

Meeting the Millennium Development Goals in the Dominican Republic: Identifying Critical Areas for Policy Action

Lenora Suki and Joaquín Vial

CGSD Working Paper No. 8
January 2004

Working Papers Series
Center on Globalization and
Sustainable Development

The Earth Institute at Columbia University
www.earth.columbia.edu

Meeting the Millennium Development Goals in the Dominican Republic: Identifying Critical Areas for Policy Action

Lenora Suki
Joaquín Vial¹

The aim of this document is to assess the human, social and economic development of Dominican Republic relative to countries with similar income levels, and the likelihood of achieving the United Nations Millennium Development Goals (MDGs) under different growth scenarios. Using the MDGs as development benchmarks, underperforming sectors in the Dominican Republic can be identified for additional effort. On the positive side, those sectors that are performing relatively well or where targets are likely to be reached by 2015 can be highlighted and the reasons attributed to growth and/or policy. We will first describe briefly the methodology used in this analysis. Second, we will summarize the results of the diagnostic and make recommendations for further sector study.

Statistical Analysis

The database used for this statistical analysis was primarily the Millennium Project Database², which includes over 40 development indicators for more than a hundred countries worldwide. Although the database constructed by the United Nations Statistical Division was our starting point, we also used data from other sources such as the World Bank World Development Indicators in order to generate a more precise or nuanced perspective on certain indicators. These indicators fall under the following eight broad categories corresponding to each MDG: poverty, education, gender equality, child mortality, maternal health, AIDS and other diseases, environmental sustainability, and development partnership. The analysis period spans 1989 to 2003. Nonetheless, for many indicators, data exist only for one or two years due to the timing or methodological consistency of individual country surveys (or simply to missing data). Because some indicators have few observations per country, this exercise is essentially a cross-sectional analysis with no time series dynamics.

The statistical methodology used is the standard Ordinary Least Squares (OLS) regression, where the dependent variables are each of the Millennium Development Indicators (MDI) and the independent variable is per capita gross national income. In order to avoid the problems of a non-linear relationship between these development indicators and the level of income, we used the natural log of income. Furthermore, we employed a five years average (1996-2001) of gross national income as a way of diminishing the effects of short-term anomalies. In short, the basic regression framework is an OLS cross-sectional analysis where the different development indicators are regressed on income. The outcome of these regressions was used to obtain the expected MDI values for Dominican Republic given its level of income, and compare them with

¹ We are very thankful to Emilio Pineda for his very valuable research assistance.

² This database was put together by the United Nations Statistics Division and can be found in the following web address: http://millenniumindicators.un.org/unsd/mi/mi_goals.asp

the current values. The statistical significance of each of these predictions is indicated in the annexed table with asterisks.

The aim of these calculations is to assess the relative standing of Dominican Republic to other countries with a similar level of income. In those cases where the actual development indicators fall short of predicted values, we can conclude that the Dominican Republic has been a relative underperformer. On the other hand, in cases where the current development indicators outperformed the predicted values, Dominican Republic may be seen as outperforming other countries with a similar level of income. In brief, the relative standing of Dominican Republic was determined by the existing gap between its current and predicted development indicators.

Finally we made use of these gaps to forecast the 2015 indicators on the basis of the evolution of the per capita income of the Dominican Republic under three scenarios: 0 percent, 2 percent, and 4 percent annual rates of per capita income growth. These predictions were built under the assumption that the gap between Dominican Republic's current and predicted development indicators is maintained, while the per capita gross national income either remains the same or grows at an annual rate of 2 or 4 percent. In other words, this exercise predicts how Dominican Republic's development indicators would look if it becomes a richer country while the difference between its predicted and current values remains unchanged. Moreover, this exercise allows us to establish the likelihood of achieving the Millennium goals just by maintaining a given growth path, without additional policy efforts.

Source Data and Data Issues

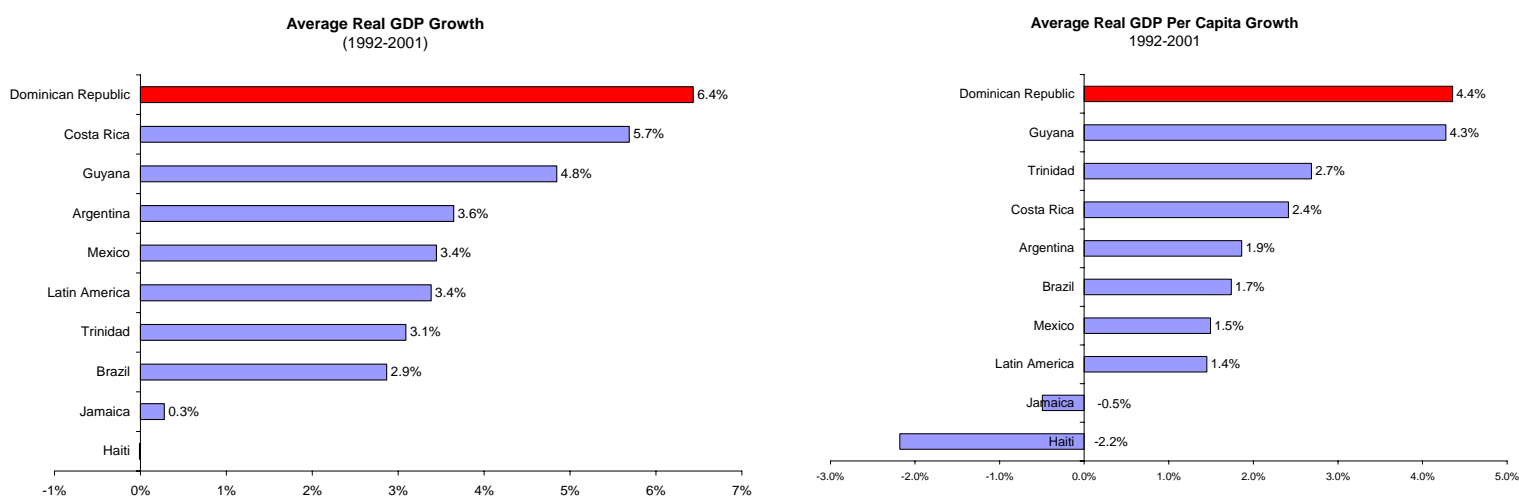
In close collaboration with United Nations agencies and funds, the World Bank, IMF, and OECD, the United Nations Statistics Division coordinates data analysis and maintains the database containing the series related to the selected indicators, as well as other background series intended to supplement the core 48 Millennium indicators (listed in Annex I), for more in-depth analysis. As mentioned above, in some cases our analysis incorporates data from other sources like the World Bank, Harvard's Center for International Development and recognized non-governmental organizations. In most cases, we have used the UN Statistics Division's database as a starting point, highlighting data from other sources in an attempt to address points of controversy, to add to sparse data or to give further context and nuance to our analyses. In so doing, our intention was to maintain the consistency of our analysis with the standards adopted by the United Nations and other monitoring institutions. More information on the MDG data series can be found at http://millenniumindicators.un.org/unsd/mi/mi_goals.asp.

The figures presented in the database are from international series compiled by the various agencies. The agency sourcing the data is noted in our summary analysis table in the body of the report below. The availability of data necessary to calculate the indicators in each country depends on the capacities of the national statistical services. In many instances-when country data are not available or are affected by serious quality problems-estimates are used. In some cases, few years of data are available or the survey years are different among countries.

Background: High growth but low social spending

During the last decade Dominican Republic has been one of the fastest growing economies in the world. After attaining macroeconomic stability in the early 1990s, this country embarked on a remarkable period of economic expansion with an average annual growth of 6.4 percent between 1992 and 2001. Similarly income per capita more than doubled, going from US\$1,036 in 1991 to US\$2,468 in 2001. This economic performance compares favorably with those of other countries in the region. As shown in Figure 1, Dominican Republic clearly outperformed Latin American and Caribbean economies in absolute and per capita terms. While annual growth consistently exceeded 6 percent in Dominican Republic, Latin American and Caribbean economies on average grew a meager 3.4 percent. Likewise while income per capita grew a modest 1.4 percent in the region, Dominican's per capita income grew on average 4.4 percent. In brief, there is no doubt that Dominican Republic has enjoyed a period of economic success in relative and absolute terms.

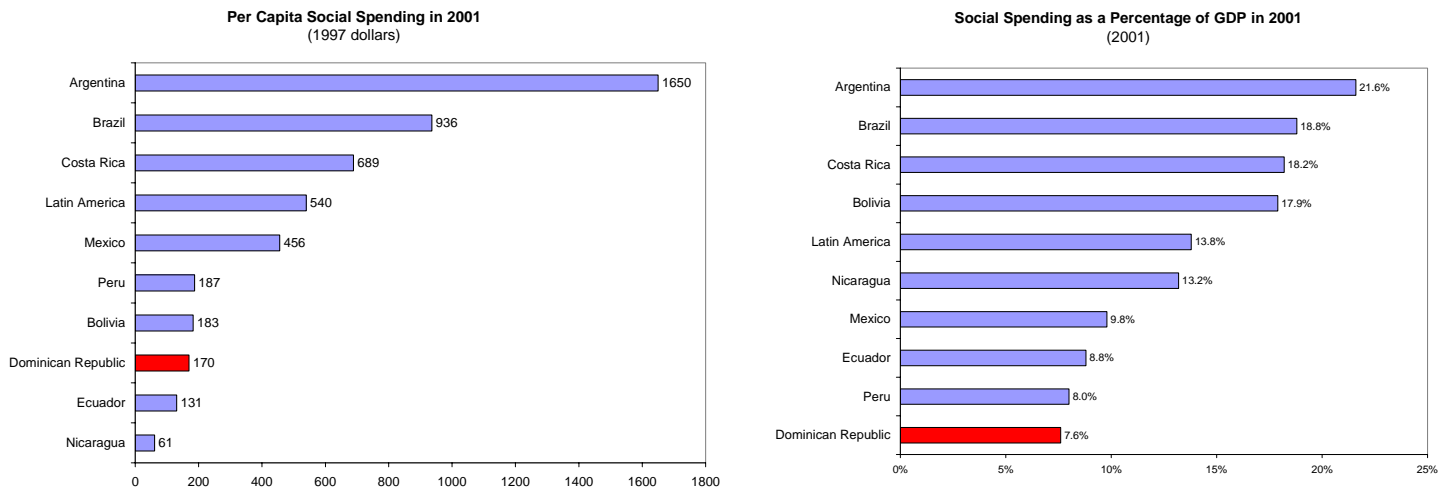
Figure 1



Source: IMF, *World Economic Outlook April 2003*

Nonetheless, this rapid economic expansion sharply contrasts with the Dominican Republic's poor relative standing in social spending. In spite of recent improvements, this country has one of the worst records in Latin America in per capita and GDP terms. By the year 2001 and after almost a decade of vigorous economic growth, social spending in Dominican Republic was equivalent to 7.6 percent of GDP, basically half the Latin American average of 13.6 percent. Similarly, per capita social spending of US\$170 was less than one-third of the regional average of US\$540. Countries such as Peru, Ecuador, Bolivia or Honduras outperformed the Dominican Republic in aggregate social effort, in spite of modest or even non-existent economic growth.

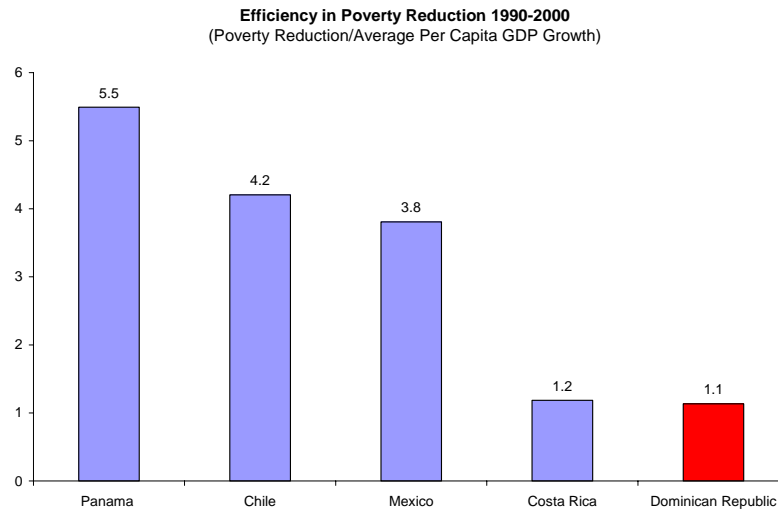
Figure 2



Source: CEPAL, *Panorama Social de América Latina 2002-2003*

It is in the context of high economic growth with relatively low social spending that the results of our assessment should be placed and understood. As will be illustrated in the following paragraphs, the gap between growth and social spending is reflected in a mixed record of development. While there have been significant reductions in poverty levels, the number of undernourished people is still among the highest in Latin America with educational levels below the regional average. Furthermore even the reduction in poverty levels seems quite modest given its level of economic growth. In Figure 3, a comparison of the fastest growing economies in Latin America in the 1990s illustrates that the Dominican Republic had the least effective expansion with respect to poverty reduction. While in Panama on average each percentage point of per capita GDP growth yielded poverty reduction of 4.2 percent, Dominican Republic only generated a meager 1.1 percentage points of poverty reduction for each unit of per capita GDP growth.

Figure 3



Source: Author's calculations with data from CEPAL and WDI

Such disparities shed light on the shortcomings of rapid economic growth in the Dominican Republic over the 1990s. Furthermore, the current deterioration of macroeconomic conditions underlines the fragility of gains based on rapid economic expansion. In a recessionary context with high levels of inflation and currency depreciation, gains that required a decade of economic growth may be wiped out in one or two years. Rapid economic growth can neither be taken for granted nor is it a sufficient condition for ameliorating the country's social, human and economic development challenges.

In the following sections, we summarize the statistical analysis described above. As is the case with all the Millennium Development Goals, several indicators have been selected for reporting to the General Assembly each country's progress toward the goals. Other data have also been provided in the UN Statistical Division's database for context. Each goal will be considered in turn with discussion of the indicators adopted as the core indicators along with any others that might be appropriate under the circumstances.

Goal 1. Eradicate extreme poverty and hunger

Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day

The indicators selected for this target are:

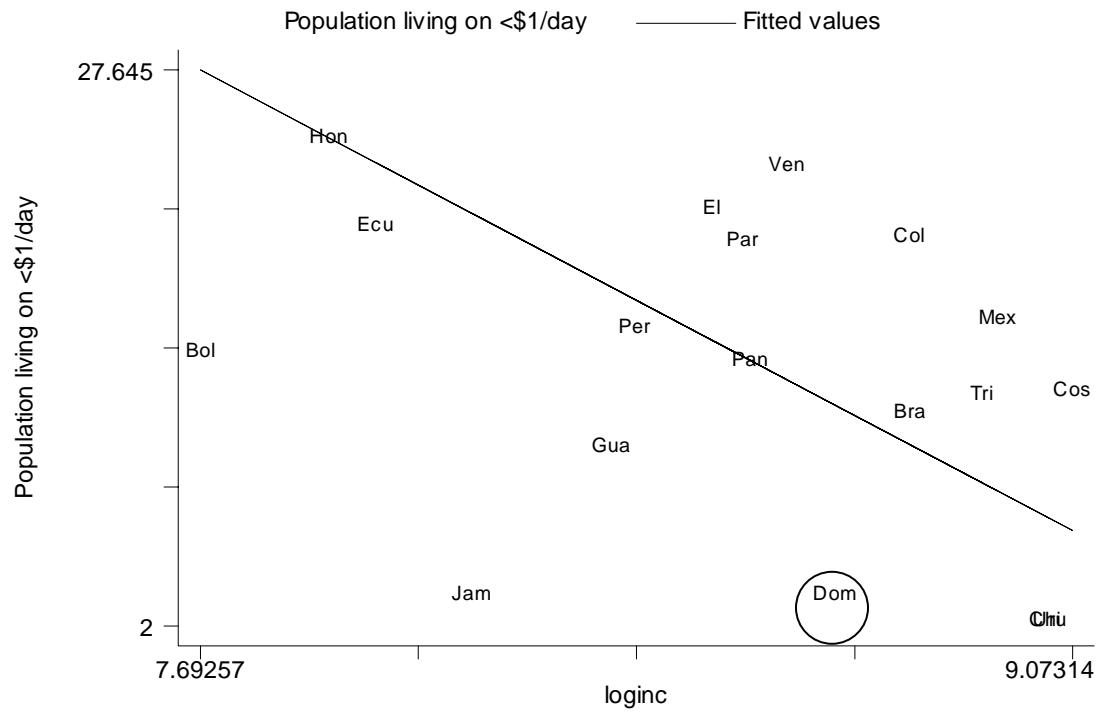
Proportion of the population living on less than \$1 per day or below the national poverty line (World Bank). Where possible, the Statistics Division has recommended the use of indicators based on national poverty lines, which is available for the Dominican Republic. A multiplicity of surveys have aimed at measuring poverty in the Dominican Republic, but most of them point to generally good performance in international comparisons of basic poverty headcount indices, especially in extreme poverty headcount. The Millennium Database cites less than 2 percent of the population living under \$1 per day.

The proportion of the population living below the national poverty line³ is higher. Using the latest figure available in the same database 20.6 percent of the population is living below the national poverty line- about 18 percent lower than the level predicted by income per capita.

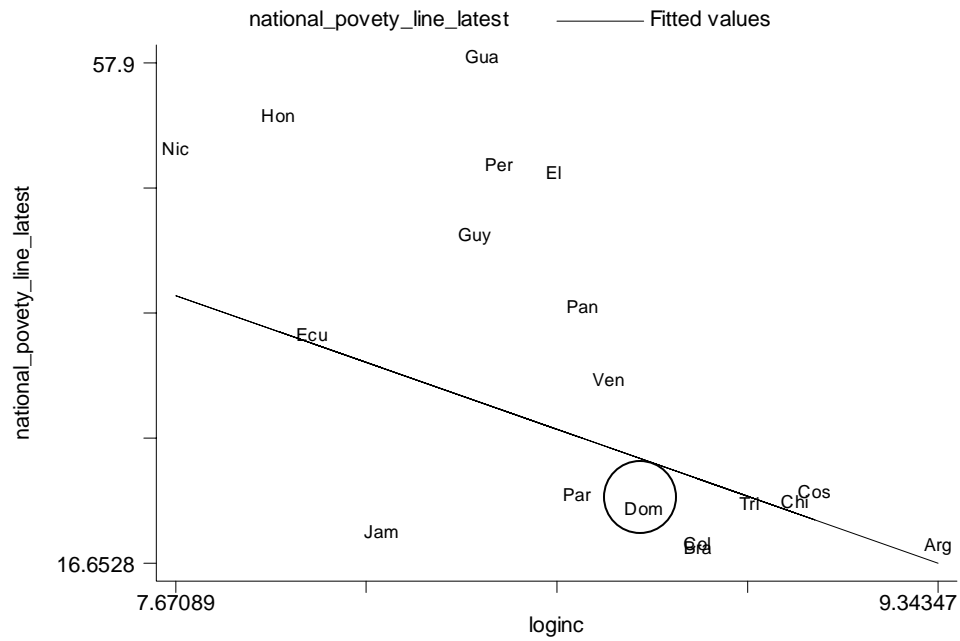
Yet, the simple simulations performed for this assessment indicate that the Dominican Republic would not achieve the Millennium target of halving poverty. Starting from 20.6 percent - the latest figure available - as long as the current gap persists between the actual level of poverty and that which might be considered “normal” for a country with the same income per capita, even a high sustained growth scenario would not help the DR reach the target. Therefore this is an area that requires special policy effort.

³ A person is considered poor if his or her consumption or income level falls below some minimum level necessary to meet basic needs. This minimum level is usually called the "poverty line". What is necessary to satisfy basic needs varies across time and societies. Therefore, poverty lines vary in time and place, and each country uses lines which are appropriate to its level of development, societal norms and values. For further details, we would refer to the World Bank's poverty assessment for more background information.

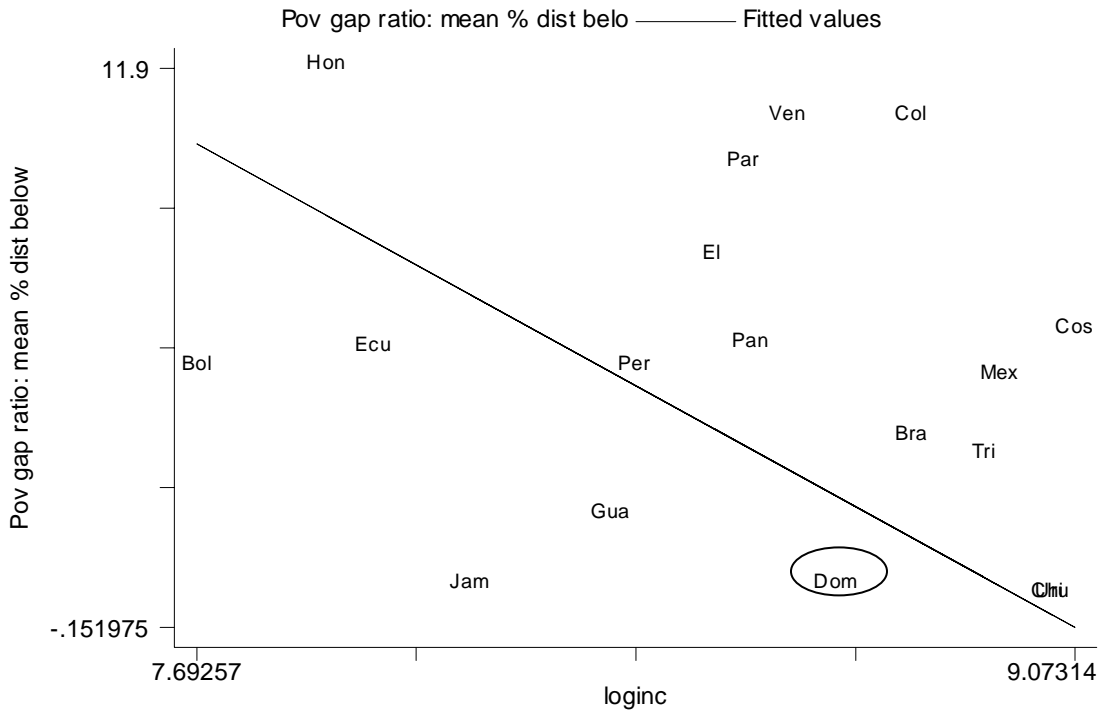
Poverty: percentage of population below \$1 (PPP) per day consumption (WB)



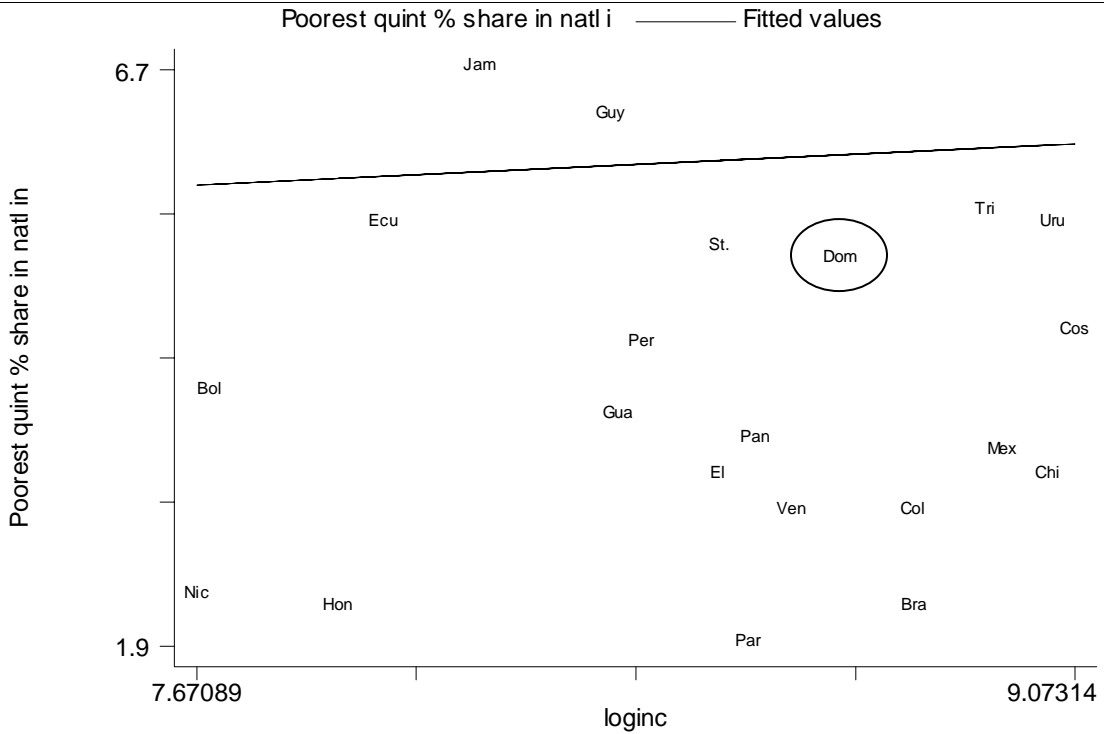
Poverty: percentage of population below poverty line (WB)



Poverty gap ratio: mean percentage distance below \$1 (PPP) per day (WB)



Poorest quintile's share in national income or consumption, per cent (WB)



These findings partially confirm what has been established in other studies. In its latest poverty assessment the World Bank (2001) argues that the percentage of people living below the national poverty line has gone from 33.9 percent in 1992 to 28.6 percent in 1998, while extreme poverty dropped from 7.3 to 5.1 percent during the same period. Similarly, when controlling for levels of income the World Bank finds that Dominican Republic is doing better than predicted, with poverty headcounts 6.7 percent smaller than expected. The World Bank does not make any specific predictions regarding the achievement of the Millennium goals; however, the pace of poverty reductions clearly suggests that halving total poverty by the year 2015 is unlikely even under a scenario of high economic growth.

