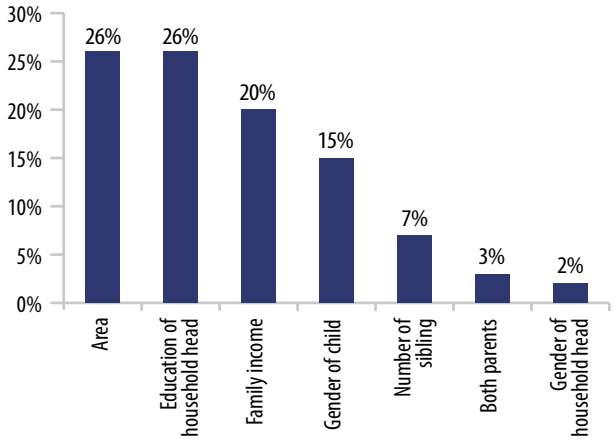
Setting out a policy agenda aimed at ensuring that the gains from economic growth and prosperity are more evenly distributed requires an understanding of the links between growth and equity. Equity and growth as a mutually reinforcing virtuous cycle constitute shared prosperity (see diagram below). When all members of society have the opportunity and skills to generate income, then the society is more equitable. At the same time, with

2 See Ferreira et al. (2012), Chapter 6.

more people contributing to the economy, the economy grows and everyone, whether poor or non-poor, comes out ahead. In this process, the virtuous cycle enhances societal welfare. Equity entails freedom from absolute poverty. There is equality of opportunities regardless of original circumstances and the ability to make autonomous decisions regarding important life choices. Within the framework of shared prosperity, there are four main channels through which growth and equity reinforce each other: (1) equitable, efficient and sustainable fiscal policy, (2) fair, transparent institutions and effective provision of public goods, (3) well-functioning and accessible markets, and (4) comprehensive and efficient risk management. A number of policy instruments can strengthen these channels. Improving fiscal policy and the effectiveness of institutions will, for instance, facilitate equity by increasing the opportunity set and economic mobility of the poor and vulnerable. Making markets function better will facilitate the efficient use of the skills and assets of the poor. Finally, better risk management can reduce the exposure to and impact of shocks on the poor and vulnerable which, otherwise, could force them to engage in negative risk coping behaviors.

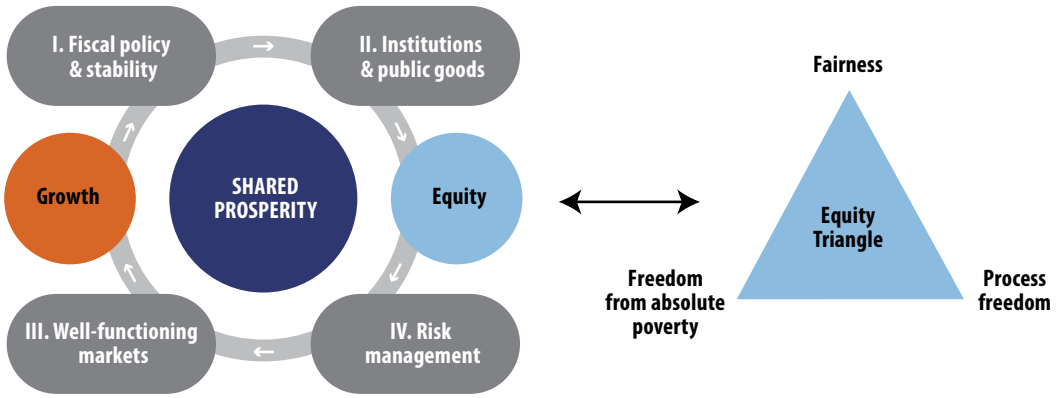
The virtuous cycle of shared prosperity framework is useful in understanding the challenges in the Dominican Republic and the entry points for effective policy interventions. This report has shown that despite economic growth, the Dominican society remains highly unequal. For instance, the fastest-growing sectors of the economy have not significantly increased employment. Instead, employment has increased most in low-productivity sectors, even for workers with high skills, and real earnings have fallen across skill groups and sectors. Furthermore, too few Dominicans have quality education and job training and many still lack access to even basic services, diminishing the potential of the Dominican Republic's pool of human capital. These factors have made it difficult to connect people to economic growth and improve equity, resulting in limited mobility and inequality of opportunities. While the Dominican Republic is improving risk-management systems to protect vulnerable populations from such dramatic increases in poverty as were seen in the 2003-2004 crisis, these social protection programs were as of 2011 still leaving over 40 percent of the population in poverty. Strikingly, the number of people who are en-

Figure 6: Contribution of "circumstances" to inequality of opportunity, 2011



Source: Study team's own estimates based on ENFT 2000 and 2011

The Virtuous Circle of Shared Prosperity



Source: SEDLAC and The World Bank.

dowed with human capital and assets but are unable to escape poverty has almost doubled over the decade.

The fundamentals of equity can be strengthened by focusing on the policy areas to be discussed below, thus tying growth to equity and generating a positive cycle of shared prosperity. The links between socioeconomic outcomes relate not only to economic processes, but also to political and social dynamics. Inequality begets inequality, for example, through a distorted allocation of resources due to the differing capacity to lobby of groups that have been historically excluded, such as woman and minorities, even in the context of a well-functioning democracy (Esteban and Ray 2005). If institutional failures such as corruption and weak accountability mechanisms also exist, the distortions are even larger and typically regressive (Gupta et al. 2002). These realities should be considered in policy design.

Policy area 1

Objective: Promote equitable, efficient and sustainable fiscal policy.

Problem to address: The current structure of fiscal policy, both on the revenue and expenditure sides, limits the ability of the Dominican Republic to provide sufficient and quality public goods and services and places too much of the burden on the poor. In particular,

- **The fiscal system is hampered by low revenue collection.** While the average tax burden in LAC is 20 percent of GDP, public revenues in the Dominican Republic averaged 13.7 percent of GDP over the past decade, only slightly higher than the level of tax revenue of Guatemala, the lowest in the region. Unfortunately, the tax reform measure that was passed in November 2012 missed the opportunity to address the low tax burden—it is expected to raise fiscal revenues by only 1.4 percent of GDP.

- **The tax system relies heavily on indirect taxes, limiting progressivity.** Nearly one third of total tax collection comes from value-added taxes (VAT), on which income has no bearing, though basic goods from the consumption basket are exempted. Furthermore, despite the exemptions of basic goods, about 50 percent of tax exemptions and incentives benefit the more affluent members of society. Past tax reforms have not raised the progressivity of the tax system, particularly by failing to impose more direct taxes. Micro-simulations of the 2012 tax reform indicate that, as expected, the increase in indirect taxes (for instance, an increase in the VAT rate) will be regressive (Valderrama et al. 2013).[3]

- **Budget rigidities limit the ability to increase and redirect allocations to key social sectors so as to provide more and better public goods and services, including systems to protect the poor and vulnerable from negative shocks.** The already limited fiscal space is further constricted by structural factors on the expenditure side, notably use of public resources to fund a large electricity deficit. In 2008, that deficit alone accounted for 2.7 percent of GDP. The figure has since decreased but remained substantial at 1.8 percent of GDP in 2012. All in all, the Dominican Republic remains well below LAC averages in social allocations. In 2011, the country channeled just 2.3 percent of GDP in public funds towards education, one of the lowest levels in the LAC region. Steps in the right direction have been taken to raise education spending to 4 percent of GDP in 2013 but capacity constraints may undermine the quality and efficiency of that spending. Health expenditures have also increased in recent years, but as of 2011 they still amounted to just half the LAC average. More than a third of the Dominican Republic's people have no access to clean water; nearly half have no access to sanitation services. Despite a substantial increase in resources for social assistance, almost half of these expenditures are still not allocated on the basis of formal targeting criteria. Targeting has become especially important because the economic shock of 2003-2004 caused some groups to slip into poverty and others to fall even further into it.

Policy options:

On the revenue side, adjusting the fiscal system can strengthen its redistributive capacity and ensure that the Dominican Republic can afford to uphold a more ambitious social contract and improve economic growth. Specific policy actions to achieve this include:

3 These micro-simulations do not take into account increases in property tax or tax on motor vehicles, both of which would likely make the results slightly more progressive.

- **Making the tax system more progressive** by replacing some of the current indirect taxation with direct taxation (e.g., personal and corporate income taxes) and ensuring exemption of basic goods;

- **Revising existing tax exemptions (now 5.9 percent of GDP) and incentives** to make them more progressive; and

- **Strengthening the ability of tax collection mechanisms to detect and limit evasion,** for instance, by increasing the capacity of the Tax Administration Authority to conduct tax audits and enforce control. Tax evasion is likely to make actual taxation less progressive.

On the expenditure side, more public resources should be allocated to education, health, water and sanitation, social protection and risk management systems, with steps taken to maximize the efficiency of resources. Specific policy actions to achieve this include:

- **Investing more resources in water and sanitation and quality education and health** to endow the poor with the skills and assets required to take full advantage of their productive capacity and live better lives;

- **Strengthening current social assistance programs and disaster risk management systems,** including safety nets to protect the poor and vulnerable from the effects of major shocks. This will ultimately lessen the impact of shocks on the overall economy and accelerate recovery to combat the asymmetric response of poverty in the Dominican Republic to business cycles;

- **Analyzing the differences between monetary and non-monetary deprivations to better distinguish the chronic from the transient poor and to design and target strategies and programs that address each group's needs,** such as better infrastructure and education services for the chronic poor and enhanced safety nets for the transient poor. This type of targeting may have particular impact in urban areas, where there are more likely to be both types of poverty (and thus a need to distinguish between the two). Overall, the effect will be to stanch the "urbanization of poverty;"

- **Further linking public social expenditures to current targeting mechanisms,** such as the *SIUBEN (Sistema de Identificacion Unica de Beneficiarios)*, currently used for the *Progresando con Solidaridad* program, non-contributory health insurance and electricity and gas subsidies, which helped reduce poverty after the 2003-2004 economic crisis. This will help assure that help goes only to people who need it;

- **Consolidating small existing social programs**, particularly in the social protection sector, to avoid duplication and fragmentation of services and help rationalize expenditures; and

- **Addressing the structural deficit in the electricity sector,** which diverts a substantial amount of public resources away from the social sector.

Policy area 2

Policy objective: Build fair, transparent and efficient institutions that will improve the provision and quality of public goods and services, expand economic opportunities, increase upward mobility and better protect the poor and vulnerable from economic shocks.

Problem to address: The quality of public services is low and, despite significant improvement, inequities in access to basic public services remain, particularly to the poor. This constrains their set of human "opportunities" to progress in life.[4] In particular,

- **The low quality of governance affects service delivery in key sectors.** There have been significant improvements in service delivery, for instance, efforts to adopt transparent targeting mechanisms, publish budget data and open lines for queries and complaints. Yet many Dominicans believe that inefficient bureaucracy, lack of transparency, anti-reform coalitions and low trust in governance systems remain important obstacles to raising competitiveness and improving service delivery in the social sectors.[5]

- **Despite remarkable increases in school enrollment, inefficient use of budget allocations and low quality continue to hamper the education system.** The

4 The Transparency International Corruption Perceptions Index (TI-CPI) perceives the Dominican Republic as one of the most corrupt countries in LAC—the TI-CPI ranks the Dominican Republic as 118th among 174 countries evaluated.

5 According to Kaufmann et al. (2012), the the Dominican Republic has had historically weak rule of law, and government effectiveness has been low.

system is characterized by operation in double shifts, high teacher/pupil ratios, high teacher absenteeism and little use of performance data to manage for results. Not surprisingly, more than 41 percent of third graders lack basic math skills, while over 31 percent cannot meet the lowest defined level of the SERCE reading test. Students in the Dominican Republic show some of the lowest academic performance in the LAC region, and this lack of efficiency in education affects the poor disproportionally. While the better off study for 12.3 years and complete 10.1 grades, the poor study for 11.1 years and complete 7.8 grades. As the analysis shows, households headed by people with higher education are more likely to experience upward economic mobility and their children enjoy more opportunities to enhance their economic potential. Thus, education is a major tool in promoting both inter- and intra-generational economic mobility and ensuring sustainable returns to social expenditure.[6]

- **Health coverage and quality are patchy, ranking behind those of countries that spend at similar levels or less.** Maternal mortality rates in DR are around 150 per 100,000 live births, over a third higher than the regional average, and infant mortality, at 22.3 per 1,000 live births, is also above the LAC average. Likewise, immunization coverage, though it has increased, remains below regional levels. Coverage through full health insurance has increased considerably but still leaves half of the poor uninsured, resulting in out-of-pocket expenditures financing a high share of health services. Combining quality of education and health services, the World Economic Forum ranked the Dominican Republic 107th out of 139 countries in 2010.

Policy options:

Developing new mechanisms and strengthening existing ones to monitor the quality and provision of public goods and services with a goal of increasing accountability and ensuring that expenditures give maximum value to society. In addition to increasing spending in the social sector and further linking it to effective targeting mechanisms, policy actions to increase accountability, citizen engagement and service quality could include:

- **Further developing and strengthening incentive, monitoring and accountability structures** between service providers, clients and policy makers, as well as procurement and financial management reforms (e.g. the introduction of framework agreements) to fight corruption and promote good governance, quality service delivery, and accountability. The IDEC initiative, which brings public and private sector and civil society actors together to improve the quality of education, and the community scorecards piloted by the *Progresando con Solidaridad* program are good examples.

- **Building on existing improvements in budget transparency and strengthening efforts to better link planning and budget formulation and to further adopt performance-based budgeting and management instruments to link increased efficiency and effectiveness according to established standards of quality.** A crucial aspect of such instruments is the generation and use of performance data (for instance, linking student test scores to teacher evaluations); and

- **Making efficiency analyses (such as cost-benefit, cost-effectiveness and economic rate of return) and monitoring and evaluation systems far more common** to economically value the return on public investments, monitor the achievement of results and learn what works and what does not work.

Policy area 3

Policy objective: Strengthen access of the poor to labor markets and increase the demand for their labor, so as to make efficient use of human capital and allow the poor to benefit from economic growth.

Problem to address: Low labor force participation and dearth of formal, well-paying jobs, particularly among the poor and vulnerable, youth and women, at a time when real earnings have been systematically falling across most economic sectors. In particular,

- **The sectors in which labor productivity has increased, such as manufacturing, the wholesale and retail trades, communications and financial services, have not contributed much to job creation.** For example, manufacturing had the second-highest annu-

6 From 2006 to 2012 the level of satisfaction in local government services regarding education and tax fairness at municipal levels decreased almost 18 percent, according to *Latinobarometro*, for LAPOP (2012)

al average of contribution to the gross value added growth rate from 2001–2011. Yet it was the sector that lost the most jobs over the same period, reducing its share of total employment by 6 percentage points (Abdullaev and Estevão 2013). This kind of growth without job creation may explain much of the lack of poverty reduction in spite of economic growth during the second half of the 2000s.

- **The majority of job creation, instead, has occurred in low-skill, low-productivity sectors, which suggests that many of the jobs created are of low quality.** Three in every four jobs created between 2004 and 2011 were in the informal sector. Increased employment during this period did lift some people out of poverty; however, the low quality of jobs may explain why the country failed to reduce poverty to at least pre-crisis levels. As shown in the analysis, nearly 30 percent of the population was poor in 2011 despite having basic education and access to services and/or assets, signifying that some people who are endowed to generate adequate income are unable to do so. Moreover, the Dominican Republic had the second-highest growth in the share of low-skill services as a percentage of employment between the late 1990s and late 2000s out of a sample of selected LAC countries (Aedo and Walker 2012).

- **Real earnings have been falling uniformly along the earnings distribution, and high-skilled workers are being continuously absorbed into low-skill jobs.** On average, real earnings per hour both of self-employed and private sector wage workers were about 27 percent lower in 2011 than in 2000. Even workers employed in high-productivity sectors or who have tertiary education have not seen their incomes rise. These trends are consistent with the low upward mobility and high downward mobility documented in this study. The fact that real earnings are also flat or declining in sectors that have strong productivity growth and make the largest contribution to the overall output is puzzling but may be explained by the high percentage of people in need of jobs following the crisis.

- **Low labor force participation.** Labor force participation in the Dominican Republic is 10 percentage points lower than the regional average. More than a third of people between 18 and 29 years are neither working nor studying and women, as a group, have even lower labor force participation.

- **An inadequately educated workforce and a skills mismatch.** According to the Global Competitiveness Report (2011-2012), one of the biggest problems in doing business in the Dominican Republic is an inadequately educated workforce. The Dominican Republic ranks in the bottom third of the 142 countries analyzed in terms of higher education and training. As this report shows, another reason why the number of transient poor doubled (from 15 to 30 percent) could be that though some people are endowed with certain human capital to generate income, they are unable to do so. This is due to a skills mismatch: the low relevance and quality of their education and training do not match what employers are looking for.

- **Several factors reduce the ability of the private sector to create more and better jobs.** The enclave type of development that has characterized two of the leading industries, special economic zones (*Zonas Francas*) and tourism, restrains employment generation and business linkages to the overall economy. The business environment is further undermined by complex regulatory processes, including labor rules, and by weak institutions, lack of transparency, inefficient government bureaucracy, partial access to finance, underdeveloped capital markets and poor labor skills and infrastructure.

Policy options:

Improving the relevance and quality of education. Specific policy actions to achieve this include:

- **Increasing investments in secondary and tertiary education, changing the content of education and training and creating the right incentive structure within key institutions in the education sector to ensure that all Dominicans have the necessary skills to work in high-productivity jobs.** Bearing in mind that rising labor income was the biggest engine of poverty reduction in the last decade, provision both of the endowments and avenues for people to participate in the labor market will raise standards of living and increase the global competitiveness of the country.

Increasing labor market information flow and training linked to job opportunities to raise the employability and productivity of the labor force. Creating targeted active labor market programs (ALMPs) designed to enhance opportunities for high-productivity job creation and formality can raise the employability of the labor force and facilitate young people's transition from school to work, without creating major market distortions. Further benefit for training and intermediation will come from consolidating the existing ALMPs, the Dominican Republic such as the national training institute INFOTEP, the intermediations services of SENAE, the labor observatory OMLAD and the youth training program PJyE. Specific policy actions to achieve this objective include:

- **Further developing temporary employment programs** to allow ALMPs to provide a counter-cyclical response in times of economic downturns and employment crisis and to activate the more disadvantage segments of the labor force;

- **Updating and expanding training and retraining programs** that couple educational attainment with productive skills to improve the quality of the labor force and widen access to job opportunities;

- **Strengthening intermediation services** to provide job-search assistance and reduce information asymmetries between labor supply and demand;

- **Providing entrepreneurship training and grants** to equip individuals, including the poor and vulnerable, with the skills and capital to start and sustain businesses; and

- **Consolidating existing institutions and scaling up effective interventions** to ensure coordination, integration and efficacy of existing ALMPs as a means to develop and implement a country-wide system to promote employment.

Improving the business environment to foster better competition, investment climate, entrepreneurship and job creation. Many of the policies proposed above are expected to contribute to this goal. Additional policy actions include:

- **Improving competition policy** by eliminating anti-competitive practices through market regulation in key economic sectors and further opening up markets to local and foreign investment, including the financial sector, and

- **Creating and targeting incentives for entrepreneurship and innovation** in sectors with the capacity to generate large numbers of jobs that are likely to have significant positive spill-overs and income distribution effects for the rest of the economy.

Conclusions

Sustained economic and social progress requires a virtuous cycle of growth and equity as the fundamental policy goal. If growth is the result of an equitable process of income generation, societies can claim to be on a path of shared prosperity. Based on these notions, this report has applied a variety of empirical methodologies and data to assess whether the strong economic growth that the Dominican Republic has enjoyed during most of the last decade benefitted the more disadvantaged groups in an economic and social sense. In doing so, the report examined the conditions in the Dominican Republic upholding the key pillars of what constitutes an equitable society, namely equality of opportunities regardless of original circumstances, the capacity of the system to bring people out and keep them out of absolute poverty, and the existence of agency—the ability of people to make decisions and convert them into actions—for all. This involved the analysis of the patterns that characterize aggregate monetary poverty and income inequality trends, households' income mobility, and non-monetary dimensions of welfare that portray the deprivations experienced by the poor, as well as the distribution of opportunities for children and proxies for the amount of agency that different groups in society have.

Despite strong economic growth over the past decade, large inequities still exist in Dominican society and are declining at a slower rate than expected. Strong growth in the Dominican Republic occurred in every year of the last decade except 2003 and 2004 when the economy contracted due to a banking crisis. In total, the Dominican Republic grew its GDP per capita by almost 50 percent from 2000 to 2011. But despite this growth, the fundamentals of equity remain low in the Dominican Republic. For instance, though strong growth resumed after the crisis, the country has been slow in decreasing poverty that soared by 17 percentage points to reach nearly half the

population. The rate remains at 40.4 percent, higher than the 32 percent level of 2000. Chronic poverty—people enduring long spells of poverty—remains an issue with only a one percentage point decrease since 2000, from 6 percent to 5 percent of the population as of 2011. Even more concerning is that about one third of the poor are in this state despite having the skills to generate higher income. This group, the transient poor, has almost doubled since the level in 2000. In addition, the country shows very low economic mobility with less than 2 percent of the population rising to a higher economic group. In fact, more than 19 percent of the population experienced a worsening in economic status from 2000 to 2011. Furthermore, despite improving access to services, coverage and quality remains uneven across population groups, thus limiting the economic opportunities of disadvantaged people.

Compared to LAC, growth in the Dominican Republic is stronger but the country is falling behind the wider region in a number of equity dimensions. Largely as a result of the 2003-2004 crisis, poverty rates in the Dominican Republic, lower than LAC's overall rates in 2000, now exceed the region's average. Furthermore, though poverty began to decline after the crisis, the rate of decline has been slower than LAC's over the same time period. In terms of reducing income inequality, the Dominican Republic continues to perform better than the region. However, as improvements have been modest over the decade, LAC is catching up to the Dominican Republic. In terms of inter-generational income mobility, a striking difference remains between the Dominican Republic and LAC—while 41.4 percent of people rose to a higher economic group in LAC, only 1.8 percent did so in the Dominican Republic. The country is also underperforming LAC in terms of increasing access to basic goods and services for children. At the rate of improvement of the past decade, DR would take longer to reach universal access than the LAC average. While investigating the underlying causes behind disappointing progress in equity is beyond the scope of this report, the study postulates some hypotheses as to why, compared to LAC, the fundamentals of equity are weak in the Dominican Republic.

This report identifies areas of priority for policy to address underlying factors of inequity in the Dominican Republic, including fiscal policy, institutional effectiveness and the performance of labor markets. In short, the Dominican Republic has a weak fiscal capacity, as it raises low revenues and does so in a manner that harms progressivity. The narrow fiscal space and institutional weaknesses, in turn, constrain the size and effectiveness of social expenditures, limiting access to crucial goods and services, particularly for the poor and vulnerable. Of great concern is that even if they are endowed with the means to progress in life, many individuals are employed in informal, low-paying jobs and have high vulnerability to economic shocks. Growth, especially in the last decade, is becoming more and more concentrated in sectors such as financial services, transportation and communications and tourism) that have either little employment creation or low-paying jobs.

To address these issues, this study identifies three policy actions to address the underlying factors of inequity. These include: (1) adjusting the structure of fiscal policy, both on the expenditure and revenue sides, to make it more equitable, efficient and sustainable; (2) developing and strengthening monitoring, social accountability and incentive mechanisms to increase the quality and provision of public goods; and (3) strengthening the access of the poor and other disadvantaged groups to labor markets and increasing the demand for their labor to make efficient use of human capital, allowing the poor to maximize returns on their endowments and to ultimately benefit from economic growth.

Finally, policy design aimed at promoting a more balanced development path could be effectively informed by further analytical work. Particularly salient work could be performed in the areas of fiscal policy, social sectors and labor markets. This would help to further uncover the underlying factors that inhibit the gains of growth from being more evenly shared across the population. A relevant concern in this analysis is discrepancies between the Dominican Republic's national accounts and household survey data. Serious analytical efforts should be devoted to understanding the apparent disconnection between macro and micro data that hinders the ability of national statistics to accurately reflect macroeconomic and social progress.

Chapter 1
Growth and equity in the Dominican Republic: The puzzle

Contrary to the overall experience of the Latin America and Caribbean region (LAC), strong economic growth in the Dominican Republic over the past decade has not been accompanied by strong improvement across a number of equity dimensions. These dimensions include the right to be free from absolute poverty, fairness in access to economic opportunities and the ability of individuals to make effective choices and transform those choices into outcomes. This disconnection between growth and shared prosperity in the Dominican Republic signals weak fundamentals of equity. From 2000 to 2011, GDP per capita in the Dominican Republic grew at an annual rate of 3.8 percent compared to a LAC annual average of 2.9 percent. A small contraction of the Dominican Republic's economy during the 2003-2004 financial crisis led to a dramatic increase in poverty, with nearly half the population engulfed by it. By 2011, the poverty rate had fallen to 40.4 percent, which is higher than the LAC average and remains higher than the Dominican Republic's own level in 2000 (32 percent). This trend is more marked in the Dominican Republic's urban areas, where there are now twice as many poor people as there were in 2000. In these areas, levels of income inequality have barely changed, while a moderate reduction has occurred in rural areas. Overall, total income inequality in the Dominican Republic has been falling at a slower rate than in LAC.

Looking at types of poverty in the Dominican Republic reveals that two thirds of income-poor Dominicans, in principal, have the skills and assets needed to generate higher incomes for themselves but have been unable to do so. The other portion of the poor consists of people caught in chronic poverty—long, in some cases life-long, spells of deprivation. This remains a critical issue as these are likely the most disadvantaged members of society. Indeed, the Dominican Republic has very low economic mobility with less than 2 percent of the population moving to a higher economic group over the past decade compared to the regional average of 41 percent. In fact, over 19 percent of Dominicans actually experienced a worsening in economic status from 2000 to 2011. The Dominican Republic is also underperforming compared to LAC in regards to promoting equitable access to basic goods and services for children. This limits the economic opportunities of disadvantaged people.

In DR, following a pattern observed in other countries in the region, the middle class tends to opt out of the social contract by demanding private services and refusing to contribute to public goods. This generates a vicious cycle of low tax compliance, low public services quality and exclusion of the poor (Sanchez and Senderowitsch 2012; Ferreira et al. 2012). Strengthening the capacity of institutions to provide quality services could reverse this process and reinforce a more cohesive social contract.

The fundamentals of equity, clearly weaker in the Dominican Republic than in other countries of the region, can be strengthened by focusing on three broad policy goals to tie growth to equity and generate a positive cycle of shared prosperity.

1. Promote equitable, efficient and sustainable fiscal policy,

2. Build fair, transparent and efficient institutions that will improve the provision and quality of public goods and services, expand economic opportunities, increase upward mobility and better protect the poor and vulnerable from economic shocks and

3. Strengthen access of the poor to labor markets and increase the demand for their labor, so as to make efficient use of human capital and allow the poor to benefit from economic growth.

Chapter 2
A Conceptual framework for equity analysis

This report uses a comprehensive definition of "equity," based on ideas from welfare economics and political philosophy. There is a vast literature that ponders the nature of equity and how to achieve it. According to Bourguignon et al. (2002) and World Bank (2006), a social state is equitable when it satisfies two conditions: (1) there is "equality of opportunity,"[7] implying that achievement and life chances are not associated with an individual's origin or circumstances and (2) absolute poverty has been eliminated. If we include a "comprehensive outcomes" perspective, in which the process to achieve a result is an essential part of our evaluation of the final state (Sen, 1998, 2010), then the notion of equity also involve the process aspects of equity. In this view, the processes by which individuals achieve socioeconomic advancement, effectively opting among life options they have reasons to value, become a fundamental part of the evaluation of the social state (Cord and Lopez-Calva 2013). This relates to individual agency and autonomy for specific groups of society.

Thus, for a society to be "equitable," its citizens must have equal access to opportunities, be able to live in dignity and have the autonomy and voice to participate fully in their communities, choosing life plans that they have reasons to value. This conceptual framework for equity analysis is based on a tripartite definition of "equity," encapsulated by the *equity triangle* depicted below:

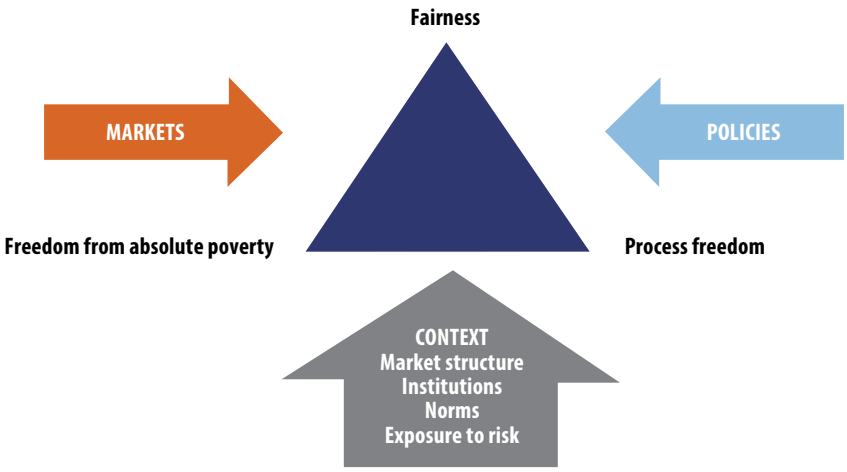
The first dimension of the equity triangle, *fairness*, is based on the notion that individuals' initial circumstances and background characteristics should not limit the set of opportunities available to them. To be equitable, a society must allocate resources and opportunities such that no group is limited in their advancements and achievements due to certain characteristics out of their control, such as place of birth, family's economic status, race or gender. For instance, the fact that members of a country's indigenous groups, whose minority status is a characteristic beyond their control, would have lower access to clean water is unfair, and thus, inequitable as defined in this report. The second dimension of the equity triangle, the *right to be free from absolute poverty*, entails that all members of a society are guaranteed access to goods and services such that they are able to achieve a well-defined minimum standard to live in dignity. In other words, if a society is to be considered equitable, no member should be living in extreme poverty—defined in the Dominican Republic as life on less than $2.12 a day in urban areas and $2.03 in rural ones—and all individuals ideally should be safe from falling into that condition. The third dimension of the equity triangle, *process freedom*, requires that individuals have the social, economic

7 See Rawls (1971), Roemer (1998) and Cohen (2001)

and political means to make effective choices and transform those choices into outcomes that they have reasons to value. This involves the concept of agency, a "capacity to do by themselves." The constitutive elements of agency are: (1) aspects of the individual, including objective ones (for instance, a person's good health or lack of it) and subjective ones (such as aspirations and self-drive); (2) contextual elements, such as social norms, culture and formal institutions; and (3) power, defined as the capacity to align the actions of others to one's own interest (Cord and Lopez-Calva 2013). This report will look mostly into conditions related to the first two corners of the triangle (fairness and absence of absolute poverty). As discussed in the concluding section, agency-related issues, including those related to economic empowerment (particularly for women), institutional capacity and aspirational gaps, should be part of the agenda in the Dominican Republic in the near future to fully assess the equity situation and devise responsive policies.

