The Impact of Covid-19 in Central America and the Caribbean - Evidence to Date

Prepared for the Annual Monetary Studies Conference1
Nassau, Bahamas
October 31 – November 2, 2022

Working Paper

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Abstract

This study uses changes in the Human Development Index (HDI) between 2019 and 2021 as an early (and incomplete) indicator of the impact of the Covid-19 pandemic on the countries of Central America and the Caribbean (CAC). The HDI, which has been published annually by the United Nations Development Programme since 1990, combines indices of the purchasing power of average national incomes (measured in US dollars), life expectancy, and average years of schooling, for each country. Except for Guyana and Nicaragua, the HDI score for every country in the CAC declined. The Bahamas, a tourism-based economy, suffered the smallest loss in HDI, and other tourism-based economies were scattered all along the spectrum, with Belize among the worst affected. The countries whose principal exports are manufactured goods fared better than the agricultural exporters, while of the three mineral exporters, Guyana's HDI score rose, Trinidad-Tobago's loss was in the middle of the range, and Suriname was the worst affected country in the region. Two countries whose principal source of foreign currency is remittances suffered moderate losses. The countries with the lowest death tolls from the pandemic recorded lesser impacts; these were mostly island economies who were protected from the worst ravages of Covid-19 with the cessation of air travel when the pandemic was at its height.

JEL Classification Numbers: E66, E69

Keywords: Covid-19 pandemic, Human Development Index, Caribbean, Central America, island economies.

This Working Paper is circulated for comment. Please send comments from the Contact Page at DeLisleWorrell.com.

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This study assesses the impact of the Covid-19 pandemic on the well-being of the populations of Central American and Caribbean (CAC) countries. The most comprehensive measure of well-being available for countries worldwide is the Human Development Index (HDI), published by the United Nations Development Programme annually. The most recent issue of the *Human Development Report,* with HDI data for 2021, was issued on September 8, 2022. The present study assesses the impact of the Covid-19 pandemic by comparing 2021 HDI scores with 2019, the year before the onset of the pandemic.

The HDI improves on the Gross Domestic Product (GDP), the most commonly quoted measure of economic progress, in several dimensions. Firstly, the Gross National Income (GNI) per head of the population is adjusted for the fact that one dollar buys different amounts of any product or service, depending on the country you're in. The adjusted measure is the GNI per capita at purchasing power parities (GNIpcPPP). It is well established that many factors other than average income affect the living standards of the population. The two most important are the health status and educational opportunities made available to the average citizen. The HDI therefore incorporates measures of health status (the life expectancy at birth) and educational opportunity (the mean years of schooling) along with the GNIpcPPP to produce a composite indicator of well-being.[1] The basic HDI, incorporating these three elements, is available for all countries, and will be used in this study; the HDI may be extended to incorporate additional factors such as the degree of income inequality and the quality of health and educational facilities, but this data is only available for select countries.

The countries of the Central American and Caribbean region may be grouped into five categories, based on their principal source of foreign earnings. The rationale for the choice of criterion is the fact that all small open economies, such as those of this region, are fuelled by foreign earnings, which are needed to purchase everything that is consumed in such countries, as well as all inputs for investment. The domestic activity which does not directly involve commerce with the rest of the world - retail, real estate and government activity are examples - cannot expand unless there are additional foreign earnings with which to restock supermarket shelves, buy construction materials, fuel police vehicles and supply all other consumption and investment needs.

The largest group of the 22 countries in this study are the tourism economies, Antigua-Barbuda, The Bahamas, Barbados, Belize, Cuba, Dominica, Grenada, Jamaica, St Kitts-Nevis, St Lucia and St Vincent and the Grenadines. Of these, only Belize and Cuba have significant sources of foreign earnings other than tourism. Belize earns almost as much from exports of agricultural products as it does from tourism, while for Cuba exports of medical supplies, cigars and other manufactured items account for almost 30 percent, compared to about 50 percent for tourism. Two countries are heavily dependent of remittances from abroad: Jamaica (31 percent, just short of tourism earnings) and Dominica, with 27 percent from remittances compared with almost 60 percent from tourism. (See Table 1.)