In a similar vein, CEPAL's latest report on Latin America's social outlook argues that Dominican Republic has sharply reduced poverty. Furthermore and contrary to the assessment made by the World Bank, the magnitude of this reduction has been so dramatic that the Millennium target has been essentially attained. CEPAL claims that between 1990 and 2002 extreme poverty in Dominican Republic was reduced by half, while total poverty diminished by 30 percent.

Differences between these two assessments arise from two main sources. The first is methodological: the way poverty is measured varies in each. Second, the period of analysis differs: while the World Bank analysis spans 1992 to 1998, CEPAL covers a longer period between 1990 and 2002. Given that resolving these methodological discrepancies is beyond the scope of this report, this analysis will focus simply on highlighting these issues and the findings of other studies.

One final issue that needs to be addressed is the current economic downturn. After a decade of strong economic growth, the Dominican economy is facing major challenges. The fragility of the banking sector, highlighted by the failure of a large bank due to fraud, has undermined confidence. Output has contracted, the currency has depreciated sharply and pushed up inflation, and the historically low public debt-to-GDP ratio has nearly doubled. In short, the recent crisis has altered the macroeconomic context of growth and stability that allowed sharp poverty reductions over the 1990s. This change may be critical because economic downturns triggered by financial crisis can increase poverty levels significantly - as has been shown in both literature and in recent examples like Indonesia, Mexico and Argentina. These crises are often accompanied with cuts in social spending, which can cause further deterioration in the living standards of the most vulnerable members of the population. Also, inflation spurred by currency weakness can raise the cost of basic goods for poor households. As a result, large increases in poverty can follow financial and economic crises. The recent cases of Indonesia and Mexico are just two of the latest examples. One year after the peso crisis, poverty levels in Mexico had risen by 60 percent climbing from 10.6 in 1994 to 16.9 in 1996 (Inchauste, Baldacci, de Mello, 2002). Similarly, poverty levels in Indonesia essentially doubled after the financial crisis of 1997, going from 9.4 in 1997 to 17.9 in 1998 (Azis 2001). The significance of the recent crisis for future poverty reduction efforts should be highlighted:

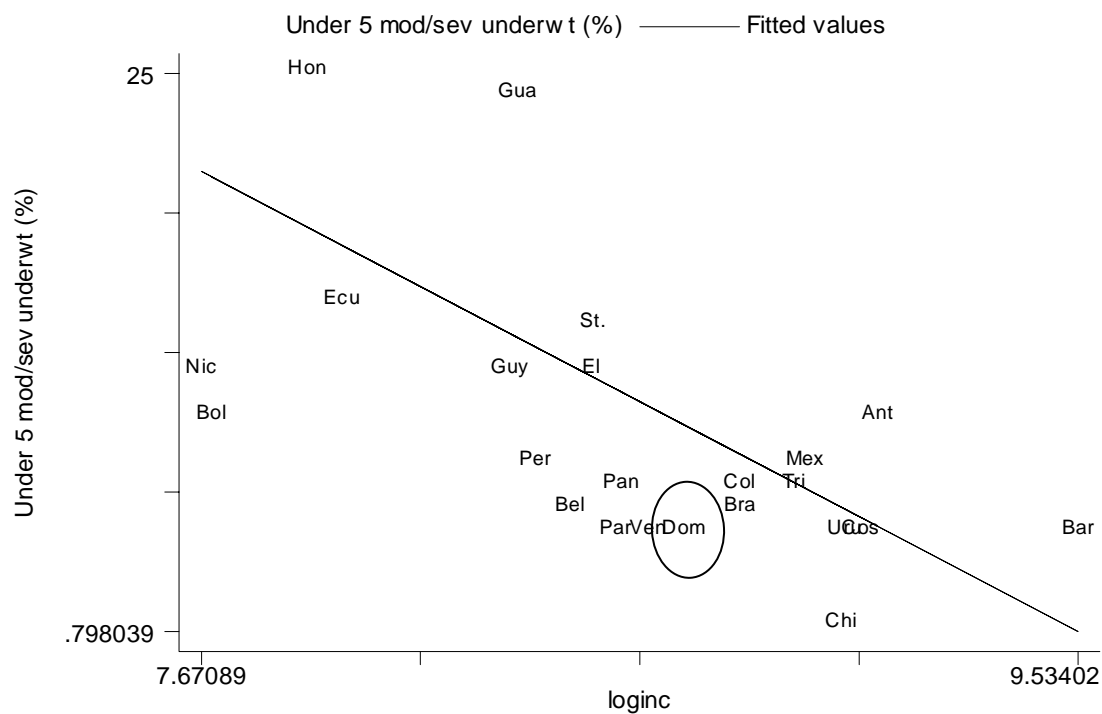
some of the gains of the last decade will be undone, and the path of poverty reduction which the Dominican Republic must follow changes from that prescribed by past data.

Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger

The two indicators selected for monitoring of this target are:

Prevalence of underweight children under five years of age (UNICEF – WHO). Currently, 5 percent of children under five years of age are estimated to be either moderately or severely underweight with 1 percent estimated severely underweight. This does again compare favorably compared against predicted values. Furthermore, since the level of child malnutrition has dropped from 13 percent in 1990 to current level of 5 percent Dominican Republic has already accomplished its MDG. In short the Dominican Republic, with just 5 percent of children facing malnutrition, is performing well in this particular indicator.

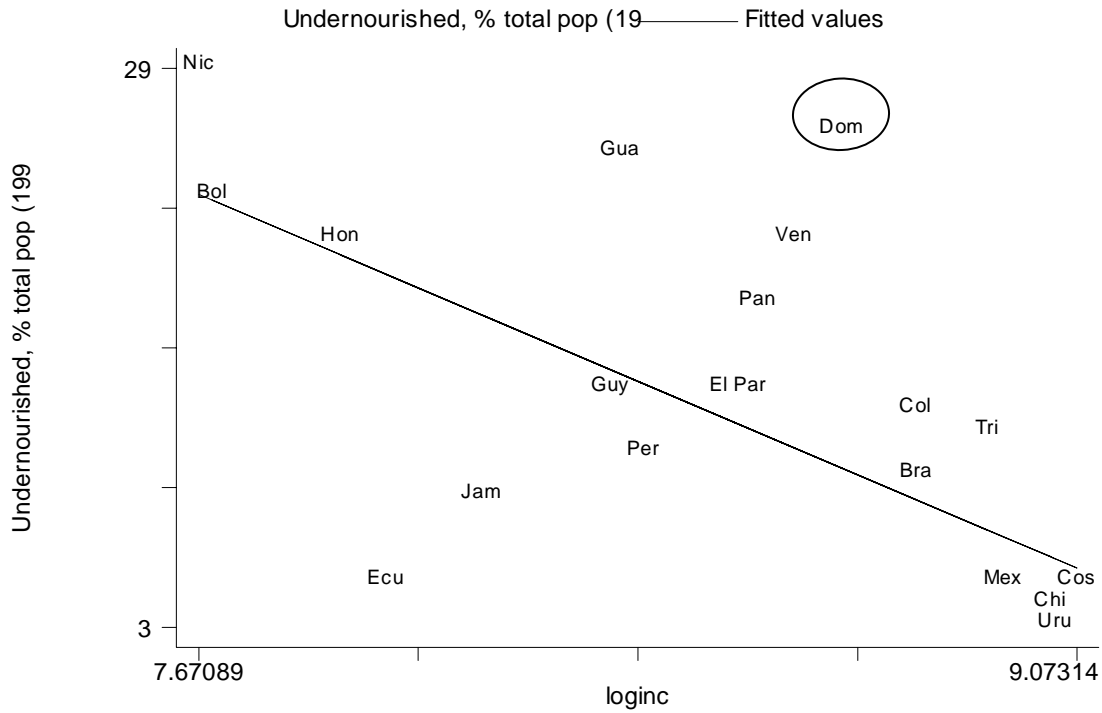
Children under 5 moderately or severely underweight, per cent (UNICEF estimates)



Proportion of population below minimum level of dietary energy consumption (FAO). In contrast with the previous indicator, the Dominican Republic performs poorly compared to countries with similar levels of income. According to FAO estimates, 26 percent of the Dominican population is currently undernourished (an estimate of 2,000,000 in the period 1998-2000) - far higher than the predicted value for both Latin American and non-Latin countries. In addition to falling short of regional and world averages, only a high growth scenario would allow the Dominican Republic to achieve its Millennium goal. Even this

outcome might be in doubt given the small reduction in malnutrition in the 1990s - from 27 to 26 percent – despite the high growth of the 1990s. Nutrition, but not in small children, appears to merit further analysis and exploration, according to these data and projections.

Nutrition: undernourished as percentage of total population (FAO estimates)



Studies made by the World Bank and CEPAL support these findings: children tend to be relatively well nourished while the population as whole is relatively undernourished. The World Bank claims that in Dominican Republic child malnutrition is 6.6 percent lower than expected, while CEPAL argues that Dominican Republic will attain its millennium goal on this issue. Even so, both institutions underline the poor performance of Dominican Republic in the total number of undernourished people. According to CEPAL’s figures this country is the worst third performer in the entire continent only ahead of Haiti and Nicaragua with essentially no improvement during the 1990s.

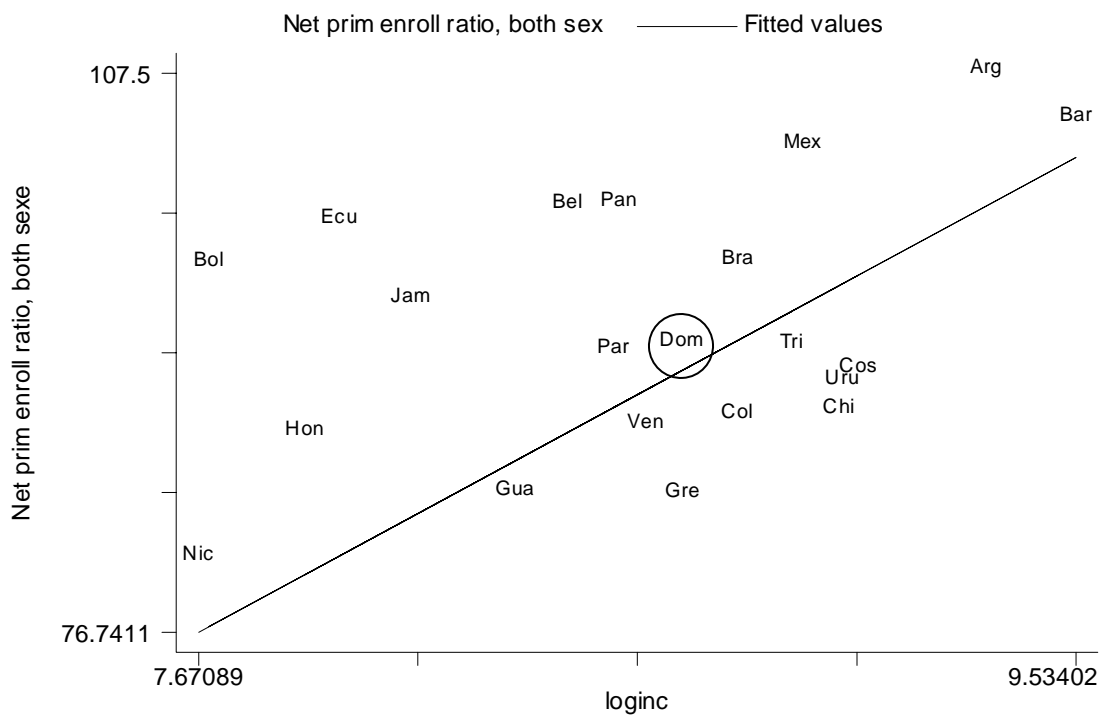
Goal 2. Achieve universal primary education

Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Three indicators were selected to monitor progress toward this goal:

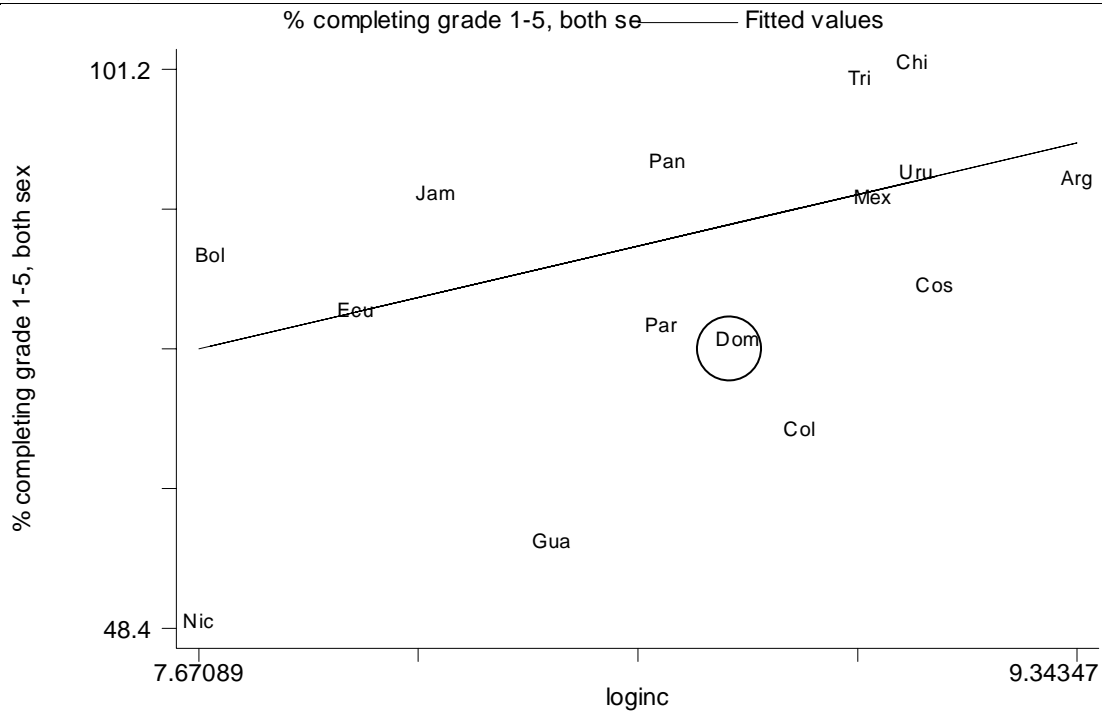
Net enrollment ratio in primary level, both sexes (UNESCO). With 92.5 percent of girls and boys enrolled at the primary level, the Dominican Republic is performing slightly better than the world predicted level. But only under the most optimistic growth scenario (4 percent annual growth) would the Millennium target of full coverage of primary education be achieved.

Education: net primary level enrollment ratio, both sexes (UNESCO)



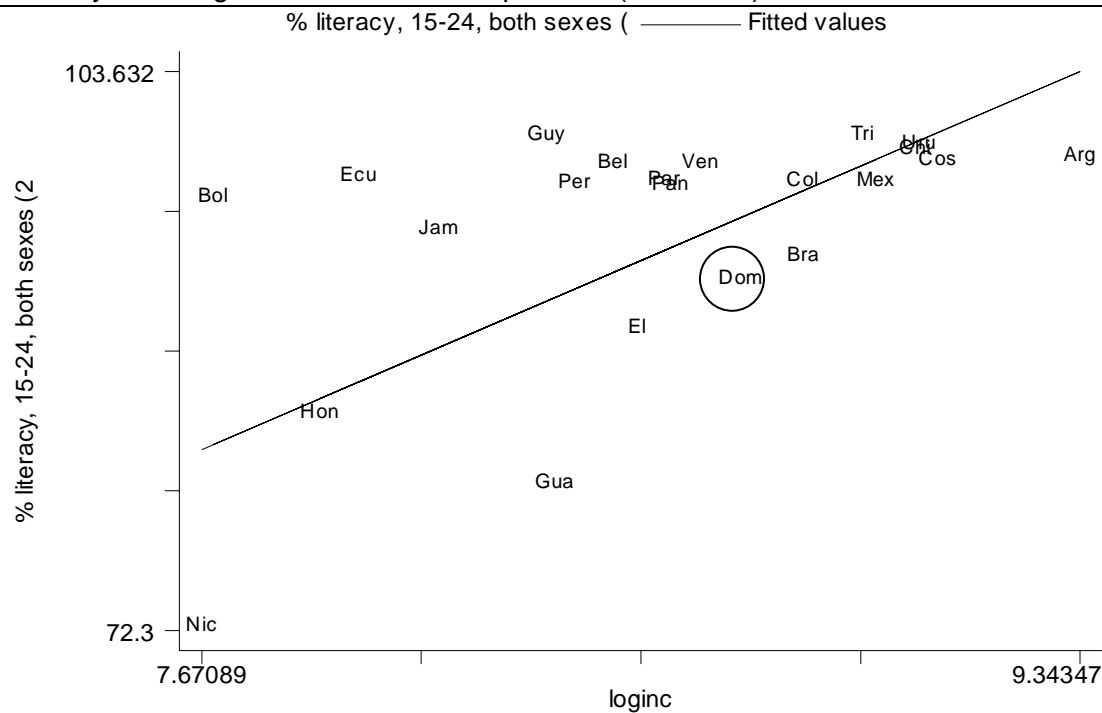
Education: percentage of pupils starting grade 1 reaching grade 5, both sexes (UNESCO). In contrast with an average performance in primary school enrollment, the percentage of pupils reaching grade 5 is significantly lower at 75.1 percent. This also falls substantially short of the world predicted value of 86.7 percent. In this case, our analysis suggests that even sustained growth of 4 percent per year would not suffice to automatically achieve the Millennium target of 100 percent if the current gap between the Dominican Republic and the world value persists.

Education: percentage of pupils starting grade 1 reaching grade 5, both sexes (UNESCO)



Literacy rates: aged 15-24 both sexes (per cent) (UNESCO). Although there is no Millennium goal connected with this indicator, literacy rates are descriptive of the post-primary school education level. In this case Dominican Republic is performing poorly at 91.7 percent when compared to world averages.

Literacy rates: aged 15-24 both sexes per cent (UNESCO)



In sum, the goal of achieving universal primary education falls short of the target, even with high growth, notwithstanding the fact that the country starts with relatively high enrollment ratios. This is clearly an area deserving of special policy action.

Other studies carried out by the Center of International Development at Harvard University (CID) and the World Bank, confirm the poor performance of Dominican Republic in education. The CID report entitled “The Education Investment: Linking Education and Competitiveness in the Dominican Republic”(2002) establishes that Dominicans over the age of fifteen have on average only 4.9 years of schooling, among the lowest rates in the world. Furthermore, net enrollment in secondary school is only 22 percent, with the Dominican Republic ranking 10th out of 13 Latin American countries and 48th out of 52 countries world-wide according to the 2002 Global Competitiveness Report. Similarly the World Bank report on Educational Performance in the Caribbean (2003) shows that Dominican Republic is among the worst performers in essentially every single indicator. Dominican Republic has the highest number of out-of-school teenagers in the Caribbean with the lowest level of spending on education as a percentage of GDP. One reason cited for high drop-out levels is that continuing to pursue education is not perceived as a good investment. According to the CID analysis, youth in the Dominican Republic do not easily see a strong connection between more years in school and the caliber of employment or level of income. This severs a fundamental link in the education-productivity-wage relationship that creates the virtuous cycle leading to increasing living standards and growth.