The interaction among these three constitutive elements of equity is determined by context, markets and policy. Context—the functioning of specific markets, the exposure to risks and the country's institutional environment—exercises deep influence over the equity picture. Markets play a great role too because members of the labor force need the skills and education in order to compete in them. Policies, in turn, affect the dynamics in the search for better outcomes, establishing, for example, specific fiscal structures, expenditure plans and interventions to overcome inequities embedded in the system. Thus, equity assessment can inform policy makers on ways to decrease poverty, inequality and barriers to agency through key channels.

Equity Triangle



Chapter 3
The weak links between economic growth and poverty reduction

3.1 The macro context: A top performer in economic growth

Strong and sustained economic growth in the last two decades has made the Dominican Republic one of the fastest-growing economies in the region. On average, the economy grew annually in real terms by 5.3 percent between 2001 and 2011, outperforming the Latin America and Caribbean region (3.4 percent) by almost two percentage points. Gross domestic product in the Dominican Republic expanded by 72 percent compared to 43 percent in the region over this time period. This gap has been a recurrent pattern decade after decade. Indeed, the Dominican Republic exceeded the region's GDP performance in the 1990s by the same margin of 2 percentage points and by more than 1 percentage point in the 1980s. Overall, the real GDP growth rate of the Dominican Republic exceeded LAC's in 16 out of the 22 years spanning the period 1990-2011 (Figure 7). This long-term trend is largely the result of economic reforms of the early 1990s that sought to introduce sound macroeconomic policies and attract foreign capital. Large flows of foreign direct investment and remittances have helped drive the economic expansion.

The Dominican Republic's fast pace of wealth creation raised average per capita incomes substantially. The average annual income of Dominicans in 1990 was $3,833 (measured in purchasing power parity, or PPP). This increased by 51 percent in the 2000s to $5,785 and by 45 percent in the following decade to reach $8,387 in 2010. This rise of 2.2 times between 1990 and 2010 is impressive when judged by regional standards. For instance, income per capita in LAC increased annually in the 2000s by 2.2 percent on average, but the corresponding value for the Dominican Republic was 3.8 percent. The difference was even more marked for the period between 2005 and 2011, 2.9 percent for LAC and 5.3 percent for the Dominican Republic (Table 4). Had the GDP per capita of the Dominican Republic grown in the 2001–2011 period at LAC's average growth rate, it would have been 12 percent lower than what it actually was in 2011. The Dominican Republic's relatively strong performance has raised average incomes, converging with levels of the region. In 1990, the average income in the region was 85 percent higher than in the Dominican Republic; by 2011, the gap between the two had fallen to 21 percent (Figure 8). Assuming that going forward the GDP per capita of the Dominican Republic and LAC will grow at the average rates seen in the last five years, the gap will vanish by 2020.

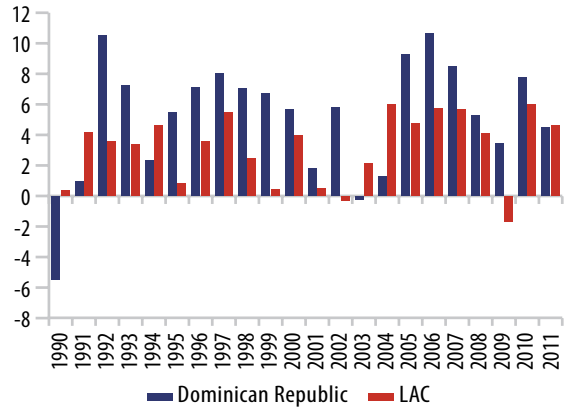
A domestic banking crisis in the first half of the 2000s contracted the Dominican Republic economy; by contrast, the country was remarkably resilient in the face of global economic crises. The country enjoyed a period of rapid and stable economic growth during most of the 1990s and early 2000s. But in 2003, with rapid currency depreciation and inflation in the wake of a domestic fi-

Table 4: Real GDP per capita growth: Dominican Republic and LAC, 1990–2011 (%)

	1990-95	1996-2000	1990-2000	2001-05	2006-2011	2000-2011
DR	1.5	5.2	3.2	2.0	5.2	3.8
LAC	1.1	1.6	1.3	1.3	2.9	2.2

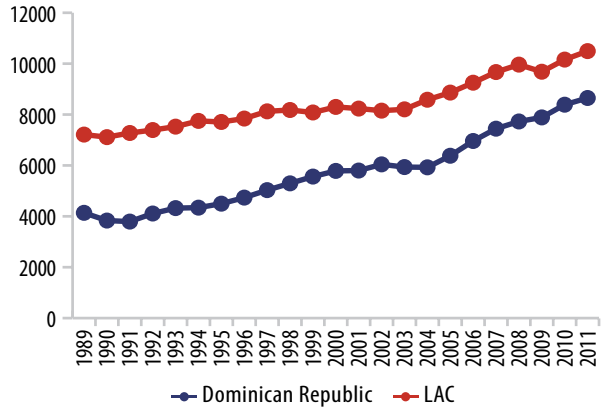
Source: World Development Indicators

Figure 7: Real GDP growth: Dominican Republic and LAC, 1990–2011 (%)



Source: World Development Indicators

Figure 8: GDP per capita: Dominican Republic and LAC, 1990–2011 (PPP constant 2005 $)



Source: World Development Indicators

nancial crises precipitated by a major bank failure, the economy contracted, by 0.3 percent. After slow growth in 2004, it recovered in 2005 and grew at even faster rates than those seen in the pre-crisis period. While the global economic crisis, particularly the recession in the United States, slowed down the Dominican economy in 2008 and 2009,[8] growth remained positive in both years (5.2 percent in 2008 and 3.4 percent in 2009) and well above the levels in the LAC region as a whole.[9] The resilience to crisis was not intrinsic to the Dominican economy; rather, the government implemented a large expansionary fiscal policy to protect against shock. While the policy served its purpose, such actions translate into higher debt which can limit both future governmental capacity and the sustainability of high levels of economic growth.

3.2 A slowly shifting economic landscape

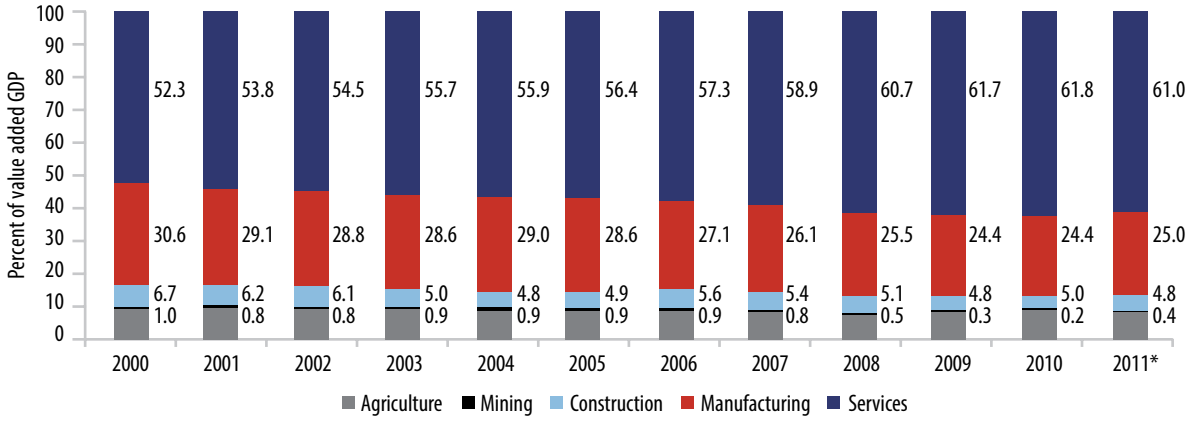
The Dominican Republic is shifting towards a more service-based economy, but slowly. For instance, in 2011, 61 percent of value added in the Dominican Republic was contributed by the service sector, compared to 52.3 percent in 2000. Accordingly, shares of other sectors have fallen—manufacturing declined the most with a drop of 5.6 percentage points. This switch to services can likely be explained by an initial decline in construction's share due to the economic crisis in 2003 and 2004 and a shift from manufacturing towards services throughout the decade.

Growth in the services sector has consistently driven total value added growth. A simple average of the contribution to value added growth reveals that the services industry contributed, on average, 3.2 points per year out of a total annual average growth of 4.4 points from 2000 to 2011. This represents 73.7 percent of annual growth. The services sector is also the only sector in which growth occurred every year. Construction, by contrast, declined in six of the 12 years considered and was a major cause of the decline in GDP during the crisis.

The composition of the service sector changed over time. For instance, communications increased its share of the total services value added from 9.3 percent in 2000 to nearly 30 percent in 2011. In contrast, the share of every other segment fell over the time period. This fall was most

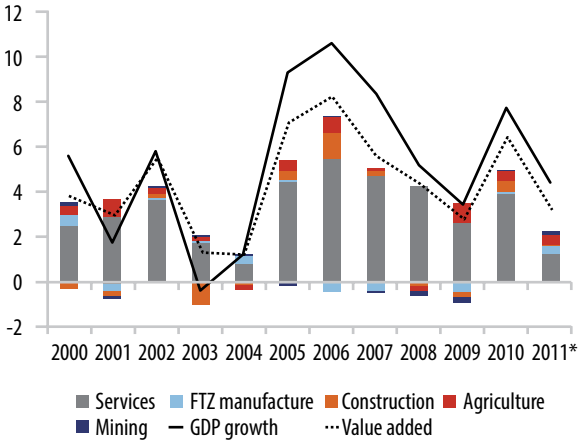
8 The economic slowdown was mostly driven by falls in remittances, exports and tourism.
9 The real GDP of the region grew by 4.1 percent in 2008 and contracted by 1.7 percent in 2009.

Figure 9: Percentage share of economic sectors in value added



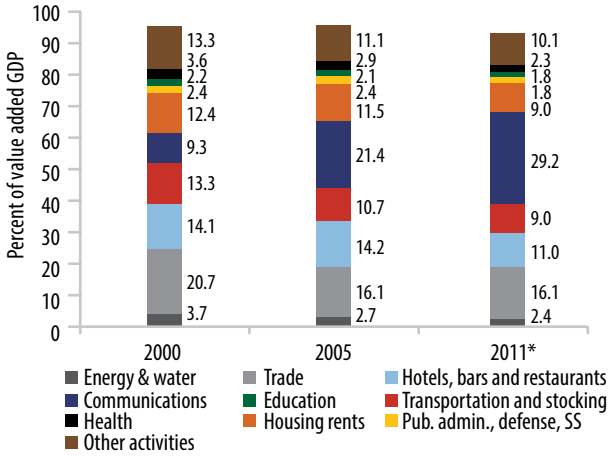
*Source: Central Bank of the Dominican Republic. Note: * preliminary figures*

Figure 10: Sector contribution to value added growth (%)



*Source: Central Bank of the Dominican Republic. Note: * preliminary figures*

Figure 11: Share of segments in services value added (%)



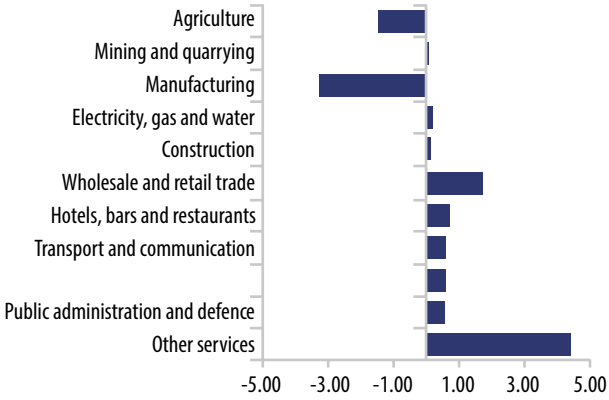
*Source: Central Bank of the Dominican Republic. Note: * preliminary figures*

pronounced in trade and transportation, which were down 4.5 and 4.2 percentage points, respectively (Figure 11).

The sectors which have contributed the most to the strong economic growth in the Dominican Republic have not created a substantial number of jobs. Abdullaev and Estevao (2013) find that the sectors which drove economic growth in the Dominican Republic over the past two decades, which include manufacturing, transportation and communication and financial services, have either declined or have not changed as a share of total employment. Thus, rising labor market productivity in these sectors rather than a substantial increase in employment contributed to GDP growth in the Dominican Republic. By contrast, the sectors that contributed the most to the relatively low employment growth from 1996 to 2011 (4.1 percentage points), notably "other services," which includes community, social, health, education and private households with employed persons, fell as a share of total value added and tend to consist of lower-skill activities (Figure 12 and Figure 13).

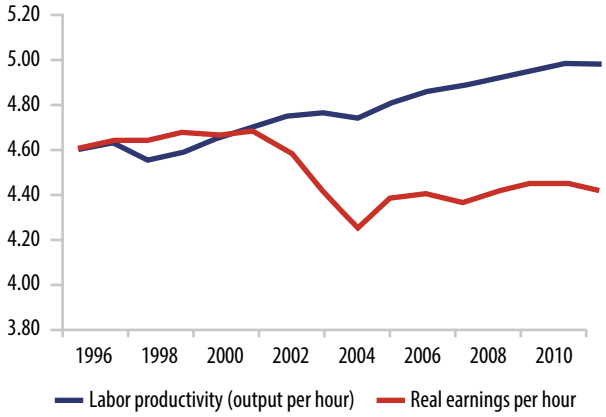
Real earnings have fallen across the income distribution. From 2000 to 2011, real earnings fell by 27 percent (Abdullaev and Estevao 2013). This decrease in wages has affected people from all earnings levels and was slightly stronger for the top earners. The steep dip in hourly earnings during the 2003-2004 crisis partially explains this dramatic reduction in wages, and there was an upward trend in earnings in the post-crisis period. However, im-

Figure 12: Contribution to change in employment rate by sector (2011-1996 percentage points)



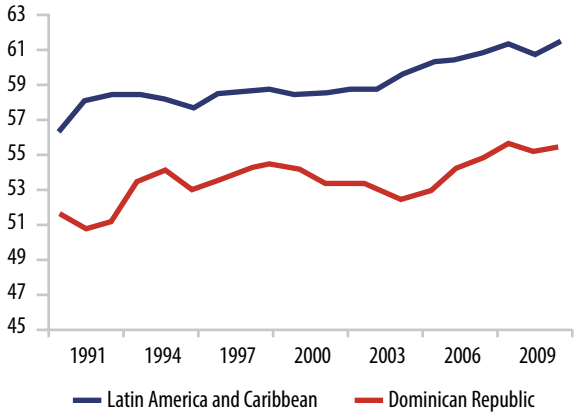
Source: Abdullaev and Estevao 2013.

Figure 13: Labor productivity and real earnings



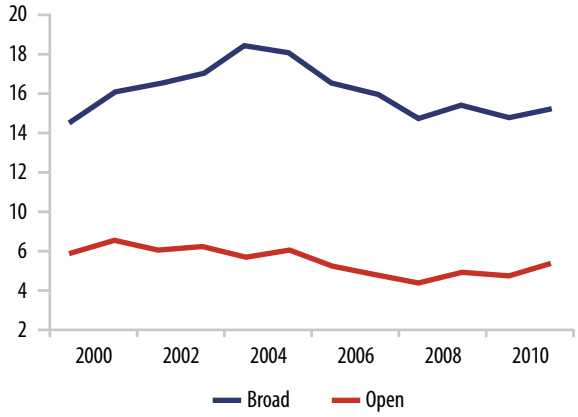
Note: Labor productivy and real earnings shown in logarithm.
Source: Abdullaev and Estevao 2013

Figure 14: Employment to population ratio, 15+ (%)



Source: Abdullaev and Estevao 2013.

Figure 15: Unemployment rate (%)



Source: Abdullaev and Estevao 2013.

provements are coming more slowly than would be expected given the growth during this time. In fact, even workers in high-productivity sectors have faced a decline in earnings over the period as they were not able to recover to 2000 levels following the crisis. There is also low labor force participation compared to the region, which may be explained by the scarcity of quality work opportunities and high unemployment, especially among women (Figure 14 and Figure 15).

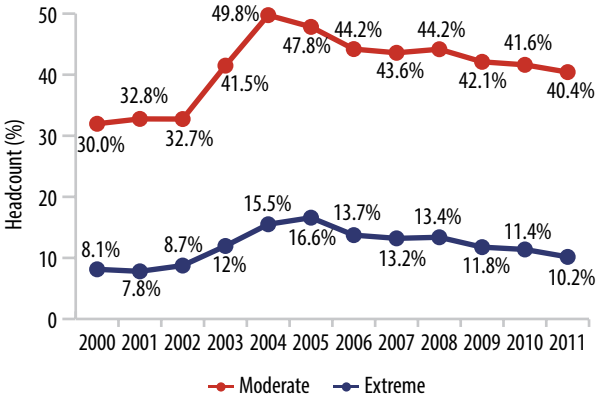
3.3 Poverty trends: Recovering slowly from the economic crisis

Assessing long-term poverty trends in the Dominican Republic poses serious challenges. Methodological differences introduced over time in the collection of data constrain the validity of long series to track monetary and non-monetary indicators of household welfare. For example, the semi-annual labor force survey *Encuesta Nacional de Fuerza de Trabajo* (ENFT), the most regular source of information to measure and characterize the living conditions of Dominicans, including family incomes, is only comparable for the period 2000-2011. Additionally, until 2012, the Dominican Republic lacked an official and commonly accepted methodology to measure and monitor poverty. This report utilizes official poverty estimates derived from the 2012 launch of an official poverty methodology produced by an inter-institutional technical poverty committee created for that purpose.

Box 1: The Poverty committee experience in the Dominican Republic

The effect of economic growth and income redistribution on poverty can only be measured correctly if a country has well-defined methodologies for the construction of welfare aggregate and poverty lines. Before 2012, the Dominican Republic lacked these, relying instead on multiple poverty estimates that were computed by international institutions such as the World Bank, the IADB and ECLAC based on international poverty lines. Consequently, the Government gathered a team of experts on poverty measurement from different institutions, including The World Bank, in order to devise official methodologies for poverty calculations. The committee agreed on several technical and theoretical points such as the most appropriate welfare income and its components; the conformation and estimation of the basic bundle of needs including a food basket for extreme poverty; and current expenditure for the estimation of the Engel coefficient used in moderate poverty. The committee also agreed on the best way to calculate the monetary value of poverty lines, the frequency of updates and the years of comparability over time. On July 31, 2012, the Dominican Republic launched this official poverty methodology and issued official poverty numbers for the 2000-2011 period.

Figure 16: Moderate and extreme poverty rates (2000–2011)



Source: Study team's own estimates based on ENFT 2000-2011

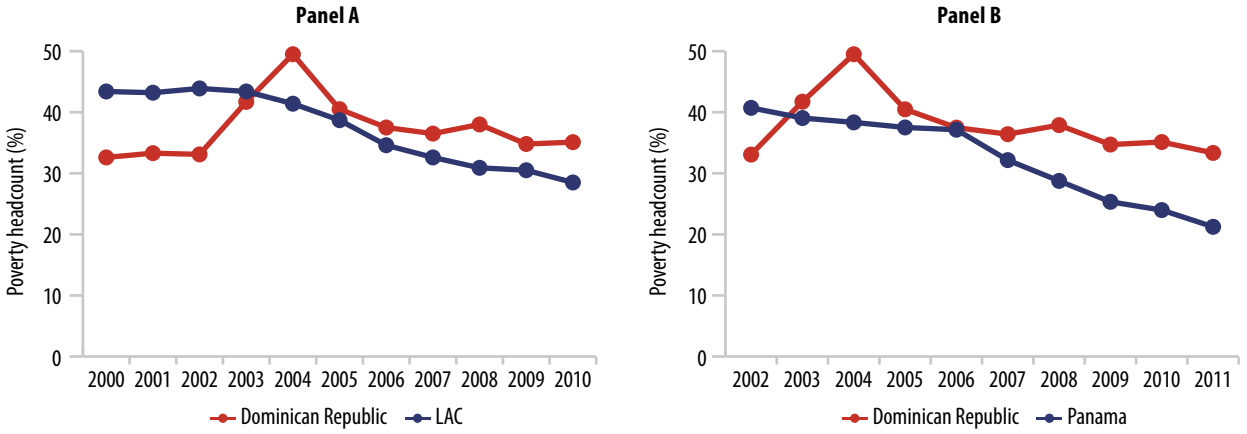
Data from the official methodology show that there was no poverty reduction at the beginning of the 2000s and poverty spiked during the banking crisis in 2003-2004. As Figure 16 shows, moderate poverty (defined as the number of people with insufficient incomes to afford a basic basket of goods and services) remained flat between 2000 and 2002 but increased dramatically during the 2003-2004 crisis. Poverty went up from 32 percent in 2002 to 41 percent in 2003 and peaked in 2004, when the incomes of half of the population fell below the poverty line. Extreme poverty followed a similar trend, remaining flat pre-crisis and spiking during 2005 when it reached 16.6 percent, more than double the rate in 2000.

Post-crisis, poverty declined, but at a slow rate in spite of strong economic growth during the recovery period. From the economic recovery in 2005 onwards, moderate poverty started to gradually decrease, on average by 1.3 percentage points annually. As of 2011, 40.4 percent of Dominicans were characterized as poor. The trend of the extreme poverty rate—the proportion of people living on $2.12 a day in urban areas and $2.03 a day in rural areas, making them unable to cover basic food needs—mirrored movements of the moderate poverty rate both at the height of the economic crisis and during the second half of the 2000s. The extreme poverty rate declined during the recovery period but remained higher at 10 percent in 2011 than it was prior to the crisis.

While GDP has risen faster in the Dominican Republic relative to LAC over the decade, this growth has been less inclusive of the poor than that of the region. Poverty in the Dominican Republic has risen, shifting poverty levels from below those in the LAC region at the start of the decade to above by the end. Using a moderate poverty line comparable across countries in the region ($4 PPP per day), 32 percent of Dominicans were poor in 2000, more than 10 percentage points below the percentage of people who were poor in the LAC region as a whole. In the years that followed, while poverty in LAC declined, poverty rose dramatically in the Dominican Republic, peaking at almost 50 percent in 2004 following the country's economic crisis. By 2011, poverty in the Dominican Republic had declined by half of the increase brought on by the crisis, remaining above the level at the start of the decade and the LAC level (Figure 17, Panel a). In contrast, poverty fell substantially in LAC during the 2000s, resulting in nearly 70 million fewer people living in poverty.

Poverty reduction in the Dominican Republic is also slow when compared with the performance of Panama, a close neighbor country with a similar level of economic growth. When compared to the average poverty

Figure 17: Moderate poverty rates in Dominican Republic, Panama and LAC (2000–2011)



Note: Poverty line used for the calculation is $4 PPP per capita per day. Source: Study team's own estimates using SEDLAC (Socio-Economic Database for Latin American and the Caribbean)

reduction in Central America, the Dominican Republic retained a lower poverty headcount, even during the crisis, and performed similarly in trend thereafter (see Annex I, Figure 45). Given the substantial economic growth of the Dominican Republic during the 2000s, a more comparable Central American country may be Panama. In fact, among all the countries in Central America, Panama attained the highest GDP growth rates, climbing on average by 4.6 percent per year. In the Dominican Republic, it increased on average by 3.8 percent. However, in contrast to the trend in the Dominican Republic, Panama's story of substantial economic growth has been accompanied by impressive and fairly inclusive poverty reduction. Using the $4 line, overall poverty decreased by a startling 19 percentage points between 2000 and 2011, from 40 to 21 percent. Comparing just the post-crisis period, Panama also achieved a faster rate of poverty reduction than did the Dominican Republic. (Figure 17, Panel b).

A particular feature in the Dominican Republic is the asymmetric responsiveness of poverty to business cycles: big jumps during economic crises but slow reduction in times of strong economic growth. As noted above, moderate poverty in the Dominican Republic increased by 18 percentage points during the domestic financial crisis of 2003-2004, more than doubling, even though GDP contracted by only 0.3 percent in 2003 and growth resumed in 2004 at a 1.3 percent rate. By comparison, it took much larger contractions of GDP in Mexico in 1995 and Argentina in 2001 to generate similar increases in poverty there (Figure 18, Panel A). Similarly, GDP fell significantly in the whole LAC region in 2009 during the global crisis (on average by 1.9 percent), yet poverty rates remained almost intact.

The same asymmetric response is seen in the Dominican Republic during times of robust economic growth. For instance, seemingly no poverty reduction occurred in 1997-2000 and 2002, even though the economy expanded without interruption at annual rates of nearly 6 percent or higher.[10] Moreover, sustained average real GDP annual growth of 7 percent between 2005 and 2011 helped eliminate only half (9 percentage points) of the increase in poverty that occurred in 2003 and 2004. Specific years of rapid growth in the Dominican Republic (for example, near or above 10 percent in 2005 and 2006) brought poverty down on average by only 2.5 percentage points (Figure 18, Panel B). Again, this trend diverges from the pattern found in LAC as a whole, where poverty fell by a similar magnitude but following much slower average real annual GDP growth (7 percent in the Dominican Republic vs. 4.2 percent in LAC).

Due to the moderate impact of rapid economic growth on poverty in the Dominican Republic, the number of poor people in 2011 remains at levels similar to those at the peak of the 2003-2004 economic crisis. The number of poor in 2011 (just over 4 million) is only slightly lower than the level reached in 2004 and 50 percent higher than the level observed in 2000. This trend is more marked in urban areas, where there are now twice as many poor

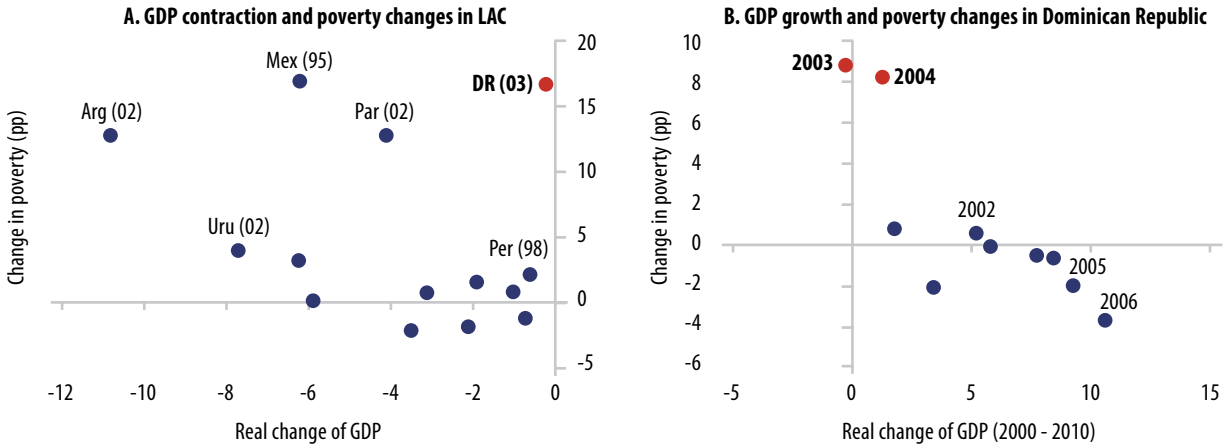
10 See "Dominican Republic Poverty Assessment: Achieving More Pro-Poor Growth," World Bank, Washington, October 30, 2006.