<Table 1> Page 12

[1] For a thorough explanation and analysis of the Human Development Index, see Chapter 17 of Worrell (2023).

A second group of four countries earns most of their foreign currency from manufactured goods: Costa Rica, the Dominican Republic, Panama and Nicaragua. This group has the most diversified export portfolio in the region. Costa Rica exports medical instruments, orthopedic supplies, bananas and other manufactured goods and agricultural products, as well as deriving significant foreign earnings from tourism and other services. The Dominican Republic's exports include medical instruments, cigars, electrical apparatus and jewelry, and the country also has a large tourism sector, which earns a quarter of the island's foreign currency. Remittances from abroad bring in almost as much as does tourism. Panama earns almost half yearly foreign currency from exports of pharmaceuticals, garments, cosmetics and other manufactured items, with major contributions from revenues from the Panama Canal and from tourism. Nicaragua's principal exports are garments, agricultural products and wire and cable, with significant revenues also coming from tourism and other services. The country also relies on remittances, for nearly a quarter of annual foreign currency supply.

The third group, comprising Guatemala and Honduras, are mainly agricultural exporters. In Guatemala's case the two largest export items are bananas and coffee, but the country exports a large number of other items. Exports supply about 50 percent of foreign currency, with remittances from abroad contributing about one-third. For Honduras, exports of coffee, seafood and other food items provide two-thirds of foreign currency, with an additional 20 percent from remittances. Both Guatemala and Honduras have a little supplemental revenue from tourism.

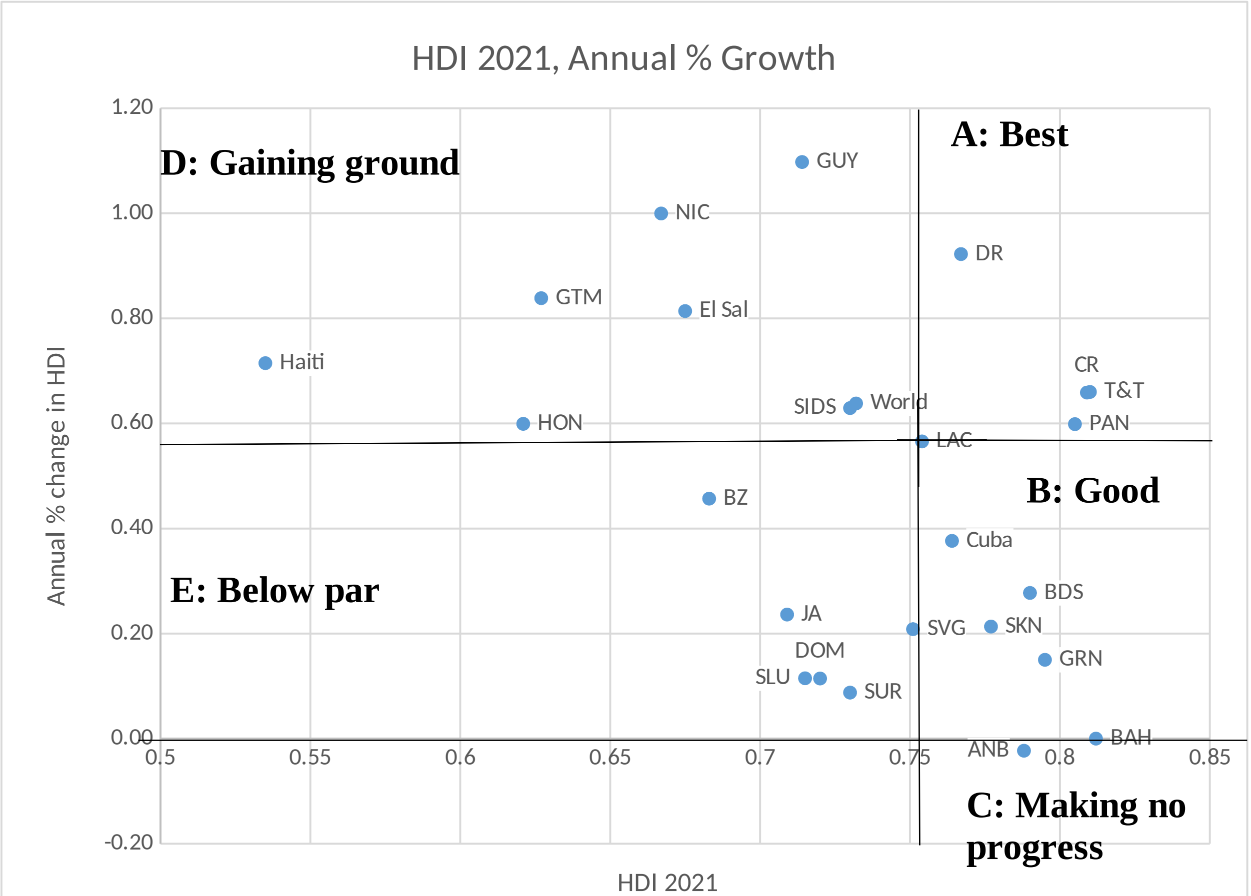
The fourth group are the mineral exporters, Guyana, Suriname and Trinidad and Tobago. Guyana began oil exports only in 2020, but in 2021 exports of oil and gold together supplied more than half of all foreign currency, with an additional 27 percent from investment inflows, mainly for the expansion of the oil industry. Remittances are the only other source of foreign currency of any significance. Exports of rice, sugar and other agriculture accounted for only seven percent of foreign currency supply. Trinidad-Tobago and Suriname have no source of foreign currency other than mineral exports, with petroleum products accounting for 86 percent in Trinidad-Tobago and oil and gold accounting for almost 80 in Suriname.