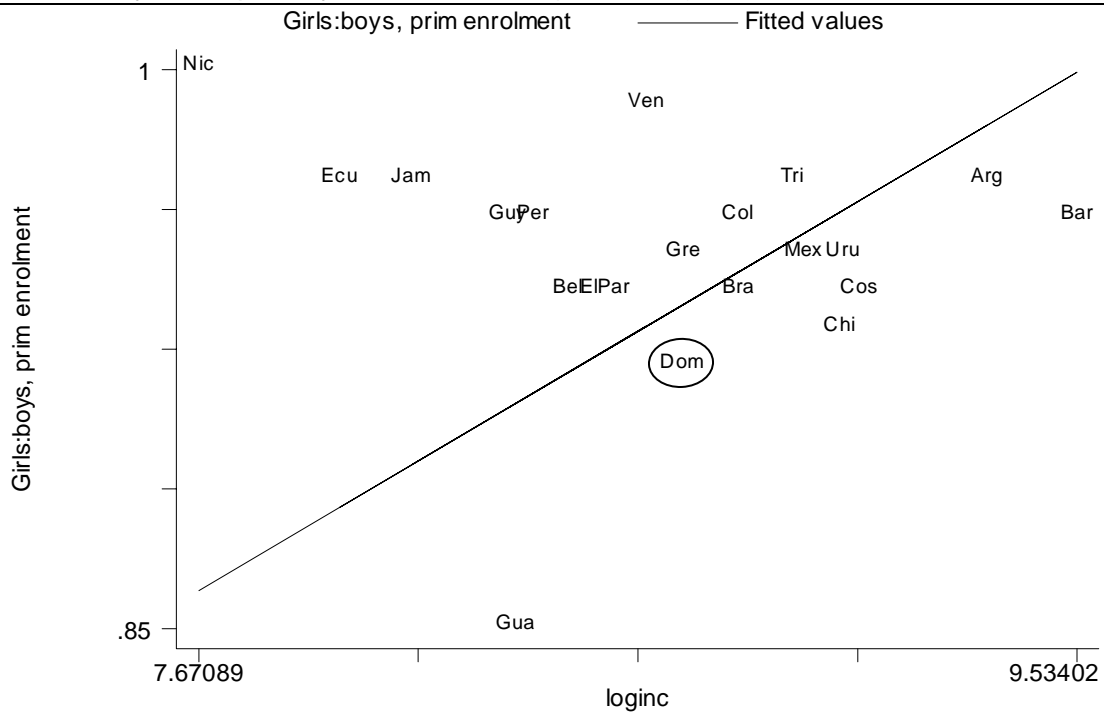
Goal 3. Promote gender equality and empower women

Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015

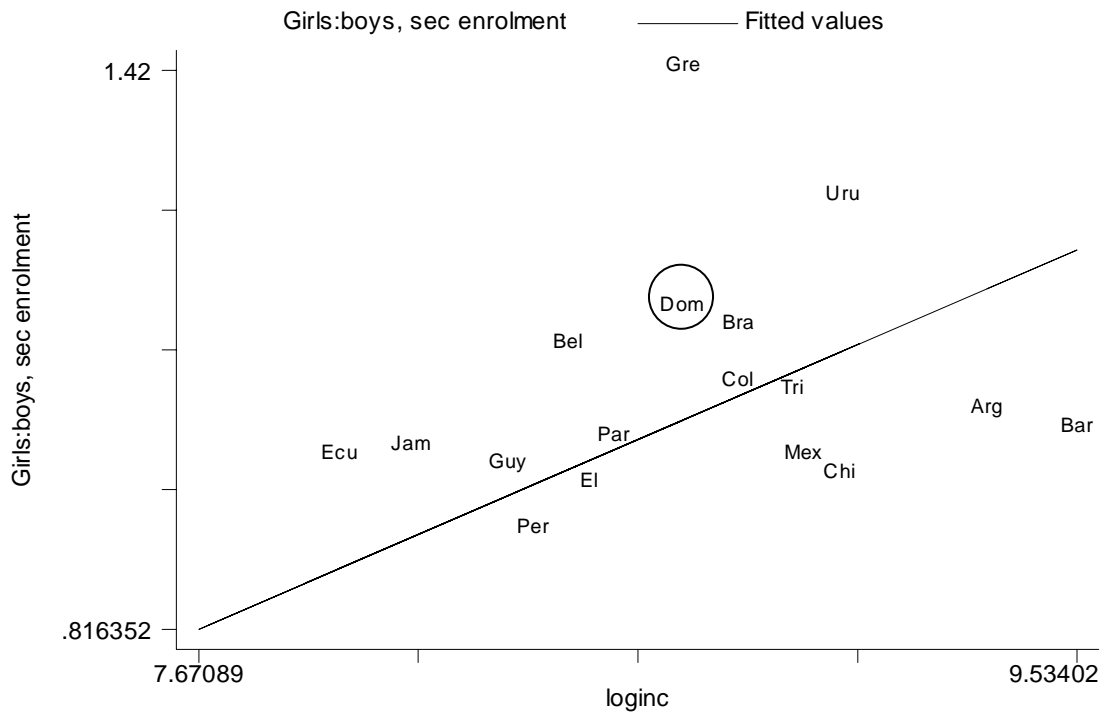
Four indicators were selected to monitor progress toward this goal:

Ratio of girls to boys in primary, secondary and tertiary education (UNESCO). In this indicator, which examines gender participation in education, Dominican Republic is performing below the predicted world value in primary education but better than predicted at the secondary and tertiary levels. For primary education, where the gap between girls' and boys' enrollment is biased toward boys, the Millennium target of achieving parity is achieved under the 4 percent growth scenario. In secondary and tertiary enrollment, the Dominican Republic has gone past the goal of gender parity, already achieving the goal encompassed in this target. In fact, the drop in male enrollment relative to female participation after primary school may bear further examination.

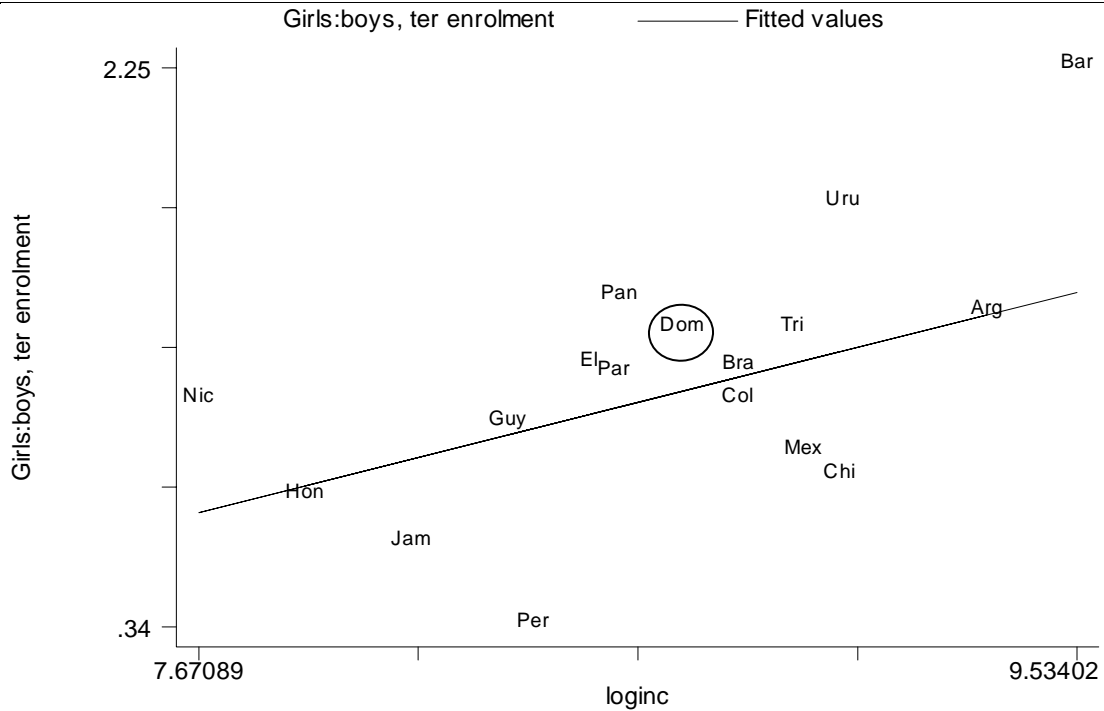
Girls to boys ratio primary level enrolment (UNESCO)



Girls to boys ratio secondary level enrolment (UNESCO)



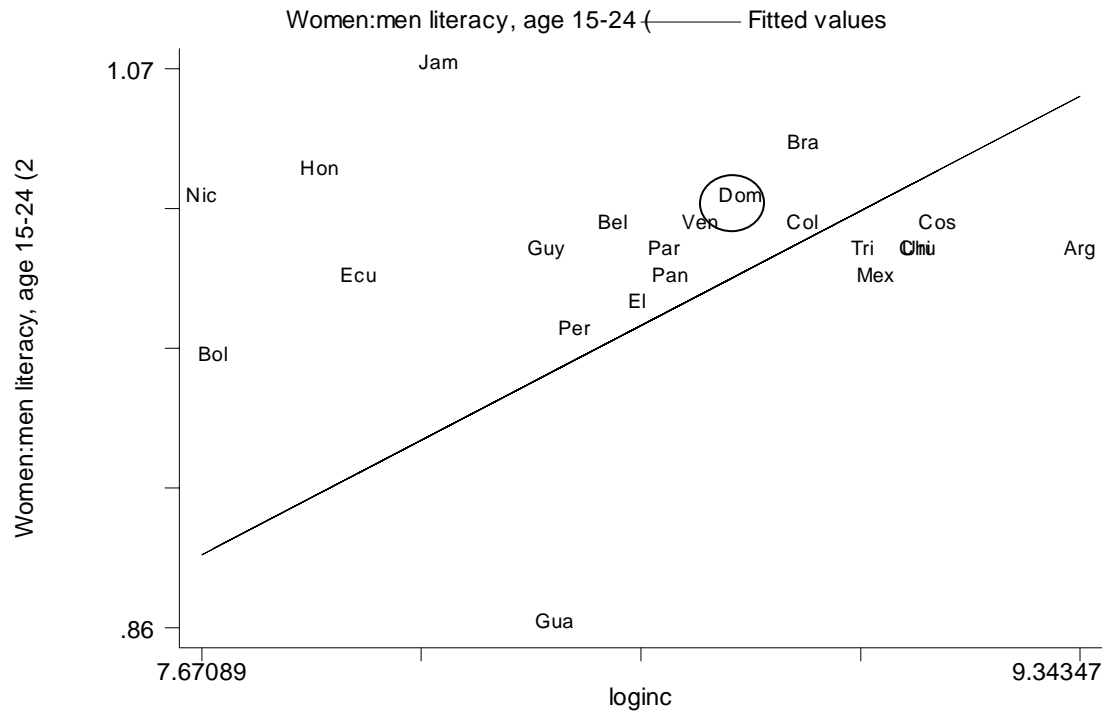
Girls to boys ratio, tertiary level enrolment (UNESCO)



Ratio of literate women to men of 15- to 24-year-olds (UNESCO). The current parity index is already one, implying few indications of gender disparity in literacy despite the

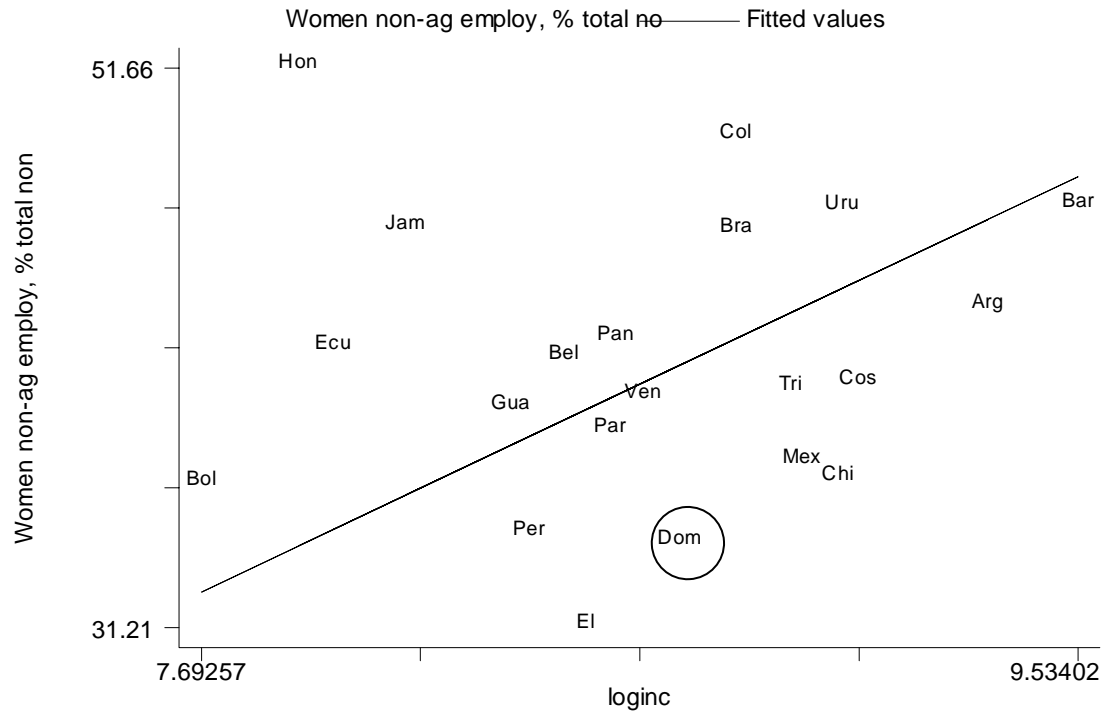
high ratio of female to male participation in secondary and tertiary education. On this dimension at least, gender parity in education appears not to be a problem.

Women to men parity index as ratio of literacy rates: aged 15-24 (UNESCO)



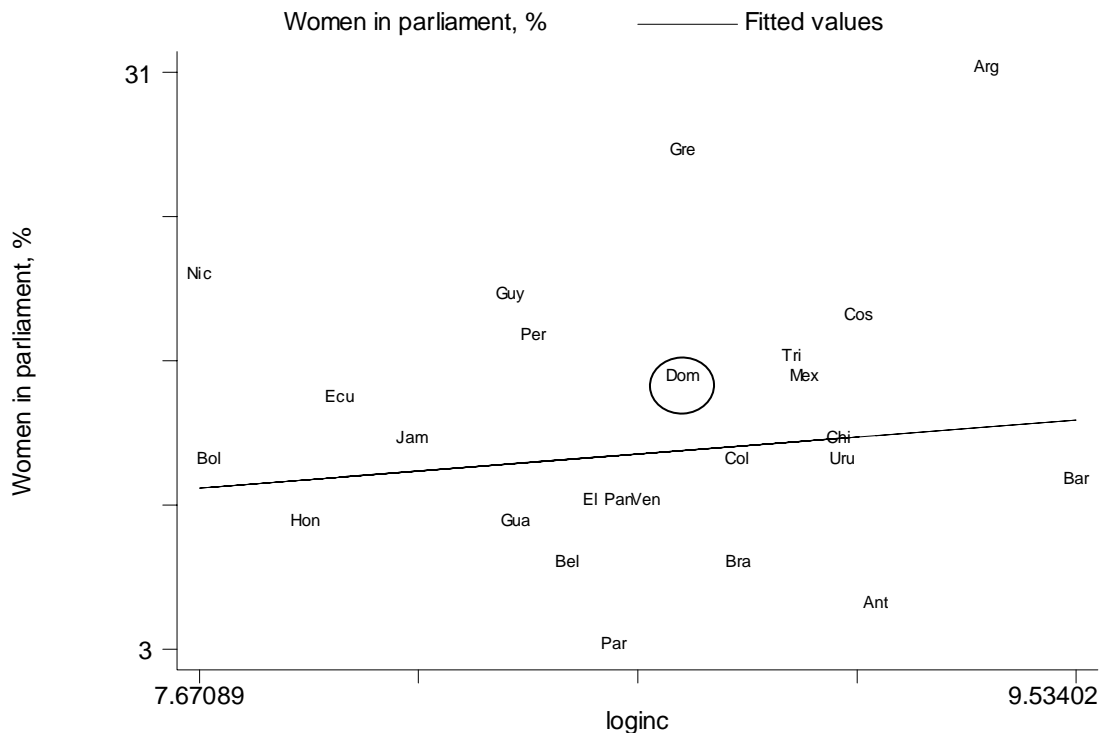
Share of women in wage employment in the non-agricultural sector (ILO). There is no target associated with this indicator, but this indicator is among those to be reported to the General Assembly for monitoring to describe gender disparity in employment. The ILO estimates that in 2000, 34.3 percent of total employees in the non-agricultural sectors were women, down about one percentage point from 1990. Compared with a world predicted value of approximately 41 percent female participation, the Dominican Republic falls far short of the world predicted for countries of similar per capita income. It appears that gender parity in education may not translate into higher levels of women's employment although the reasons may be outside the scope of this assessment.

Women wage employment in the non-agricultural sector, as % total non-agricultural employees (ILO)



Proportion of seats held by women in national parliament (IPU). Again, no target is associated with this indicator, but it is an indicator to be reported to the General Assembly for monitoring. Furthermore, it is a significant variable when regressed against per capita income. In this case, the Interparliamentary Union (IPU) reports that 16 percent of national legislators in the Dominican Republic were women in 2000, substantially above the world predicted value of 12.6 percent. Even if women’s work force representation is lower than expected, women appear to have political representation.

Women in parliamentary seats per cent (IPU)



Benchmarking the goals related to gender parity points to the Dominican Republic’s achievement of the Millennium goals. Any special policy action, therefore, seems better focused on the education system more broadly than specifically on gender parity.

A World Bank report on gender issues (2002) reinforces this vision and in particular underlines a couple of institutional changes that should enhance gender equality. First a new labor code which is a step forward in acknowledging differences in employment opportunities for women; and second, a recent change in the electoral law that requires one third of the candidates to be women.

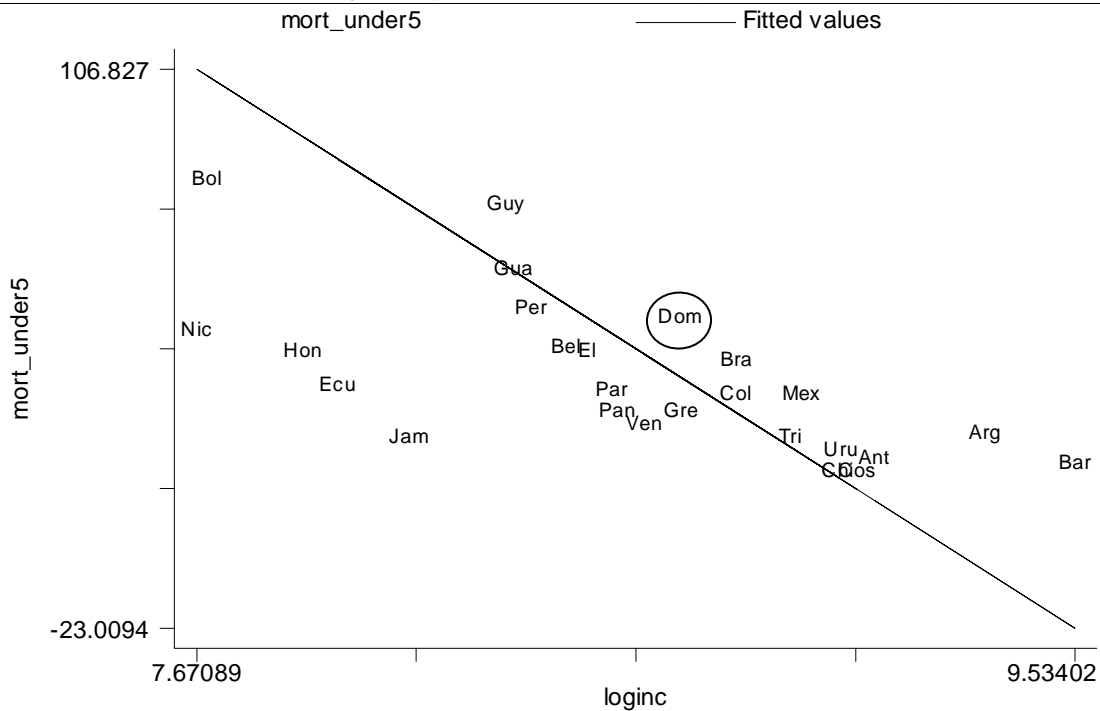
Goal 4. Reduce child mortality

Target 5. Reduce by two thirds, between 1990 and 2015, the under-five mortality rate

Three indicators have been adopted to monitor progress toward this goal:

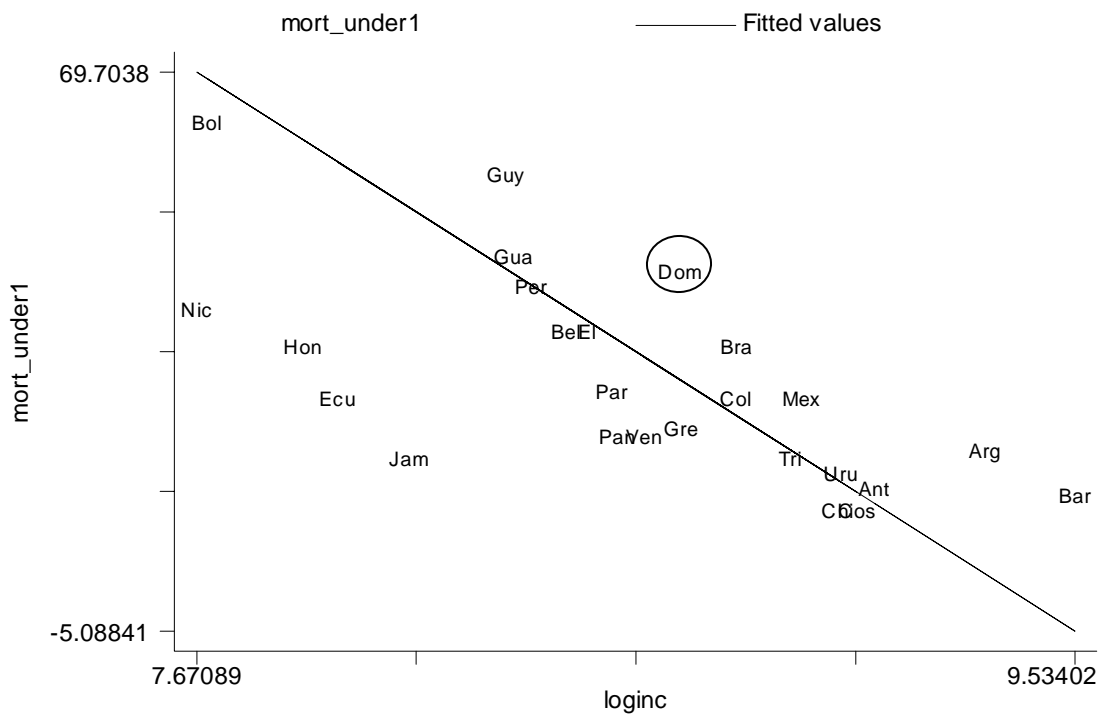
Mortality rate of children under five (per 1,000 live births) (UNICEF-WHO). The mortality rate in 2000 was estimated to be 48, well above the predicted values for Latin American and non-Latin American countries. Reaching the Millennium target would require reducing by two-thirds the child mortality rate in 1990 of 65 to 21.7 in 2015. With a 2 percent annual growth scenario, Dominican Republic would come close to achieving its Millennium target. The 4 percent scenario appears to provide the conditions under which this target could be reached easily.