Table 5: Moderate and extreme poverty rates (2000–2011)

Poverty line	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Moderate	rural	47.3	47.5	47.2	55.4	59.9	57.0	54.0	51.8	55.2	50.8	50.4	48.4
	urban	23.7	24.8	24.9	33.9	44.1	42.8	38.8	39.1	38.8	37.9	37.3	36.5
	total	32.0	32.8	32.7	41.5	49.8	47.8	44.2	43.6	44.2	42.1	41.6	40.4
Extreme	rural	14.7	13.2	16.1	19.4	22.9	23.7	19.8	18.4	20.6	17.9	16.9	15.3
	urban	4.6	4.9	4.8	7.9	11.4	12.6	10.4	10.4	9.9	8.8	8.7	7.7
	total	8.1	7.8	8.7	12.0	15.5	16.6	13.7	13.2	13.4	11.8	11.4	10.2

Source: Study team's own estimates based on ENFT 2000-2011

Figure 18: GDP growth and changes in poverty



Note: Panel A includes a selected sample of countries in LAC. Changes in poverty are shown in percentage points.
Source: Study team's own estimates based on WDI and SEDLAC (Socio-Economic Database for Latin American and the Caribbean)

people as there were in 2000 (2.4 vs. 1.2 million). The number of people in extreme poverty decreased relatively faster after the economy recovered in 2005, but it is still 50 percent higher than in 2000 (Annex A).

Poverty has become a more urban phenomenon. The gap in the incidence of poverty between rural and urban areas has narrowed in the last decade. In 2000, the rural poverty rate (47 percent) was almost twice as high as the urban rate (24 percent). Eleven years later, the headcount in rural areas is less than a third higher than in urban areas [see Table 1]. The absolute difference between one and the other has fallen from 23 to 12 percentage points. However, the decline in the gap is not the result of reduction in rural poverty but is instead driven by a significant increase in urban poverty, most of it linked to the 2003-2004 economic crisis. Poverty went up by 86 percent in urban centers in that time, compared to a 26 percent rise in rural areas. And whereas rural poverty returned to the pre-crisis level in 2011, the poverty headcount in urban areas, though it declined during the recovery, was still 54 percent higher in 2011 than in 2000. An analogous pattern is observed for the extreme poverty rate. In sum, urban centers now account for 60 percent of the total number of poor, up from 48 percent in 2000.

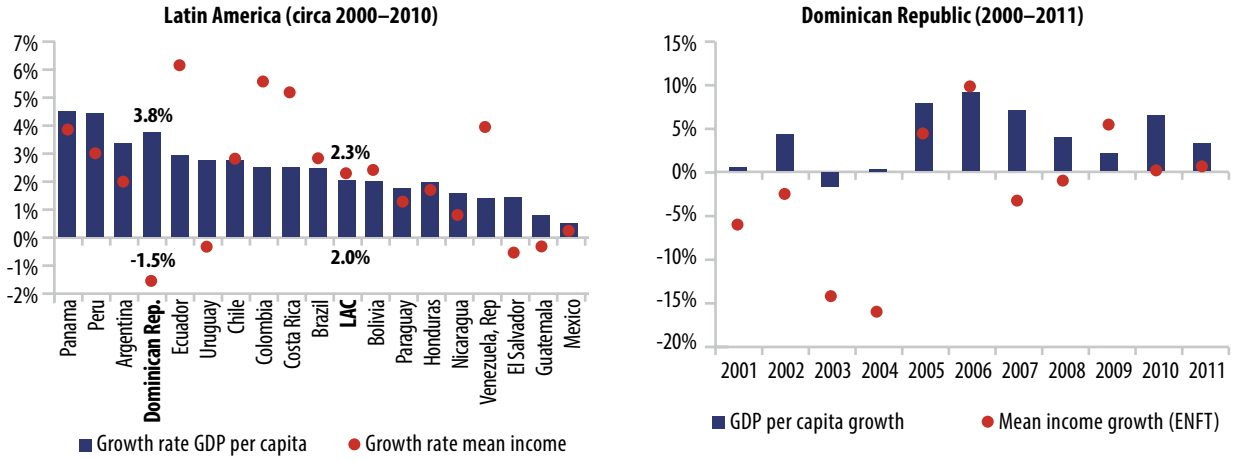
The evolution of the intensity of poverty mirrors the trends of the poverty headcount. The intensity of poverty is captured by the poverty gap (PG), an index that measures the average distance between the income of the poor and the poverty line for the whole population in poverty – either moderate or extreme. The PG in the Dominican Republic was flat at around 11-12 percent of the poverty line in 2000, jumped to 20 percent in 2004 and 2005 and started falling over the second half of the decade to hit 15.1 percent in 2011 (Table 6). While the PG in rural areas has recurrently been higher than in urban

Table 6: General and extreme poverty gap (2000–2011)

Poverty line	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Extreme	rural	4.7	3.7	4.6	5.7	6.9	8.1	6.6	5.8	6.5	5.3	4.8	4.4
	urban	1.4	1.5	1.5	2.5	3.2	4.0	3.2	3.2	3.0	2.5	2.2	2.1
	total	2.6	2.2	2.6	3.6	4.5	5.4	4.4	4.1	4.1	3.4	3.1	2.8
Moderate	rural	18.4	17.7	18.8	22.7	25.5	25.4	23.1	21.5	23.3	20.5	20.1	19.2
	urban	8.1	8.5	8.7	12.5	17.0	17.3	15.0	15.2	14.9	14.0	13.8	13.0
	total	11.7	11.7	12.2	16.1	20.0	20.1	17.9	17.4	17.6	16.1	15.9	15.1

Source: Study team's own estimates based on ENFT 2000-2011

Figure 19: Growth rate of income per capita using macro and micro data



Source: Study team's own estimates based on WDI, SEDLAC (Socio-Economic Database for Latin American and the Caribbean) and ENFT 2000–2011

areas, the difference has narrowed over time. As of 2011, the PG in rural the Dominican Republic was 19.2 percent compared to 13 percent in urban areas (Table 6). Overall, direct transfers of a total amount of nearly 1.2 percent of the GDP would be necessary to bring the income of all poor households up to the poverty line.[11] This compares to an almost identical value of 1.3 percent to achieve the same objective in 2000.

A serious disconnection exists between macro and micro data in the Dominican Republic. National accounts (an example of macro data) generally serve as the underlying data for measures of aggregate economic activity (notably GDP) and growth while household surveys (micro data) provide the figures for poverty estimates. A standard way to check whether the change in the standards of living, i.e. income growth, is similar in both types of data is to compare the annual growth rate of GDP or aggregate consumption per capita (calculated with macro data) against the annual growth rate of the mean income (calculated with micro data) (Figure 19). Comparing the differences between the Dominican Republic's national accounts (macro) and the ENFT labor force survey (micro) data with macro-micro gaps in 17 other countries in LAC shows that the gap in the Dominican Republic is among the largest in the region. A deeper inspection of the data in the Dominican Republic shows that (1) the growth rate of the mean income is usually lower than the growth rate of GDP per capita and (2) the gap broadened during the years of the economic crisis (2003-2004) (Figure 19, Panel b). The discrepancies between survey estimates and national accounts continue when the annual growth rate of the mean income is compared against the annual growth rates of consumption per capita and gross national product, both taken from national accounts.

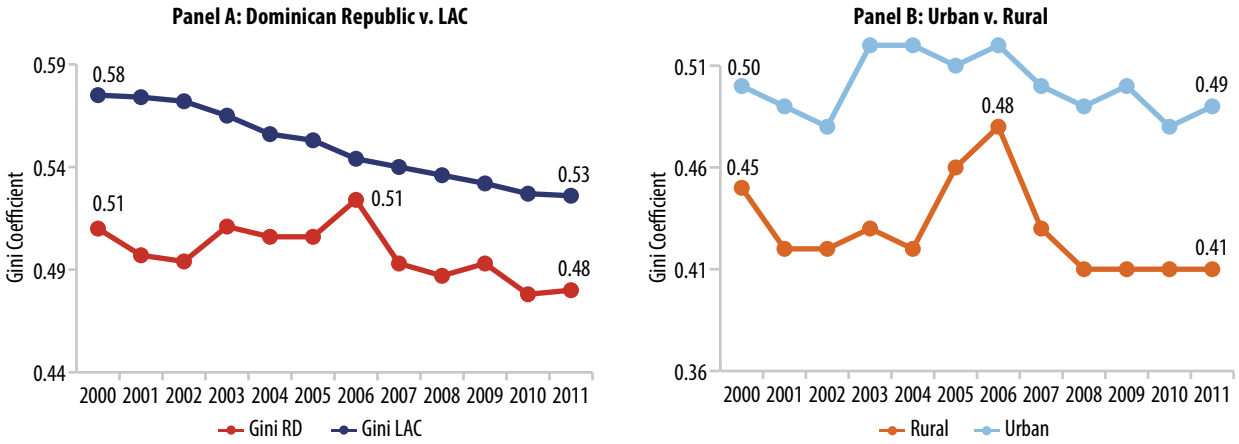
11 This assumes that there are no administrative costs associated with these transfers and that they can be made in a perfectly efficient manner (e.g. lump sum transfers).

Table 7: Ratio of mean household income to macro indicators

Ratio of income to:	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
GDP	78.3	75.6	70.1	57.6	51.5	50.7	51.5	46.6	45.3	45.6	43.6	43.3
GNP	81.8	79.1	73.3	61.6	56.2	53.7	54.3	49.1	47.2	47.4	45.0	45.0
Consumption	101	97.3	89.9	73.6	66.0	61.6	62.4	56.4	51.6	53.5	50.0	50.0

Source: Study team's own estimates based on WDI and ENFT 2000–2011

Figure 20: Gini coefficient (2000–2011)



Note: Gini coefficient for Dominican Republic and LAC based on income per capita. Source: Study team's own estimates based on ENFT 2000–2011 and SEDLAC (Socio-Economic Database for Latin American and the Caribbean)

Research using cross-country data over time indicates that overstating growth and understating poverty reduction is a fairly common issue worldwide. The discrepancy between macro and micro data is not isolated to the Dominican Republic. Using 557 survey-based estimates of mean consumption or income per head for 127 countries covering the period 1979–2000, Deaton (2005) shows that income per head measured from household surveys often grows less rapidly than GDP per head measured in national accounts. He further shows that the ratio of the former to the latter is less than 60 percent, tending to fall over time as real income in macro data increases. This is consistent with the trend observed for the Dominican Republic (Table 7).

The difference between the two sources of data may have a number of causes. The definition, and success in meeting the definition, of consumption and income may vary between survey data (e.g., excluded services, rent and financial services imputations, etc.) and national accounts. The disparity between consumption or income data and national accounts could also be tied to survey non-response rates, because not everyone who is asked to answer a survey actually completes it. In many cases, the probability of response is negatively or positively correlated with socioeconomic characteristics. For example, in surveys better-off households are generally less likely to respond, leaving top-income earners less represented in the results. Another potential cause of the difference between sources is the use of price and price indices, which are also subject to their own sampling and non-sampling errors. Finally, discrepancies may be caused by variations in survey design, such as coverage, recall period, survey responder and non-market set prices (Deaton 2005). Additional hypotheses usually put forward in the case of the Dominican Republic—but not formally tested yet—point to economic growth being driven by capital gains or accruing to top income earners and foreign investors, all of which are not well captured in household surveys.

In spite of the mismatch between the two sources of data, there are reasons to believe that the Dominican Republic exhibits low poverty-growth elasticity in times of strong economic growth. Disconnections between macro and micro data are common, and while the gap in the Dominican Republic is particularly large compared to

Table 8: Gini coefficient (2000–2011)

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Rural	0.448	0.417	0.418	0.431	0.415	0.455	0.484	0.434	0.408	0.413	0.412	0.411
Urban	0.498	0.489	0.483	0.516	0.515	0.507	0.520	0.500	0.489	0.500	0.482	0.486
Total	0.510	0.497	0.494	0.511	0.506	0.506	0.524	0.493	0.487	0.493	0.478	0.480

Source: Study team's own estimates based on ENFT 2000-2011

that of other countries in LAC, it does not preclude the viability of certain inferences about the Dominican Republic's poverty and growth trends. The direction of the change in the poverty headcount derived from the Dominican Republic's micro data corresponds to the growth trends derived from the Dominican Republic's macro data and is consistent with the countercyclical nature of poverty, namely that it tends to decrease when the overall economy is growing and vice versa. Thus, the response of poverty to the state of the Dominican Republic economy has moved in the expected direction. Even if one were to cut growth rates by half—i.e., to a growth rate similar to the average performance of LAC—the reduction in poverty would be small relative to decreases in poverty seen in other countries in the region. In other words, taking into account the limitations of the data, the results still show that the Dominican Republic is underperforming in terms of poverty reduction considering the positive macroeconomic conditions (growth, stability) that the country enjoyed through most of the 2000s.

3.4 Income inequality trends: Moderate improvements, mostly for rural households

Income inequality fell moderately during the 2000s. The Gini coefficient, a standard measure of income inequality,[12] fell from 0.51 to 0.48 between 2000 and 2011. The fluctuations in the coefficient follow the economic trends during the pre-crisis, crisis and post-crisis periods, falling by 2 points from 2000 to 2002, increasing by 3 points between 2002 and 2006—partly coinciding with the timing of the economic crisis—and then declining by 4 points through the second half of the decade. Other measures to gauge the dispersion of the income distribution (for instance, the ratio of the average income per capita of the 90th to the 10th percentile or the 75th to the 25th percentile) exhibit a similar evolution. In an international context, inequality in the Dominican Republic (0.48) by 2011 was lower than in the pooled LAC region (0.53) and followed a similar trend, but at a smaller magnitude, as countries in Central America (see Annex I, Figure 46).

However, most of the improvement in income distribution is concentrated in rural areas. Disaggregation by area suggests that most of the income inequality reduction was attained in the rural parts of the country. While income inequality in urban areas fluctuated between 0.49 and 0.52 during the period of analysis, and was just one point lower in 2011 than in 2000, rural inequality fell by four points (nearly 9 percent) over the period, from 0.45 to 0.41, a 7 point drop from the high of 0.48 reached in 2006. As discussed in more detail below, the larger reduction in rural income inequality contributed to the relatively greater reduction in poverty accomplished in rural areas, where a full recovery from the economic crisis was realized.

3.5 Unpacking the changes in poverty and inequality

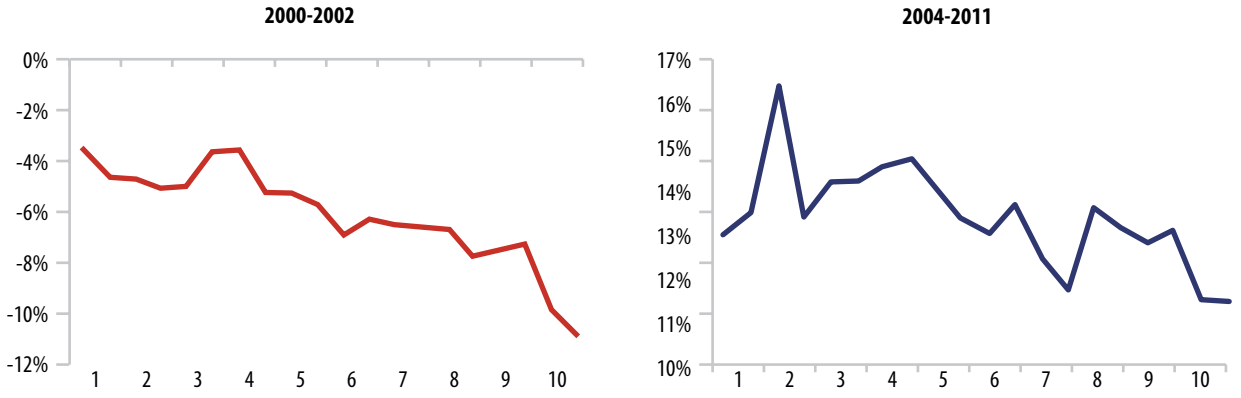
3.5.1 The role of income growth and distribution

By raising household incomes, economic growth is expected to contribute to reducing poverty. Growth incidence curves (GIC) are an instrument to separately assess the impact of economic growth on the poor, the middle class and the wealthy. To do so, GICs plot the growth rate between two points in time of the welfare measure (income or consumption) for each percentile of the baseline distribution (for instance, using household surveys), thus examining how the gains of economic growth—or the losses of recessions—are distributed across the population. GICs performed for the Dominican Republic uncover two marked trends.

The incomes of the poor did not show any positive growth between 2000 and 2004. Whereas macro data show that the economy expanded between 2000 and

12 The Gini coefficient varies between 0 and 1, where 0 means complete equality and 1 means complete inequality.

Figure 21: Income per capita growth incidence curves, 2000–2011



Source: Study team's own estimates based on ENFT 2000–2011

2002, income growth for the same period derived from the micro data (ENFT) indicates that real incomes fell. Unsurprisingly, the decline in household income was substantially larger during the 2003-2004 crisis, at around 23 percent on average for families below the poverty line. Moreover, GICs by area indicate that urban households bore the largest burden in terms of income contraction. For instance, the incomes of the urban poor decreased almost twice as much (28 percent) as incomes of the rural poor (15 percent).

In contrast, strong economic growth during the post-crisis period benefited the poor but just moderately. Poor rural households enjoyed the largest real income growth, although the magnitude was not impressive: around 19 percent in total between 2004 and 2011. Likewise, the incomes of the urban poor grew relatively faster than those of the better off. The relatively slow increase in the incomes of people below and slightly above the poverty line is consistent with a period of robust economic growth that has brought only modest gains in poverty reduction.

Alternative analyses show that economic growth and changes in inequality have contributed in different degrees to increases and reductions in poverty. Another way to shed light on the factors driving the trends in welfare is to decompose changes in poverty into changes due to balanced income growth and changes due to shifting welfare distribution in the absence of income growth (Datt and Ravallion 1992).[13] Results from the decomposition using the ENFT vary across the periods of analysis. In the pre-crisis period (2000-2002), income contraction and a decline in inequality operated in opposite directions, thus keeping poverty levels almost flat, particularly in rural areas. At the time of the crisis (2003-2004), both income contraction and increased inequality contributed to the substantial increase in poverty that occurred. Nevertheless, there are marked differences in the influence of each factor in explaining the spike in poverty. The effect of negative income growth was nearly seven times stronger than the effect brought about by the change in welfare distribution. In contrast to their effects during the crisis period, income growth and a more equitable income distribution brought about an average 7.65 percentage point reduction in poverty from 2004 onwards, contributing 5.2 and 2.5 percentage points respectively, while in rural areas, the contribution of income growth relative to the redistribution component was substantially higher (Table 9).

3.5.2 The role of different sources of income

Rising monetary labor incomes have been the most important factor behind the modest poverty reduction in the Dominican Republic. Unpacking the changes in household income by source can further illuminate the factors driving changes in poverty. Re-

13 This decomposition is based on the notion that the level of poverty could change due to two factors: (1) economic growth in absence of changes in inequality—a change in the mean income while holding the Lorenz curve (i.e. income distribution) fixed at some level, and (2) a change in inequality in absence of economic growth—a change in the Lorenz curve while keeping the mean income constant at some reference level. For more details on the methodology, see Datt and Ravallion, 1992.

Table 9: Poverty decomposition into growth and redistribution effects. Total and by area 2000–2011

Period	Area	Distribution	Growth	Total change
2000-2002	Rural	-5.21	4.77	-0.43
	Urban	-2.05	3.22	1.17
	Total	-3	3.6	0.6
2002-2004	Rural	1.5	10.87	12.36
	Urban	4.21	14.52	18.73
	Total	2.17	14.43	16.6
2004-2011	Rural	-1.87	-10.2	-12.07
	Urban	-1.72	-3.09	-4.81
	Total	-2.49	-5.16	-7.65
2000-2011	Rural	-6.29	6.15	-0.14
	Urban	0.01	15.08	15.09
	Total	-3.17	12.73	9.55

Note: Negative values show poverty reduction effects of each component. The official poverty rate for each year is the average of the poverty rates of the first and second semester. However, the total poverty rate changes presented in this exercise are calculated using the second semester of each year and thereby do not match with official numbers.
Source: Study team's own estimates based on ENFT 2000-2011

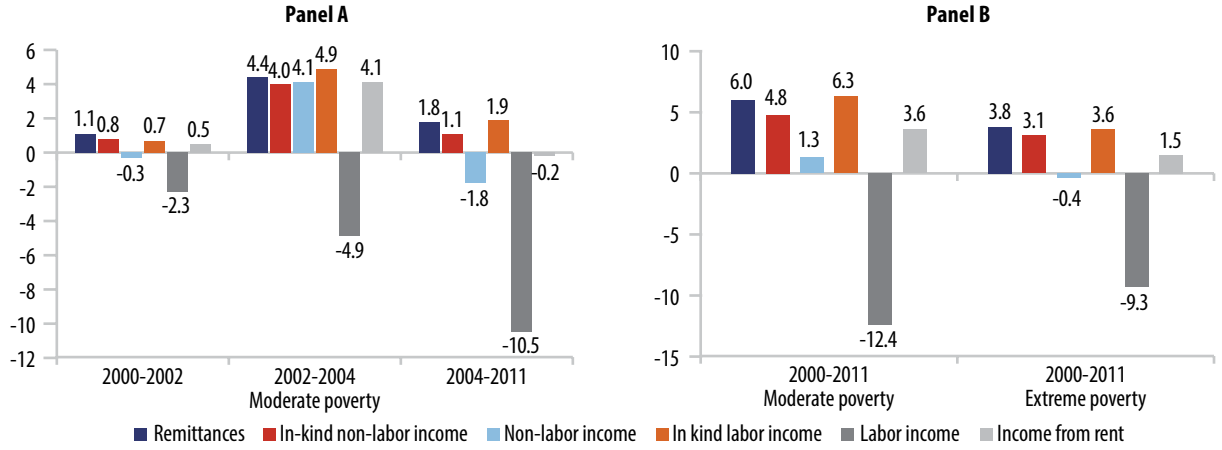
sults from these decompositions indicate that labor income, the most important income source of households, was the largest contributor to poverty reduction throughout the 2000s. This effect was larger for rural households (see Annex B). Unsurprisingly, the poverty reduction role of labor income has been stronger in the post-crisis period but was also present in pre-crisis and crisis times. The prominence of labor income in reducing poverty is consistent with the trends observed for LAC as a whole, where labor market income accounted for 55 percent of the reduction of poverty in recent years (World Bank 2011).

Non-labor income, probably public transfers, also boosted family incomes and helped reduce poverty. However, the contribution of non-labor incomes is only evident in the second half of the decade and is equally important in both urban and rural households. Non-labor income explains approximately 18 percent of the reduction in poverty achieved between 2004 and 2011, similar to the portion (20 percent) estimated for the LAC region in the 2000s. The poverty reduction effect of non-labor income is larger for households in extreme poverty than households below the moderate poverty line. The increasing influence of non-labor income is probably driven to a large extent by the implementation and expansion of *Progresando con Solidaridad*, a targeted conditional cash transfer scheme that by 2012 covered 655,394 households, representing around 90 and 80 percent of the eligible households in extreme and moderate poverty, respectively.[14] The average transfer was $30.53 per household.[15] As evidenced by the dramatic rise in poverty during the economic crisis, the social safety net at that time was not adequate to protect the vulnerable from falling into poverty during shocks. The establishment of *Solidaridad*, the precursor to *Progresando con Solidaridad*, in 2005 represented a shift in policy to lessen the effects of social risks and protect the vulnerable from future shocks, helping to decrease the elasticity of poverty to economic contractions.

Remittances account for a high share of national income but their evolution over time has not contributed to poverty reduction. According to macro data (i.e. national accounts), remittances flowing into the Dominican Republic represented around 8 percent of the GDP between 2000 and 2011. This share peaked at around 11 percent during the 2003-2004 economic crisis but started to fall gradually from then to 6 percent in 2011. Micro data from the ENFT shows a similar trend but that the ratio of remittances to total household income is between two and three times higher.[16] The decompositions of poverty by income source indicate that

14 Numbers based on records from the Technical Division of the Social Policy Cabinet.
15 Department of Planning, *Progresando con Solidaridad*
16 This result is expected because the GDP captures more components of income such as public expenditures, inversion and net exports while the labor survey only captures earned and unearned household income.

Figure 22: Poverty decomposition by income source (2000–2011)



Note: Panel A presents results from a decomposition of changes in moderate poverty across three time periods. Panel B presents results from decompositions of changes in extreme and moderate poverty for the period 2000-2011. The official poverty rate for each year is the average of the poverty rates of the first and second semester. However, the total poverty rate changes presented in this exercise are calculated using the second semester of each year and thereby do not match with official numbers. Source: Study team's own estimates based on ENFT 2000–2011.

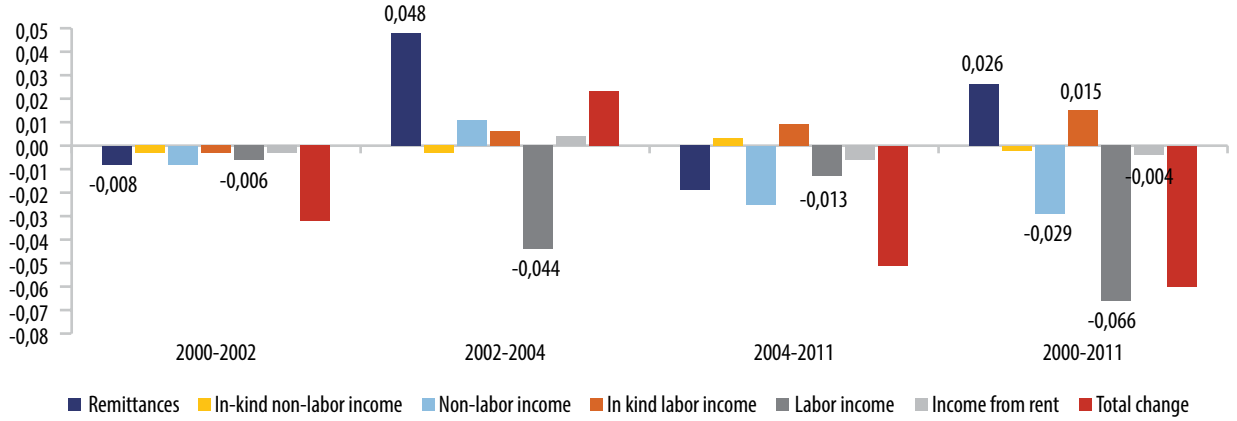
changes over time in the flow of remittances—as well as labor and non-labor in-kind income—increased the incidence of poverty (Figure 22). A simple incidence analysis using the ENFT confirms this. As a proportion of total incomes, remittances are between 5 to 10 percentage points higher among households in the upper half of the distribution. Moreover, while the first decile of the pre-remittance income distribution received around 1 percent of the total amount of remittances reported in the ENFT, nearly 40 percent of the remittances accrued to the top decile. Remittances were even more regressive during the 2003-2004 economic crisis, a period in which over half of the total remittances were sent to households in the top income decile (Annex D). Nonetheless, remittances are an important source of income for households at the bottom of the distribution. A simple simulation that subtracts remittances from household income without taking into account any behavioral responses would increase poverty from 40.4 to 46.3 percent in 2011.

Similar to their influence on poverty reduction, labor and non-labor income have improved the distribution of household incomes. Labor incomes have systematically contributed to reducing the Gini coefficient while the effect of other sources of income on the Gini coefficient has been variable, in degree and in direction, across time. Between 2000 and 2002, all income sources moved in the same direction, making the income distribution more equal. During the crisis period, only labor income and in-kind non-labor income lowered the Gini coefficient—the rest contributed to making the income distribution more unequal, particularly remittances. In the after-crisis period, labor and non-labor income reduced income inequality, more than offsetting the opposite influence on the Gini coefficient of in-kind (labor and non-labor) income (Figure 23 and Annex E).

3.5.3 The role of population shifts between urban and rural areas

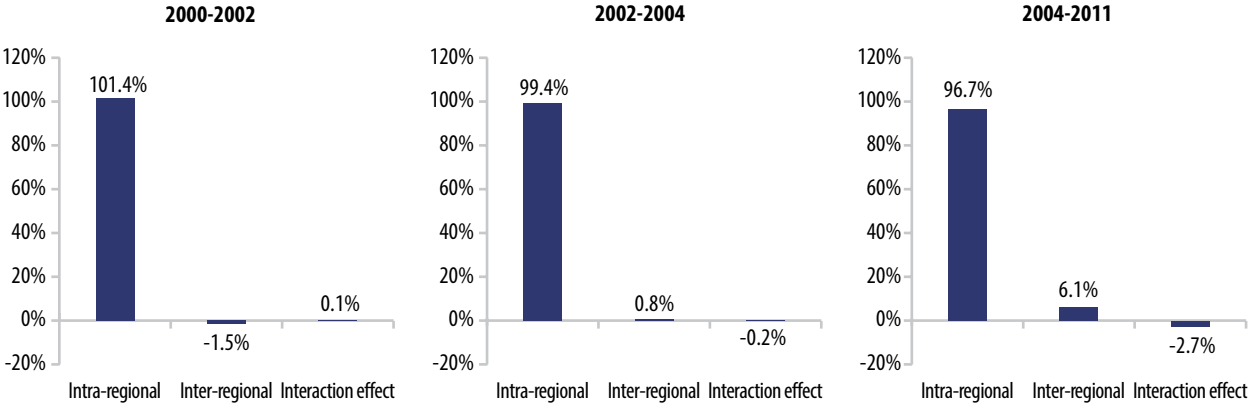
Migration between rural and urban areas explains very few of the changes in poverty, whether increases or reductions. Changes in poverty can also be decomposed by changes in income and its distribution that took place inside each area (the "intra-regional" effect) and by changes in these two factors driven by the increase in the share of people in urban areas migrating from rural areas (the "inter-regional" effect). The decomposition shows that the intra-regional effect is the vastly dominant effect, accounting for more than 95 percent of it across the different economic periods (pre-crisis, crisis and post-crisis). And while the inter-regional (migration) effect did increase during the period of rapid economic growth (2004-2011), it is too small at only 6.1 percent to have been a major driver of changes in poverty. In other words, the emergence of new poor in the urban areas of the Dominican Republic created the observed "urbanization" of poverty rather than the arrival of poor migrants from rural areas.