Children under five mortality rate per 1,000 live births (UNICEF estimates)



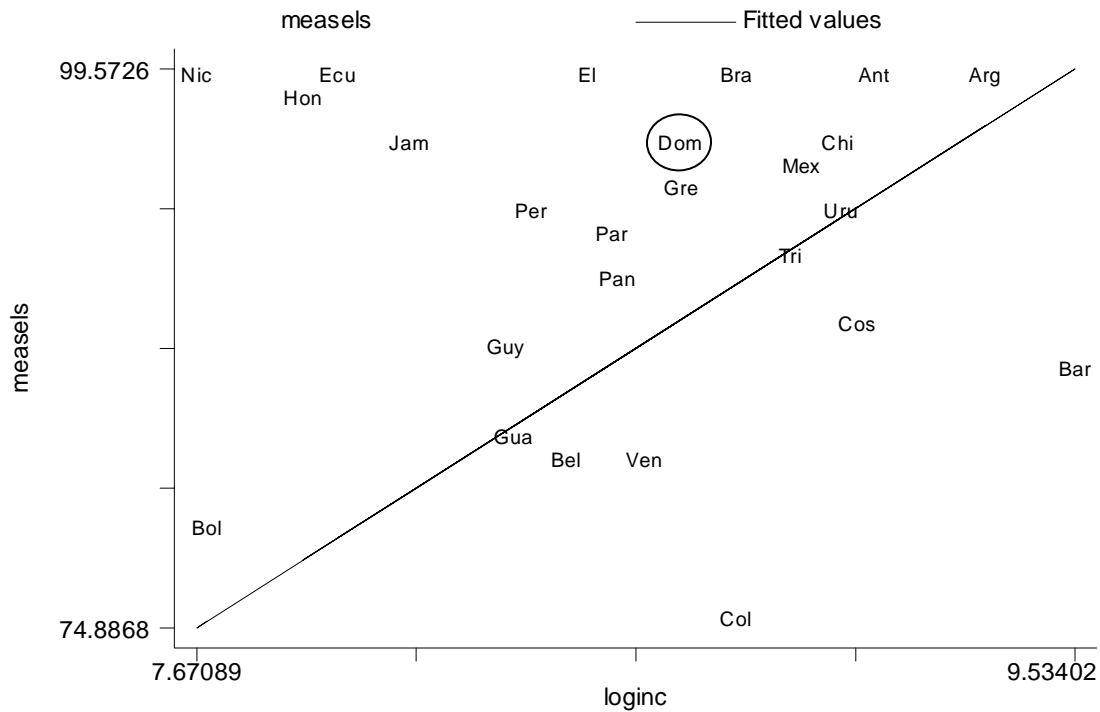
Infant mortality rate (0-1) (per 1,000 live births) (UNICEF-WHO). As in the previous indicator, Dominican Republic is doing poorly compared to both Latin American and non-Latin American countries with UNICEF estimating that an infant mortality rate of 42 in 2000. Reaching the Millennium target would require reducing by two-thirds the infant mortality rate in 1990 of 53 to 17.7 in 2015. In contrast with the child mortality rate, where there is a somewhat smaller gap, our simulation suggests that the MDG for infant mortality will not be reached except under the 4 percent sustained growth scenario.

Infant mortality rate (0-1 year) per 1,000 live births (UNICEF estimates)



Proportion of 1-year-old children immunized against measles (UNICEF-WHO). According to UNICEF estimates, 96 percent of 1-year old children have been immunized against measles. This compares well with the world predicted value of 88.5 percent for countries at the same level of per capita income. It implies, however, that the source of the poor performance of infant and child mortality rates lies elsewhere.

Children 1 year old immunized against measles, per cent (UNICEF estimates)



The indicators suggest that high infant and child mortality rates are worthy of a closer look. The starting point is bad, but apparently, high economic growth could create conditions for meeting the goal. Nonetheless, a closer look at current and past policies aimed at addressing this issue would be merited.

Coincidentally, the World Bank's poverty assessment singles out the poor performance of Dominican Republic on child mortality. This report places the infant mortality rate 17.2 percent higher than expected, with the under-five mortality rate 18.6 percent above its predicted value. In short, the World Bank likewise illustrates that Dominican Republic still fares poorly compared with other countries despite of some progress in child mortality.

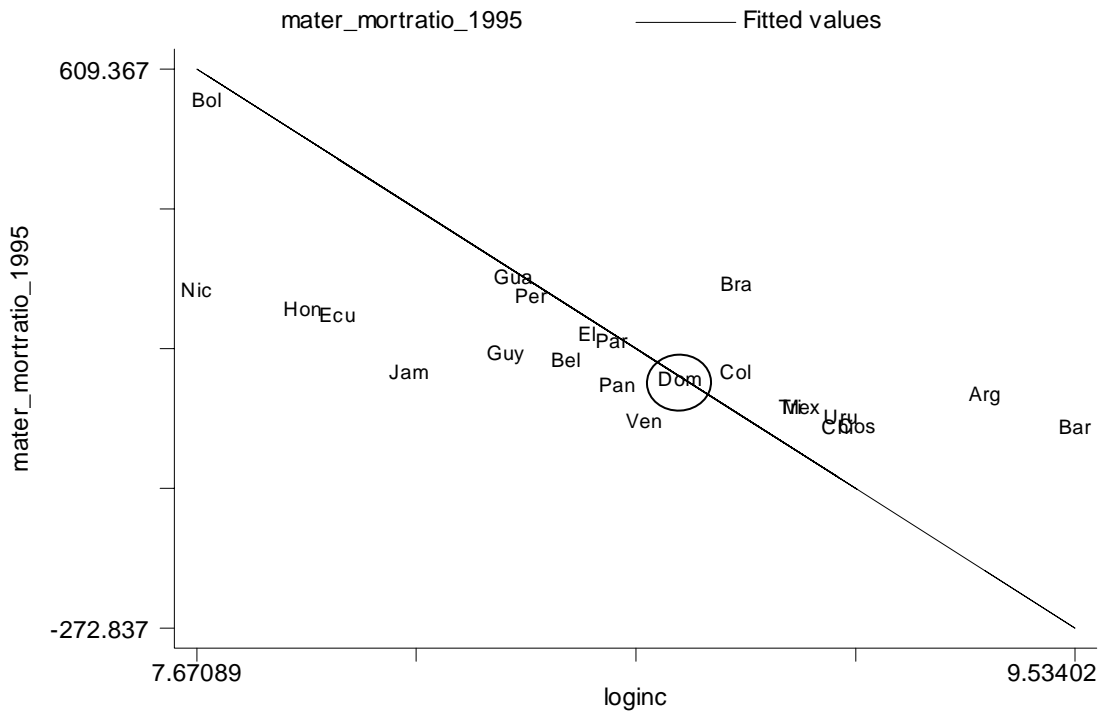
Goal 5. Improve maternal health

Target 6. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio

Two indicators focus on the health risks to women entailed in maternity:

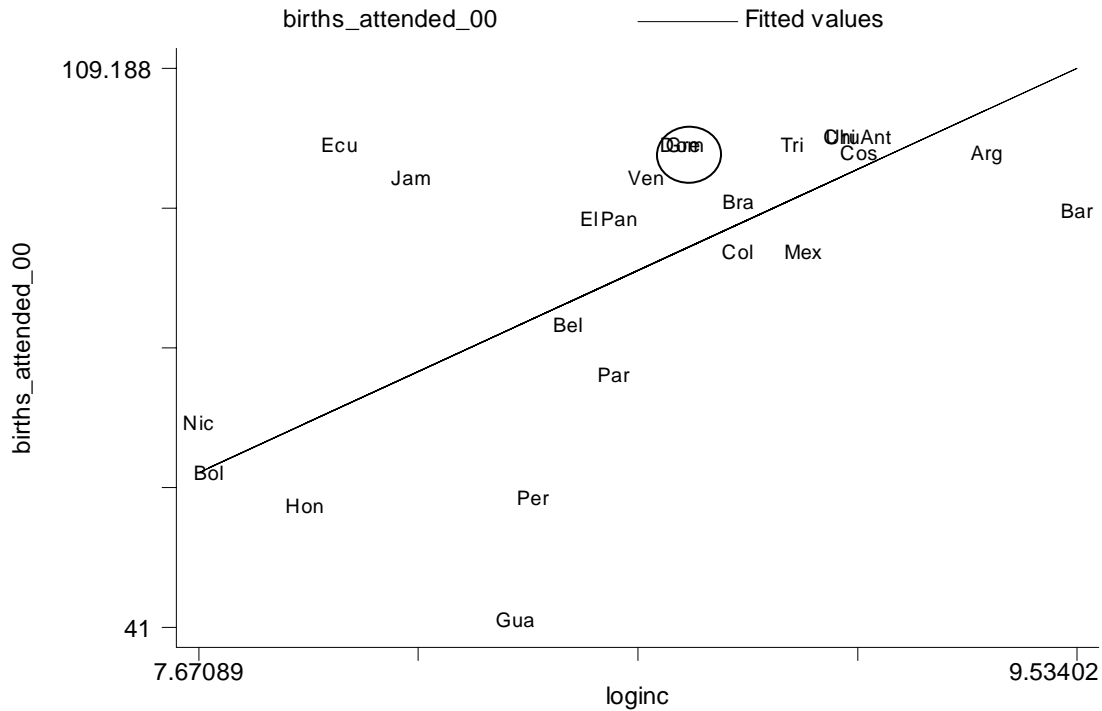
Maternal mortality ratio per 100,000 live births. In this indicator Dominican Republic is performing in line with the world average. It appears, in addition, that the current maternal mortality ratio of 110 might be reduced to the target level of 27.5 by 2015 through growth alone. Our analysis implies that the target could be achieved under both the 2 percent and 4 percent annual growth scenarios.

Maternal mortality ratio per 100,000 live births (WHO, UNICEF, UNFPA)



Proportion of births attended by skilled health personnel (UNICEF - WHO). Likewise, there is a high reported percentage of births attended by skilled health personnel - 99 percent in 2000 according to UNICEF estimates. This compares well with a world predicted value of 87.1 percent.

Births attended by skilled health personnel, per cent (UNICEF estimates)



While this brief analysis is more sanguine about maternal mortality rates relative to infant and child mortality, especially with the potential positive impact of sustained growth, data discrepancies indicate that this apparently optimistic scenario should be taken with caution. Estimates of maternal mortality vary widely by source. For example, the World Bank's estimate (2002) is 220 per 100,000 live births; the latest figure of the Pan-American Health Organization⁴ (2002) is 69 per 100,000 live births; and the non-governmental organization PROFAMILIA (1998) estimates 107 per 100,000 live births in the National District (Santo Domingo). Despite the high variance of indicators, maternal mortality of 110 per 100,000 live births is more likely the lower rather than the upper bound, and two out of the three supplementary sources support this claim. In addition to the World Bank figure, PROFAMILIA acknowledges that since rural health services are inferior to those provided in the National District, mortality rates at the national level are likely higher than its own reported estimate of 107 per 100,000 live births. Therefore, the relative standing of Dominican Republic on maternal health may be less optimistic than appears to be the case from our benchmarking analysis. Further analysis outside the scope of this report might be useful in resolving data discrepancies and providing a more detailed diagnosis of these indicators.

⁴ See www.paho.org/English/DD/AIS/cp_214.thm

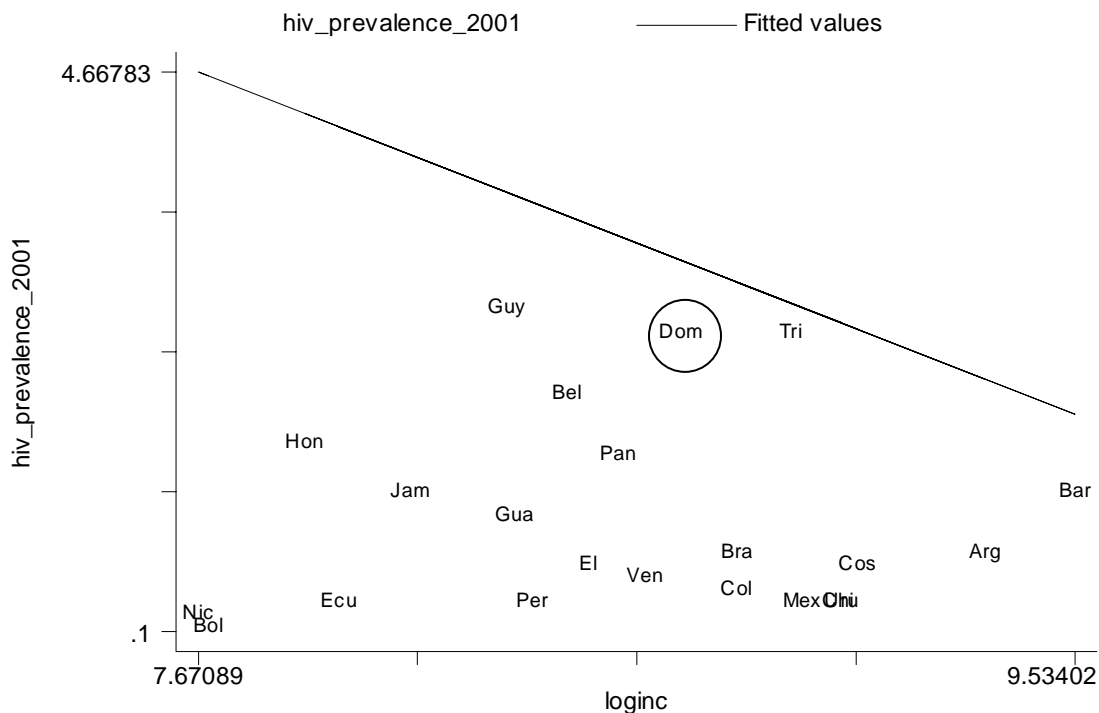
Goal 6. Combat HIV/AIDS, malaria and other diseases

Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS

The Caribbean has been hard hit by HIV/AIDS, and the DR ranks fourth in prevalence in the Western Hemisphere according to UNAIDS estimates. Immigration from Haiti, which has the highest prevalence rate in Latin America and the Caribbean (6.1 percent), may add further upward pressure. Therefore, it is not surprising that the Dominican Republic is underperforming in those indicators that may halt the spread of HIV. As of 2001, UNAIDS estimated 7800 deaths due to AIDS in the Dominican Republic. Three indicators have been chosen to monitor attempts to combat HIV/AIDS:

HIV prevalence rate, ages 15-49 (UNAIDS-WHO-UNICEF). Although the HIV prevalence rate in the Dominican Republic is below the world average, the predicted values for a given level of income are pulled up by high rates of infection in Africa. Within Latin America, the Dominican Republic's estimated HIV prevalence in adults aged 15-49 was 2.5 percent in 2002 – at the top end of prevalence rates in Latin America.

HIV prevalence rate, aged 15-49, per cent (UNAIDS estimates)

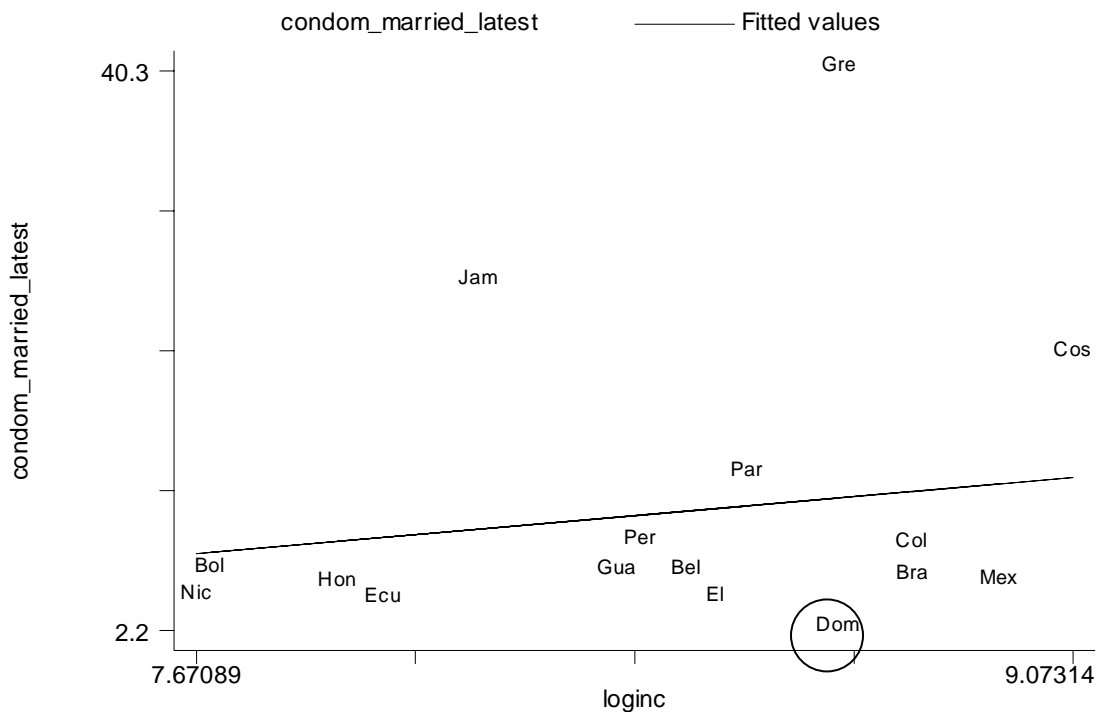


Condom use rate of the contraceptive prevalence rate (UNAIDS, UNICEF, UN Population Division, WHO). While there are no targets associated with these goals, only condoms among contraceptive methods are effective in preventing HIV transmission. Therefore, condom use rates should be indicative of policy areas that can be targeted by public health officials.

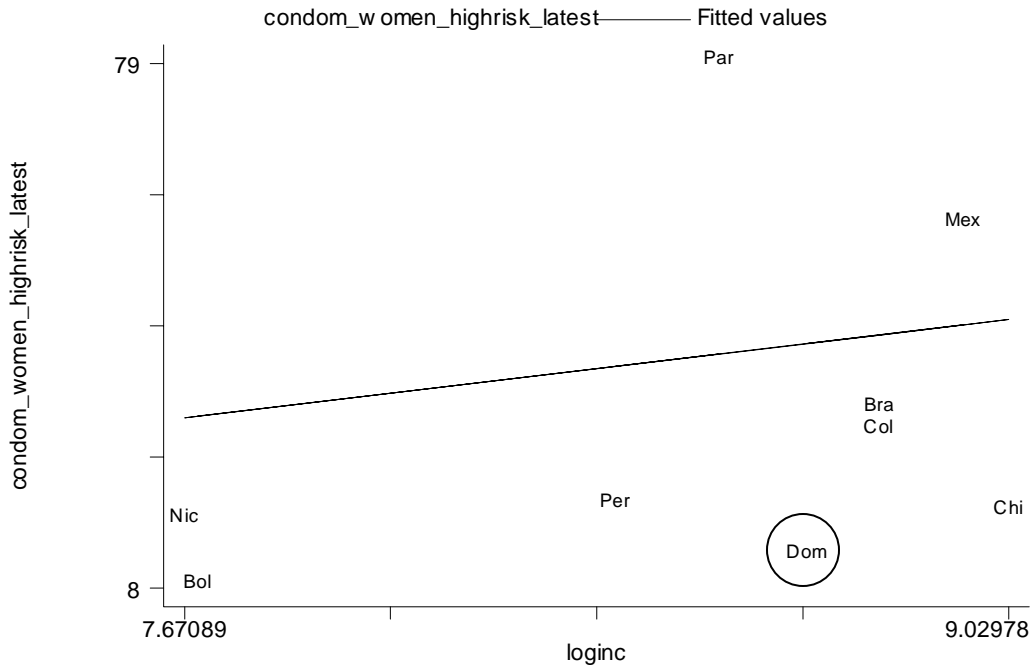
In the Dominican Republic, whether women or men, condom use falls short of values predicted by the regression for countries of the same per capita income. There also appears to be a gender disparity as the underperformance for both married women and women at high risk is more dramatic than that for men at high risk. The ratio of condom use to overall contraceptive use among married women was 2.2 percent in 1996 compared with 11.2 percent predicted by the regression. The percentage of women aged 15-24 using a condom at the last high risk sex is also very low compared with world predicted values (12 percent vs. 41 percent respectively). Even though condom use among men aged 15-24 in high-risk sex (48 percent) is higher than women, it still falls far short of the predicted world value of 74 percent. The gender gap is not uncommon as communicated by the 14 percentage point gap between the predicted values for condom use among men and women at last high-risk sex. However, in the case of the Dominican Republic, the gap is far higher at 36 percentage points.

Interestingly enough, survey data also show that women are relatively well informed about the importance of condoms in protecting against HIV transmission and about the potential for healthy-looking people to pass on the disease. In both cases, the values outperform those predicted.

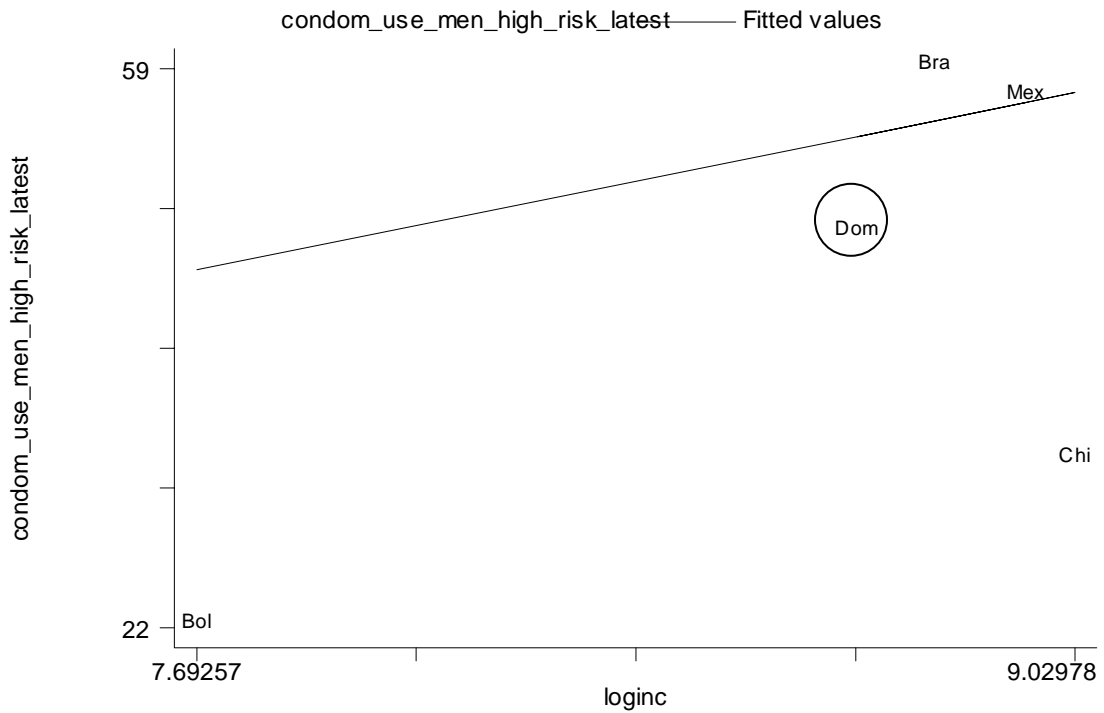
Condom use to overall contraceptive use among currently married women aged 15-49, per cent



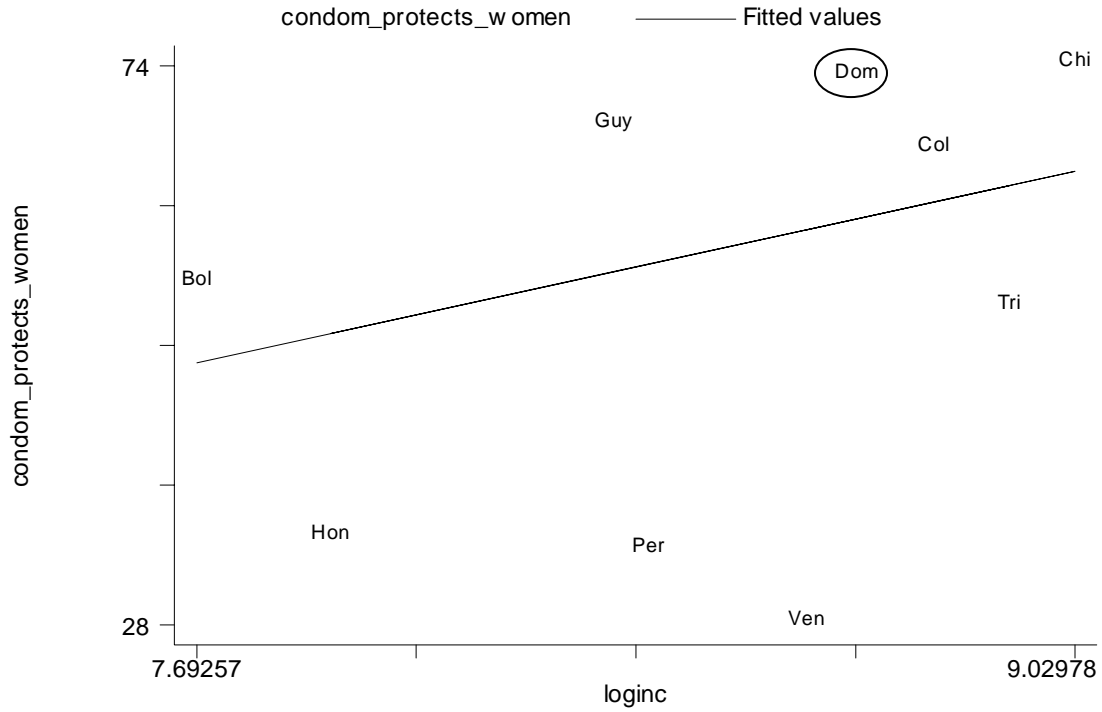
Condom use among women aged 15-24 at last high-risk sex, per cent (UNICEF-UNAIDS-WHO)



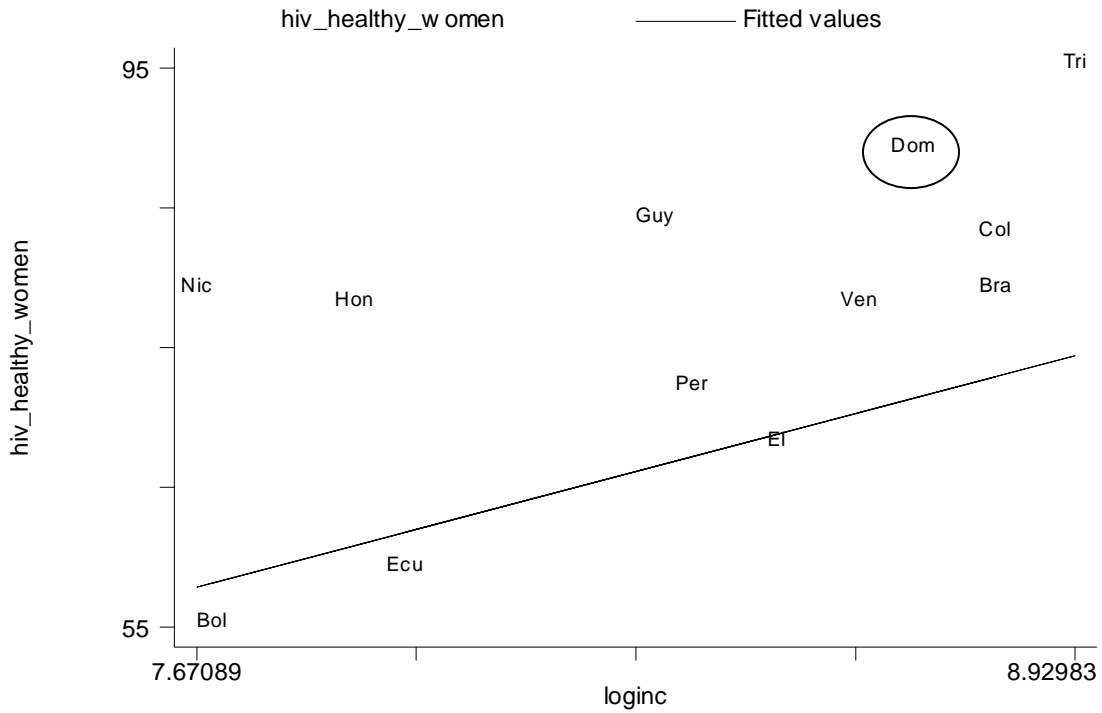
Condom use men aged 15-24 at last high-risk sex per cent (UNICEF-UNAIDS-WHO)



HIV knowledge women aged 15-24 who know that a person can protect herself from HIV infection by consistent condom use per cent (UNICEF-UNAIDS-WHO)



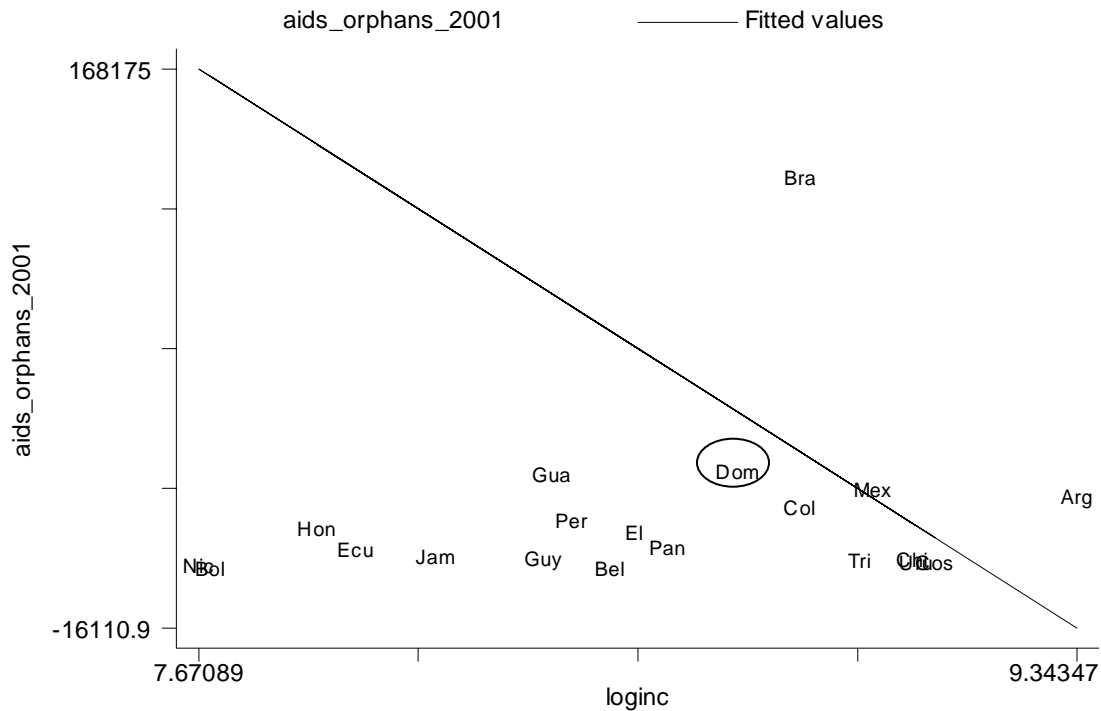
HIV Knowledge women aged 15-24 who know that a healthy-looking person can transmit HIV per cent (UNICEF-UNAIDS-WHO)



Number of children orphaned by HIV/AIDS (UNICEF-UNAIDS). Finally, the last estimate of AIDS orphans is 33,000. Although the performance is better than average, again this is mostly due the dramatically higher number of AIDS orphans in Africa pulling up the world predicted values. Even so, Dominican Republic is at the high end of Latin America in this indicator after Haiti with 200,000 and Brazil with 130,000.

In brief, the incidence of HIV/AIDS and high risk factors for transmission in the DR merit further analysis from several different perspectives – data collection, education, transmission, and orphans.

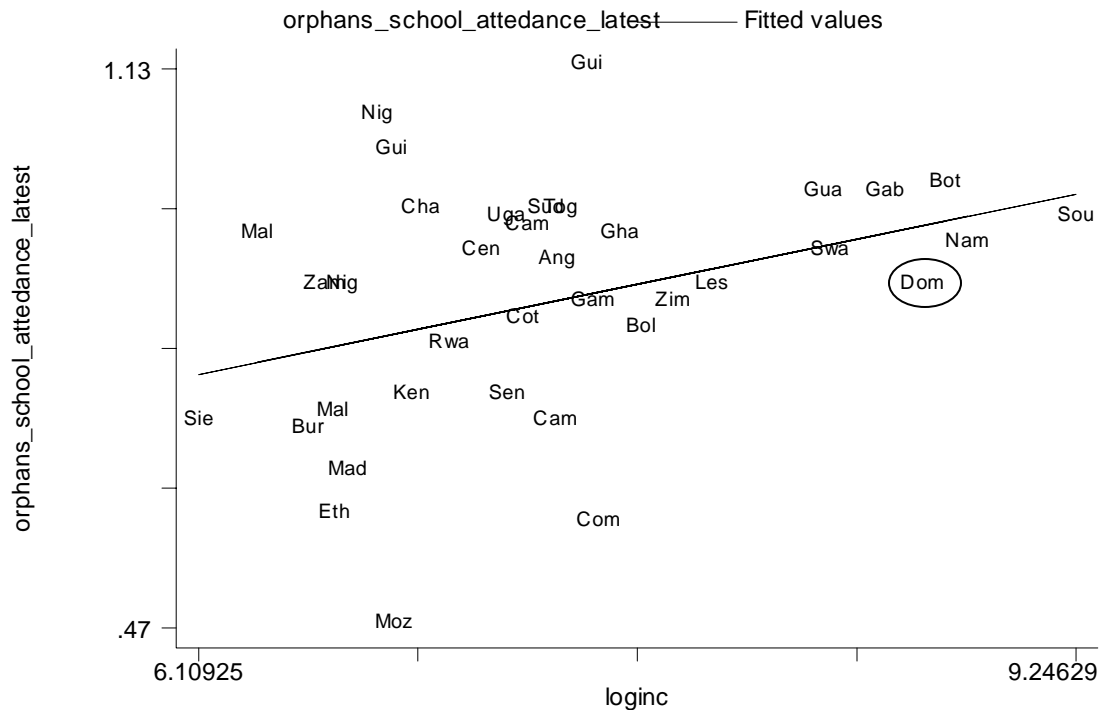
AIDS orphans (one or both parents), currently living (UNAIDS)



This relatively bleak picture is essentially confirmed by all other reports. The World Bank calls HIV one of the most serious health problems in Dominican Republic (2002a) and cites it as the main source of death among women of reproductive age, and the leading cause of death from infectious diseases (2001b). Furthermore and in spite of recent progress, conditions still exist for HIV to spread rapidly. Similarly a Pan-American Health Organization report (1998) characterizes AIDS as a serious health problem with HIV transmission rising annually since 1983. Likewise an UNAIDS report⁵ (2002) establishes that the HIV/AIDS epidemic in Dominican Republic is regarded as generalized and slowly growing. Moreover, tuberculosis infections related to HIV are five times higher than the average in Latin America. In sum, it is unquestionable that AIDS/HIV represents a major public health challenge for the coming years.

⁵ See www.unaids.org/en/geographical+area/by+country/dominican+republic.asp

Orphans (both parents) aged 10-14 school attendance rate as % of non-orphans attendance rate where HIV is 1%+ (UNICEF-UNAIDS-WHO)

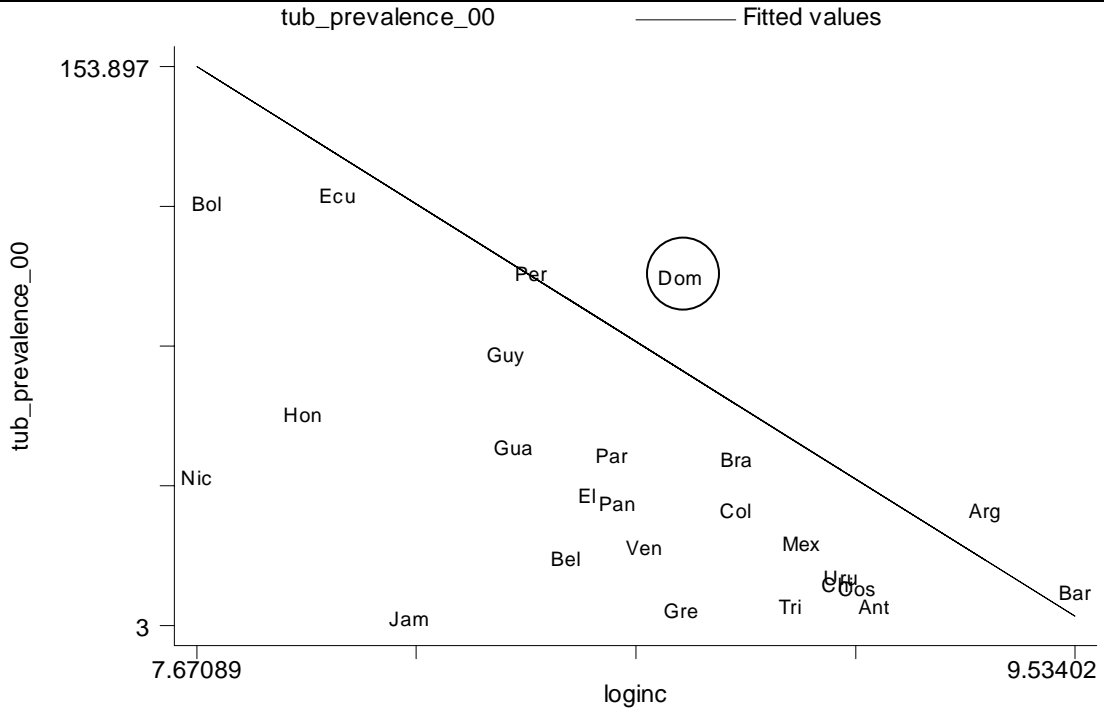


Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

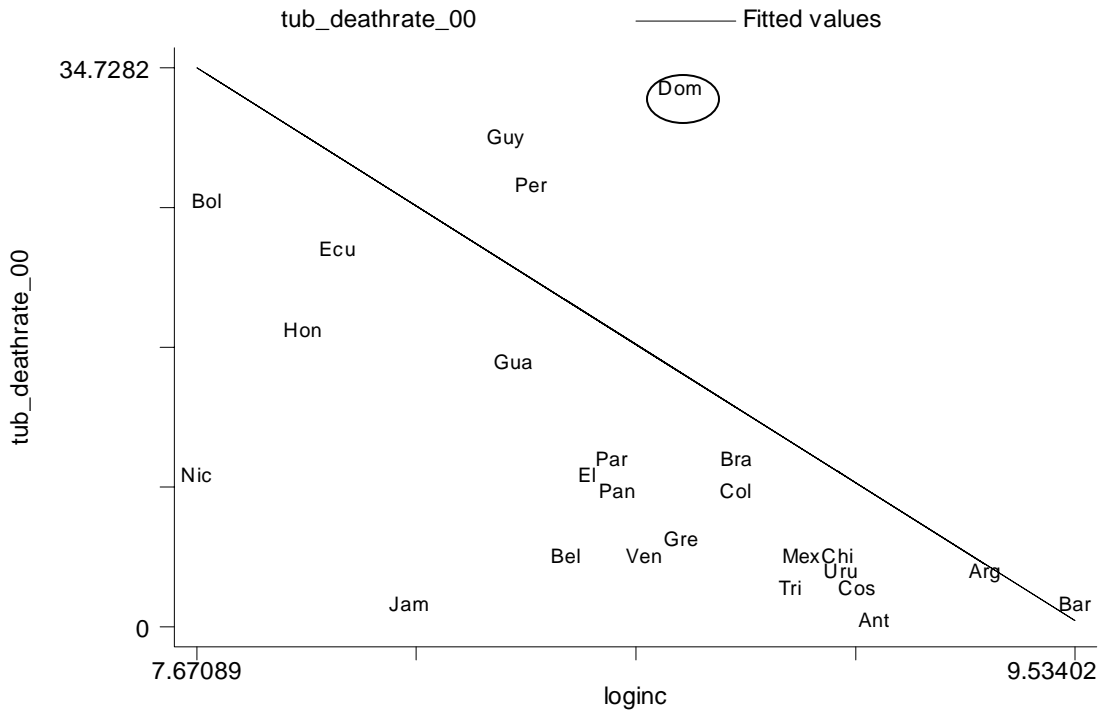
Prevalence and death rates associated with malaria (WHO). According to the Pan American Health Organization (PAHO 2002), the Dominican Republic is doing well in containing the spread of malaria. The prevalence rate was only 6 cases in 100,000 in 2000, and fatalities have not been reported for many years. At this point, outbreaks are mostly confined to border and rural areas. Furthermore this reports establishes the connection between the incidences of the disease with fluctuations in the construction industry, while cases linked to agriculture have declined. The areas most affected have been border communities and regions where large construction projects have altered the local ecology and attracted workers from Haiti. While at some point this may justify joint action with Haiti to ensure that malaria does not become a broader problem on the island of Hispaniola, malaria does not seem to be a serious public health problem in Dominican Republic at this time.

Prevalence and death rates associated with tuberculosis (WHO). Tuberculosis is the main opportunistic infection associated with HIV/AIDS, and the Ministry of Health indicates that this is the leading cause of death among AIDS patients. Given shortcomings in addressing HIV/AIDS outlined above, it is less surprising that tuberculosis would be a public health problem in the Dominican Republic.

Tuberculosis prevalence rate per 100,000 (WHO)



Tuberculosis death rate per 100,000 (WHO)



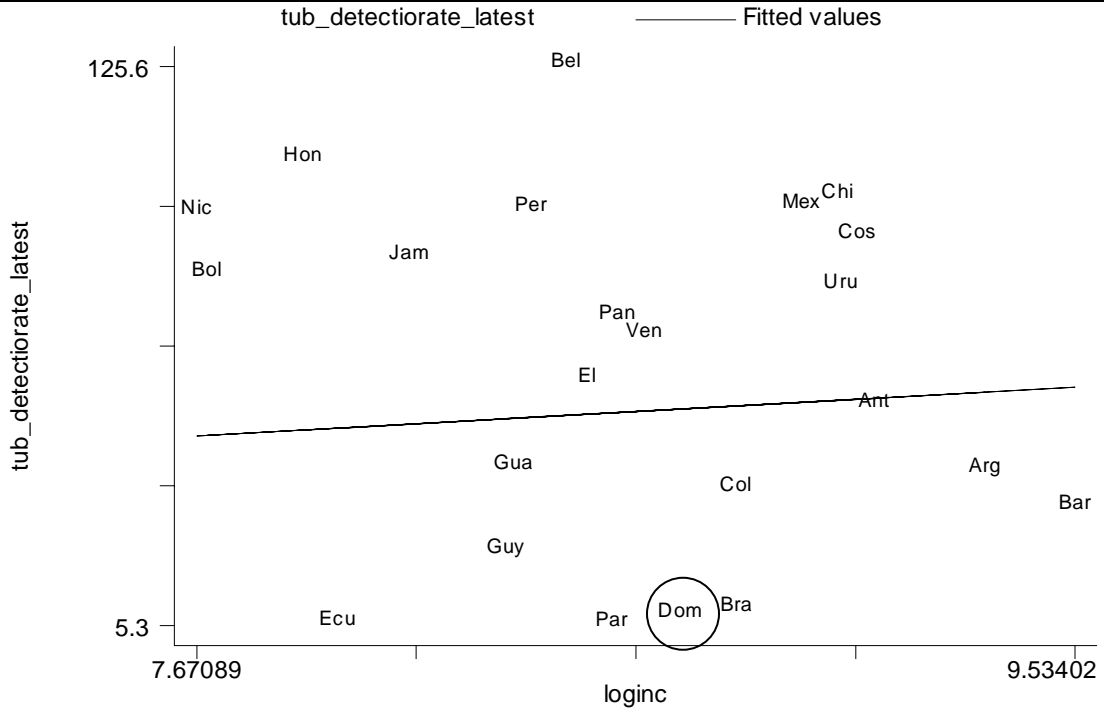
The tuberculosis prevalence rate of 95 per 100,000 inhabitants is significantly higher than the predicted value for Latin American countries, and the tuberculosis death rate of 33

per 100,000 inhabitants exceeds the predicted values even more dramatically. As with HIV/AIDS, the connection with Haitian immigration and disparities between rural and urban health care may merit further exploration.

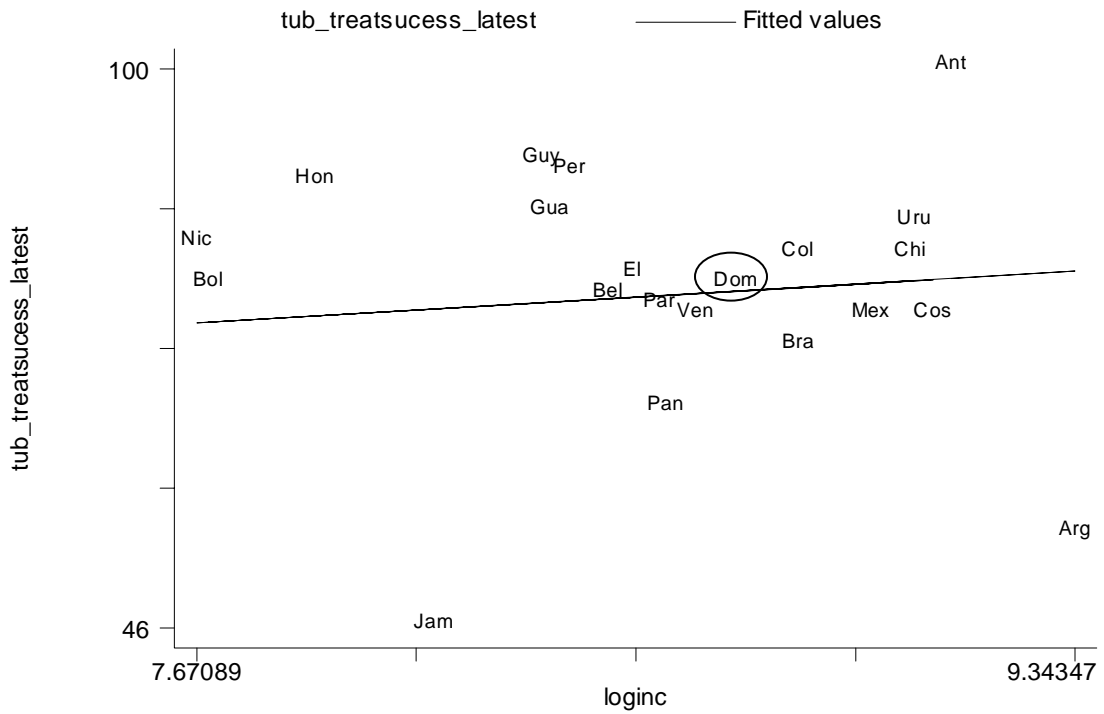
Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS) (WHO). DOTS aims to combine the technical and management aspects of tuberculosis treatment, addressing the organization of services to ensure detection and cure of infectious TB cases. According to the WHO, “the internationally-recommended TB control strategy is DOTS. DOTS combines five elements: political commitment, microscopy services, drug supplies, surveillance and monitoring systems, and use of highly efficacious regimens with direct observation of treatment.” For more information, please see <http://www.who.int/gtb/dots/index.htm>.