Figure 23: Gini coefficient decomposition by income source (2000–2011)



Source: Study team's own estimates based on ENFT 2000-2011

Figure 24: Decomposition of changes in poverty into intra- and inter-regional population shifts



Note: The decomposition presented in the table follows the methodology in Ravallion and Huppi (1991). The two regions considered for the decomposition are urban and rural. Source: Study team's own estimates based on ENFT 2000-2011

3.4.4 The role of population shifts between formal and informal jobs

The income losses or gains that affected poverty are not explained by shifts of workers between the formal and informal sectors. Many of the new jobs created in the Dominican Republic in recent years are in the informal sector, with low pay, keeping the level of job informality high (Abudallaev and Estevao, 2013).[17]

Though job informality is generally linked with lower pay and quality, a decomposition of the changes in poverty in the Dominican Republic during the 2000s shows that the growth during the crisis as well as the decline post-crisis of poverty cannot likely be explained by changes in informality (the "inter-sectoral" effect) (Figure 28). Rather, the overwhelming driver of poverty changes in the analysis was the change in the real wages and earnings of workers within their corresponding sectors ("intra-sectoral" effect). In fact, real wages and earnings in both the formal and informal sectors have been falling over time.

17 This is based on the "productivity-based" measure of informal employment, which characterizes workers as informal if they are employed in enterprises with fewer than five employees or are employers or self-employed non-professionals in a low productivity field of work including farmers, operators and drivers, artisans and workers, merchants, sellers and unskilled workers.

Box 2: A profile of the Haitian immigrants

In 2012, the Dominican Republic's National Statistics Office (ONE) performed the nation's first survey specifically targeted at the nation's immigrant population. The *Encuesta Nacional de Inmigrantes* (ENI-2012) found many differences between native Dominicans and immigrants, who account for 7.9 percent of the Dominican Republic's population. Furthermore, household and demographic differences between Haitian immigrants, who account for 87.3 percent of the Dominican Republic's immigrant population (excluding descendants), and immigrants from other nations were found.

While the majority of immigrants live in urban areas (68.2 percent), Haitian immigrants are more likely to live in rural areas than the rest of the immigrant population (34.9 percent compared to 10.4 percent). Furthermore, average household size is slightly lower for Haitian immigrants (2.3) than non-Haitian immigrants (2.7). Consistent with a higher likelihood of Haitian immigrant households having a male head (83.1 percent compared to 77.9 percent of non-Haitian immigrant households), the share of males in the Haitian immigrant population is larger (65.4 percent) than among non-Haitian immigrants (57.5 percent).

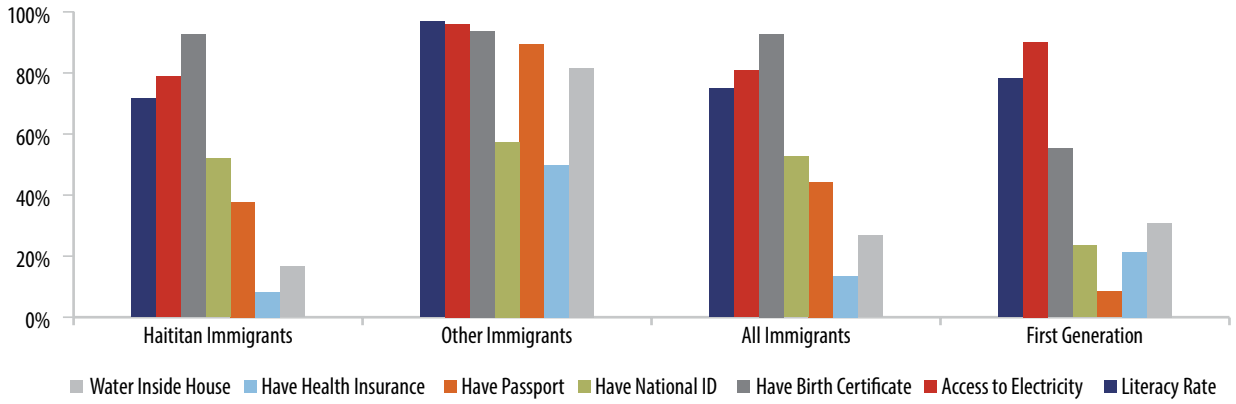
There are also large differences in terms of access to certain basic services and important personal documentation (see Figure 32). Immigrants from countries other than Haiti are more likely to be literate, have access to utilities and health insurance and to possess documents such as passports, birth certificates and national ID cards. Although first-generation Dominicans are more likely to be literate and have access to electricity than Haitian immigrants, they are less likely to have documentation. This creates problems with access to financial institutions and services since this documentation is required by many providers.

The primary reason which led people to migrate to the Dominican Republic was to find work (45.2 percent).[18] Thus, it is not surprising that, in comparison to the native Dominican population, immigrants are much more likely to be of working age. There are also differences in the types of work performed by Haitian and non-Haitian immigrants (see Figure 26). While the majority of Haitian immigrants work in agriculture or construction, the majority of immigrants from other countries work in business and other services.

The contrasts between these two immigrant groups may be partially explained by differences in their levels of educational attainment (see Figure 27). While over three quarters of other immigrants have completed their secondary education with 46.9 percent having completed their tertiary education, only 21.6 percent of Haitian immigrants have completed secondary education and less than 6 percent have completed tertiary education. Though more likely than Haitian immigrants to complete primary school, first-generation Dominicans also lag behind on educational attainment, with only 24 percent finishing secondary school.

Many immigrants do not plan to remain in the Dominican Republic but intend to return to their home country or to move on to another country. Less than half (47.5 percent) of immigrants plan on staying in the Dominican Republic for the next five years, and the percentage of Haitians planning on returning to their home country is 8.1 percent higher than immigrants from other countries.

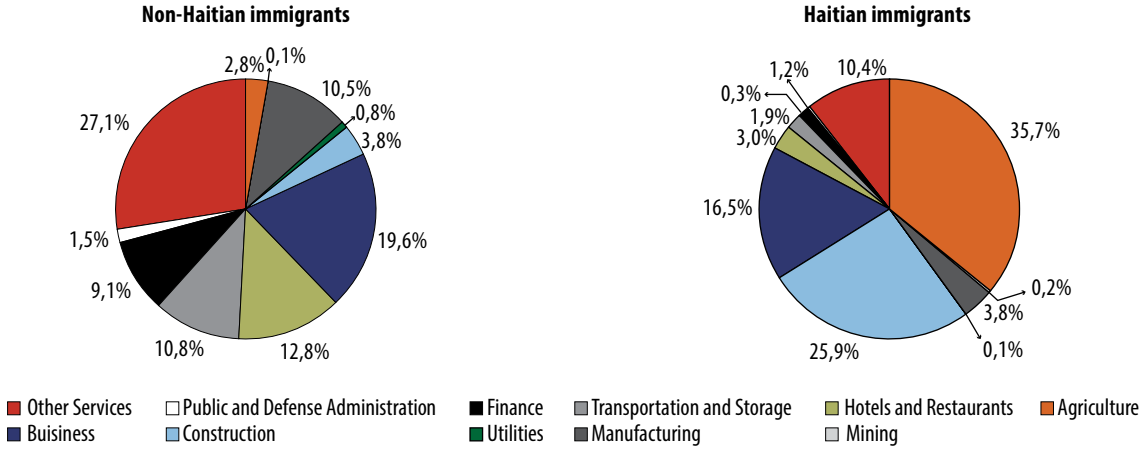
Figure 25: Access to services and documentation 2012



Source: ENI-2012

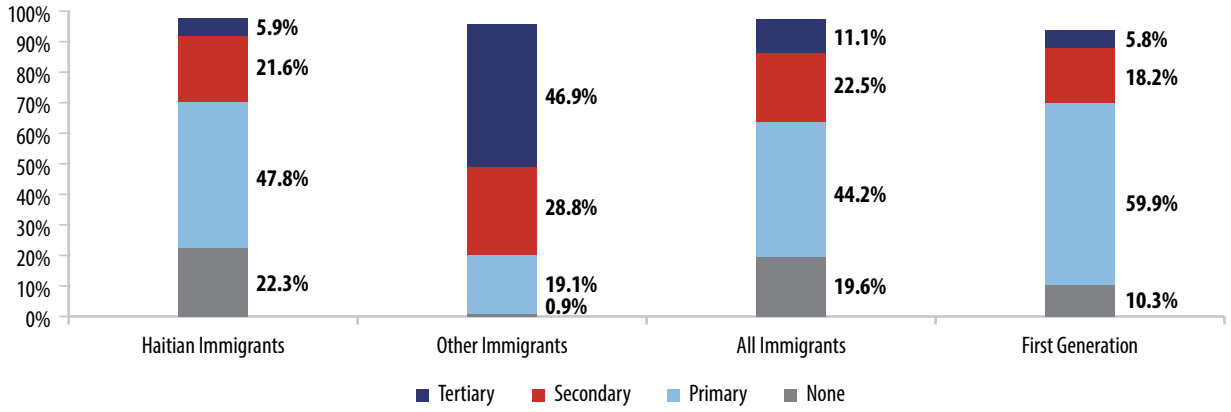
18 The second-largest reason for immigration (25.7 percent) was to improve quality of life

Figure 26: Share of jobs by sector 2012



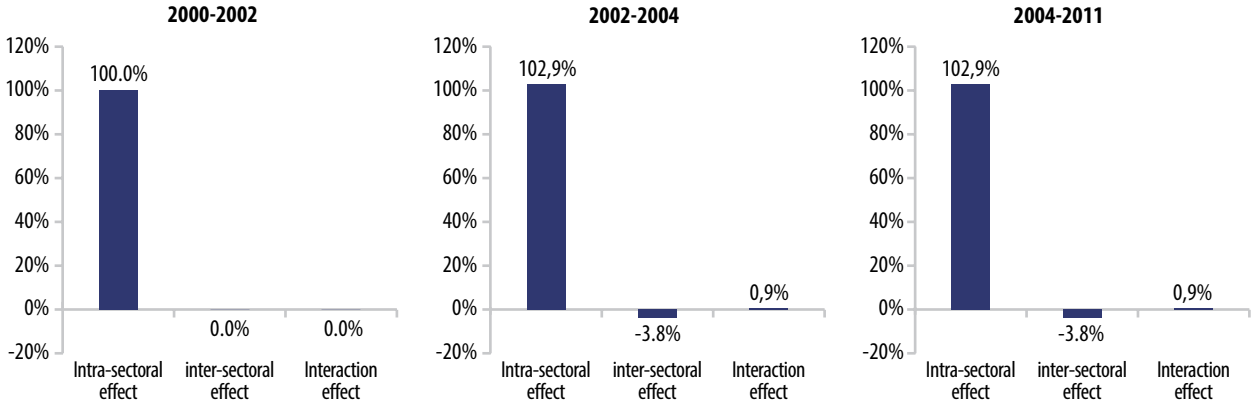
Source: ENI-2012

Figure 27: Educational attainment 2012 (% completed)



Source: ENI-2012

Figure 28: Decomposition of changes in poverty into intra- and inter-sectoral shifts



Note: The decomposition presented in the table follows the methodology in Ravallion and Huppi, (1991) The decomposition is applied only to households with heads who are employed. The two sectors of work considered are formal and informal. Source: Study team's own estimates based on ENFT 2000-2011

Chapter 4
Escaping poverty and staying away from it: Income dynamics and the lack of upward economic mobility

4.1 Conceptualizing and measuring economic mobility

Economic mobility is a key element of economic development and equity. It represents the ability of individuals, families or other groups of people to improve their economic and social status—either across the same individuals over time (intra-generational) or across the same families across generations (inter-generational). This study analyzes mobility within generations by measuring *directional income movement*, i.e., the extent of income growth as the net upward or downward movement in individual incomes over time. To do so, the analysis compares the average of the growth rates in individual incomes based on an initial and final vector of incomes, generating transition matrices into and out of poverty and other social groups such as the vulnerable, middle class and well off—results which can be used to assess the extent of mobility of individuals within a generation.

Due to the absence of longitudinal data, the study of intra-generational economic mobility in the Dominican Republic is based on the construction of "synthetic panels." Ideally, analyses of economic mobility within generations rely on panel data that follow individuals or households over a long period of time. In reality, however, long panels are rarely available, particularly in Latin America. Often panel data span just a short period of time and so cannot be used to investigate long-term trends. Even when panels do exist, they usually have limited coverage and, hence, are not representative of the entire population of the country. Furthermore, issues of nonrandom attrition and measurement error in panel data may pose additional methodological problems. To overcome the shortage of proper panel data in the Dominican Republic, the analysis of mobility carried out here applies an extension of the "small-area estimation" imputation methodology used for poverty mapping (Elbers et al. 2002, 2003) to construct "synthetic panels" with repeated cross-sectional data. Essentially, the method creates longitudinal data of households or individuals from cross-sectional data (two or more rounds) by predicting income for the same units of analysis in the future or in the past (Dang et al. 2011). See Annex F for an overview of the methodology. The methodology applied for the Dominican Republic uses selected rounds of the ENFT for the 2000–2011 period.

Income thresholds are used to define three economic groups for the analysis of economic mobility. They are (1) the *poor*, those below the Dominican Republic's moderate monetary poverty line of $4.70 per day 2005 purchasing power parity in urban areas and $4.20 in rural areas, (2) the *vulnerable*, people with between $4.70 a day and $9 in urban areas and $4.20 and $7.35 in rural areas, incomes levels that place them out of poverty but with a 10 percent or greater chance of falling back into it and (3) the *middle class*, individuals who have daily incomes

above $9 (urban) and $7.35 (rural) and an upper income threshold of $25. According to the ENFT labor force survey, less than one percent of individuals in the Dominican Republic have incomes above the middle class upper threshold. See Annex G for an overview of technical details followed on the choice of the thresholds to define the vulnerable and middle-class groups.

4.2 Assessing economic mobility in the Dominican Republic or is it economic immobility and economic insecurity?

4.2.1 Overall long-term mobility

Dominican Republic experienced very little upward economic mobility during the 2000s. Table 10 presents the transition matrix across classes (poor, vulnerable and middle class) for the 2000–2011 period. The measure of intra-generational upward mobility is the share of the total population that moved up across classes, namely, from poor to vulnerable and from vulnerable to middle-class. Overall, the analysis reveals that there has been very narrow upward economic mobility: between 2000 and 2011, less than 2 percent of the population (1.1 percent of them in the poor group, 0.7 percent in the vulnerable) rose in economic status.

In contrast, downward mobility was substantially higher. Around 19 percent of the population in the Dominican Republic shifted to a lower status (into poverty or out of the middle class). Another particular finding is that a substantial part of the population (79 percent) was economically immobile in either direction. Almost all of the Dominicans who were below the poverty line in 2000 and two thirds of the Dominicans who were in the condition of vulnerability remained in that condition in 2011. Of the people who did not stay in vulnerability in 2011, only 2.2 percent moved to the middle class while the rest slid into poverty (Table 10).

Analyzing aggregate mobility, defined as the sum of all income changes, confirms that there has been little improvement in economic status. Totaling the changes in income (in levels or percentages) for the entire distribution provides a sense of the magnitude of overall intra-generational mobility over the time period. Reinforcing the findings that a greater proportion of people shifted down in economic status, Table 11 shows that total mobility for the Dominican Republic in terms of net income change was negative (-$1.16 PPP per day per head) between 2000 and 2011. This represents a fall in the median income of 17.4 percent. In fact, the net income change was positive for only two subgroups: those that escaped poverty and joined the vulnerable ($0.86 PPP increase per day per head) and the vulnerable that entered the middle class ($1.54 PPP per day per head). For all other groups in the income distribution, even in those whose economic status did not change, net income fell.

The results for the Dominican Republic starkly contrast with the stronger economic mobility observed in the Latin America and Caribbean region (LAC) as a whole over the past 15 years. On average, 41 percent of people in the region advanced to a higher group, compared to 1.8 percent in the Dominican Republic. The difference is also remarkable for mobility out of poverty. Almost half of the poor abandoned that condition across the region during the period, whereas, in the Dominican Republic, only 3.2 percent climbed out of poverty. Similarly, over 50 percent of people in the condition of vulnerability in LAC joined the middle class while less than 3 percent did in the Dominican Republic. And while the net income change in the Dominican Republic in the 2000s was negative, the incomes in LAC grew, on average, by $3.30 PPP per day per capita.

Upward economic mobility in the Dominican Republic has been low even in periods of robust economic growth. The economy of the Dominican Republic contracted in 2003 in the wake of a major domestic financial crisis, then started recovering in 2005. In fact, between 2005 and 2011, real GPD expanded annually on average by 7.1 percent—nearly three percentage points higher than the growth rate recorded for LAC. Despite this extraordinary performance, there was very little economic mobility during this period. On average, 12.5 percent of Dominicans improved their economic status. But close to 60 percent of total upward mobility was driven by transitions from poverty to vulnerability. Indeed, basically all of the people who managed to escape poverty between 2004 and 2011 remained economically insecure, meaning that another economic shock could send some of these climbers back down into poverty. Similarly, the pre-crisis period, in which the economy of the Dominican Republic grew at a more than satisfactory pace (a real annual average of 4.4 percent between 2000 and 2002), also had low mobility (overall and upward), while the years of the economic crisis (2003–2004) led to larger than expected

Table 10: Intra-generational mobility in the Dominican Republic–Percentage of population (2000–2011)

		Destination (2011)			
		Poor	Vulnerable	Middle class	Total
Origin (2000)	Poor	34.1	1.1	-	35.2
	Vulnerable	10.3	20.6	0.7	31.6
	Middle class	0.1	8.9	24.2	33.2
	Total	44.5	30.6	24.9	100.0

Note: "Poor" means individuals with a per capita income per day lower than the official poverty line, $4.70 in urban areas and $4.20 in rural. "Vulnerable" means individuals with a per capita income per day between the official poverty line and the middle class lower threshold ($9 and $7.35 for urban and rural household respectively). "Middle class" means individuals with a per capita income per day higher than their corresponding middle class threshold and below $25. Poverty lines and incomes are expressed in 2005 $ purchasing power parity (PPP). The table shows lower-bound mobility estimates using the Dang et al. (2011) technique. Source: Study team's own estimates based on ENFT 2000 and 2011

Table 11: Intra-generational mobility in the Dominican Republic, by median income change $ PPP per capita per day (2000–2011)

		Destination (2011)			
		Poor	Vulnerable	Middle class	Total
Origin (2000)	Poor	-0.53	0.86	-	-0.54
	Vulnerable	-1.28	-1.09	1.54	-0.98
	Middle class	-5.34	-2.57	-3.32	-2.84
	Total	-0.62	-1.42	-3.24	-1.16

Note: "Poor" means individuals with a per capita income per day lower than the official poverty line, $4.70 in urban areas and $4.20 in rural. "Vulnerable" means individuals with a per capita income per day between the official poverty line and the middle class lower threshold ($9 and $7.35 for urban and rural household respectively). "Middle class" means individuals with a per capita income per day higher than their corresponding middle class threshold and below $25. Poverty lines and incomes are expressed in 2005 $ purchasing power parity (PPP). The table shows lower-bound mobility estimates using the Dang et al. (2011) technique. Source: Study team's own estimates based on ENFT 2000 and 2011

Table 12: Intra-generational mobility in the Dominican Republic, by percentage of median income change (2000–2011)

		Destination (2011)			
		Poor	Vulnerable	Middle class	Total
Origin (2000)	Poor	-18.2	21.1	-	-18.3
	Vulnerable	-24.6	-16.1	19.9	-16.0
	Middle class	-57.4	-25.9	-19.5	-19.1
	Total	-18.4	-19.1	-19.2	-17.4

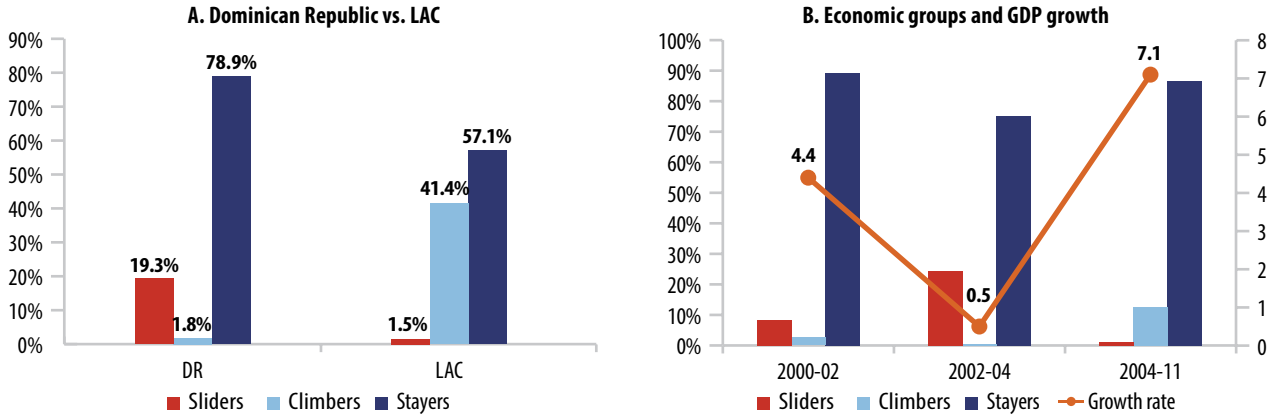
Note: "Poor" means individuals with a per capita income per day lower than the official poverty line, $4.70 in urban areas and $4.20 in rural. "Vulnerable" means individuals with a per capita income per day between the official poverty line and the middle class lower threshold ($9 and $7.35 for urban and rural household respectively). "Middle class" means individuals with a per capita income per day higher than their corresponding middle class threshold and below $25. Poverty lines and incomes are expressed in 2005 $ purchasing power parity (PPP). The table shows lower-bound mobility estimates using the Dang et al. (2011) technique. Source: Study team's own estimates based on ENFT 2000 and 2011

Table 13: Intra-generational mobility in LAC—Percentage of population (circa 1995–2010)

		Destination (2011)			
		Poor	Vulnerable	Middle class	Total
Origin (2000)	Poor	22.5	21.0	2.2	45.7
	Vulnerable	0.9	14.3	18.2	33.4
	Middle class	0.1	0.5	20.3	20.9
	Total	23.4	35.9	40.7	100.0

Note: "Poor" means individuals with a per capita income per day lower than the official poverty line, $4.70 in urban areas and $4.20 in rural. "Vulnerable" means individuals with a per capita income per day between the official poverty line and the middle class lower threshold ($9 and $7.35 for urban and rural household respectively). "Middle class" means individuals with a per capita income per day higher than their corresponding middle class threshold and below $25. Poverty lines and incomes are expressed in 2005 $ purchasing power parity (PPP). The table shows lower-bound mobility estimates using the Dang et al. (2011) technique. Source: Study team's own estimates based on ENFT 2000 and 2011

Figure 29: Sliders, climbers and stayers in economic status



Note: The numbers in Panel A cover the period 2000-2011 for the Dominican Republic and circa 1995-2010 for LAC. Indicators of economic mobility ("sliders", "climbers" and "stayers") measured in percentages on the left-hand Y-axis in both panels. Average annual rate of GDP growth measured on the right-hand Y-axis in Panel B.
Source: Study team's own estimates based on ENFT 2000-11, World Bank (2013) with data from SEDLAC (Socio-Economic Database for Latin America and the Caribbean) and WDI.

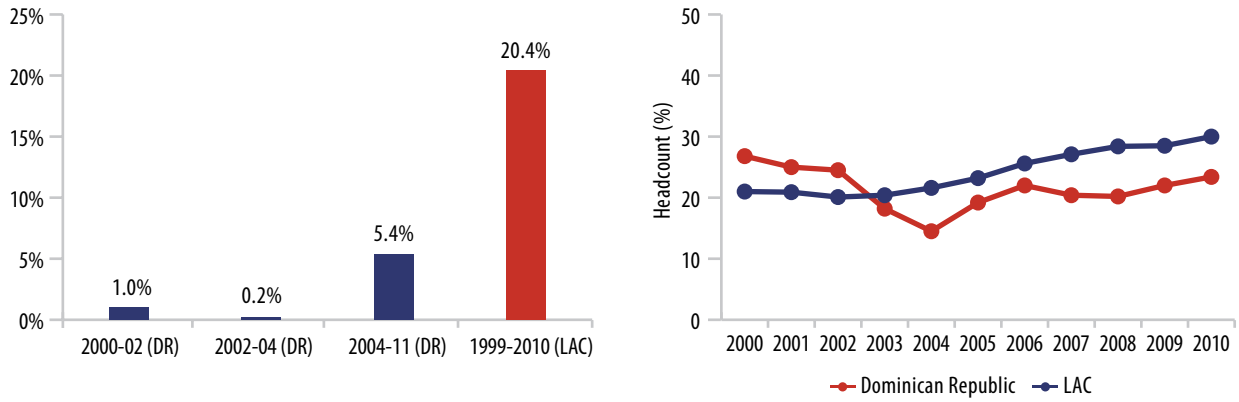
downward mobility, primarily driven by the worsening economic status of almost one fourth of the population.

Overall, the middle class did not expand in the Dominican Republic over the past decade. Considering the narrow upward economic mobility in the Dominican Republic, it is not surprising that the share of people in the middle class has remained essentially fixed over the long term. The mobility which did occur was largely in the wrong direction. About 21 percent of the population switched to another economic group, but of those, only about two percent rose in economic status while the rest fell. Individuals who were initially vulnerable comprised the majority of the low inflow of people into the middle class. In fact, whereas the probability for a person who was poor in 2000 to exit poverty and enter the vulnerable group by 2011 was 3.1 percent, the probability that that same person would join the middle class was virtually zero.

The stagnation of the middle class is the result of opposite mobility trends in the first and second half of the decade. The periods of positive growth (2000-2002) and economic contraction (2002-2004) translated together into very little upward intra-generational mobility into the middle class. Instead, a substantial share of the population worsened their economic status in both of these periods. During the economic crisis, close to 25 percent of the population suffered a fall in economic class from their situation in 2000. Eleven percent had belonged to the middle class before the economic shock pushed them down to vulnerability. Modest upward mobility that returned in the second half of the 2000s helped partially reverse these trends. Between 2004 and 2011, over 5 percent of the population entered the middle class, roughly 7 percent of the poor exited poverty, and less than 1 percent worsened their economic status. However, this level of upward mobility was still substantially lower than in LAC. While 20 percent of the population in the region (26 percent of the poor and vulnerable) joined the middle class between 1995 and 2010, only 5.4 percent of Dominicans entered this economic group in the second half of the 2000s.

Overall, compared to the region, there has been extremely high downward economic mobility in the Dominican Republic. Estimates suggest that 19.3 percent of Dominicans who were not poor in the baseline year 2011 entered poverty or moved into the vulnerable group from the middle class by 2011. This puts the Dominican Republic at the top end of countries in the region in terms of downward intra-generational mobility: the Dominican Republic ranked third—after Bolivarian Republic of Venezuela and Paraguay—among 18 countries ordered by the magnitude of the population originally not poor that became poor during the period circa 1995-2010 (World Bank 2013). Furthermore, the probability of sliding from vulnerability into poverty in the Dominican Republic is one of the highest in LAC, around 10.3 percent based on these lower bound estimates. Clearly this has implications for the design of policies oriented to protect the welfare of households that have high risk of falling into poverty (for instance, social protection and risk management strategies).

Figure 30: People joining the middle class: Dominican Republic vs. LAC



Note: The initial year in each time interval corresponds to the baseline year for the mobility calculations. The indicator for LAC was calculated for 18 countries circa 1995-2010. Numbers are based on lower-bound mobility estimates using the Dang et al. (2011) technique. Results are weighted using country-specific population estimates of the last available period. Source: Study team's own estimates based on ENFT 2000-2011 and World Bank (2012)

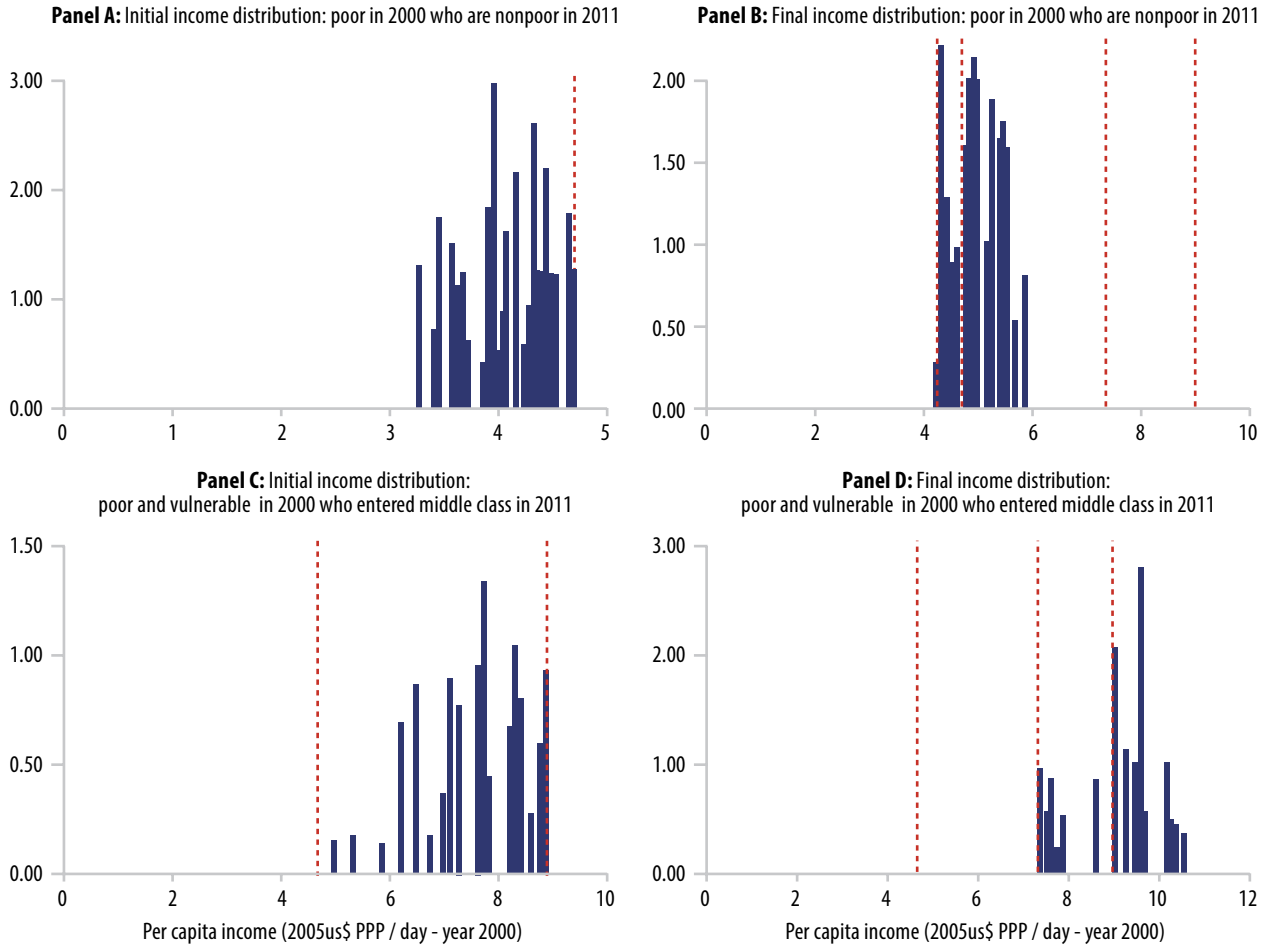
4.2.2 Understanding upward mobility out of poverty and vulnerability

The few poor people who escaped poverty tended to have incomes relatively close to the poverty line. An examination of the initial and final income distribution for those who exited poverty reveals that economic mobility in the Dominican Republic varied across different parts of the income distribution. In Figure 31, Panel A shows that the 3 percent of poor households that exited poverty between 2000 and 2011 had baseline incomes just below the poverty line. The median of this group among rural households in 2000, for instance, was $4.10 per head per day, at a time when the rural poverty line was at $4.20 PPP. By contrast, almost none of the households that Panel A shows emerging from poverty had incomes below the 2000 extreme poverty lines of $2.03 for rural and $2.12 for urban. In other words, upward mobility out of extreme poverty was virtually zero. Panel B shows that the poor families that abandoned poverty clustered right above the poverty line in 2011, with a median income of $4.90 PPP per day, well below the middle-class thresholds ($4.70 PPP for urban and $4.20 PPP for rural households). This indicates that people who escaped poverty only experienced a small upward shift in income, rather than a large rise, and remained vulnerable to falling back into poverty. These findings confirm that economic mobility was very narrow both in terms of number of people who improved their economic status and the net income change.

Similarly, most of the people who joined the middle class had initial incomes only slightly below the middle class threshold. Income growth among households that exited poverty was not high enough to get them into the middle class. Instead, households that managed to enter the middle class began with incomes above the poverty line but still in the condition of vulnerability. With an initial median income of $7.80 PPP (Panel C), most of these households clustered just below the middle class threshold ($9.00 PPP for urban households and $7.35 PPP for rural households) in 2000. Representing 2.2 percent of the initially vulnerable, these households managed to surpass the middle class threshold due to a 20 percent change in average net income among the vulnerable population over the decade. However, these newly risen households still remained bunched close to the middle class line (Panel D), albeit on the other side, with a median income of $9.30 PPP in 2011. Restricting the analysis to the post-crisis period (2004–2011) of strong and sustained economic growth yields similar findings.

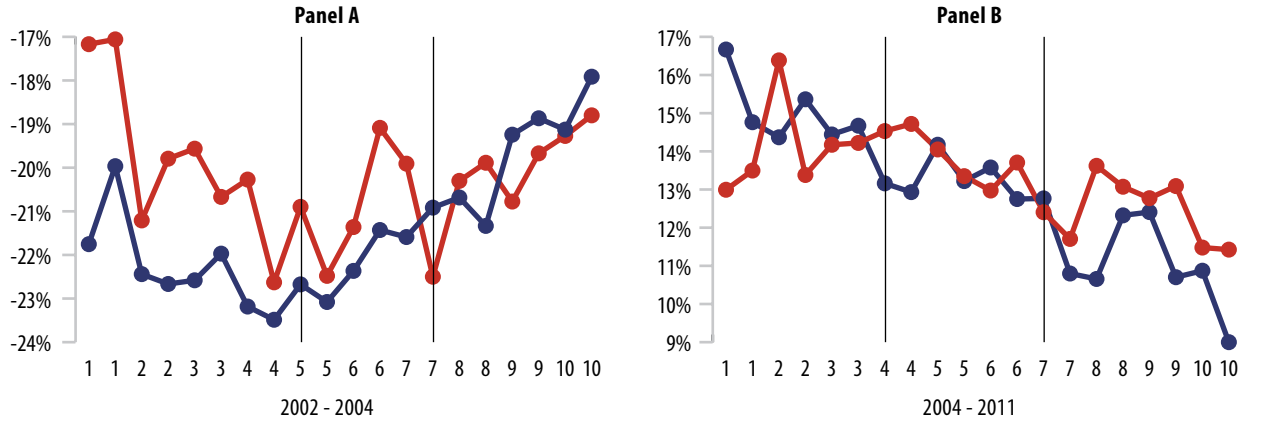
Despite very little poverty reduction and income mobility in the Dominican Republic, incomes grew faster among the poor than among households in upper parts of the distribution. Using non-anonymous GICs (a plot of income growth rates for the same households followed in a synthetic panel) to assess household welfare trajectories in the long-term provides a progressive picture. When incomes fell during the 2002-2004 period, they did so relatively less among the poor than among other households, and when incomes rose (2004-2011), they did so relatively faster for the poor. The findings of the anonymous GICs (a plot of income growth rates for specific parts of the income distribution) that are presented in section 3.5.1

Figure 31: Upward mobility out of poverty and vulnerability: Origin and destination, 2000–2011



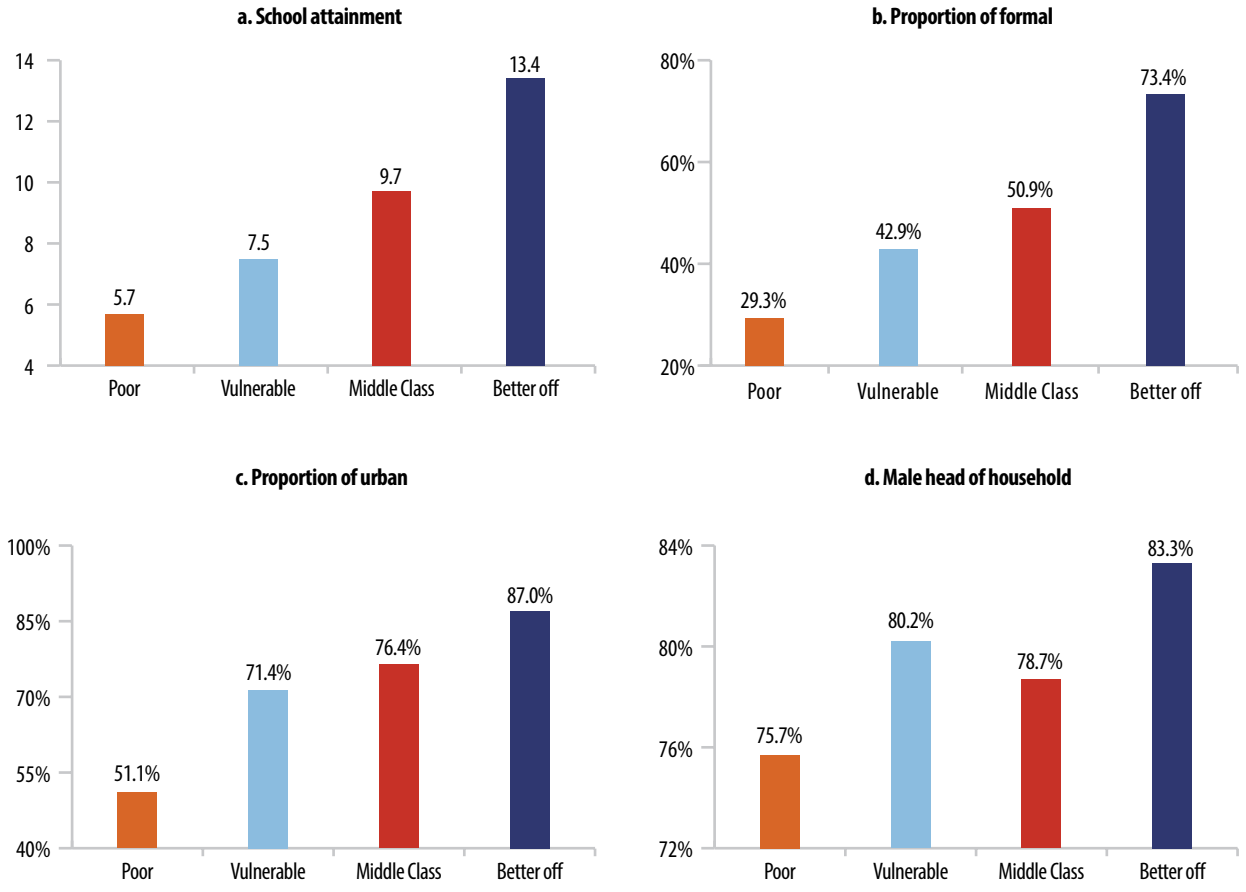
Note: The figure shows estimates of lower-bound households using the Dang et al. (2011) technique. Panels A and B show the initial and final income distributions of those originally poor who exited poverty. Panels C and D show the initial and final income distributions of those originally poor or vulnerable who joined the middle class. Poverty and middle class lines in 2005 $ PPP per head per day as follows: urban extreme $2.10; rural extreme $2; urban moderate $4.70; rural moderate $4.20; urban middle class $9; rural middle class $7.35. Source: Study team's own estimates based on ENFT 2000–2011.

Figure 32: Anonymous and non-anonymous growth incidence curves, 2002–2004 and 2004–2011



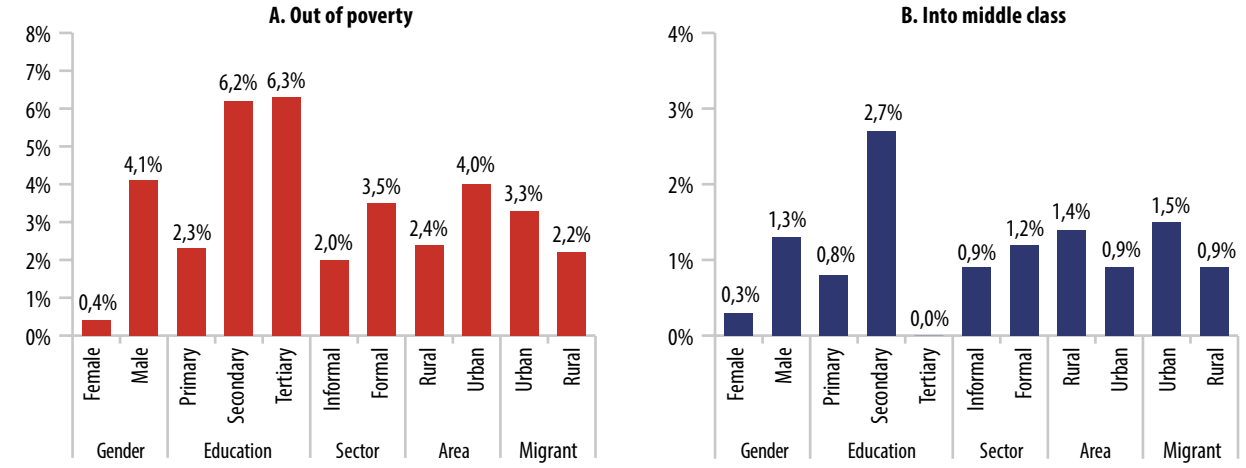
Note: Anonymous growth incidence curves (GICs) are shown in solid lines and non-anonymous GICc in dotted lines. For non-anonymous GICs, first-round incomes are the actual incomes reported in the survey and second-round incomes correspond to lower-bound estimates using the Dang et al. (2011) technique. For anonymous GICs, first- and second-round incomes are based on the cross-sectional nature of the ENFT. Left and right vertical lines show the proportion of poor and vulnerable people in 2004 (Panel A) and 2011 (Panel B). The X-axis shows deciles of income per capita. Source: Study team's own estimates based on ENFT 2000–2011

Figure 33: Initial characteristics and economic class in 2011



Note: Initial characteristics calculated in 2000 include: (a) portion of households headed by a male, (b) portion of household heads whose main job is in the formal sector, (c) portion of households residing in urban areas and (d) household head's school attainment in years of education. Source: Study team's own estimates based on ENFT 2000–2011

Figure 34: Initial characteristics and upward economic mobility



Note: Initial characteristics calculated in 2000 include: (1) gender of the household head, (2) education level of the household head, (3) sector of work of the household head, (4) area of residence and (5) migration status. Source: Study team's own estimates based on ENFT 2000–2011

("The role of income growth and distribution") show similar results. However, as noted before, the relatively better (or less bad) performance among the first four or five deciles of the income distribution was not large enough to have a substantial contribution to poverty reduction and, more broadly speaking, upward economic mobility within this group of individuals.

4.3 Initial conditions do matter for economic mobility

Certain factors seem to be associated with the ability of households to improve their economic status. One way to understand the underlying dynamics of economic mobility in order to enhance policy design is to identify attributes that could be linked to more or less mobility. In the absence of actual longitudinal data, the synthetic panel methodology limits the assessment to determining only whether the initial characteristics of households (i.e., in 2000) are correlated with economic mobility.[19] To do so, the analysis compares the 2000 characteristics across the four 2011 income-based groups (poor, vulnerable, middle class and well off) in terms of human capital (school attainment of household head), sector of work (formal employment of household head), area of residence (urban or rural) and household structure (gender of household head).

Unsurprisingly, the results show that initial conditions do have implications for earnings in later periods. Households that are today in the middle or well off classes have been headed by individuals with higher initial human capital (proxied by the average years of schooling) compared to households in the current condition of poverty or vulnerability. Heads of households that belonged to the middle class in 2011 had four years more of education in 2000 than heads of households that were poor in 2011 (Figure 33). Likewise, half of households from the middle class and three quarters from the well off in 2011 had heads who were employed in the formal sector in 2000. This contrasts with the less than 30 percent of household heads initially employed in the formal sector among typical poor families in 2011. A similar trend emerges when analyzing location; current middle class and well off households were more likely to have resided in urban areas in 2000. Finally, there also seems to be an association, although less strong, between the gender of the household head at the beginning of the period and the household's economic status today, with households headed by males in 2000 less likely to be in poverty in 2011. Analogous patterns across similar indicators have also been documented for many other countries in LAC.

Initial endowments, assets and economic opportunities are also associated with upward mobility. Highlighting the percentage of individuals who improved their economic status grouped by initial characteristics, Figure 34 offers some potential policy implications. The households most likely to have experienced upward economic mobility (either out of poverty or into the middle class) include households initially: (1) headed by a male, (2) located in an urban area—either permanently or having migrated there from a rural area, (3) headed by an person with a secondary or tertiary education, and/or (4) headed by a person employed in the formal sector.

19 Panel data allows examining the extent to which changes in these characteristics, as opposed to initial levels, drive upward economic mobility.

Chapter 5
Identifying chronic and transient poverty using a multidimensional approach

5.1 Non-monetary poverty: Improvement in key aspects of human welfare

Income-based measures of human welfare are unlikely to fully capture the multiple aspects of poverty. In addition to having low incomes, poor people often face multiple deprivations such as low standards of living, lack of education (whether in quantity and quality), inadequate jobs, poor health, limited and inefficient risk-coping mechanisms, social exclusion and lack of voice. Income- or consumption-based measurements alone can fail to capture deprivations of core human wellbeing and functioning. Measures that account for the type and intensity of non-monetary deprivations experienced by the poor are thus a valuable complement to assessments of human welfare based on monetary poverty measures. More importantly, multidimensional measures of poverty can inform policies intended to relieve these deprivations as well as those intended to address poverty more broadly.

This section presents findings from a multi-dimensional analysis of poverty in the Dominican Republic for the period of 2000-2011. The exercise draws from the ENFTs that were used for most of the analysis discussed so far. The dimensions of poverty selected constitute deprivations in areas with which poor households in the Dominican Republic typically contend, such as education, access to basic services, housing characteristics, living conditions and assets ownership. Even though the deprivations measured are constrained by the data available in the ENFTs, they were chosen to capture important objectives set out in the Millennium Development Goals and in some flagship national anti-poverty and social protection programs. The seven indicators analyzed—all with identical weights—are listed in Table 14.

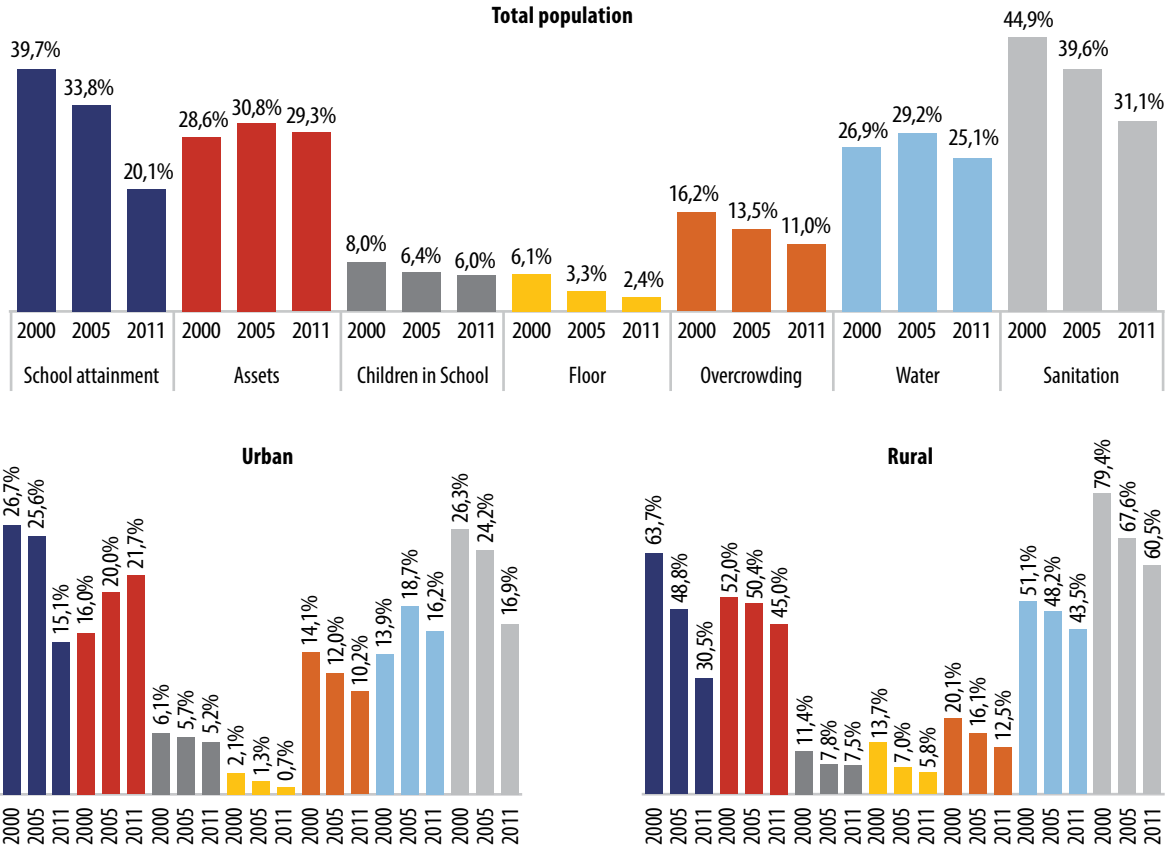
The proportion of Dominicans deprived has dropped systematically across most of the dimensions during the 2000s. As Figure 35 shows, the largest improvements, in relative terms, occurred in school attainment, access to sanitation, quality of housing and house overcrowding. The indicators show that child school attendance, one of the most important dimensions, has one of the lowest rates of deprivation. Similarly, most houses are found to have hard floors, which signals better quality of housing and possibly better health and cognitive development outcomes for children.[20] But there are still high levels of deprivation in access to water and sanitation and asset ownership. For instance, as of 2011, 25.1 and 31.1 percent of the people lived in dwellings that are not connected to safe water and sanitation services, respectively, while more than 25 percent of Dominicans own only one or none of the assets defined in the assets ownership indicator (refrigerator, phone and clean-cooking fuel stove).

20 Evidence from Mexico suggests that replacing dirt floors with cement floors significantly improves the health of young children, reducing parasitic infestations, diarrhea and anemia, and helps improve their cognitive development (Cattaneo et al. 2009).

Table 14: Selected indicators and deprivation criteria

Indicator	A household is considered deprived if:
Child school attendance	Any school-aged (7-17) child in the household is regularly out of school
School attainment	None of the household's members has eight years of education or more
Safe water	The dwelling has no access to piped water provided by the general network of distribution, well or spring
Sanitation	The dwelling has no access to the general network or septic tank
Quality of housing	The dwelling has dirt floors
House overcrowding	The dwelling has three or more permanent members per room
Asset ownership	The household does not own at least two of the following: (1) refrigerator/freezer, (2) telephone/mobile, (3) clean cooking fuel stove (gas or electric cooker)

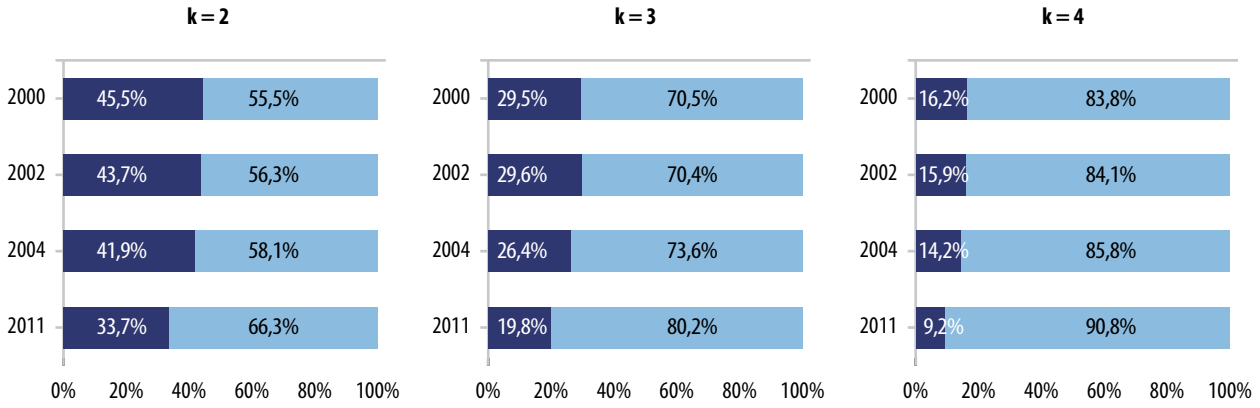
Figure 35: Share of population deprived for each dimension. Total and by area (2000, 2005 and 2011)



Source: Study team's own estimates based on ENFT 2000, 2005 and 2011

There are marked differences in the incidence of the deprivations across areas. In most of the indicators, the portion of people who are deprived fell both in urban and rural areas throughout the 2000s. But rural households still exhibit higher rates of deprivation in all indicators than do urban households (Figure 35). The largest differences are in access to water and sanitation, asset ownership and school attainment. While 43.5 and 60.5 percent of people in rural areas are deprived of regular access to water and sanitation, the corresponding numbers in urban areas, aided by the general distribution network, are 16.2 and 16.9 percent. Moreover, the deprivations in these four indicators have continuously been the highest of all the dimensions assessed.

Figure 36: Multidimensional poverty headcount for different values of k



Note: The dark blue part of the bar shows the proportion of people poor in a multi-dimensional sense. Source: Study team's own estimates based on ENFT 2000, 2005 and 2011

The proportion of the population which is poor, as defined by the non-monetary, multidimensional approach, has fallen, particularly between the mid- and late 2000s. The intensity of non-monetary poverty—how many deprivations are experienced at the same time—can be measured by aggregating the different dimensions considered in the analysis using identical weights.[21] This results in a multidimensional headcount (MH) that shows the percentage of people that are deprived in k or more dimensions. The main conclusion of the analysis for the Dominican Republic is that the non-monetary poverty rate, regardless of the number of k, steadily declined during the 2000s. For instance, whereas 44.5 percent of Dominicans were poor in two dimensions (k=2) in 2000, the headcount fell to33.7 percent in 2011; reductions of 9.7 and 7.0 percentage points were also observed for the same period of time for poverty thresholds of k=3 and k=4, respectively. Adjusting the MH to account for the breadth of poverty confirms the declining trend, as the higher the value of k in the analysis, the larger the results of poverty reduction.[22] In other words, the Dominican Republic has made the greatest progress in reducing the most intense forms of multidimensional poverty. The drop in the MH is evident in urban and rural areas, but it is much larger in the latter.

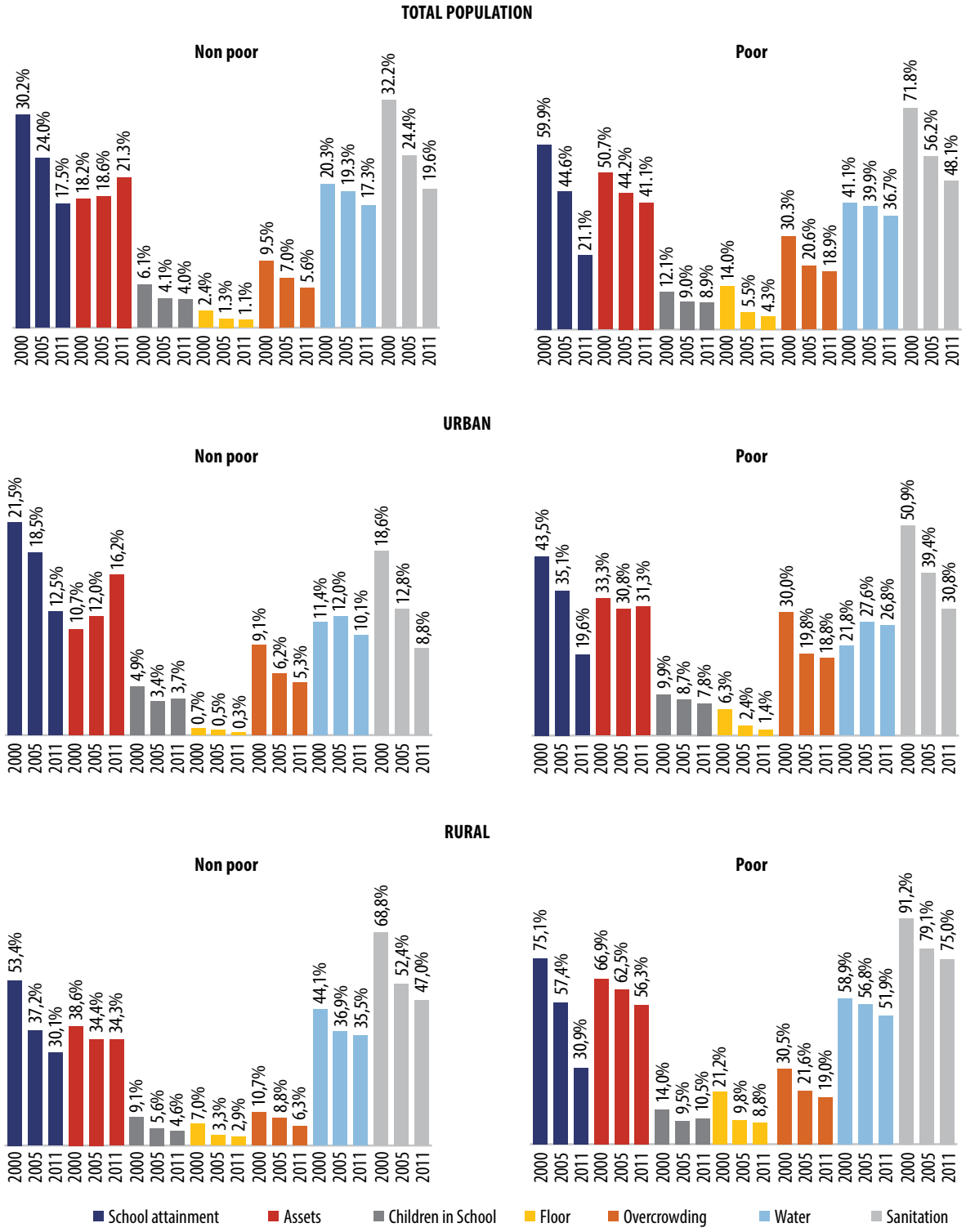
21 Identical weights, rather than empirical, are used to avoid issues such as factor or discriminant analysis.
22 This adjusted measure takes into consideration the (weighted) share of deprivations experienced by the poor.