The detection rate in the Dominican Republic is very low at 7.1 percent. Despite a low detection rate, the success rate of treatment of detected cases improves to 79 percent of cases, better but still short of the WHO’s 85 percent global target. This indicator is not significant regressed against income, but comparing with Haiti is also useful. Haiti reports a 33 percent DOTS detection rate vs. the WHO’s target of 70 percent by 2005. This preliminary analysis underlines the Dominican Republic’s underperformance in key areas of public health and the need for a major policy effort focused at containing HIV/AIDS and tuberculosis.

Tuberculosis DOTS detection rate per cent (WHO)



Tuberculosis DOTS treatment success per cent (WHO)



Goal 7. Ensure environmental sustainability

This goal encompasses eight indicators covering diverse aspects of environmental sustainability under three different targets. These topics range from protecting biodiversity to securing access to basic resources like safe drinking water. Given the diversity of issues addressed in this goal, it is better to assess the performance of the DR in each individually, rather than try to reach general conclusions at this preliminary stage.

Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

Proportion of land area covered by forest (FAO). The FAO classifies the Dominican Republic as “moderately forested”⁶ at last estimate has 40 percent of its land area covered by forests, where 25 percent has some form of legal protection . This is not an indicator that carries a target nor does it lend itself well to cross-country comparisons. By comparison, albeit unequal, Haiti has shaved its forest cover to only 1 percent of the country’s land area. While Dominican Republic harbors rare environmental treasures such as the mangrove forests, existing evaluations are inconsistent in their conclusions about the state of the forests in Dominican Republic or indeed even about environmental policy in the country. This lack of information in itself may merit attention as a policy area for improvement.

Against a backdrop of conflicting survey data, the FAO has assumed that the land area covered by forest has remained constant over the last decade until further facts are unearthed. FAO suspects that there has actually been a decline but lacks the data to support this view. Existing information comes from three contradictory reports: OAS in 1967, CRIES in 1980 and DIRENA in 1998 (see Mañon 2000). These reports vary both in their estimates of forest cover and discrepancies in the trends. Furthermore, a CEPAL report (CEPAL 2001) claims that Dominican Republic actually *increased* its forest cover by 170 per cent between 1981 and 1996. In sum the current state of information appears inadequate to fairly assess the evolution of forest cover in Dominican Republic.

Ratio of area protected to maintain biological diversity to surface area (UNEP-IUCN). Income is not a significant predictor of this indicator, yet the Dominican Republic is protecting notably more area than the Latin American and world averages at 1.7 percent. This remarkably high number is essentially due to the sea life sanctuary Banco de la Plata, a reserve of 1,499 square miles and an average of 66 feet below sea level. Although this behavior seems consistent with principles of sustainable development, the country’s institutional weaknesses identified elsewhere by Vial and Cornelius (2002) and Vial (2002)⁷ suggest that a closer look at actual protection and enforcement of environmental regulations might be useful. For instance UNEP⁸ argues that conservation objectives are not clearly defined and that contradictions and inconsistencies exist among the eleven

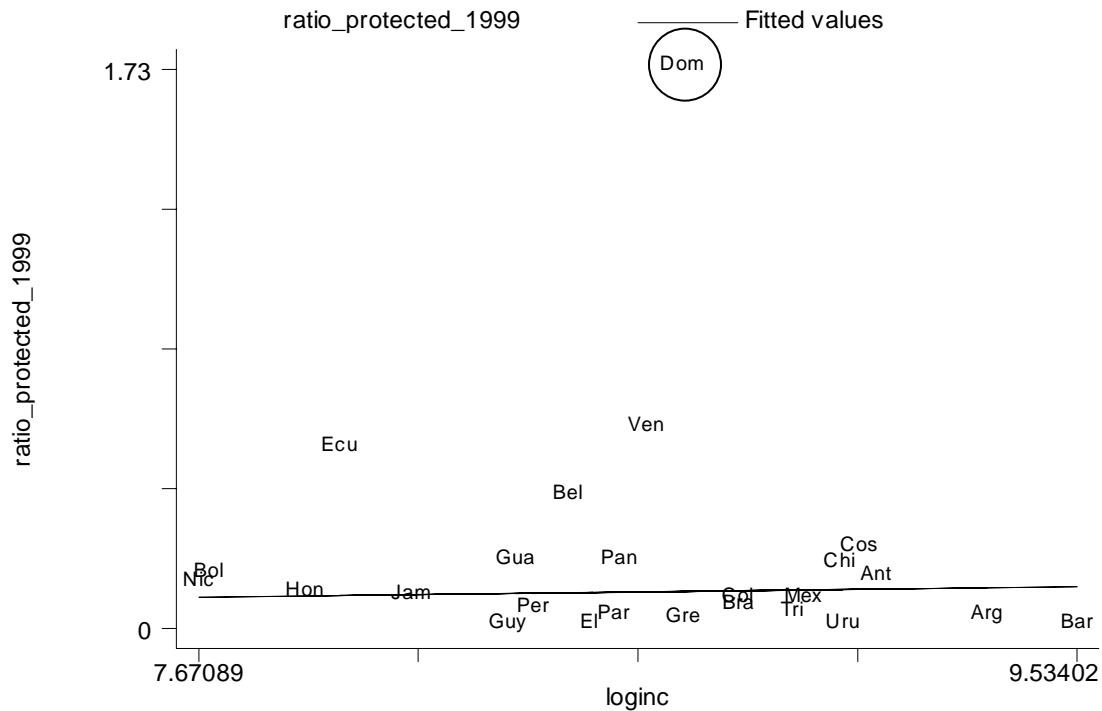
⁶ See the FAO website: http://www.fao.org/forestry/fo/country/index.jsp?lang_id=1&geo_id=187

⁷ See Joaquín Vial: “Building institutions for a more competitive region” in J. Vial and P. Cornelius editors” “The Latin American Competitiveness Report 2001-2002”. Oxford University Press, 2002, and J. Vial: “Cuan competitiva es la República Dominicana?” unpublished manuscript, 2002 (forthcoming by FUNGLODE)..

⁸ See http://www.unep-wcmc.org/protected_areas/data/pa_world_text.html.

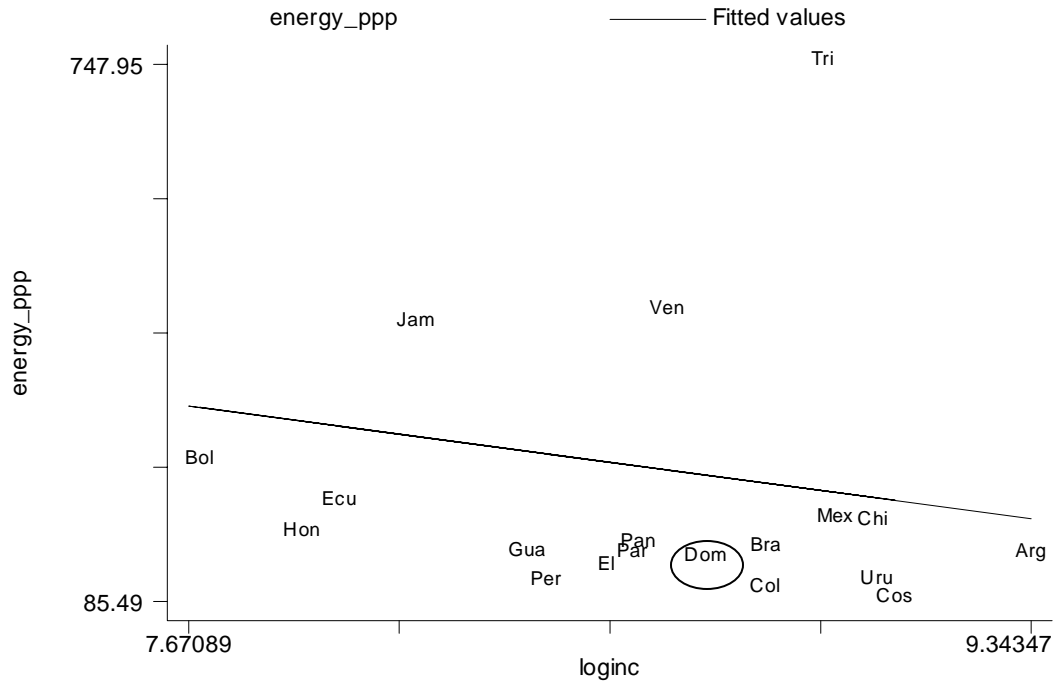
different categories of protected area. Furthermore three categories – forest reserve, wildlife refuge, and faunal sanctuary - have been introduced in practice but are not described in legislation. In short, the existing system needs to be reviewed and standardized.

Protected area ratio to surface area (UNSD calculated from UNEP)



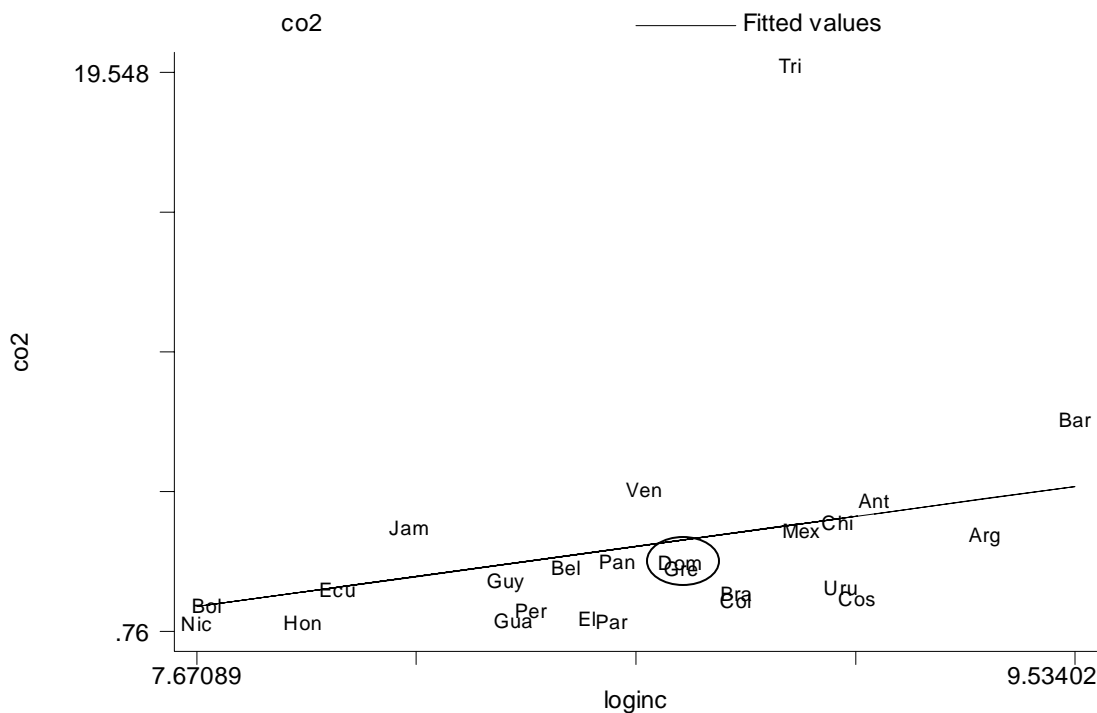
Energy use (kg oil equivalent) per \$1 GDP (PPP) (IEA, World Bank). Dominican Republic is doing well in this indicator compared to countries with a similar level of income. The apparent consumption of oil per \$1000 (PPP) of GDP 134.84 is significantly lower than the predicted values for both Latin American and non Latin American countries.

Energy supply (apparent consumption Kg oil equivalent) per \$1000 (PPP) GDP (World Bank)



Carbon dioxide emissions (per capita) (UNFCCC, UNSD). The DR fares well in an international comparison with emissions of 2.83 metric tons of CO2 per capita, falling short of the world predicted value.

Carbon dioxide emissions (CO2) metric tons of CO2 per capita(UNFCCC-CDIAC)

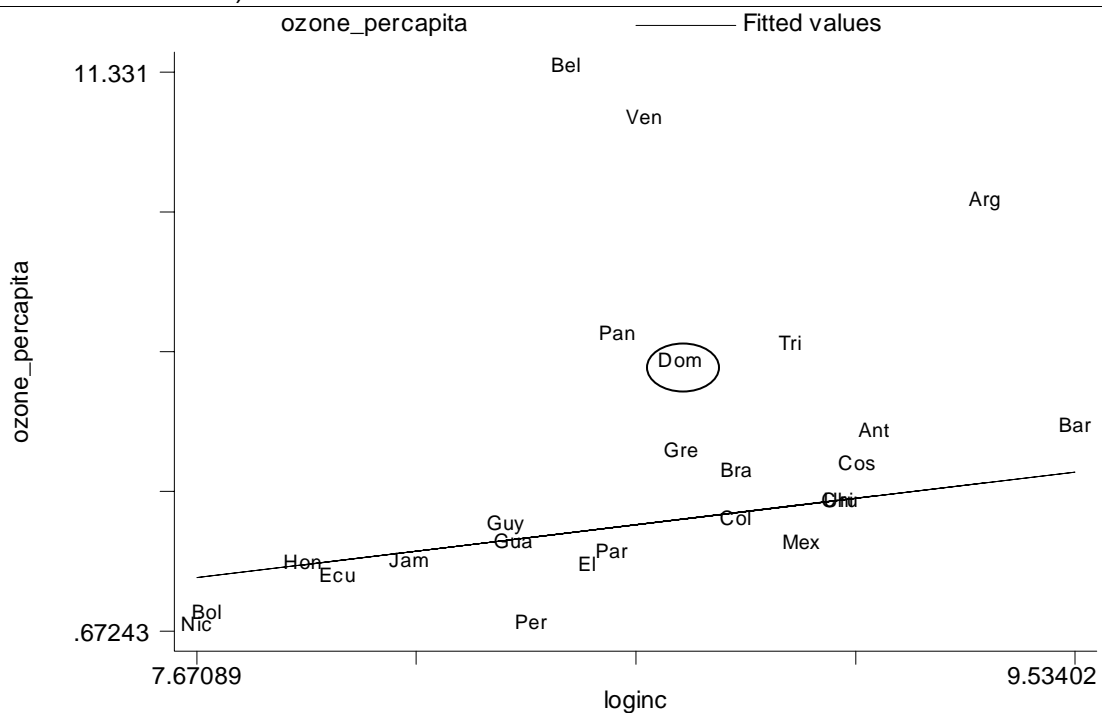


CEPAL has reached similar conclusions. In a report entitled “Trade, Environment and Development: Implications for Caribbean Countries” (2001) CEPAL finds that Dominican Republic performs relatively well on CO2 emissions when compared with other Caribbean countries. In particular its total carbon dioxide emissions are the second lowest in the region, while carbon dioxide emissions per unit of GDP are the third lowest.

The crisis in power generation in the Dominican Republic merits comment in this context. During the 1980s and early 1990s, electricity services were marked by frequent power cuts, poor collection and deficient maintenance (World Bank 2003b). In order to address these problems the government carried out a major sector restructuring, introducing private sector participation in the management control of distribution and thermal generation, with minority government ownership. However, with rising fuel prices in 2000-01, the government froze retail prices. By mid-2002, power sector companies – unable to raise electricity tariffs- faced financial crisis and began to cut service sharply. In recent months, the Dominican government has introduced measures to ameliorate the power crisis, among which the controversial acquisition of the two distribution companies held by Union Fenosa.

Ozone-depleting CFC consumption per 100,000 inhabitants in ODP metric tons. CFC consumption is higher than predicted by the regression at 5.7 ODP metric tons per 100,000 inhabitants vs. the world predicted value of 2.8. After the adoption of the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987, most countries were able to reduce their consumption of CFCs⁹, as a result global production of CFCs dropped from 1,072,295 ODP tones in 1986 to 85,800 ODP tones in the year 2000. In contrast, consumption in Dominican Republic essentially doubled over the last decade rising from 256 to 486 ODP metric tons. Further analysis is needed to understand the poor relative performance of Dominican Republic in CFCs consumption.

Ozone-depleting CFCs consumption per 100,000 inhabitants in ODP metric tons (UNEP-Ozone Secretariat)



Target 10. Halve by 2015 the proportion of people without sustainable access to safe drinking water

Proportion of population with sustainable access to an improved water source, urban and rural (UNICEF - WHO). With 90 percent of the urban population having access to drinking water, Dominican Republic is performing far worse than predicted. Nonetheless, maintaining the current gap with a 1990 starting point of 92 percent, the Millennium target of 96 percent urban access to improved water supply would not be achieved under any growth scenario.

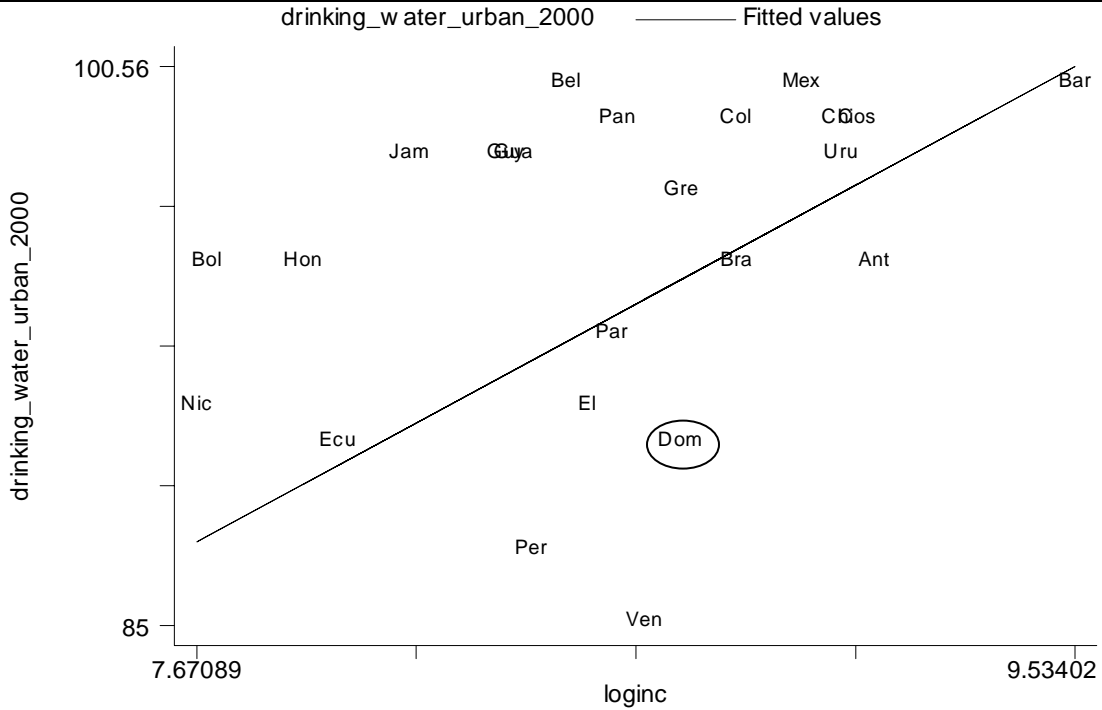
With 78 percent of the rural population having access to drinking water, Dominican Republic is doing better than predicted for its income level. Furthermore, assuming a

⁹ See <http://www.unep.org/ozone/15-year-data-report.pdf>

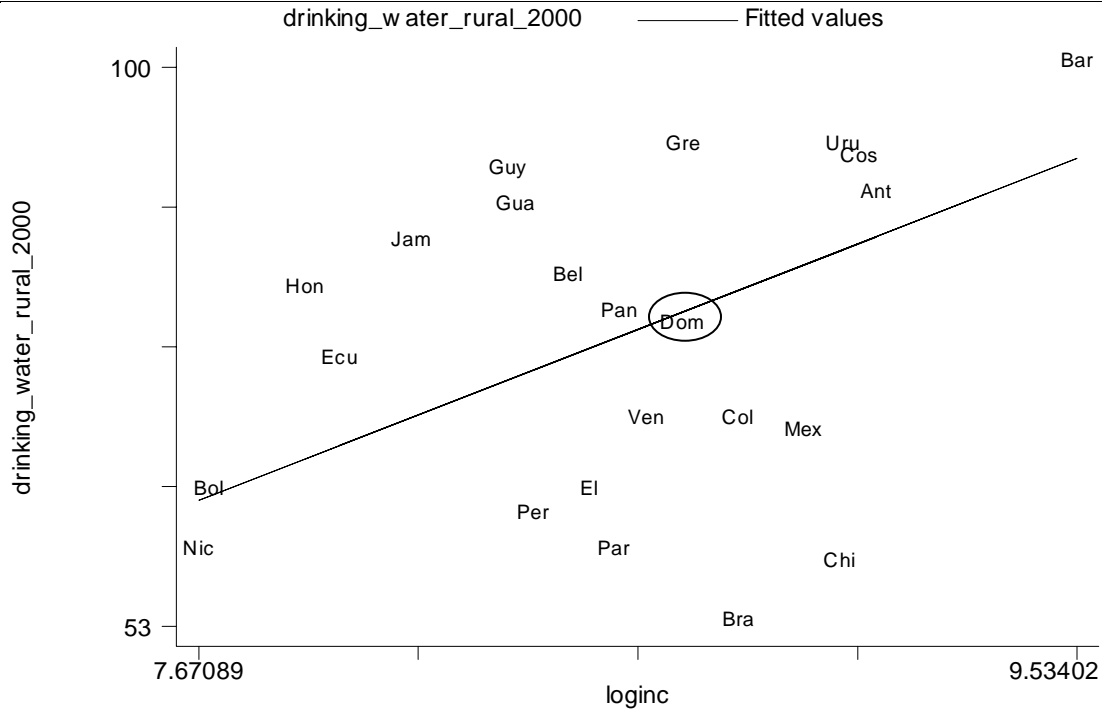
constant gap, the 4 percent growth scenario could be sufficient to surpass the Millennium goal of achieving 85 percent rural access to safe water.

Confirming our findings the World Bank claims that access to potable water in Dominican Republic is well below average access among comparable income groups and countries. Furthermore, the consequences of these shortcomings go beyond health issues. For instance, a World Bank report (World Bank, 2001c) reveals that British tourists decreased by almost 20 percent between 1997 and 1998 as a result of illness from unsanitary water supply. Similarly, other international reports linked to the tourism industry mention health safety issues concerning both water and food in the Dominican Republic. In addition, given that urban infrastructure shows particular shortcomings, urban water supply and accessibility should be examined in further detail.