5.2 The Dominican Republic has persistent chronic and increasing transient poverty

The overlay of the monetary and non-monetary poverty data reveals interesting patterns as to how income poverty and multidimensional poverty relate to each other. On one hand, the two approaches could be capturing similar trends. On the other hand, non-monetary and monetary measures may diverge for some groups of people, because they reflect different conceptions of poverty. By combining the two measures, a more comprehensive vocabulary of poverty can be used to categorize the population into welfare groups, which is important in defining both what kinds of services are most needed and targeting these services to the correct people.

There is a strong association between the incidence of non-monetary poverty and monetary poverty in the Dominican Republic. Not surprisingly, for each of the seven indicators, the share of people who are deprived is substantially larger for those who are below the income poverty line than for those above the line. For instance, close to 50 percent of the income poor live in dwellings which lack access to sanitation services compared to a 20 percent rate among the non-poor. Differences of similar magnitude are seen for other dimensions such as water access, asset ownership and house overcrowding and are found both in urban and rural areas. Nevertheless, the gap in the incidence of deprivations between the two groups (monetary and non-monetary poor) has narrowed over time, especially in the education-based indicators of child school participation and educational attainment (Figure 37).

Figure 37: Share of population deprived for each dimension by income poverty status, total and by area (2000, 2005 and 2011)



Source: Study team's own estimates based on ENFT 2000, 2005 and 2011

The intensity of deprivation is also correlated with monetary poverty. As just discussed, the income poor are more likely to be deprived in any one of the dimensions than the non-poor. In addition, people with incomes below the poverty line are more likely to suffer from multidimensional poverty—that is, two or more deprivations (k ≥ 2). For k=3, for example, one third of the income poor are also multidimensionally poor, compared to 16 percent among the non-poor. The gaps also exist for higher values of k but have narrowed since the early 2000s.

The intensity of non-monetary poverty did not increase during the 2002-04 economic crisis. As noted before, the economic crisis led to a substantial fall in family incomes that resulted in a remarkable increase in monetary poverty. In contrast, the non-monetary poverty headcount did not go up even at the height of the crisis, irrespective of the value of k. Moreover, the whole decade saw a sustained fall in the MH, though the reduction was more marked in the second half, a period in which the economy enjoyed stronger economic growth and stability.

The combination of multidimensional and monetary poverty indicators allows for a more comprehensive classification of people into poverty groups based on varying degrees of exposure to overlapping monetary and non-monetary deprivations. To accomplish this, the people who are multidimensionally poor are broken down into groups according to their income poverty status: extreme poor, moderate poor and non-poor. This produces four different sub-sets of the population. The *chronic* poor refer to the multidimensional poor who are also poor in a monetary sense. The fact that they are deprived in one or more of the human welfare dimensions could make them less likely to depart the condition of poverty. Among the *chronic* poor, those in extreme poverty can be identified as the severe poor given the intensity of the monetary poverty.[23] The multidimensional poor who are between the extreme and *moderate* poverty lines are the moderate poor. The *not-income poor but deprived* group is comprised of the multidimensional poor whose incomes are above the poverty line. The *transient poor* include people who are not deprived in any of the non-monetary dimensions despite being income poor. Finally, people who are not considered poor by either approach are referred as to the *better off*.

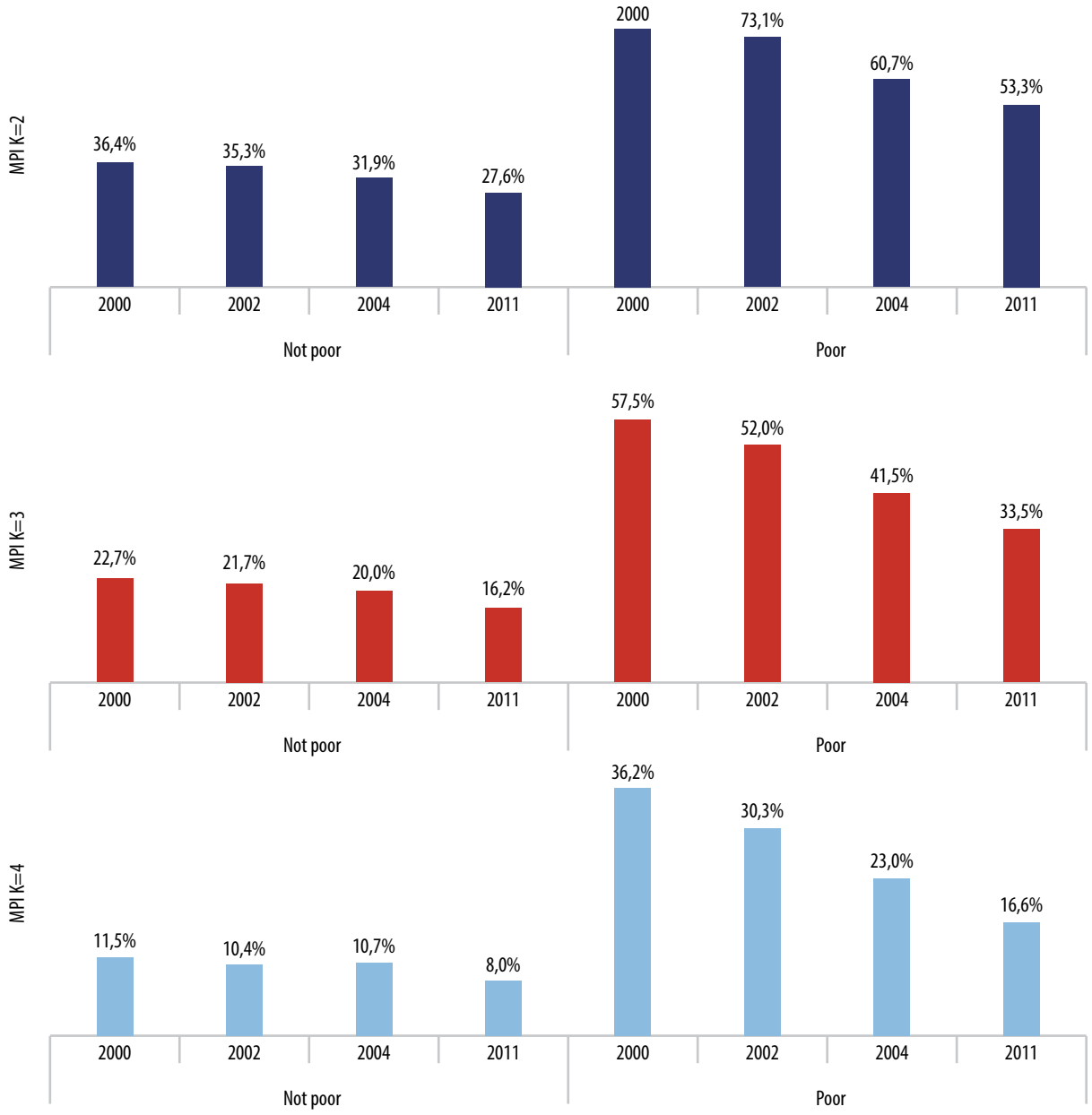
23 We use "severe" in order to make a distinction from the people who are "extreme" poor, a classification that throughout the section is based on income.

The country has been experiencing a persistent problem of "chronic" poverty over the last decade, but has made some progress. After a decade of strong economic growth, excluding the crisis period, 13.2 percent of the poor were chronically poor in 2011, down from 17.6 percent in 2000. Focusing on this group, the proportion of people in *severe* poverty (multi-dimensionally poor and extreme poor in monetary sense) has remained virtually constant since 2000. At the beginning of the decade, 6 percent of Dominicans were unable to afford a basic food basket (i.e. they were below the extreme poverty line) and were deprived in at least three core, non-monetary measures of human welfare (i.e. k=3). As of 2011, this number had fallen by one percentage point. By way of comparison, Brazil managed to reduce severe poverty between 1999 and 2011 from 7.1 of the population to 1.5 percent. The main explanation for the persistence of *chronic* poverty throughout the decade is the spike in *severe* poverty during the 2003-2004 economic crisis (it rose from 6.0 to 9.2 percent). Comparing the 4.2 percentage point fall of *severe* poverty between 2004 and 2011, then, reveals that the Dominican Republic's recovery from the crisis on this front was substantial, but additional mechanisms need to be in place to prevent people from sliding back into this depth of poverty in the future.

Notably, the percentage of Dominicans who are "transiently poor" almost doubled. In addition to the persistence of *severe* poverty, the proportion of people who are classified as *transiently poor* in the Dominican Republic increased from 15 percent to 29 percent in the 2000-2011 period (Figure 39). This too stems from the increase in the monetary poverty headcount during the economic crisis, suggesting that there is a group of people who are not protected from economic shocks despite having access to services and/or assets. There is also a possibility that some of their productive assets, for instance job skills, depreciate over time, raising further the risk that the transiently poor become chronically poor. Moreover, the slow reduction in *transient* poverty since the crisis (30.6 percent in 2004 to 29 percent in 2011) suggests that labor markets have taken unusually long to stabilize and highlights the importance of this area for policy focus.

In contrast, the proportion of people who are "moderately" poor and "not income-poor but deprived" has continuously fallen. Moderate poverty (chronically poor above the extreme poverty line and below the

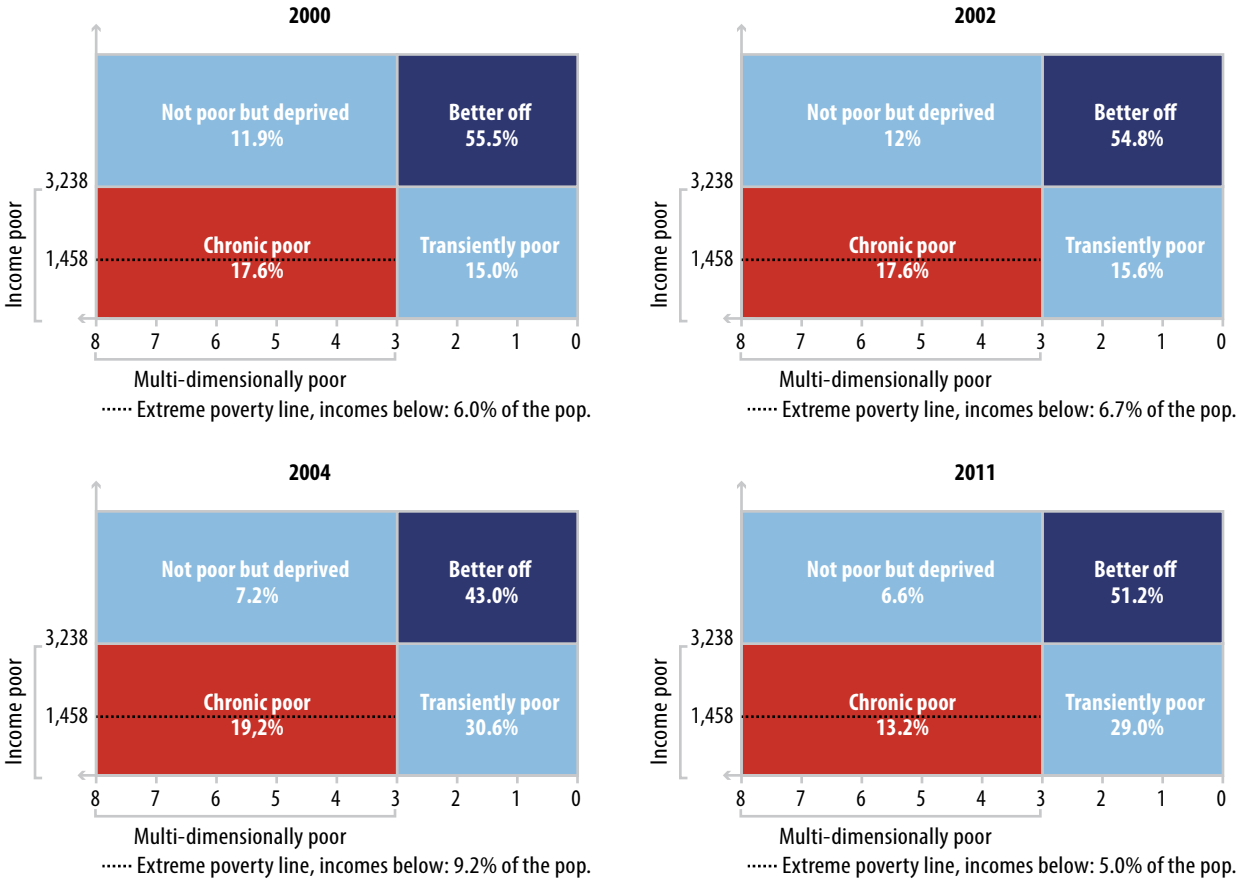
Figure 38: Multidimensional poverty headcount by income poverty status



Source: Study team's own estimates based on ENFT 2000, 2002, 2004 and 2011

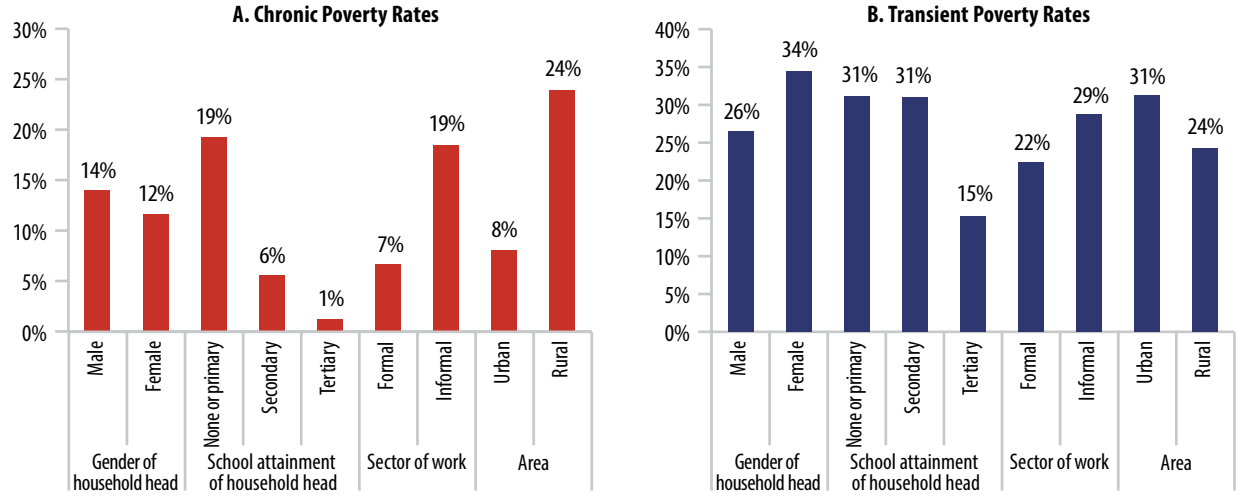
moderate poverty line) decreased from 11.6 percent in 2000 to 8.2 percent in 2011. Similarly, the percentage of the population who are *not-income poor but deprived* dropped significantly from 11.9 percent to 6.6 percent over the same period of time. In contrast, the proportion of people who are neither income poor nor deprived in any of the non-monetary dimensions (*better off*) decreased between 2000 and 2011 from 55.5 percent to 51.2 percent. The decline of the *better off* corroborates the results of the almost null economic mobility in the Dominican Republic that was discussed previously (Figure 39) but hides the progress made during the recovery of an 8.2 percentage point growth of the middle class since 2004.

Figure 39: Matrix of multidimensional and moderate income poverty, 2000–2011 (selected years)



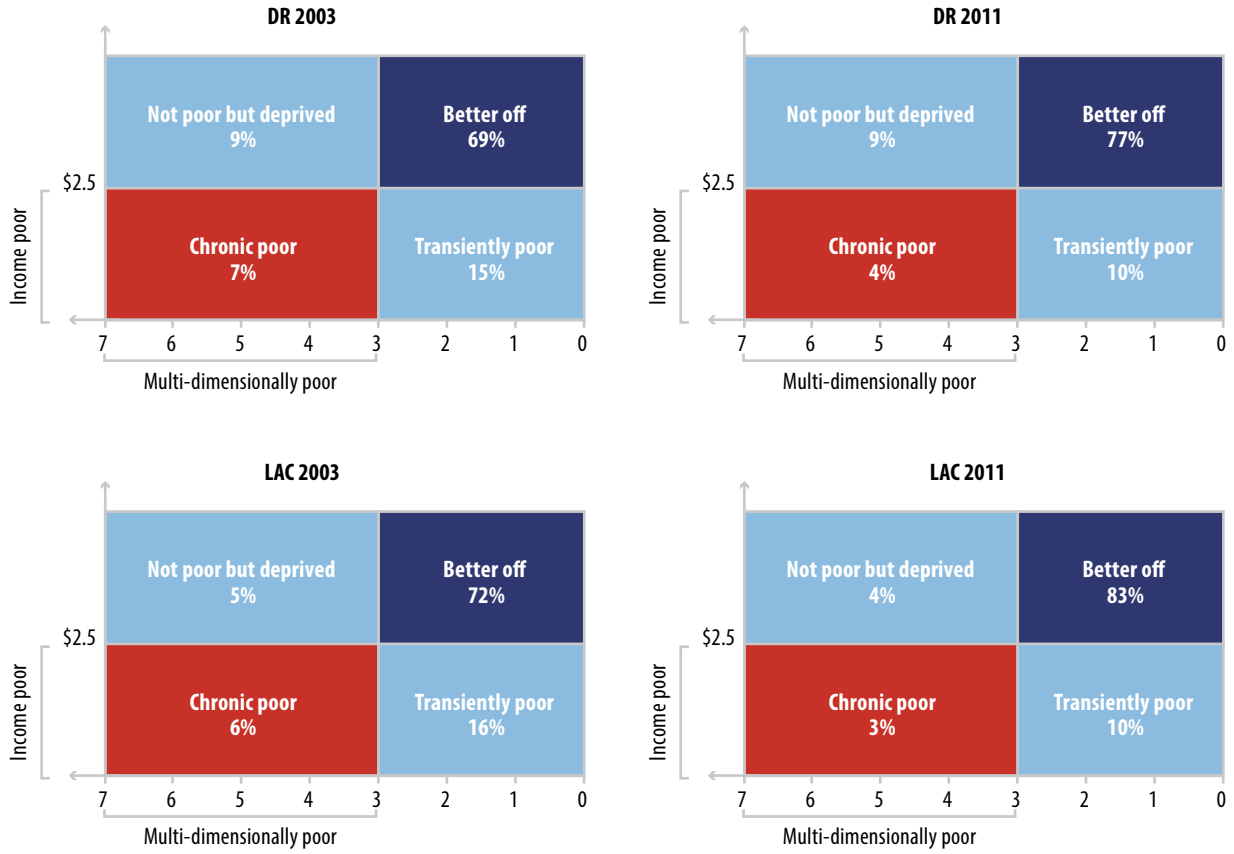
Note: Dotted line shows the monetary extreme poverty line. Severe poor (i.e. people below the extreme poverty line) and MPI poor in 2000 = 6.0 percentage points, in 2002 = 6.7 percentage points, in 2004 = 9.2 percentage points and in 2011 = 5.0 percentage points. X-axis measures the number of household deprivations; Y-axis is household per capita income (Dominican pesos). Source: Study team's own estimates based on ENFT 2000, 2002, 2004, and 2011

Figure 40: Chronic and transient poverty by household characteristics, 2011



Source: Study team's own estimates based on ENFT 2000, 2002, 2004, and 2011

Figure 41: Matrix of multidimensional and extreme income poverty, the Dominican Republic and LAC (2003 and 2011)



Note: International extreme poverty line of $2.50 is used. X-axis measures the number of household deprivations; Y-axis is household per capita income (R$).
Source: Study team's own estimates based on SEDLAC data

Factors related to human capital, household structure, type of job and area of residence raise the probability of being chronic or transiently poor. For instance, households headed by individuals with little or no education, an informal job and living in a rural area are much more likely to be in a state of chronic poverty in a monetary and non-monetary sense. In addition to the notable effect of school attainment on reducing the chances of being chronically poor, the area of residence also plays an important role. Without conditioning on anything else, a household in a rural area is three times more likely to be chronically poor than an urban household (Figure 40, Panel A). These differences are less marked in the case of the transient poor. Remarkably, households whose heads have no or little education have similar chances of being income poor but not multi-dimensionally poor, signaling an inability of individuals to convert higher human capital into more earnings and higher standards of living. In contrast to the profile of households that are chronically poor, families headed by women are more likely to be transiently poor (Figure 40, Panel B).

In terms of extreme income and multidimensional poverty, the Dominican Republic performed similarly to LAC. Using the international poverty line of $2.50 per day to compare with LAC reveals that chronic poverty decreased by about one half and the transiently poor decreased by about one third from 2003 to 2011 in both the Dominican Republic and LAC. By contrast, the not poor but deprived group did not change in the Dominican Republic and only decreased by one percentage point in LAC. In fact, the Dominican Republic in 2011the Dominican Republic exhibited similar poverty rates to LAC in all of the groups except for the not poor but deprived, which was about double the LAC average in the Dominican Republic (9 percent compared to 4 percent). This is also reflected in the lower share in the better off group in the Dominican Republic (77 percent) compared to LAC (83 percent).

Chapter 6
Equality of opportunities and life chances

6.1 Measuring opportunities for all

The notion of fairness in development opportunities underpins assessments of the equitable availability of key goods and services that are necessary to progress in life. A vast amount of empirical literature has shown that the chances of enjoying a fully productive life are largely influenced by access to—and quality of—basic goods and services such as food, school enrollment, water, sanitation and electricity, as well by the ownership of a minimum set of key assets. These key goods and services are denoted here as *opportunities*. The concept of fairness followed in this report refers to the idea that personal *circumstances* that are out of the control of individuals (particularly children), such as birthplace, gender, race, wealth, parental education and area of residence, should not determine their human *opportunities*. For example, all children should enjoy access to safe water whether they live in an urban or rural location.

The Human Opportunity Index (HOI) measures both coverage and equity in access to key goods and services that enable people to expand their productive potential. The HOI measures the coverage rate of *opportunities* and adjusts or "penalizes" this measurement according to how equitably the opportunities are distributed among different subgroups based on *circumstances*. [24] Thus the HOI takes into account both the total amount of goods and services available to the population and how fairly they are distributed (see Annex H with more details on the methodology).[25] Furthermore, the HOI can provide insight into inter-generational mobility by analyzing the influence of the circumstances which have direct relationships with mobility across generations (e.g., parental education and income) on inequality of opportunities. The index can be improved by changing people's circumstances ("composition effect"), raising coverage to all people ("scale effect"), or distributing the coverage in a more equitable manner ("equalization effect").

This report calculated the HOI for the Dominican Republic to see the evolution of the equitable availability of opportunities during the last decade. To do so, it estimated the HOI at three points in time: 2000 ("pre-crisis"), 2004 ("crisis") and 2011 ("post-crisis"). The opportunities which the analysis considered consist of (1) school enrollment; (2) timely completion of the sixth grade (a proxy to quality of education); access to (3) safe water and (4) sanitation; (5) quality of housing, namely whether the dwelling has a hard floor; and (6) family ownership of at least two out of three key assets.[26] To assess inequality of opportunities, the analysis focused on children, defined

24 The HOI runs from 0 to 100, with 100 denoting universal coverage.

25 The index does not capture, however, differences in the quality of goods and services. Quality itself could hinder equity despite increases in equitable access to opportunities.

26 Refrigerator/freezer, telephone/mobile, clean cooking fuel stove (gas or electric cooker)

as individuals between 0 and 16 years old, as they have less control over their current situations, i.e., their circumstances are less likely to have been determined by effort and choice. The circumstances considered consist of: (1) parental education; (2) family income; (3) gender of household head; (4) number of siblings; (5) presence of both parents in the household; and (6) area of residence.

6.2 Have human opportunities for children improved?

Opportunities for children in the Dominican Republic have expanded in the last decade. As noted previously, access to basic services and goods and asset ownership in the Dominican Republic have increased over time, including among the poor. The HOI also indicates that there was sustained improvement in opportunities for children during the 2000–2011 period, with the index increasing from 65 in 2000 to 69 in 2004 and 73 in 2011. A decrease from 7.2 to 5.6 of the penalty for unfair distribution contributed slightly to the rise of the index over the period. As for comparison with the region, the HOI in the Dominican Republic in 2011 is identical to the average HOI of a group of 19 countries in the region across similar opportunities and circumstances (World Bank 2012) (Table 16).

The rate of expansion, however, has been slow—at current rates it would take more than a generation to level the playing field for children. The equity-adjusted provision of human opportunities captured by the index grew on average by about 1 percent per year between 2000 and 2011. At this pace, and assuming a linear expansion, it would take the Dominican Republic just under 30 years to universalize the opportunities included in the HOI. This is similar to the amount of time it would take for Central America (36 years), while the LAC Region is projected to achieve this objective earlier, in approximately 24 years (Table 15). The HOI grew at a slower pace than expected considering the strong economic growth over the past decade, especially in comparison to other countries in the region. For example, Brazil had an average annual GDP growth rate of 3.2 percent from 1995 to 2010, during which time the HOI increased by 18.7 points to reach 75.7 in 2010. The Dominican Republic, meanwhile, grew its GDP by an annual average of 5.8 percent over the same time period, yet the HOI only increased by 8.9, falling behind Brazil at 72.7 in 2010. Similarly, Mexico, Ecuador, Peru, Colombia, Nicaragua, Costa Rica and Paraguay all increased the HOI by more than the Dominican Republic from 1995 to 2010 yet had lower average annual growth rates.

The distribution of human opportunities varies across the different categories considered. On one hand, as Table 16 shows, opportunities for children to access education services, i.e., enrollment, and to live in a house of decent quality are close to universal, at indices of 96 and 95 in 2011, respectively. On the other hand, the Dominican Republic has been less successful in providing children with equitable access to key services (water and sanitation) and goods linked with better quality of life (refrigerator, telephone and clean cooking fuel stove), as well as the opportunity to progress in school on time. For instance, although there has been substantial progress in raising coverage in sanitation (its HOI increased from 38 to 56), that coverage remains low and unevenly allocated, while the HOI for access to safe water, remaining low at

Table 15: HOI, coverage rate and penalties in Dominican Republic, 2000–2011 (selected years)

HOI (2000)	HOI (2004)	HOI (2011)	Annual change	Coverage rate (2000)	Coverage rate (2011)	Penalty (2000)	Penalty (2011)
65	69	73	1.09	72	79	7.2	5.6

Note: values are expressed in percentages and denote coverage rates adjusted by how equitably they are distributed.
Source: Study team's own estimates based on ENFT 2000, 2002, 2004 and 2011

Table 16: HOI, coverage rate and penalties in Dominican Republic, 2000–2011 (selected years)

Year	Education		Safe water and sanitation		Housing	Assets
	Enrollment	6th grade on time	Water	Sanitation	House with hard floor	Asset ownership
2000	97	43	61	37	87	62
2004	98	56	64	44	92	59
2011	96	68	61	55	95	62

Source: Study team's own estimates based on ENFT 2000, 2002, 2004 and 2011

61, has shown no improvement since 2000. Of note, the increase in the availability and equitable distribution of opportunities was not interrupted during the 2003-2004 economic crisis, with the exception of asset ownership, which fell and has shown no progress over the long-term.

6.3 Unpacking the changes in human opportunities

Most of the expansion of human opportunities achieved in the Dominican Republic is explained by increased coverage across the circumstance groups. Changes in the HOI can be decomposed into (1) changes in the coverage rates of specific circumstance groups (e.g., an increase in school enrollment for children living in rural areas), also called the *coverage effect*, and (2) changes in the share of the population among specific circumstance groups (e.g., families migrating from rural to urban areas), called the *composition effect*. The analysis for the Dominican Republic shows that the coverage effect explains nearly three quarters of the improvement in the HOI between 2000 and 2011. In other words, the increase in the probability that a child from, say, a rural family with low income goes to school is the type of change that has chiefly driven the improvement in the HOI, rather than there simply being fewer children living in rural areas due to urban migration (World Bank 2012) (Table 17). The decomposition for the LAC region delivers similar results.

The relatively larger expansion of access to opportunities for the vulnerable circumstance groups accounted for one third of the total increase in coverage of key services. The *coverage effect* can be further decomposed into two effects: (1) the *scale effect*, which measures the proportional increase in coverage across all circumstance groups, and (2) the *equalization effect*, at the heart of the concept of equality of opportunities, which captures relative changes in coverage that are specific to circumstance groups with below-average coverage rates. Estimates for both the Dominican Republic and the LAC region show that around 30 percent of the overall change in the coverage effect of the HOI is due to the *equalization effect,* namely increased equality of opportunity. In the three dimensions presented in Table 18, the *scale effect* dominates the *equalization effect*, results that are consistent with the evidence for LAC. These results suggest that one policy method of increasing equitable allocation of opportunities going forward could be to target expansion in the provision of opportunities to the most disadvantaged groups.

6.4 "Circumstances" constraining equality of opportunity and economic mobility across generations

Distributions of human opportunities across sub-groups based on area of residence (urban or rural), parental education, family income and the gender of the child are the most inequitable. For policy purposes, it is important to identify the contribution of each circumstance to the overall inequality of opportunity. The analysis shows that, among the set of circumstances considered for the calculation of the HOI, the place where children live, the level of education of their parents and the income of their household are the main factors affecting equality of opportunity for access to basic goods and services. Differences in access to key public goods and services between groups de-

Table 17: Contribution of the "composition" and "coverage" effects to changes in the HOI in Dominican Republic 2000–2008

Finished 6th grade on time			Access to safe water			Access to sanitation		
Total change	"Comp" Effect	"Cov" Effect	Total change	"Comp" Effect	"Cov" Effect	Total change	"Comp" Effect	"Cov" Effect
1.9	0.4	1.5	0.9	0.3	0.6	1.4	0.2	1.2

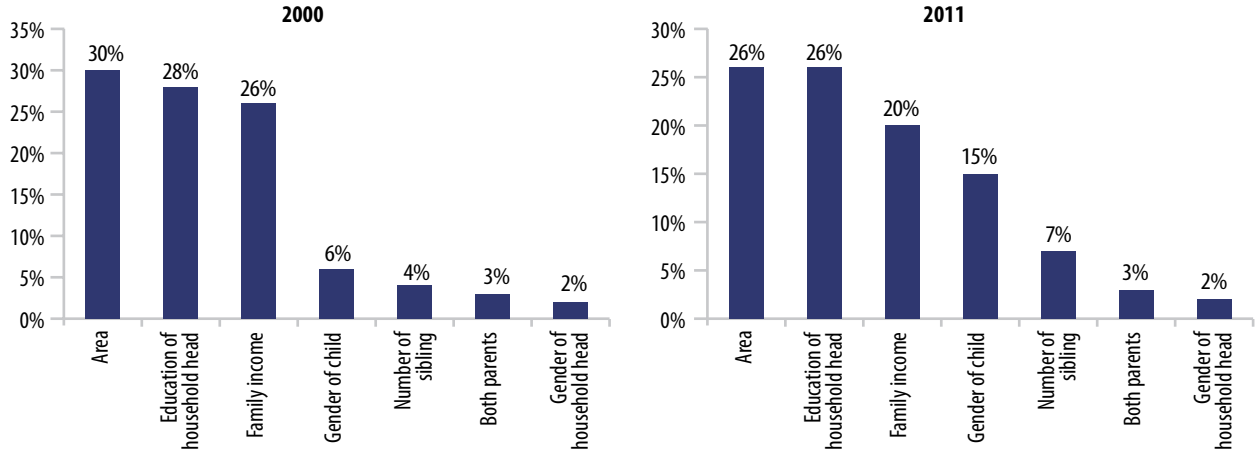
Note: "Comp" denotes the composition effect and "Cov" the coverage effect. Decompositions are calculated for the 2000–2008 period and presented in percentage points.
Source: World Bank (2012)

Table 18: Contribution of the "scale" and "equalization" effects to the "coverage" effect in Dominican Republic 2000–2008

Finished 6th grade on time			Access to safe water			Access to sanitation		
Total coverage effect	Scale effect	"Equal" effect	Total coverage effect	Scale effect	"Equal" effect	Total coverage effect	Scale effect	"Equal" effect
1.5	1.1	0.4	0.6	0.4	0.2	1.3	0.9	0.4

Note: "Equal" denotes the equalization effect. Decompositions are calculated for the 2000–2008 period and presented in percentage points. Source: World Bank (2012)

Figure 42: Contribution of each circumstance to inequality of opportunity, 2000 and 2011



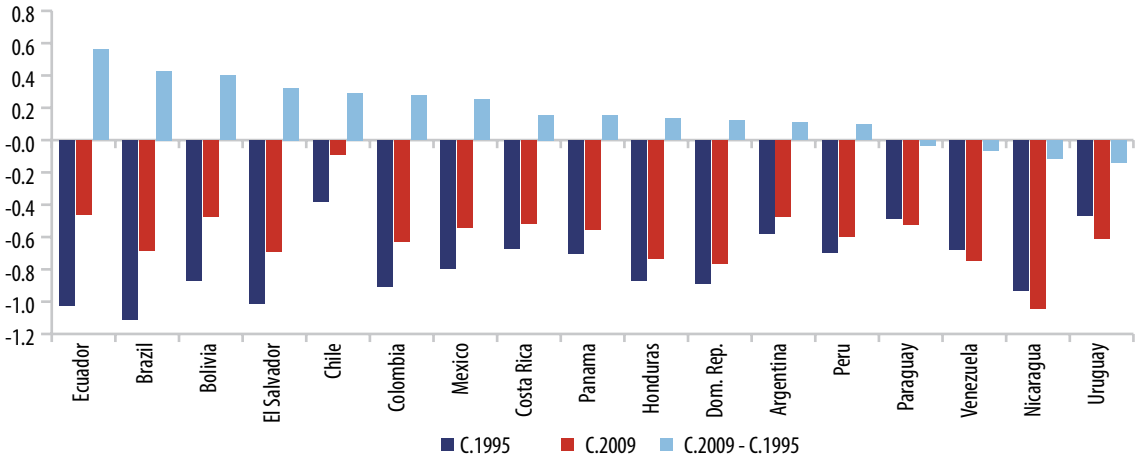
Source: Study team's own estimates based on ENFT 2000 and 2011

Table 19: Contribution of each circumstance to inequality of opportunity in Dominican Republic, 2011

	Education		Safe water and sanitation		Housing	Assets
Circumstance	Enrollment	6th grade on time	Water	Sanitation	House with hard floor	Asset ownership
Head's education	14	23	29	26	22	41
Family income	4	26	32	21	28	11
Number of siblings	2	5	9	6	6	11
Child gender	54	1	1	1	1	31
Both parents	10	3	1	3	3	0
Head's gender	1	3	2	4	4	0

Note: Values are in percentage points. Source: Study team's own estimates based on ENFT 2000, 2002, 2004 and 2011

Figure 43: Impact of parental background on children's education gap at age 15 in LAC, 1995–2009



Note: "Educational gap" is defined as the difference between potential years of education at age 15 and the years of completed education circa 1995 and circa 2009. The blue and red bars represent the expected reduction in the schooling gap associated with one standard deviation in parental education in 1995 and 2009, respectively. The green bar is the difference between the two. Other covariates in the regression are children's gender, residence in an urban area and country fixed effects. The estimated effect of parental education on the educational gap is always statistically significantly different from zero as are the differences between 1995 and 1999.
Source: World Bank using data from DESLAC (Socioeconomic Database for Latin America and the Caribbean)

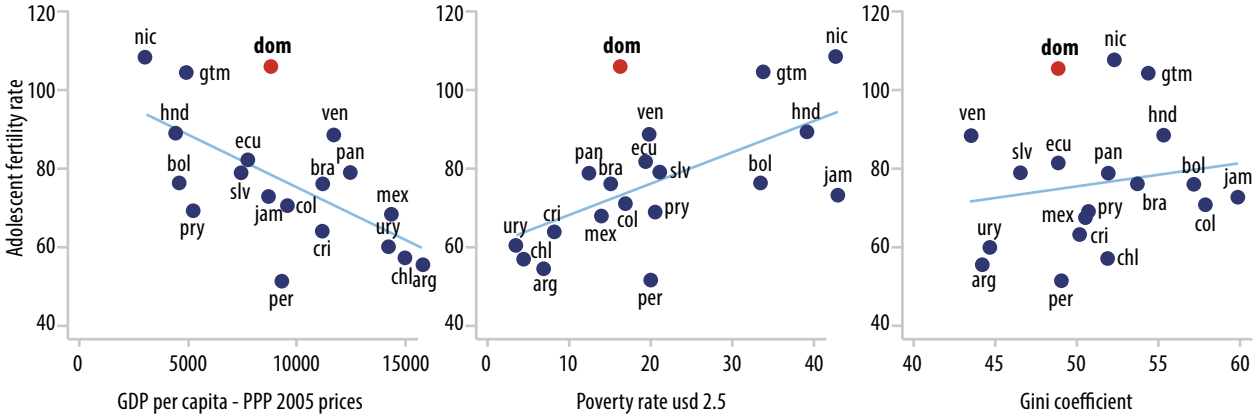
Box 3: Teenage pregnancy as a proxy of agency in the Dominican Republic

Agency, or the freedom to pursue processes by which individuals achieve socioeconomic advancement, is a fundamental aspect of equity (Cord and Lopez-Calva 2013). Agency entails that people have the social, economic and political means to pursue life options that they have reasons to value. In other words, agency is the ability of people, regardless of background, to make decisions and convert them into desired actions and outcomes. The constitutive elements of agency are: (1) individual aspects, including objective conditions (e.g. good health or lack of it) and subjective elements (aspirations and self-drive); (2) contextual elements, such as social norms, culture and formal institutions; and (3) power, defined as the capacity to align the actions of others to one's own interest (Cord and Lopez-Calva 2013). Agency involves many aspects of life, whether it is ability to rise in the workplace, have political voice, or take control of personal health and family decisions. One possible manifestation of lack of agency is teenage pregnancy.

The adolescent fertility rate (AFR) is defined as the number of births per 1,000 women aged 15-19. In the LAC region, the AFR decreased between 2000 and 2010 for all countries considered. Yet, the numbers for the Dominican Republic are not encouraging—the country had the second-highest AFR (after Nicaragua) among 21 countries. Indeed, during this period, the Dominican Republic also had the lowest reduction of AFR, only -4 percent. By contrast, Colombia achieved the highest reduction of AFR in the region,-25 percent.[27]

The adolescent fertility rate for the Dominican Republic is remarkably higher than in otherwise comparable countries. For instance, countries with similar GDP per capita such as Ecuador, Peru and Jamaica have AFRs which are two thirds lower than the Dominican Republic's. In the case of countries with similar extreme poverty rates ($2.50 a day poverty line), the AFR of the Dominican Republic is again quite higher than theirs. For example, the extreme poverty rates in 2009 for Brazil and the Dominican Republic were 15.1 percent and 16.4 percent, respectively. However, the AFR for Brazil was 75.8 whereas it was 105.65 for the Dominican Republic, almost 40 percent higher than the Dominican Republic. Finally, using the Gini coefficient as a point of reference, the Dominican Republic is once again way higher than its counterparts such as Ecuador and Peru on the AFR. However, the Dominican Republic is not alone in this regard—Nicaragua and Guatemala, countries with high AFRs as well, are also quite far from their own comparable countries in terms of inequality.

Figure 44: Correlates of teenage pregnancy



Source: World Bank (2012), authors' calculations. Years: Argentina (2010-11), Bolivia (2007), Chile (2009), Colombia (2007), Dominican Republic (2009), Ecuador (2009), El Salvador (2008), Guatemala (2006), Honduras (2009), Jamaica (2002), Mexico (2008), Nicaragua (2005), Panama (2009), Paraguay (2009), Peru (2009), Uruguay (2008), Venezuela (2006)

fined on the basis of these three circumstances accounted for 87 percent of the inequality in opportunities in 2011, almost identical to their share in 2000. In isolation, parental education and family income each explain a quarter of the uneven distribution of opportunities measured in the HOI. A breakdown across opportunities indicates that parental education and family income matter the most for whether or not a child lives in a household which owns assets and has access to safe water and sanitation (Table 19). In sum, limited human capital, the parents' inability to earn higher income and the gender of the child are key elements that appear to limit the child's opportunities, thus serving as circumstances which restrain social inter-generational mobility.

27 The World Bank (2012). Using WDI indicators

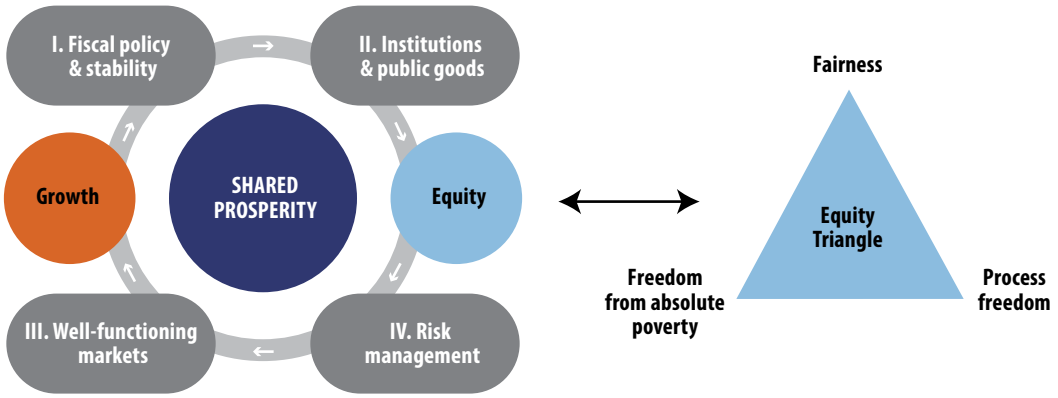
Other analyses confirm that parental background continues to be a strong determinant of the human capital of children and thus of their ability to progress in life. Correlations in school attainment across generations indicate that LAC is the least educationally mobile region in the world (Hertz et al. 2007). The high persistence of educational attainment is also evident in the Dominican Republic. The association between parental background and the educational gap of children at age 15 (the difference between potential years of education at that age and the actual years of education completed) shows that the gap is larger among children raised in households with lower parental background, be it fewer years of education or lower income. In 2009, an increase of a standard deviation in parental education among households in the Dominican Republic reduces the schooling gap by nearly 0.74 years of education, to bring it close to the LAC region average. Even though the impact on children of extra parental education was higher in 1995 (0.87 year of education), suggesting that educational persistence has fallen, the reduction was small. Another factor that further limits equality of opportunity and mobility across generations is the fact that not only do children of more educated parents complete more years of education, there are also substantial differences in the *quality* of schooling that they receive. In fact, analyses, controlling for potential biases, of the relationship between parental background and the performance of students in standardized test scores show that children who have parents with tertiary education do substantially better than children with parents who attained only primary education (World Bank 2013).

Chapter 7
Policy options to strengthen the links between economic growth and equity

Setting out a policy agenda aimed at ensuring that the gains from economic growth and prosperity are more evenly distributed requires an understanding of the links between growth and equity. Equity and growth as a self-reinforcing cycle constitutes shared prosperity (see diagram below). When all members of society have the opportunity and skills to generate income, then the society is more equitable. At the same time, with more people contributing to the economy, the economy grows and everyone, both poor and non-poor, is comes out ahead. In this process, the virtuous cycle that enhances societal welfare, equity entails freedom from absolute poverty, equality of opportunities regardless of original circumstances, and the ability to make autonomous decisions regarding important life choices. Within the framework of shared prosperity, there are four main channels through which growth and equity reinforce each other: 1) equitable, efficient and sustainable fiscal policy, 2) fair, transparent institutions and effective provision of public goods, 3) well-functioning and accessible markets, and 4) comprehensive and efficient risk management. A number of policy instruments can be used to strengthen these channels. Actions on improving fiscal policy and the effectiveness of institutions will, for instance, facilitate equity by increasing the opportunity set and economic mobility of the poor and vulnerable and other disadvantaged groups. Well-functioning markets facilitate the efficient use of the skills and assets of the most vulnerable and allow the poor to maximize their skill set. Finally, risk management can reduce the exposure to and impact of shocks for the poor and vulnerable which, otherwise, could force them to engage in negative coping mechanisms.

This framework is useful to understand the challenges in the Dominican Republic, as well as the entry points for effective policy interventions. This report has shown that despite economic growth the society remains highly unequal. Though GDP per capita increased by over 50 percent over the decade, the nature of growth has not been inclusive. For instance, the fastest growing sectors have not significantly increased employment. Instead, weak linkages in the market have caused employment to increase most in low productivity sectors, even for workers with high skills, and real earnings to fall across skill groups and sectors. Furthermore, not enough Dominicans have quality education and job training and many still lack access to even basic services diminishing the potential of the Dominican Republic's pool of human capital. These factors have made it difficult to connect people to economic growth and improve equity resulting in limited mobility and inequality of opportunities. While the Dominican Republic is improving systems to protect vulnerable populations from risks to prevent such dramatic increases in poverty as seen in the 2003-2004 crisis, social protection programs, by 2011, were still leaving over 40 percent of the population without adequate means to live free from poverty. Strikingly, the number of people endowed with

The Virtuous Circle of Shared Prosperity



Source: SEDLAC and The World Bank.

human capital and assets but who are unable to escape poverty has almost doubled over the decade.

Inequalities also reflect a lack of responsiveness of the institutional system to the needs of specific circumstance groups. As discussed in other studies, inequality in service provision in the Dominican Republic is also associated to lack of empowerment for certain groups and illustrates weaknesses of the political system (UNDP, 2008). The heterogeneity of influence and voice results in an unequal distribution of resources –this is so even in well-functioning democratic systems, though it might be exacerbated by capture and corruption (Esteban and Ray 2006). Strengthening the accountability, transparency and responsiveness of the system to all groups in society will also feed into a positive cycle towards a more cohesive social contract.

The fundamentals of equity, clearly weaker in the Dominican Republic, can be strengthened by focusing on the policy areas to be discussed below, thus tying growth to equity and generating a positive cycle of shared prosperity.

Policy area 1

Objective: Promote equitable, efficient and sustainable fiscal policy.

Problem to address: The current structure of fiscal policy, both on the revenue and expenditure sides, limits the ability of the Dominican Republic to provide sufficient and quality public goods and services and places too much of the burden on the poor. In particular,

- **The fiscal system is hampered by low revenue collection.** While the average tax burden in LAC is 20 percent of GDP, public revenues in the Dominican Republic averaged 13.7 percent of GDP over the past decade, only slightly higher than the level of tax revenue of Guatemala, the lowest in the region. Unfortunately, the tax reform measure that was passed in November 2012 missed the opportunity to address the low tax burden—it is expected to raise fiscal revenues by only 1.4 percent of GDP.

- **The tax system relies heavily on indirect taxes, limiting progressivity.** Nearly one third of total tax collection comes from value-added taxes (VAT), on which income has no bearing, though basic goods from the consumption basket are exempted. Furthermore, despite the exemptions of basic goods, about 50 percent of tax exemptions and incentives benefit the more affluent members of society. Past tax reforms have not raised the progressivity of the tax system, particularly by failing to impose more direct taxes. Micro-simulations of the 2012 tax reform indicate that, as expected, the increase in indirect taxes (for instance, an increase in the VAT rate) will be regressive (Valderrama et al. 2013).[28]

28 These micro-simulations do not take into account increases in property tax or tax on motor vehicles, both of which would likely make the results slightly more progressive.

- **Budget rigidities limit the ability to increase and redirect allocations to key social sectors so as to provide more and better public goods and services, including systems to protect the poor and vulnerable from negative shocks.** The already limited fiscal space is further constricted by structural factors on the expenditure side, notably use of public resources to fund a large electricity deficit. In 2008, that deficit alone accounted for 2.7 percent of GDP. The figure has since decreased, but remained substantial at 1.8 percent of GDP in 2012. All in all, the Dominican Republic remains well below LAC averages in social allocations. In 2011, the country channeled just 2.3 percent of GDP in public funds towards education, one of the lowest levels in the LAC region. Steps in the right direction have been taken to raise education spending to 4 percent of GDP in 2013 but capacity constraints may undermine the quality and efficiency of that spending. Health expenditures have also increased in recent years, but as of 2011 they still amounted to just half the LAC average. More than a third of the Dominican Republic's people have no access to clean water; nearly half have no access to sanitation services. Despite a substantial increase in resources for social assistance, almost half of these expenditures are still not allocated on the basis of formal targeting criteria. Targeting has become especially important because the economic shock of 2003-2004 caused some groups to slip into poverty and others to fall even further into it.

Policy options:

On the revenue side, adjusting the fiscal system can strengthen its redistributive capacity and ensure that the Dominican Republic can afford to uphold a more ambitious social contract and improve economic growth. Specific policy actions to achieve this include:

- **Making the tax system more progressive** by replacing some of the current indirect taxation with direct taxation (e.g., personal and corporate income taxes) and ensuring exemption of basic goods;

- **Revising existing tax exemptions (now 5.9 percent of GDP) and incentives** to make them more progressive; and

- **Strengthening the ability of tax collection mechanisms to detect and limit evasion,** for instance, by increasing the capacity of the Tax Administration Authority to conduct tax audits and enforce control. Tax evasion is likely to make actual taxation less progressive.

On the expenditure side, more public resources should be allocated to education, health, water and sanitation, social protection and risk management systems, with steps taken to maximize the efficiency of resources. Specific policy actions to achieve this include:

- **Investing more resources in water and sanitation and quality education and health** to endow the poor with the skills and assets required to take full advantage of their productive capacity and live better lives;

- **Strengthening current social assistance programs and disaster risk management systems,** including safety nets to protect the poor and vulnerable from the effects of major shocks. This will ultimately lessen the impact of shocks on the overall economy and accelerate recovery to combat the asymmetric response of poverty in the Dominican Republic to business cycles;

- **Analyzing the differences between monetary and non-monetary deprivations to better distinguish the chronic from the transient poor and to design and target strategies and programs that address each group's needs,** such as better infrastructure and education services for the chronic poor and enhanced safety nets for the transient poor. This type of targeting may have particular impact in urban areas, where there are more likely to be both types of poverty (and thus a need to distinguish between the two). Overall, the effect will be to stanch the "urbanization of poverty;"

- **Further linking public social expenditures to current targeting mechanisms,** such as the *SIUBEN (Sistema de Identificacion Unica de Beneficiarios)*, currently used for the *Progresando con Solidaridad* program, non-contributory health insurance and electricity and gas subsidies, which helped reduce poverty after the 2003-2004 economic crisis. This will help assure that help goes only to people who need it;

- **Consolidating small existing social programs,** particularly in the social protection sector, to avoid duplication and fragmentation of services and help rationalize expenditures; and

- **Addressing the structural deficit in the electricity sector,** which diverts a substantial amount of public resources away from the social sector.

Policy area 2

Policy objective: Build fair, transparent and efficient institutions that will improve the provision and quality of public goods and services, expand economic opportunities, increase upward mobility and better protect the poor and vulnerable from economic shocks.

Problem to address: The quality of public services is low and, despite significant improvement, inequities in access to basic public services remain, particularly to the poor. This constrains their set of human "opportunities" to progress in life.[29] In particular,

- **The low quality of governance affects service delivery in key sectors.** There have been significant improvements in service delivery, for instance, efforts to adopt transparent targeting mechanisms, publish budget data and open lines for queries and complaints. Yet many Dominicans believe that inefficient bureaucracy, lack of transparency, anti-reform coalitions and low trust in governance systems remain important obstacles to raising competitiveness and improving service delivery in the social sectors.[30]

- **Despite remarkable increases in school enrollment, inefficient use of budget allocations and low quality continue to hamper the education system.** The system is characterized by operation in double shifts, high teacher/pupil ratios, high teacher absenteeism and little use of performance data to manage for results. Not surprisingly, more than 41 percent of third graders lack basic math skills, while over 31 percent cannot meet the lowest defined level of the SERCE reading test. Students in the Dominican Republic show some of the lowest academic performance in the LAC region, and this lack of efficiency in education affects the poor disproportionally. While the better off study for 12.3 years and complete 10.1 grades, the poor study for 11.1 years and complete 7.8 grades. As the analysis shows, households headed by people with higher education are more likely to experience upward economic mobility and their children enjoy more opportunities to enhance their economic potential. Thus, education is a major tool in promoting both inter- and intra-generational economic mobility and ensuring sustainable returns to social expenditure.[31]

- **Health coverage and quality are patchy, ranking behind those of countries that spend at similar levels or less.** Maternal mortality rates in DR are around 150 per 100,000 live births, over a third higher than the regional average, and infant mortality, at 22.3 per 1,000 live births, is also above the LAC average. Likewise, immunization coverage, though it has increased, remains below regional levels. Coverage through full health insurance has increased considerably but still leaves half of the poor uninsured, resulting in out-of-pocket expenditures financing a high share of health services. Combining quality of education and health services, the World Economic Forum ranked the Dominican Republic 107th out of 139 countries in 2010.

Policy options:

Developing new mechanisms and strengthening existing ones to monitor the quality and provision of public goods and services with a goal of increasing accountability and ensuring that expenditures give maximum value to society. In addition to increasing spending in the social sector and further linking it to effective targeting mechanisms, policy actions to increase accountability, citizen engagement and service quality could include:

- **Further developing and strengthening incentive, monitoring and accountability structures** between service providers, clients and policy makers, as well as procurement and financial management reforms (e.g. the introduction of framework agreements) to fight corruption and promote good governance, quality service delivery, and accountability. The IDEC initiative, which brings public and private sector and civil society actors together to improve the quality of education, and the community scorecards piloted by

29 The Transparency International Corruption Perceptions Index (TI-CPI) perceives the Dominican Republic as one of the most corrupt countries in LAC—the TI-CPI ranks the Dominican Republic as 118th among 174 countries evaluated.

30 According to Kaufmann et al. (2012), the Dominican Republic has had historically weak rule of law, and government effectiveness has been low.

31 From 2006 to 2012 the level of satisfaction in local government services regarding education and tax fairness at municipal levels decreased almost 18 percent, according to *Latinobarometro*, for LAPOP (2012)

the *Progresando con Solidaridad* program are good examples.

- **Building on existing improvements in budget transparency and strengthening efforts to better link planning and budget formulation and to further adopt performance-based budgeting and management instruments to link increased efficiency and effectiveness according to established standards of quality.** A crucial aspect of such instruments is the generation and use of performance data (for instance, linking student test scores to teacher evaluations); and

- **Making efficiency analyses (such as cost-benefit, cost-effectiveness and economic rate of return) and monitoring and evaluation systems far more common** to economically value the return on public investments, monitor the achievement of results and learn what works and what does not work.

Policy area 3

Policy objective: Strengthen access of the poor to labor markets and increase the demand for their labor, so as to make efficient use of human capital and allow the poor to benefit from economic growth.

Problem to address: Low labor force participation and dearth of formal, well-paying jobs, particularly among the poor and vulnerable, youth and women, at a time when real earnings have been systematically falling across most economic sectors. In particular,

- **The sectors in which labor productivity has increased, such as manufacturing, the wholesale and retail trades, communications and financial services, have not contributed much to job creation.** For example, manufacturing had the second-highest annual average of contribution to the gross value added growth rate from 2001–2011. Yet it was the sector that lost the most jobs over the same period, reducing its share of total employment by 6 percentage points (Abdullaev and Estevão 2013). This kind of growth without job creation may explain much of the lack of poverty reduction in spite of economic growth during the second half of the 2000s.

- **The majority of job creation, instead, has occurred in low-skill, low-productivity sectors, which suggests that many of the jobs created are of low quality.** Three in every four jobs created between 2004 and 2011 were in the informal sector. Increased employment during this period did lift some people out of poverty; however, the low quality of jobs may explain why the country failed to reduce poverty to at least pre-crisis levels. As shown in the analysis, nearly 30 percent of the population was poor in 2011 despite having basic education and access to services and/or assets, signifying that some people who are endowed to generate adequate income are unable to do so. Moreover, the Dominican Republic had the second-highest growth in the share of low-skill services as a percentage of employment between the late 1990s and late 2000s out of a sample of selected LAC countries (Aedo and Walker 2012).

- **Real earnings have been falling uniformly along the earnings distribution, and high-skilled workers are being continuously absorbed into low-skill jobs.** On average, real earnings per hour both of self-employed and private sector wage workers were about 27 percent lower in 2011 than in 2000. Even workers employed in high-productivity sectors or who have tertiary education have not seen their incomes rise. These trends are consistent with the low upward mobility and high downward mobility documented in this study. The fact that real earnings are also flat or declining in sectors that have strong productivity growth and make the largest contribution to the overall output is puzzling but may be explained by the high percentage of people in need of jobs following the crisis.

- **Low labor force participation.** Labor force participation in the Dominican Republic is 10 percentage points lower than the regional average. More than a third of people between 18 and 29 years are neither working nor studying and women, as a group, have even lower labor force participation.

- **An inadequately educated workforce and a skills mismatch.** According to the Global Competitiveness Report (2011-2012), one of the biggest problems in doing business in the Dominican Republic is an inadequately educated workforce. The Dominican Republic ranks in the bottom third of the 142 countries analyzed in terms of higher education and

training. As this report shows, another reason why the number of transient poor doubled (from 15 to 30 percent) could be that though some people are endowed with certain human capital to generate income, they are unable to do so. This is due to a skills mismatch: the low relevance and quality of their education and training do not match what employers are looking for.

- **Several factors reduce the ability of the private sector to create more and better jobs.** The enclave type of development that has characterized two of the leading industries, special economic zones (*Zonas Francas*) and tourism, restrains employment generation and business linkages to the overall economy. The business environment is further undermined by complex regulatory processes, including labor rules, and by weak institutions, lack of transparency, inefficient government bureaucracy, partial access to finance, underdeveloped capital markets and poor labor skills and infrastructure.

Policy options:

Improving the relevance and quality of education. Specific policy actions to achieve this include:

- **Increasing investments in secondary and tertiary education, changing the content of education and training and creating the right incentive structure within key institutions in the education sector to ensure that all Dominicans have the necessary skills to work in high-productivity jobs.** Bearing in mind that rising labor income was the biggest engine of poverty reduction in the last decade, provision both of the endowments and avenues for people to participate in the labor market will raise standards of living and increase the global competitiveness of the country.