Water, percentage of population with access to improved drinking water sources urban (WHO-UNICEF)



Water, percentage of population with access to improved drinking water sources rural (WHO-UNICEF)

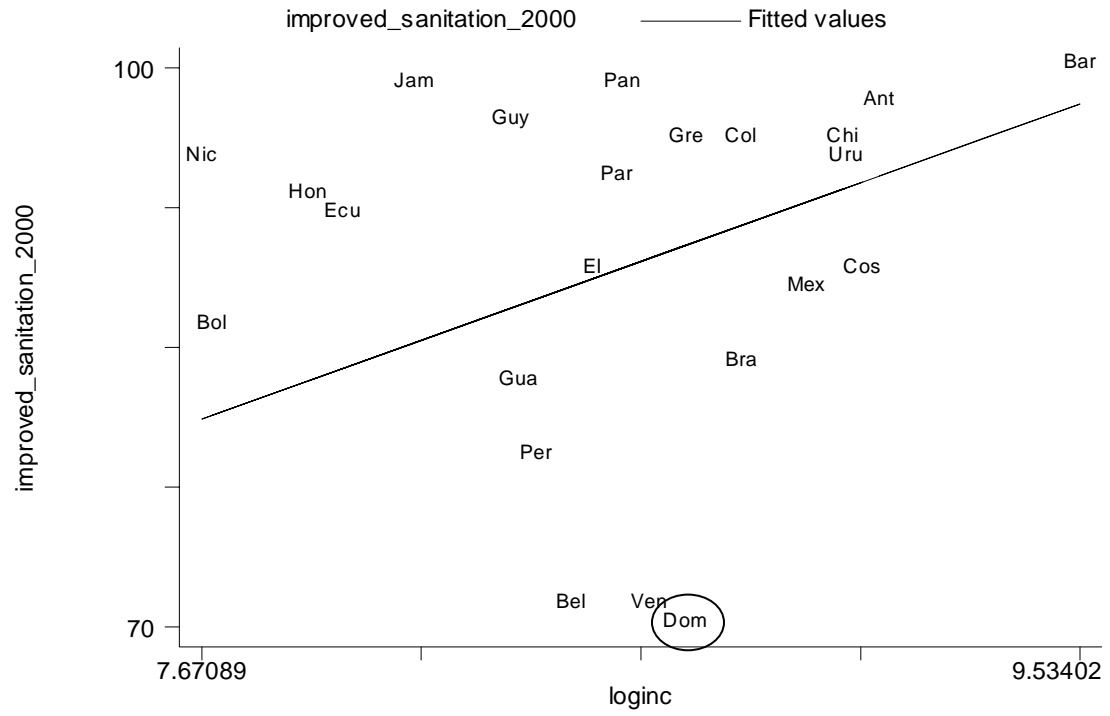


Target 11. By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers

Proportion of urban population with access to improved sanitation (UNICEF - WHO)
 There is no MDG goal associated with this indicator, but one major thrust of the MDGs is to improve the lives of slum dwellers. In the case of the DR, only 70 percent of the urban population has access to improved sanitation – far lower than the predicted value of 90 percent.

Sector work on sanitation infrastructure may likewise be worthy of further investigation especially in light of shortcomings previously mentioned in urban water safety and accessibility. In addition, the work done by Vial et al (2002c) pointed out health issues related to water quality at tourist destinations. In a similar vein, a World Bank report (World Bank 2003b) claims that government efforts in this area have been hampered by the absence of waste regulations in informal communities that grow around tourist areas.

Sanitation, percentage of population with access to improved sanitation, urban (WHO-UNICEF)



Goal 8. Develop a global partnership for development

Indicators for targets 12-18 describe broadly the extent to which external economic relations help meet human and social development needs, helping to define areas of responsibility and opportunity for public and private entities from developed countries. These final targets address topics as far-reaching as quality of overseas development assistance, international trade, and efforts to encourage good governance and address special needs based on geography. Debt service and forgiveness is addressed, especially in the context of the HIPC (heavily indebted poor countries) initiative. The last three targets focus on creating work opportunities for youth, gaining access to essential drugs and connecting with the global information economy. Again, this analysis assesses each individual target rather than synthesizing the conclusions into a broader statement.

Target 12. Develop further an open, rule-based, predictable, non-discriminatory trading and financial system, including a commitment to good governance, development, and poverty reduction - both nationally and internationally.

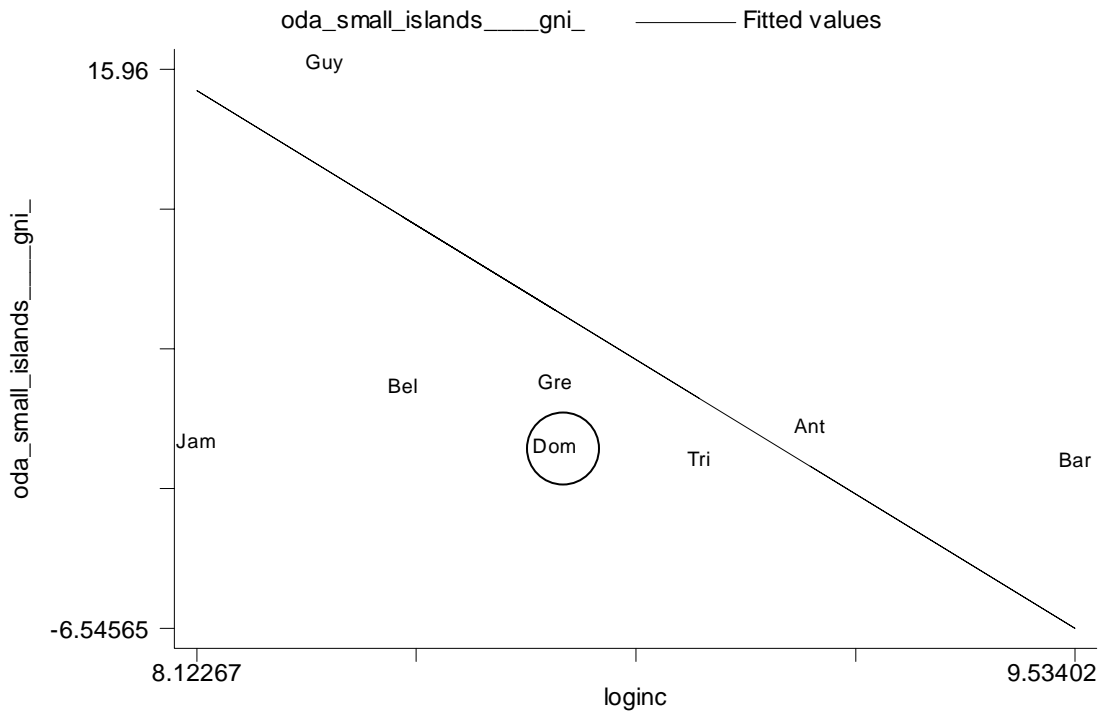
Target 13. Address the special needs of the least developed countries, securing debt forgiveness and special access for exports.

Target 14. Address the special needs of landlocked countries and small island developing states.

ODA received in small island developing states as proportion of their GNIs (OECD). At 0.5 percent of GNI, Dominican Republic receives substantially less than average development assistance relative to other small islands. The value predicted by the regression is 6.3 percent. Because of the Dominican Republic's impressive record of high sustained growth and its classification as a middle income country, its access to official development assistance has been limited in the late 1990s. For instance, annual net transfers from the World Bank were negative from 1985 to 1998, and have averaged only US\$12 million since 1999. Nonetheless, the country still suffers from social ills and institutional weaknesses that would benefit from technical assistance and other forms international aid in line with shortcomings that have been addressed in the paper thus far (e.g. public health, poverty, nutrition, etc.).

With the onset of the past year's economic and financial turmoil, official multilateral assistance to the Dominican Republic has gone up substantially. In addition to the two-year US\$600 stand by credit provided by the IMF, the Inter-American Development Bank is expected to approve US\$350 million for the reform of the financial sector and the social sector.

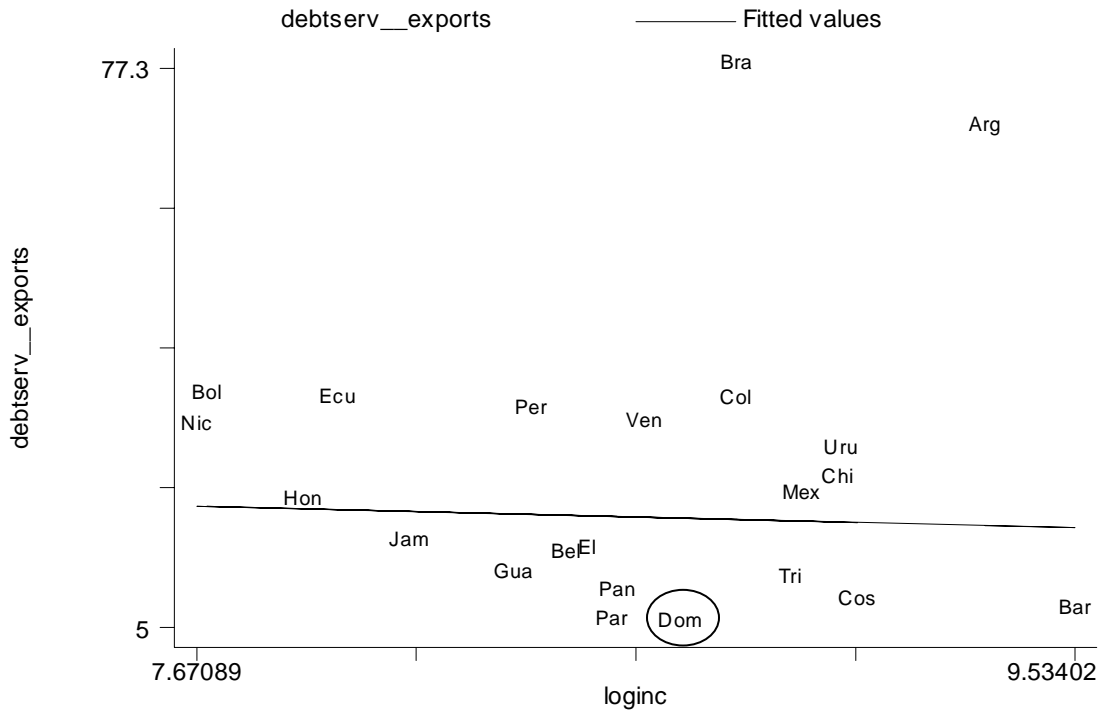
Small islands ODA received as percentage of their GNI (OECD)



Target 15. Deal comprehensively with debt problems to encourage long-term debt sustainability.

Debt Service as percentage of exports of goods and services. There is no MDG target related to this goal, but it is clearly meant to illustrate the extent to which debt service may serve to drag on economic development. While this percentage is notably lower than the predicted values for both Latin American and non Latin American countries, the Dominican Republic has issued approximately \$3.5 billion in external sovereign debt in 2003, which has raised debt service since the data in the graph below. The Dominican Republic will likely have to meet its rising internal financing needs related to the fiscal cost of the Baninter collapse (11-12 percent of GDP) with external financing, essentially from the multilaterals. In addition, the two major rating agencies have placed Dominican Republic sovereign debt on negative outlook, which will raise future financing costs unless market concerns about the banking sector are addressed. All evidence suggests that the trend of the Dominican Republic's debt service is deteriorating, even if the overall level remains manageable.

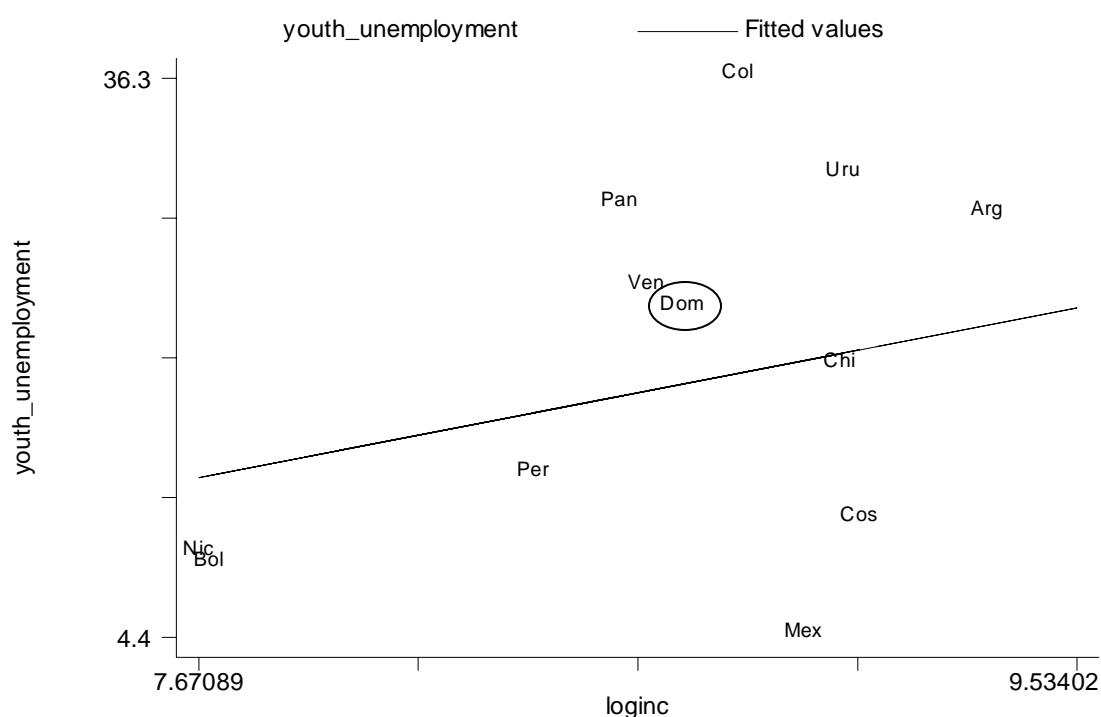
Debt service as percentage of exports of goods and services (WB)



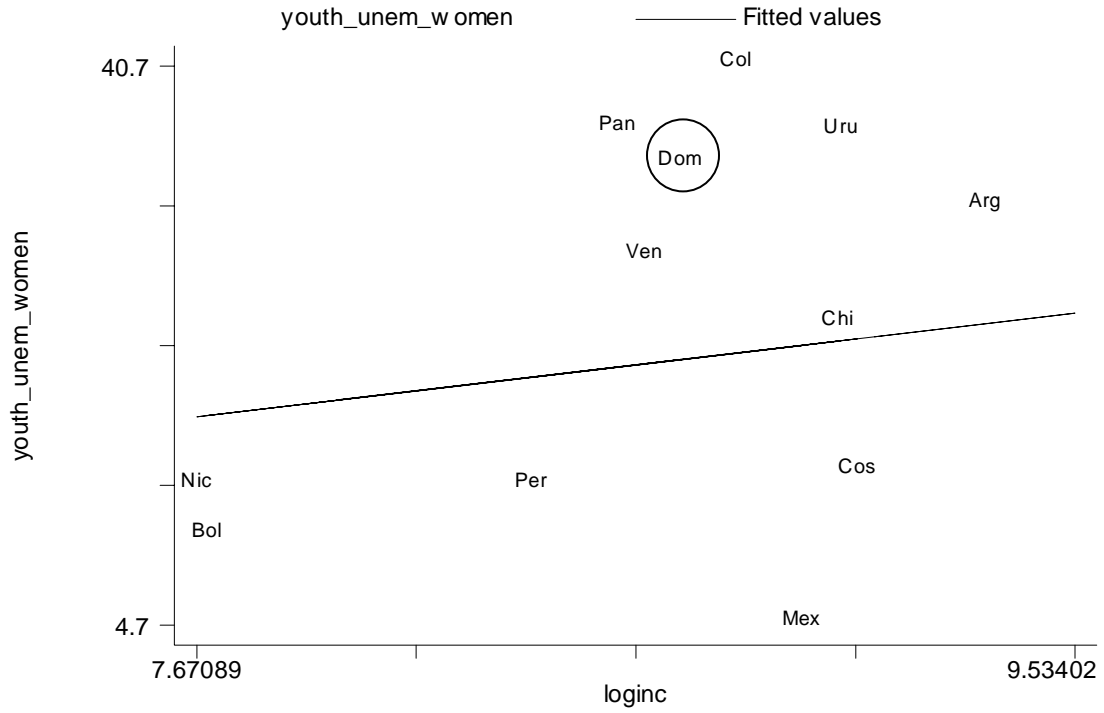
Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth

Unemployment rate of 15- to 24-year-olds, each sex and total (ILO). There is no MDG target related to this goal but increasing global integration will require an environment in which young people can insert themselves productively in economic activity. With a youth unemployment rate of 23 percent, Dominican youth appear to be doing worse than predicted by income per capita. This is mainly due to a relatively high level of unemployment of young women (approximately 34 percent), in contrast to a relatively low level of unemployment for young men (16 percent). This result is especially disturbing in light of the good performance on gender equality in access to education. One should recall the high number of out-of-school teenagers in this context and the conclusion of other research in education that young people in Dominican Republic tend not to see a strong connection between schooling and future income.

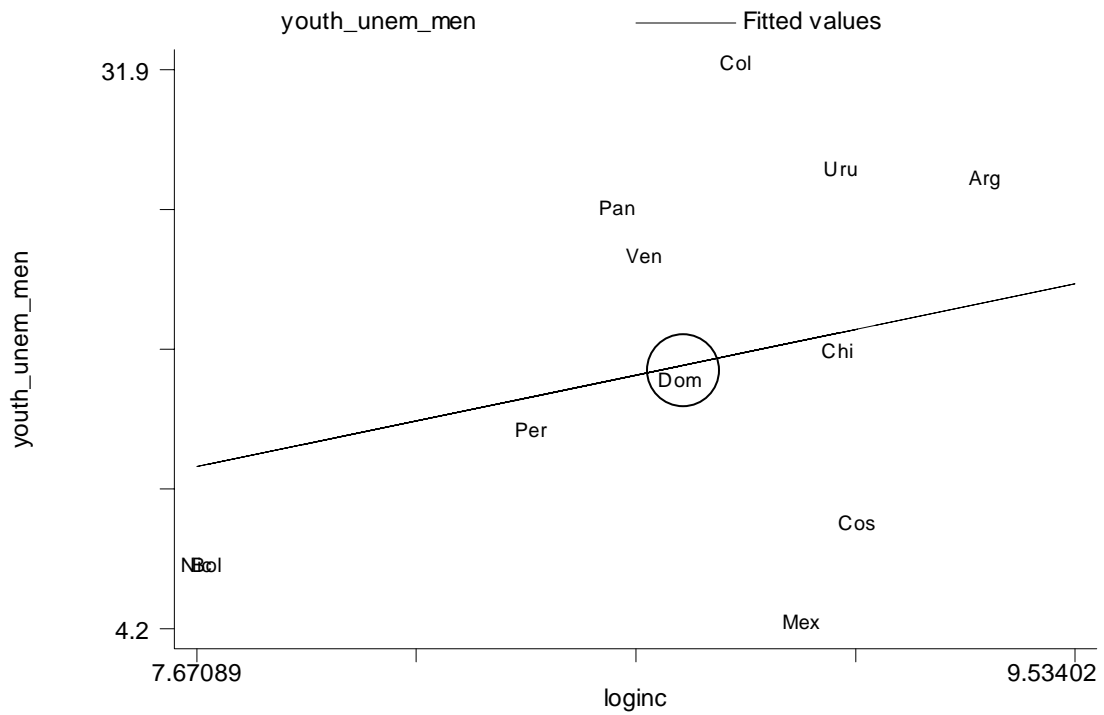
Youth unemployment rate, ages 15-24, both sexes (ILO estimates)



Youth unemployment rate among women aged 15-24 (ILO estimates)



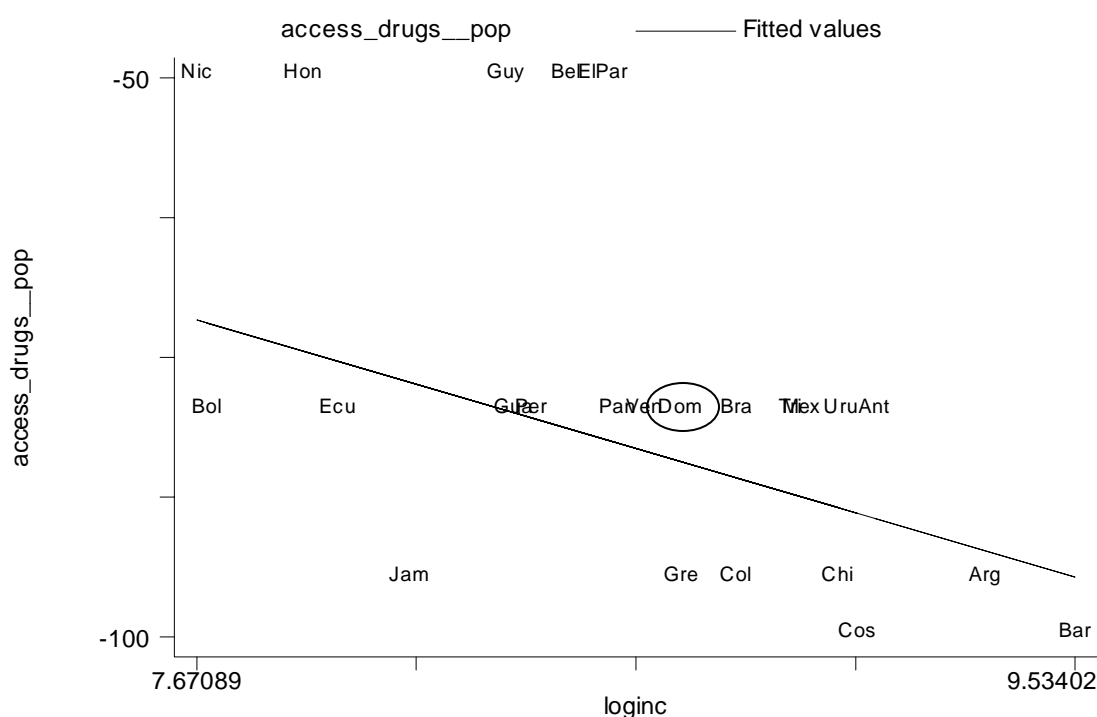
Youth unemployment rate among men aged 15-24 (ILO estimates)



Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries

Proportion of population with access to affordable essential drugs on a sustainable basis (WHO). Assessing access to essential drugs is problematic due to data shortcomings. Because WHO estimates are in the form of estimated threshold levels below which actual levels probably exist, countries at widely diverging income levels appear to have the same level of access to drugs when in fact they may not. In this case, several countries, including the Dominican Republic, have less than 80 percent access to essential drugs, but there is no data provided on how much less. This may be an area for exploration within a sector health study to be conducted as part of the third phase of the MDG project. Weakness in other public health related indicators points to likely weakness in this as well.

Access to essential drugs, percentage of population (WHO estimates)

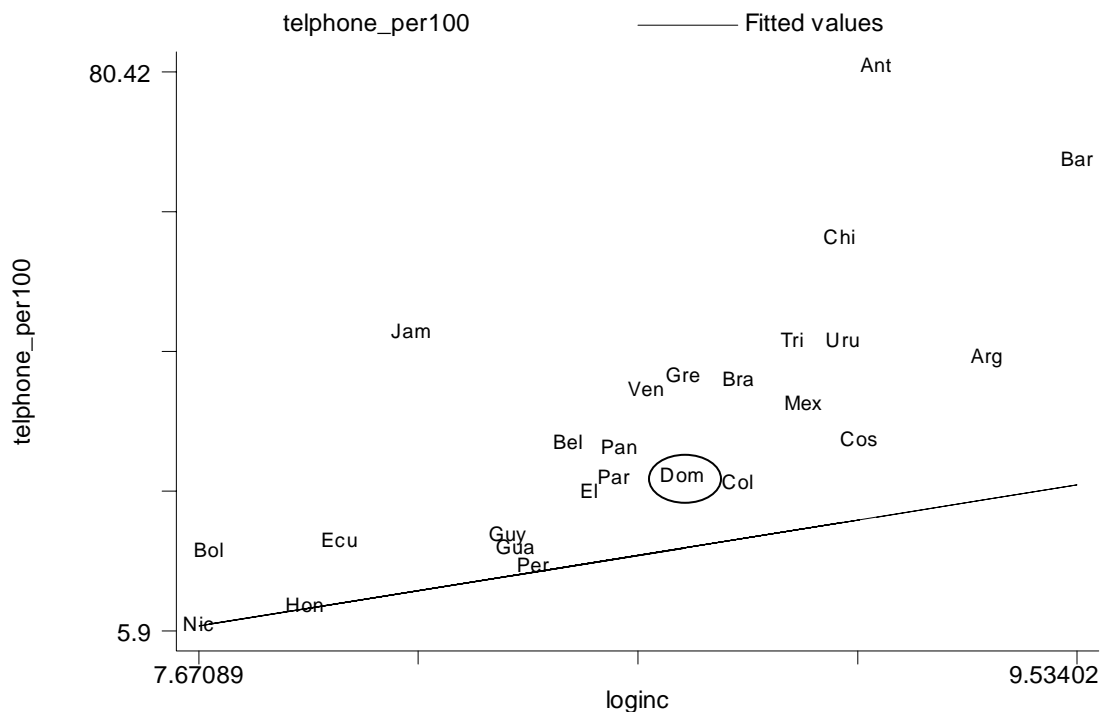


Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.

From the perspective of the analysis thus far, our exercise regresses indicators of information and communications technology saturation against income. In general, proposing that increased ICT (information and communications technology) access is dependent on higher income is problematic: higher income may not only improve the ability to access technology but it may also be *derived from* technology deployed more productively regardless of income level. Nonetheless, the Dominican Republic is advanced in the development of telephony and moving rapidly in internet use. The following indicators underline this and suggest that exploring the use of, access to and expansion of ICT might be productive in defining a technology strategy:

Telephone lines and cellular subscribers per 100 population (ITU). At a minimum, the Dominican Republic's data underline the private sector's extensive involvement in ICT and dramatic progress in telephony, which grew more than 5 times from 1990 to 2000. In this indicator, the Dominican Republic has a large lead on the level of telephone penetration predicted by a simple regression against income – both for Latin and non-Latin countries – with 25.7 per 100 overall telephony penetration vs. 17 predicted by the regression. Even so, the international comparison is illuminating as it indicates that there may still be capacity and untapped demand for expansion of service. Furthermore, as a result of regulations that provide poor incentives to telecommunications operators, sector growth has been skewed in favor of mobile and value-added services while growth in residential and rural areas has been essentially null (World Bank 2002b). The World Bank report suggests that there is potential to enhance the social impact of telecommunication access in Dominican Republic.

Telephone lines and cellular subscribers per 100 population (ITU estimates)



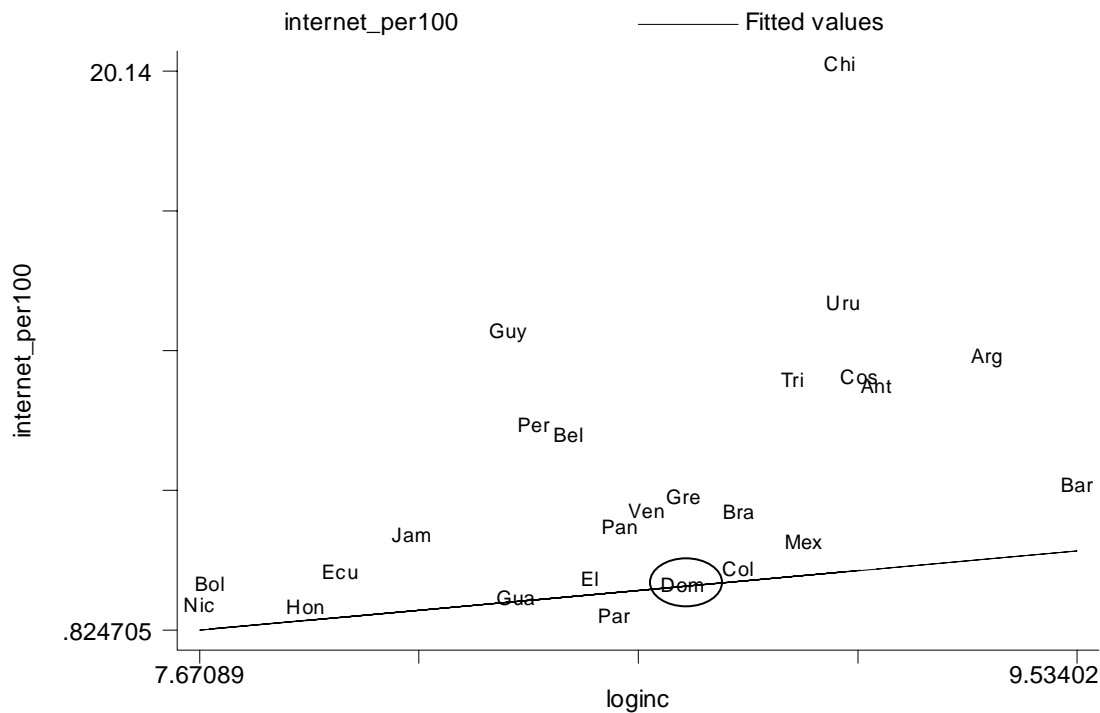
Internet users per 100 population (ITU). The MDG data also suggest that internet usage in the Dominican Republic at 2.15 persons per 100 in 2000 is performing in line with what might be predicted given its income level. Here again, the cross-country comparison raises the question of whether the Dominican Republic should be doing better. Several countries with lower incomes – Panama, Venezuela, Peru and Jamaica – substantially outperform predicted internet penetration. There may be a reason why the Dominican Republic's internet users might be underrepresented – that there are often multiple users

on a single internet service providers' account. While this may be the case and the actual use of the internet higher than measured, other countries are likely to be experiencing a similar phenomenon.

It also appears (from this regression at least) that at higher income levels, there tends to be a larger gap relative to world predicted values. The MDG task force on science, technology and innovation has espoused the concept that gains in technology reinforce improved access to and use of technology in other sectors. As the productive use of technology can positively impact a range of human development activity from education to health care to commerce and manufacturing to food production to political participation, this mutual reinforcement may be one source of the substantial positive gap relative to world predicted levels at higher income levels.

If this is the case, it underlines the importance of strategies to increase and broaden penetration of new technologies in social and economic development policy in the Dominican Republic.

Internet users per 100 population (ITU estimates)



Conclusions of the assessment

The assessment shows that the Dominican Republic has succeeded in addressing some of its development challenges through the dual impact of policy efforts and rapid sustained growth. In many areas, the DR outperforms the values that might be predicted for a country at this level of per capita income. Among these:

- Severe poverty, and the proportion of the population living below the poverty line
- Child nutrition
- Women's literacy, participation in education and political representation
- Children's measles immunization
- Births attended by skilled health personnel
- Malaria elimination
- Proportion of land area protected
- Telephone and cellular phone penetration

In other areas, the Dominican Republic appears to be performing more or less as expected based on the latest data

- Maternal mortality
- Tuberculosis cure success rate under DOTS
- CO2 emissions
- Rural access to safe water sources
- Employment for young men
- Internet usage

In yet other areas, this analysis suggests shortfalls that call for more intensive policy effort:

- Primary education, especially persistence and gender gap
- Overall youth literacy
- Female participation in labor force
- Infant and child mortality
- HIV/AIDS – prevalence, prevention, orphans, gender gap
- Tuberculosis – prevalence, death rate and detection
- CFC consumption
- Urban access to safe water and sanitation
- Youth employment for women

Furthermore, this analysis points out areas where the Millennium Development Goals might be reached solely via sustained economic growth. In fact, there are areas, such as poverty alleviation, where the Dominican Republic's current performance relative to international benchmarks is quite good but where the achievement of the MDGs is in doubt. Those areas where the MDGs are likely to be achieved with moderate growth or have already been achieved include child nutrition and maternal mortality.

Nonetheless, other areas appear may be less influenced by even high sustained growth or not sufficiently influenced to achieve the goals by 2015 without special policy effort. These are:

- Halving the proportion of the population living in poverty
- Halving the proportion of the population below the minimum level of dietary consumption
- Assuring a full course of primary education to both boys and girls and addressing the higher participation of boys in primary education
- Reducing by two-thirds the rate child and infant mortality
- Reversing the spread of HIV/AIDS
- Reversing the incidence of tuberculosis
- Halving the urban population without access to safe drinking water sources
- Raising access to urban sanitation among slum dwellers
- Developing decent and productive work opportunities for Dominican youth

Within these studies, we would suggest that concerns about data insufficiencies and inconsistencies be addressed. For instance, the high rates of infant and child mortality do not fully square with the apparently good - or at least average – performance in indicators of maternal health. Likewise, good performance in child nutrition may not be consistent with an overall high proportion of the population living below the minimum dietary consumption. A number of shortfalls also exist in HIV/AIDS related data vis-à-vis prevalence among certain groups, detection and treatment. Another source of data uncertainty lies in the question of access to essential drugs referred to above. There is also a dearth of high quality of information available on environmental sustainability in the Dominican Republic. Finally, the task of grappling with the impact of Haitian immigration on many of these indicators has yet to be adequately addressed.

Future actions within this project should primarily focus on the commissioning of three papers to address in more depth issues raised by the initial assessments of performance relative to the Millennium Development Goals. Among these, we suggest that the most promising sector studies address the following issues: (1) primary education and literacy, (2) public health issues (especially infant and child mortality, HIV/AIDS and tuberculosis prevention, detection and treatment, and access to essential drugs), (3) urban water and sanitation infrastructure, (4) building global partnership for development, especially in trade and investment relations with US and Europe, and (5) environmental sustainability and policy (especially energy use and supply, CFC consumption, environmental protection).

Bibliography

Azis Iwan J. (2001) “Modeling Crisis Evolution and Counterfactual Policy Simulations: Indonesia 1997-1999”, *ADB-I Working Paper*, No. 23, Tokyo.

Baldacci Emanuele, De Mello Luz and Inchauste Gabriela (2002) “Financial Crises, Poverty and Income Distribution”, *Finance and Development*, Volume 39, Number 2.

Cáceres I. Francisco (1998), “La Mortalidad Materna en la República Dominicana”, PROFAMILIA, Santo Domingo.

CEPAL (2001) “Trade Environment and Development Implications for Caribbean Countries”, Caribbean Development and Cooperation Committee, November.

CEPAL (2003), “Panorama Social de América Latina 2002-2003: Síntesis” Santiago de Chile.

IMF (2003), “World Economic Outlook”, Washington D.C.

Jensen Robert, Pearson Meredith, Schlegel Alexandra, and Wassenic Paul (2002) “The Education Investment: Linking Education and Competitiveness in the Dominican Republic”, Center for International Development, Harvard University.

Mañón R. Cuevas (2000), “Current Situation of the Forestry Sector in Dominican Republic: Country Report” EC-FAO Workshop on Data Collection and Outlook for Forestry in the Caribbean, February.

PAHO (1998), “Health in the Americas”, 1998 Edition, Volume II.

PAHO (2002), “Status Report on Malaria Programs in the Americas Pan American Sanitary Conference”, Washington D.C., September.

Shyamsundai Priya, et al (2001c) “Country Assistance Strategies and the Environment”, *Environment Department Papers*, No. 81, World Bank.

Vial Joaquín (2002a), “Building institutions for a more competitive region” in Joaquin Vial and P. Cornelious editors, *The American Competitiveness Report 2001-2002*, Oxford University Press.

Vial Joaquín (2002b), “Cuan competitiva es República Dominicana?”, forthcoming FUNGLODE

Vial Joaquín, Brown Meilsa and Seward James (2002c), “Enhancing Competitiveness of Tourism in the Dominican Republic”, unpublished manuscript.

World Bank (2001) “Dominican Republic Poverty Assessment: Poverty in a High-Growth Economy (1986-2000”, Main Report.

World Bank (2001b), “Latin America and the Caribbean Region: Multi-Country HIV/AIDS Prevention and Control Program” Vol. 1, Washington D.C.

World Bank (2002a), “A Review of Gender Issues in the Dominican Republic, Haiti and Jamaica”, Washington D.C.

World Bank (2002b) “Dominican Republic-Telecommunications Regulatory Reform Project”, Report No. PID5863, January.

World Bank (2003a), “Monitoring Education Performance in the Caribbean”, Washington D.C.

World Bank (2003b), “Initial Project Information Document”, Report No. AB45, Washington, April.

	1990	1995	2000	Target 2015	Predicted		GAP		Predicted Values with Growth and same GAP		
					Latin ¹	World ²	Latin	World	0%	2%	4%
1 Eradicate extreme poverty and hunger											
<u>Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day</u>											
Poverty: percentage of population below \$1 (PPP) per day consumption (WB)	3.2		3.2	1.6	12.3	2.4 **	-74%	33%	3.2	2.6	1.9
Poverty gap ratio: mean percentage distance below \$1 (PPP) per day (WB)	0.7		0.7	..	4.8	0.0 **	-85%	..	0.7	0.5	0.4
<u>Halve, between 1990 and 2015, the proportion of people who suffer from hunger</u>											
Children under 5 moderately or severely underweight, per cent (UNICEF estimates)	5		5	2.5	8.4 ***	33.1 ***	-40%	-85%	5.0	3.6	2.3
Nutrition: undernourished as percentage of total population (FAO estimates)	27		26	13.5	11.8 **	1.2 ***	121%	2067%	26.1	18.9	11.8
Poorest quintile's share in national income or consumption, per cent (WB)	5.1		5.1	..	4.1 **	8.5	26%	-40%	..	..	..
2 Achieve universal primary education											
<u>Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling</u>											
Education enrolment ratio net primary level, both sexes (UNESCO)	88.2		92.5	100	94.4	89.3 ***	-2%	4%	92.5	95.1	97.6
Education percentage of pupils starting grade 1 reaching grade 5, both sexes (UNESCO)	75.1		75.1	100	82.1	95.9 ***	-9%	-22%	75.1	77.7	80.2
Literacy rates: aged 15-24 both sexes per cent (UNESCO)	87.5	89.5	91.1	100	95.7 **	78.7 ***	-5%	16%	91.1	93.3	95.5

	1990	1995	2000	Target 2015	Predicted		GAP		Predicted Values with Growth and same GAP			
					Latin ¹	World ²	Latin	World	0%	2%	4%	
3 Promote gender equality												
<u>Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015</u>												
Girls to boys ratio primary level enrolment (UNESCO)	0.95		0.9	1	1.0 *	0.9 ***	-1%	9%	0.9	1.0	1.0	
Girls to boys ratio secondary level enrolment (UNESCO)	1.22		1.2	1	1.1 *	0.9 ***	14%	34%	1.2	1.3	1.3	
Women to men parity index as ratio of literacy rates: aged 15-24 (UNESCO)	1.02	1.02	1.0	1	1.0	1.0 ***	1%	0%	1.0	1.0	1.1	
Women wage employ in non-agricultural sector % total non-agric. employees (ILO)	35.46	35.7	34.5	..	41.2 ***	20.1 **	-16%	72%	34.5	35.4	36.3	
Women in parliamentary seats per cent (IPU)	8		16	..	13.9	10.0 **	15%	60%	16.0	16.7	17.3	
4 Reduce child mortality												
<u>Reduce by two thirds, between 1990 and 2015, the under-five mortality rate</u>												
Children under five mortality rate per 1,000 live births (UNICEF estimates)	65	56	48	21.7	29.2	25.2 ***	64%	91%	48.0	25.6	3.7	
Infant mortality rate (0-1 year) per 1,000 live births (UNICEF estimates)	53	47	42	17.7	24.8	26.7 ***	69%	57%	42.0	28.6	15.4	
Children 1 year old immunized against measles, per cent (UNICEF estimates)	96	..	96	..	92.1 *	81.7 ***	4%	17%	95.9	97.6	99.2	

	1990	1995	2000	Target 2015	Predicted			GAP		Predicted Values with Growth and same GAP		
					Latin ¹	World ²		Latin	World	0%	2%	4%
5 Improve maternal health												
<u>Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio</u>												
Maternal mortality ratio per 100,000 live births (WHO, UNICEF, UNFPA)	..	110	110	27.5	115.8	76.4	***	-5%	44%	110.0	29.6	-49.3
Births attended by skilled health personnel, per cent (UNICEF estimates)	..	..	99	..	86.8	60.2	***	14%	64%	99.0	105.6	112.2
6 Combat AIDS, malaria and other preventable diseases												
<u>Have halted by 2015 and begun to reverse the spread of HIV/AIDS</u>												
HIV prevalence rate, aged 15-49, per cent (UNAIDS estimates)	..	..	2.5	<2.5	1.4	4.1	***	84%	-39%	2.5	4.2	5.9
Condom use to overall contraceptive use among currently married women aged 15-49 per cent	6.59	3.59	2.2	..	11.3	4.7	**	-81%	-53%	2.2	2.4	2.6
Condom use women aged 15-24 at last high-risk sex per cent (UNICEF-UNAIDS-WHO)	-23.36	9.31	12	..	31.8	55.2	**	-62%	-78%	12.0	13.0	13.9
Condom use men aged 15-24 at last high-risk sex per cent (UNICEF-UNAIDS-WHO)	-29.39	15.29	48	..	44.7	74.1	***	7%	-35%	48.0	52.5	57.0
HIV knowledge women aged 15-24 who know that a person can protect herself from HIV infection by consistent condom use per cent (UNICEF-UNAIDS-WHO)	-13.04	17.03	73	..	58.0	71.1	***	26%	3%	73.0	78.9	84.7
HIV Knowledge women aged 15-24 who know that a healthy-looking person can transmit HIV per cent (UNICEF-UNAIDS-WHO)	-22	11.05	89	..	80.3	100.0	***	11%	-11%	88.9	92.3	95.7
AIDS orphans (one or both parents) currently living (UNAIDS)	..	..	33000	..	12960.0	0.0		155%	..	..	..	..
Orphans (both parents) aged 10-14 school attendance rate as % of non-orphans attendance rate where HIV is 1%+ (UNICEF-UNAIDS-WHO)	0	0.0719	0.9	..	0.9	0.9	**	-3%	-6%	0.9	0.9	0.9

	1990	1995	2000	Target 2015	Predicted			GAP		Predicted Values with Growth and same GAP			
					Latin ¹	World ²		Latin	World	0%	2%	4%	
<u>Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases</u>													
Malaria prevalence notified cases per 100;000 population (WHO)	6	<6	78.0		0.0		..	..	..	..	..
Malaria death rate per 100,000 ages 0-4 (WHO)	0	0	0.0		0.0	***	0%	0%	0.0	0.0	0.0
Malaria death rate per 100,000 all ages (WHO)	0	0	0.0		0.0	***	0%	0%	0.0	0.0	0.0
Tuberculosis prevalence rate per 100,000 population (WHO)	95	<95	36.5	**	117.9	***	160%	-19%	95.0	66.9	39.4
Tuberculosis death rate per 100,000 (WHO)	33	<33	9.6	**	23.9	***	244%	38%	33.1	24.6	16.4
Tuberculosis DOTS detection rate per cent (WHO)	7.1	..	61.0		48.1	**	-88%	-85%	7.1	7.4	7.7
Tuberculosis DOTS treatment success per cent (WHO)	79	..	78.5		83.7		1%	-6%	..	..	..
7 Ensure environmental sustainability													
<u>Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources</u>													
Forested land area as percentage of land area (FAO estimates)	28.4	..	28.4								..	..	..
Protected area ratio to surface area (UNSD calculated from UNEP)	1.7	..	0.3	**	0.1		592%	2783%	..	..	..
Energy supply (apparent consumption Kg oil equivalent) per \$1000 (PPP) GDP (World Bank)	153.58	154.96	134.8	..	197.1		172.7	***	-32%	-22%	134.9	112.0	89.6

	1990	1995	2000	Target 2015	Predicted			GAP		Predicted Values with Growth and same GAP			
					Latin ¹	World ²		Latin	World	0%	2%	4%	
<u>Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources (continued)</u>													
Carbon dioxide emissions (CO2) metric tons of CO2 per capita (UNFCCC-CDIAC)	1.356	2.114	2.8	..	3.4		2.2	***	-18%	27%	2.8	3.2	3.6
Ozone-depleting CFCs consumption in ODP metric tons (UNEP-Ozone Secretariat)	256	634	486	..	730.2		1718.0		..	..	..	..	..
Ozone-depleting CFCs consumption per 100,000 inhabitants in ODP metric tons (UNEP-Ozone Secretariat)	3.0	7.5	5.7	..	3.9	**	1.3		47%	340%	..	..	..
<u>Halve by 2015 the proportion of people without sustainable access to safe drinking water</u>													
Water percentage of population with access to improved drinking water sources urban (WHO-UNICEF)	92		90	96	96.0	*	86.7	**	-6%	4%	90.0	91.3	92.6
Water percentage of population with access to improved drinking water sources rural (WHO-UNICEF)	71		78	85	78.3		67.1	***	0%	16%	78.1	82.1	86.0
<u>By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers</u>													
Sanitation percentage of population with access to improved sanitation urban (WHO-UNICEF)	70		70	..	90.3	*	78.3	**	-23%	-11%	70.0	71.2	72.3
7 Develop a Global Partnership for Development													
<u>Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term</u>													
Small islands ODA received as percentage of their GNI (OECD)	1.51	1.07	0.5	..	5.6	***	13.1	***	-91%	-96%	0.5	0.2	-0.2
Debt service as percentage of exports of goods and services (WB)	12.7	7.1	4.7	..	24.3	*	21.0	***	-81%	-78%	4.7	4.5	4.4

	1990	1995	2000	Target 2015	Predicted				GAP		Predicted Values with Growth and same GAP		
					Latin ¹	World ²	Latin	World	0%	2%	4%		
<u>In cooperation with developing countries, develop and implement strategies for decent and productive work for youth</u>													
Youth unemployment rate aged 15-24 both sexes (ILO estimates)	..	33.7	23.1	..	18.9	***	29.8	***	22%	-22%	23.1	24.7	26.3
Youth unemployment rate aged 15-24 women (ILO estimates)	..	60.2	34.3	..	22.9	*	31.7	***	50%	8%	34.3	36.2	38.1
Youth unemployment rate aged 15-24 men (ILO estimates)	..	21.3	16.2	..	16.2	***	28.4	***	0%	-43%	16.2	17.4	18.6
<u>In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries</u>													
Access to essential drugs percentage of population (WHO estimates)	..	80 ⁴	80 ⁴	..	77.7	***	91.5	***	3%	-13%	80.0	83.6	87.2
<u>In cooperation with the private sector, make available the benefits of new technologies, especially information and communications</u>													
Telephone lines and cellular subscribers per 100 population (ITU estimates)	4.8	8.2	25.7	..	16.2	***	11.2	***	58%	129%	25.7	29.2	32.7
Internet users per 100 population (ITU estimates)	..	0.02	2.15	..	2.2		2.2	***	-2%	-3%	2.2	2.5	2.9

Notes

1. Level of significance for the Latin American Dummy is indicated with asterisks
 2. Level of significance for income is indicated with asteriks
 3. If 2000 was not available latest figure
 4. Less than 80 percent
- *significant at a 90%
** significant at a 95%
*** significant at a 99%