Increasing labor market information flow and training linked to job opportunities to raise the employability and productivity of the labor force. Creating targeted active labor market programs (ALMPs) designed to enhance opportunities for high-productivity job creation and formality can raise the employability of the labor force and facilitate young people's transition from school to work, without creating major market distortions. Further benefit for training and intermediation will come from consolidating the existing ALMPs, such as the national training institute INFOTEP, the intermediations services of SENAE, the labor observatory OMLAD and the youth training program PJyE. Specific policy actions to achieve this objective include:

- **Further developing temporary employment programs** to allow ALMPs to provide a counter-cyclical response in times of economic downturns and employment crisis and to activate the more disadvantage segments of the labor force;

- **Updating and expanding training and retraining programs** that couple educational attainment with productive skills to improve the quality of the labor force and widen access to job opportunities;

- **Strengthening intermediation services** to provide job-search assistance and reduce information asymmetries between labor supply and demand;

- **Providing entrepreneurship training and grants** to equip individuals, including the poor and vulnerable, with the skills and capital to start and sustain businesses; and

- **Consolidating existing institutions and scaling up effective interventions** to ensure coordination, integration and efficacy of existing ALMPs as a means to develop and implement a country-wide system to promote employment.

Improving the business environment to foster better competition, investment climate, entrepreneurship and job creation. Many of the policies proposed above are expected to contribute to this goal. Additional policy actions include:

- **Improving competition policy** by eliminating anti-competitive practices through market regulation in key economic sectors and further opening up markets to local and foreign investment, including the financial sector, and

- **Creating and targeting incentives for entrepreneurship and innovation** in sectors with the capacity to generate large numbers of jobs that are likely to have significant positive spill-overs and income distribution effects for the rest of the economy.

Conclusions

Sustained economic and social progress requires a virtuous cycle of growth and equity as the fundamental policy goal. If growth is the result of an equitable process of income generation, societies can claim to be on a path of shared prosperity. Based on these notions, this report has applied a variety of empirical methodologies and data to assess whether the strong economic growth that the Dominican Republic has enjoyed during most of the last decade benefitted the more disadvantaged groups in an economic and social sense. In doing so, the report examined the conditions in the Dominican Republic upholding the key pillars of what constitutes an equitable society, namely equality of opportunities regardless of original circumstances, the capacity of the system to bring people out and keep them out of absolute poverty, and the existence of agency—the ability of people to make decisions and convert them into actions—for all. This involved the analysis of the patterns that characterize aggregate monetary poverty and income inequality trends, households' income mobility, and non-monetary dimensions of welfare that portray the deprivations experienced by the poor, as well as the distribution of opportunities for children and proxies for the amount of agency that different groups in society have.

Despite strong economic growth over the past decade, large inequities still exist in Dominican society and are declining at a slower rate than expected. Strong growth in the Dominican Republic occurred in every year of the last decade except 2003 and 2004 when the economy contracted due to a banking crisis. In total, the Dominican Republic grew its GDP per capita by almost 50 percent from 2000 to 2011. But despite this growth, the fundamentals of equity remain low in the Dominican Republic. For instance, though strong growth resumed after the crisis, the country has been slow in decreasing poverty that soared by 17 percentage points to reach nearly half the population. The rate remains at 40.4 percent, higher than the 32 percent level of 2000. Chronic poverty—people enduring long spells of poverty—remains an issue with only a one percentage point decrease since 2000, from 6 percent to 5 percent of the population as of 2011. Even more concerning is that about one third of the poor are in this state despite having the skills to generate higher income. This group, the transient poor, has almost doubled since the level in 2000. In addition, the country shows very low economic mobility with less than 2 percent of the population rising to a higher economic group. In fact, more than 19 percent of the population experienced a worsening in economic status from 2000 to 2011. Furthermore, despite improving access to services, coverage and quality remains uneven across population groups, thus limiting the economic opportunities of disadvantaged people.

Compared to LAC, growth in the Dominican Republic is stronger but the country is falling behind the wider region in a number of equity dimensions. Largely as a result of the 2003-2004 crisis, poverty rates in the Dominican Republic, lower than LAC's overall rates in 2000, now exceed the region's average. Furthermore, though poverty began to decline after the crisis, the rate of decline has been slower than LAC's over the same time period. In terms of reducing income inequality, the Dominican Republic continues to perform better than the region. However, as improvements have been modest over the decade, LAC is catching up to the Dominican Republic. In terms of inter-generational income mobility, a striking difference remains between the Dominican Republic and LAC—while 41.4 percent of people rose to a higher economic group in LAC, only 1.8 percent did so in the Dominican Republic. The country is also underperforming LAC in terms of increasing access to basic goods and services for children. At the rate of improvement of the past decade, Dominican Republic would take longer to reach universal access than the LAC average. While investigating the underlying causes behind disappointing progress in equity is beyond the scope of this report, the study postulates some hypotheses as to why, compared to LAC, the fundamentals of equity are weak in the Dominican Republic.

This report identifies areas of priority for policy to address underlying factors of inequity in the Dominican Republic, including fiscal policy, institutional effectiveness and the performance of labor markets. In short, the Dominican Republic has a weak fiscal capacity, as it raises low revenues and does so in a manner that harms progressivity. The narrow fiscal space and institutional weaknesses, in turn, constrain the size and effectiveness of social expenditures, limiting access to crucial goods and services, particularly for the poor and vulnerable. Of great concern is that even if they are endowed with the means to progress in life, many individuals are employed in informal, low-paying jobs and have high vulnerability to economic shocks. Growth, especially in the last decade, is becoming more and more concentrated in sectors such

as financial services, transportation and communications and tourism) that have either little employment creation or low-paying jobs.

To address these issues, this study identifies three policy actions to address the underlying factors of inequity. These include: (1) adjusting the structure of fiscal policy, both on the expenditure and revenue sides, to make it more equitable, efficient and sustainable; (2) developing and strengthening monitoring, social accountability and incentive mechanisms to increase the quality and provision of public goods; and (3) strengthening the access of the poor and other disadvantaged groups to labor markets and increasing the demand for their labor to make efficient use of human capital, allowing the poor to maximize returns on their endowments and to ultimately benefit from economic growth.

Finally, policy design aimed at promoting a more balanced development path could be effectively informed by further analytical work. Particularly salient work could be performed in the areas of fiscal policy, social sectors and labor markets. This would help to further uncover the underlying factors that inhibit the gains of growth from being more evenly shared across the population. A relevant concern in this analysis is discrepancies between the Dominican Republic's national accounts and household survey data. Serious analytical efforts should be devoted to understanding the apparent disconnection between macro and micro data that hinders the ability of national statistics to accurately reflect macroeconomic and social progress.

References

Abdullaev, U. and M. Estevão (2013). "Growth and Employment in the Dominican Republic: Options for a Job-Rich Growth." International Monetary Fund Working Paper WP/1340. Washington D.C.

Aedo, C. and I. Walker (2012). "Skills for the 21st Century in Latin America and the Caribbean." World Bank, Directions in Development—Human Development. Washington D.C.

Cattaneo, M.D., S. Galiani, P.J. Gertler, S. Martinez and R. Titiunik 2009. "Housing, Health, and Happiness."American Economic Journal: Economic Policy, 1(1): 75-105.

Cord, L. and L.F. Lopez-Calva (2013). "The Equity Challenges in Latin America: Opportunities, Markets and Institutions." mimeo, The World Bank.

Cord, L., L.F. Lopez-Calva and C. Rodriguez-Castelan (2013). "Shared Prosperity: Challenges for Latin America." mimeo, The World Bank.

Deaton, A. (2005). "Measuring Poverty in a Growing World (or Measuring Growth in a Poor World)." *The Review of Economics and Statistics*, MIT Press, vol. 87(1), pages 1-19, 04.

Esteban, J.M. and D. Ray (2006). "Inequality, Lobbying, and Resource Allocation." *American Economic Review*.

Gupta, S., H. Davoodi and R. Alonso-Terme (2002). "Does Corruption Affect Income Inequality and Poverty." *Economics of Governance,* 3:23-45.

Guzmán, R. (2011). "Composición Económica Dominicana. El Estrato de Ingresos Medios en el Umbral del Siglo XXI." Mimeo. Document prepared for the Ministry of Economy, Planning and Development of Dominican Republic.

Huppi, M. and M. Ravallion (1991). "The Sectoral Structure of Poverty during an Adjustment Period: Evidence for Indonesia in the mid-1980s." *World Development*, Elsevier, vol. 19(12), pages 1653-1678, December.

Kaufmann, D., A. Gallina and R. Senderowitsch (2012). "Building Coalition for Reforms: The Case of the Participatory Anti-Corruption Coalition (IPAC) in the Dominican Republic." mimeo.

Lopez-Calva, L.F. and E. Ortiz-Juarez (2013). "A Vulnerability Approach to the Definition of the Middle Class." *Journal of Economic Inequality*, January.

Sanchez, M. and R. Senderowitsch (2012). "The Political Economy of the Middle Class in the Dominican Republic." World Bank Policy Research Working Paper 6049. Washington D.C.

UNDP (2010). "Política Social: Capacidades y Derechos - Análisis y Propuestas de Políticas Sociales en República Dominicana." Volume I, UNDP and Ministry of Economy, Planning and Development of Dominican Republic.

UNESCO (2008). "Student achievement in Latin America and the Caribbean—Results of the Second Regional Comparative and Explanatory Study (SERCE)." Prepared by UNESCO and LLECE, Santiago, Chile.

Valderrama, D., M. Francos, M. Jiménez, M. Lizardo and A. Morillo (2013). "El Efecto de un Programa de Transferencias Condicionadas sobre la Pobreza y Desigualdad en el Corto Plazo: El caso de Progresando con Solidaridad en República Dominicana." Mimeo. National Office of Statistics and Ministry of Economy, Planning and Development of Dominican Republic.

World Bank (2011). "On the Edge of Uncertainty: Poverty Reduction in Latin America and the Caribbean during the Great Recession and Beyond." Poverty, Gender and Equity Unit, Poverty Reduction and Economic Management Team, Latin America and Caribbean Region, Washington D.C.

World Bank (2012). "Do Our Children Have a Chance? A Human Opportunity Report for Latin America and the Caribbean." Directions in Development—Poverty. Washington D.C.

World Bank (2012). "Poverty Dynamics in Brazil: Patterns, Associated Factors and Policy Challenges." Policy draft. Washington D.C.

World Bank (2013). "Economic Mobility and the Rise of the Latin American Middle Class." World Bank Latin American and Caribbean Studies. Washington D.C.

Annexes

Annex A. Total number of poor people in Dominican Republic by area (2000-2011)

Year	total	urban	rural
2000	2,627,149	1,265,419	1,361,731
2001	2,740,586	1,350,338	1,390,248
2002	2,787,959	1,381,575	1,406,384
2003	3,595,442	1,900,253	1,695,189
2004	4,389,454	2,508,199	1,881,255
2005	4,279,834	2,471,572	1,808,263
2006	4,033,833	2,288,838	1,744,995
2007	4,055,352	2,352,567	1,702,786
2008	4,197,401	2,483,934	1,713,468
2009	4,076,939	2,470,707	1,606,233
2010	4,073,841	2,460,464	1,613,377
2011	4,009,289	2,439,498	1,569,791

Source: Study team's own estimates based on ENFT 2000-2011

Annex B. Poverty decomposition by income source (2000–2011)

Period	Income source	Total	Urban	Rural
2000-2002	**Total**	**0.59**	**1.14**	**-0.42**
	Foreign remittances	1.10	1.23	1.20
	In-kind non-labor income	0.80	0.77	0.75
	Monetary non-labor income	-0.29	-0.34	0.01
	In-kind labor income	0.74	0.63	0.77
	Monetary labor income	-2.30	-1.40	-3.25
	Imputed rents	0.54	0.24	0.10
2002-2004	**Total**	**16.64**	**18.83**	**12.32**
	Foreign remittances	4.40	4.15	5.02
	In-kind non-labor income	3.96	3.45	3.60
	Monetary non-labor income	4.12	4.15	4.74
	In-kind labor income	4.90	4.50	5.28
	Monetary labor income	-4.88	-1.81	-10.44
	Imputed rents	4.15	4.38	4.11
2004-2011	**Total**	**-7.57**	**-4.71**	**-12.01**
	Foreign remittances	1.83	1.93	2.33
	In-kind non-labor income	1.11	2.17	0.24
	Monetary non-labor income	-1.75	-1.74	-1.59
	In-kind labor income	1.92	2.01	2.09
	Monetary labor income	-10.45	-9.04	-15.38
	Imputed rents	-0.22	-0.03	0.31

Source: Study team's own estimates based on ENFT 2000-2011

Annex C. Poverty decomposition by income source for moderate and extreme poverty (2000–2011)

Area	Income source	Extreme poverty	Moderate poverty
Total population	**Total**	**2.37**	**9.66**
	Foreign remittances	3.78	6.04
	In-kind non-labor income	3.13	4.76
	Monetary non-labor income	-0.37	1.34
	In-kind labor income	3.64	6.30
	Monetary labor income	-9.28	-12.36
	Imputed rents	1.48	3.58
Urban population	**Total**	**3.68**	**15.25**
	Foreign remittances	3.10	6.03
	In-kind non-labor income	3.12	5.81
	Monetary non-labor income	-0.67	1.69
	In-kind labor income	2.88	6.35
	Monetary labor income	-6.29	-8.50
	Imputed rents	1.54	3.87
Rural population	**Total**	**0.42**	**-0.11**
	Foreign remittances	5.13	6.25
	In-kind non-labor income	3.39	3.30
	Monetary non-labor income	0.55	1.09
	In-kind labor income	5.53	6.57
	Monetary labor income	-16.13	-20.36
	Imputed rents	1.95	3.03

Source: Study team's own estimates based on ENFT 2000-2011

Annex D. Coverage and incidence of remittances as a percentage (selected years)

	Proportion of households receiving				Percentage of total remittances			
Decile	**2000**	**2002**	**2004**	**2011**	**2000**	**2002**	**2004**	**2011**
1	13.0	5.8	9.4	10.5	0.9	0.6	0.6	1.3
2	22.6	18.5	11.8	14.0	2.9	3.2	1.3	3.0
3	17.1	7.9	16.8	10.6	2.9	1.9	2.5	3.0
4	21.0	15.0	21.7	14.3	4.5	4.6	4.0	5.0
5	20.4	15.7	25.0	11.7	5.5	6.0	5.7	4.9
6	13.0	18.8	21.0	16.6	4.4	8.8	5.9	8.5
7	19.8	22.3	15.5	18.2	8.5	13.1	5.4	11.8
8	17.7	16.3	21.2	19.3	9.8	12.4	9.5	16.2
9	25.7	17.8	22.0	21.3	20.2	18.8	13.9	24.5
10	20.2	11.9	30.2	7.9	40.3	30.6	51.2	21.7

Source: Study team's own estimates based on ENFT 2000-2011

Annex E. Decomposition of Gini coefficient by income source (2000-2011)

Period	Income Source	Total	Urban	Rural
2000-2002	**All Income Sources**	**-0.016**	**-0.015**	**-0.030**
	Foreign remittances	-0.004	-0.004	-0.004
	In-kind non-labor income	-0.002	-0.001	-0.004
	Monetary non-labor income	-0.004	-0.005	-0.004
	In-kind labor income	-0.002	-0.001	-0.003
	Monetary labor income	-0.003	-0.004	-0.012
	Imputed rents	-0.001	-0.001	-0.004
2002-2004	**All Income Sources**	**0.012**	**0.032**	**-0.003**
	Foreign remittances	0.024	0.022	0.020
	In-kind non-labor income	-0.001	-0.001	-0.004
	Monetary non-labor income	0.006	0.008	0.000
	In-kind labor income	0.003	0.004	-0.002
	Monetary labor income	-0.022	-0.006	-0.016
	Imputed rents	0.002	0.005	-0.002
2004-2011	**All Income Sources**	**-0.025**	**-0.029**	**-0.005**
	Foreign remittances	-0.009	-0.023	-0.004
	In-kind non-labor income	0.001	0.004	0.000
	Monetary non-labor income	-0.012	-0.010	-0.015
	In-kind labor income	0.005	0.005	0.005
	Monetary labor income	-0.007	-0.004	0.011
	Imputed rents	-0.003	-0.001	-0.002
2000-2011	**All Income Sources**	**-0.030**	**-0.012**	**-0.037**
	Foreign remittances	0.013	0.007	0.015
	In-kind non-labor income	-0.001	0.004	-0.006
	Monetary non-labor income	-0.015	-0.012	-0.022
	In-kind labor income	0.008	0.007	0.004
	Monetary labor income	-0.033	-0.016	-0.020
		-0.016	-0.015	-0.030

Source: Study team's own estimates based on ENFT 2000-2011

Annex F. Using synthetic panels with cross-sectional data to predict economic mobility

To estimate intra-generational mobility in the absence of panel data, this report utilizes the synthetic panel approach developed by Dang, Lanjouw, Luoto and McKenzie (2011). Synthetic panels are created using two or more rounds of cross-sectional data by modeling the relationship between actual income (or consumption) and time-invariant household characteristics in one period and applying the model to observations of households from the other period to estimate income based on the same characteristics. By establishing a lower and upper bound for the estimated income based on assumptions about the residuals, movements in and out of poverty over the period for different cohorts (e.g., poor to non-poor, always poor) can be placed within a range.

Assume that there are two rounds of cross-sectional surveys. Let x_it be characteristics which are observed in both rounds of household i in round t. These characteristics should be things that do not change between the two surveys such as gender, place of birth and parental education. These can also include characteristics in round 2 referring to round 1, such as questions in the round 2 survey about whether the household head was employed in round 1 or whether the household had a TV in round 1. Additionally, characteristics, regardless of variance, at a more aggregate level can also be supplied, for example, unemployment rate, population of the working age or variables from GIS data.

Projecting round t consumption or income onto x_it (where ε_it is an error term) as follows:

$$y_{it} = \beta_t' x_{it} + \varepsilon_{it} \quad t = 1,2 \qquad \text{(F1.a)}$$

can yield information about the movement of household i across income groups, such as:

$$Pr\,(y_{i1} < p \mid y_{i2} > p) \qquad \text{(F1.b)}$$

where p is the poverty line. To obtain both y_{i1} and y_{i2} given that the household is only observed in one period, observations from the second round can be used to predict income or consumption in the first round ($\hat{y}^2_{i1}$), by regressing the sample of households in round 1 (y^1_{i1} on x^1_{i1}) to obtain the ordinary least squares (OLS) estimator from the first round ($\hat{\beta}_1$), where the superscripts denote which survey the observations of households are taken from.

Given that the correlation between the error terms of the two rounds is unknown but is likely to be non-negative, lower- and upper-bound estimates of mobility are obtained by assuming either perfect correlation between the error terms in the former or zero correlation in the latter. If zero correlation of the error terms is assumed, the upper bound of income or consumption in the first round for the households from the second round is predicted by taking a random draw with replacement from the empirical distribution of first round estimated residuals ($\tilde{\varepsilon}^2_{i1}$, drawn from the residuals of the OLS regression where $\varepsilon^1_{i1} = y^1_{i1} - \hat{\beta}_1' x^1_{i1}$) as follows:

$$\hat{y}^{2U}_{i1} = \hat{\beta}_1' x^2_{i1}) + \tilde{\varepsilon}^2_{i1}. \qquad \text{(F1.c)}$$

By using the actual income from round 2 and the predicted income of round 1 (for the same households), the fraction of households moving from one income group to another can be computed, for instance, for those who escaped poverty by the following:

$$Pr\,(\hat{y}^{2U}_{i1} < p \mid y^{2U}_{i2} > p). \qquad \text{(F1.d)}$$

Repeating the procedure R times, due to the random drawing, and taking the average of the equation (F1.d) yields upper bound estimates of the movements in and out of poverty. To obtain the lower bound, perfect positive correlation of the error terms allows the estimates of the residuals from the second round ($\hat{\varepsilon}^2_{i2}$) to be used directly to predict income or consumption in the first round:

$$\hat{y}^{2L}_{i1} = \hat{\beta}_1' x^2_{i1} + \hat{\varepsilon}^2_{i2}. \qquad \text{(F1.e)}$$

The poverty dynamic of interest can then be calculated using the lower bound estimate ($\hat{y}^{2L}_{i1}$).

Using the lower bound provides a more conservative estimate of mobility (upwards and downwards) and is not prone to classical measurement error as the same disturbance term applies to both income (or consumption) measures across the two cross sections. For this reason, lower bounds estimates are presented in this report.

The synthetic panel approach for estimating income mobility has been validated in a recent paper by Cruces et al. (2011) in the context of Latin America. The paper compares mobility estimates using synthetic panels against actual panel estimates in three countries (Chile, Nicaragua and Peru) where panel data is available. Results show that the true mobility generally lies within the upper and lower bounds of the synthetic panel estimates using two cross sections and that these results are robust to further checks such as short and long term estimates, focusing on particular sub-groups and sensitivity tests.

Annex G. Defining vulnerable and middle-class groups

To define the group of people who are vulnerable to falling into poverty, this report relies on the methodology for setting the lower threshold of the middle class developed by López-Calva and Ortiz-Juarez (2012). The people who have incomes between the LAC moderate poverty line of $4 per day and the lower threshold of the middle class are considered vulnerable—those who are neither poor nor economically secure.

To set the lower threshold of the middle class, López-Calva and Ortiz-Juarez use panel data from Chile, Mexico and Peru to estimate the probability of being poor in the second period of data and the incomes associated with these probabilities in the first period of data by incorporating the same independent variables in both models. Based on empirical evidence in Cruces et al. (2011) which finds that in a period of 15 years, 10 percent of Latin Americans fell into poverty every year, they define the lower threshold of the middle class as the estimated income associated with a 10 percent probability of falling into poverty (~$10 per day in all three countries).

In the absence of panel data, this report relies on cross-sectional data to provide the dependent variable in both models (the probability of being poor and income). This alters the concept of vulnerability slightly, from who is likely to be poor in a future time period to who is likely to be poor in the current period. With this exception, the report performs the same steps as López-Calva and Ortiz-Juarez in defining the middle-class threshold.

First, a logistic model is estimated to analyze the correlation between the probability of being in poverty (p_i, where 1 = income of < $4 per day and 0 otherwise) and demographic indicators, vulnerable and it is relative in terms of the extent to which these characteristics are related to vulnerability and the specific context in which vulnerability is being defined.

López-Calva and Ortiz-Juarez apply the $10 per day threshold found in the panel data to cross-sectional data to analyze income groups across time and find that the groups increase and decrease with economic cycles in the intuitive direction (the vulnerable group grows during economic recessions and contracts during growth, while the reverse occurs for the middle class). Using lower thresholds for the middle class labor market resources and shocks affecting households (X_i).

$$p_i = E\,(poor_i \mid X_i) = F\,(X_i \cdot \beta_i) \qquad \text{(E1)}$$

Then, in order to capture the permanent component of household incomes, the same independent variables are used in the logit model to estimate an income equation, where lnY_i is household per capita income.

$$lnY_i = \alpha + X_i \cdot \beta_i + \varepsilon_i \qquad \text{(E2)}$$

The average of the independent variables for each probability in Equation 1 is used with the coefficients from Equation 2 to estimate the incomes associated with an array of probabilities of being poor. Finally, the estimated probability of being poor is mapped against the estimated income for each household. Alternatively, as done in this study, the methodology can be applied using the observed income rather than the estimated income. Results using either alternative are, however, comparable.

As in López-Calva and Ortiz-Juarez, this report uses the predicted income of households with a 10 percent probability of being poor ($9 and $7.35 for urban and rural household respectively) to define the threshold between

the vulnerable and the middle class. Though this percentage is somewhat arbitrary, its relation to falling into poverty as found by Cruces (2011) provides the underlying concept of economic security on which the definition of vulnerability, as applied here, is based. In other contexts, this percentage may not be appropriate if households are more or less prone to falling into poverty. Thus, this method of defining vulnerability is absolute in the sense of establishing characteristics which cause households to be proposed by Banerjee and Duflo (2008) and Ravallion (2010) of $2-10 and $2-13, respectively, seems to convolute these trends. Absolute standards, which may be more relevant in low-income countries, are made over-inclusive by including people who are vulnerable or poor. Making the distinction between people who are not poor, yet vulnerable, and people who have achieved economic security can help policy makers better analyze the evolution of the middle class as well as develop targeting mechanisms to more efficiently serve the poor and the vulnerable.

Annex H. Constructing the Human Opportunity Index

First published in 2008 by Barros, Molinas Vega and Saavedra Chanduvi in the context of LAC, the Human Opportunity Index (HOI) is a measure of the equitable coverage of basic goods and services critical for enabling economic progress in life. The HOI takes into account both overall access rates of basic services which provide *opportunities* (e.g., access to safe water and school enrollment) and differences in the coverage rate of *circumstance* groups based on characteristics which are out of the control of individuals (e.g., birthplace, gender and race). Because children are less likely to have control of these characteristics, the HOI is calculated using individuals aged between zero and 16 years old.

To account for both coverage and equity of distribution in one number which ranges from 0 (no coverage) to 100 (total coverage), the HOI penalizes P the overall coverage rate C by the amount of inequality of opportunity for a particular good or service.

$$HOI = C - P \qquad \text{(E1)}$$

While C is simply the average access rate of the population, P is the total of the gaps between the number of people required $\bar{M}$ for each group to achieve the average access rate of the population and the actual number of people covered M for each group for all groups k with below average coverage rates (opportunity-vulnerable groups) as a percentage of the total population N.

$$P = \frac{1}{N} \Sigma^{v}_{k=1} (\bar{M}_k - M_k) \qquad \text{(E2)}$$

Thus, the HOI decreases when differences between the coverage rates of circumstance groups increase on the principle that access to a basic good or service should be uncorrelated with personal characteristics, in which case the average coverage rates would be the same across groups and the penalty would be 0.
obtained by:

$$C = \sum_{1}^{n} w_i \, \hat{p}_i \; and \; \hat{D} = , \frac{1}{2C} \Sigma^{n}_{i=1}) \, w_i \mid \hat{p}_i - C \mid \qquad \text{(E4)}$$

where $w_i = \frac{1}{N}$ or another sampling weight. An index of differences in access across groups, the "Dissimilarity Index" or D-index, is the weighted average of the gap between circumstance group coverage rates and the overall coverage rate. In other words, the D-index is the number of people in better-off groups whose access to a basic service would need to be reassigned to worse-off groups for the distribution of coverage to be equitable. Accordingly, $1\text{-}D$ is the percentage of people with access to a service under equitable allocation. The D-index can be obtained by dividing P by C, whereby:

$$HOI = C\,(1 - D) \qquad \text{(E3)}$$

Thus, the HOI can be interpreted as the number of opportunities in a society that have been distributed equitably.

The index is Pareto consistent in that it will rise if any person, regardless of circumstance, comes out ahead at no cost to anyone else. The HOI will also rise, holding C constant, given an increase in the equality of distribution. This entails that if a fixed number of opportunities

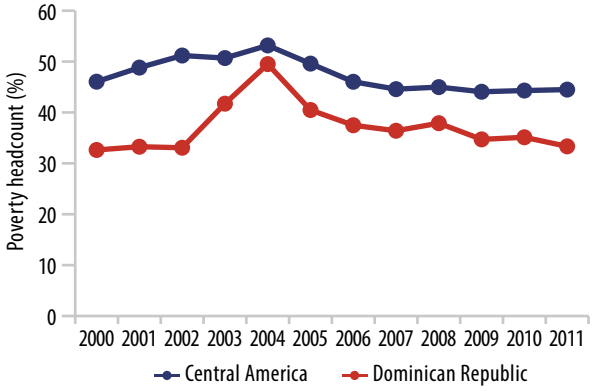
is shifted from better-off to worse-off groups, the HOI will increase as more weight is given to the coverage of worse-off circumstance groups. If coverage rates increase proportionally for all groups, the HOI will increase by the same proportion as both *C* and P would increase proportionally. Furthermore, an equal increase in coverage rates across groups would result in an equal increase in the HOI as *C* rises and P remains unchanged.

To empirically calculate the HOI, first a logistic model is estimated on whether a child had access to a basic service as a function of the child's circumstances. Next, the probability of access $\hat{p}$ for each child i is calculated given the coefficient estimates from the logistic regression. The HOI can then be computed by plugging into formula (E3) the overall coverage *C* and the *D*-index $\hat{D}$

To construct a composite HOI of all opportunities, this report used the simple average of the HOI of each opportunity analyzed (enrollment, 6th grade on time, water, sanitation, hard-floor dwellings and asset ownership).

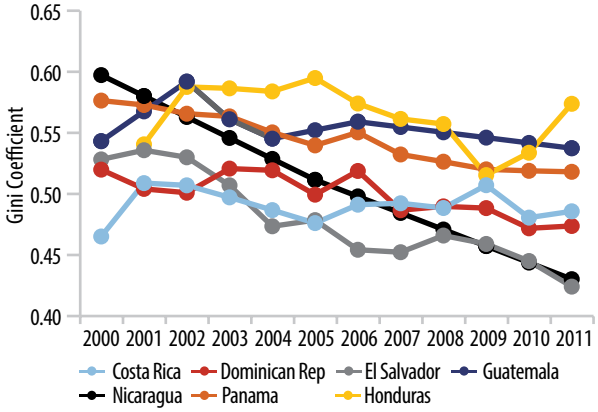
Annex I. Poverty and Inequality in the Dominican Republic compared to Central America

Figure 45: Moderate Poverty Rates in the Dominican Republic and Central America (2000–2011)



Note: The poverty rates for Central America are the weighted average by the population of each country. Linear interpolation and extrapolation applied for those years in which the country does not have survey data. Source: Own estimates using data from SEDLAC (Socio-Economic Database for Latin American and the Caribbean).

Figure 46: Gini coefficient in the Dominican Republic and Central America (2000–2011)



Note: Dashed lines for Guatemala and Nicaragua represent linear interpolation for those years in which the country does not have survey data. Markers indicate years with data. Source: Own estimates using data from SEDLAC (Socio-Economic Database for Latin American and the Caribbean).

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