There remain two countries, El Salvador and Haiti, where the largest source of foreign currency is workers' remittances. In El Salvador's case, exports of garments and other products are not far short of remittances in terms of their contribution to foreign exchange. In contrast, remittances account for two-thirds of foreign currency supply for Haiti, with garments and other exports providing only just over 20 percent.

Background – HDI scores in 2021 and improvement since 1990

First we assess the countries of Central America and the Caribbean in terms of the level of human development they had achieved by 2021, and the improvement they had made since the HDI was introduced in 1990. Figure 1 assesses the performance of the 22 countries using the five categories just described, based on a combination of their HDI score and the annual rate of improvement in their score over the period since the country was first included in the HDI. The further to the right a country lies, the higher is its HDI score; the higher the country lies on the vertical scale, the faster was the rate of improvement in the HDI score. The Bahamas sits to the furthest right, because its HDI score of 0.812 is the highest of any country in Central America and the Caribbean in the 2021 HDI, while Guyana sits highest on the vertical scale, with an exceptional rate of increase of 1.1 percent per year in its HDI score, mainly because of the beginning of oil exports two years ago.

Figure 1.



Note: Colour code is tourism economies, manufacturing exporters, exporters of agricultural products, exporters of minerals, countries where remittances are the main source of foreign currency, and comparators.
Data source: *Human Development Report 2022.*

Figure 1 is divided into five areas, to allow for a comparison of the region's performance with the average performance of all the countries in Latin America and the Caribbean (LAC). The countries in the area labelled *A* are the best performers in Central America and the Caribbean: they have among the highest HDI scores in the sub-region, and they have also made gains which are among the most impressive. Their HDI scores in 2021 were all above the LAC average, and they also had average rates of improvement which bettered the average of Latin America and the Caribbean. Three countries in this group were in the highest of four categories in the HDI (Very High Human Development): an oil exporter, Trinidad-Tobago, and two countries whose exports are mostly manufactured goods, Costa Rica and Panama. The fourth of the best performers was the Dominican Republic, a country with High Human Development, the second of the four groupings in the Index.

The area labelled *B* in Figure 1 contains four economies which earn most of their foreign income from tourism: Grenada, Barbados, St Kitts-Nevis and Cuba. These countries are all in the second category of countries in the HDI, those with High Human Development. However, although their scores have improved over time, the gains were much slower than the average for the LAC region.

The area labelled *C* comprises two tourism economies (The Bahamas and Antigua-Barbuda) which have made no improvement in their HDI score over the years of their inclusion in the index. Even so, because they were so highly developed to begin with, they both remain above the average HDI for the LAC region, and The Bahamas is still the country with the highest HDI score on the chart, just ahead of Trinidad-Tobago.

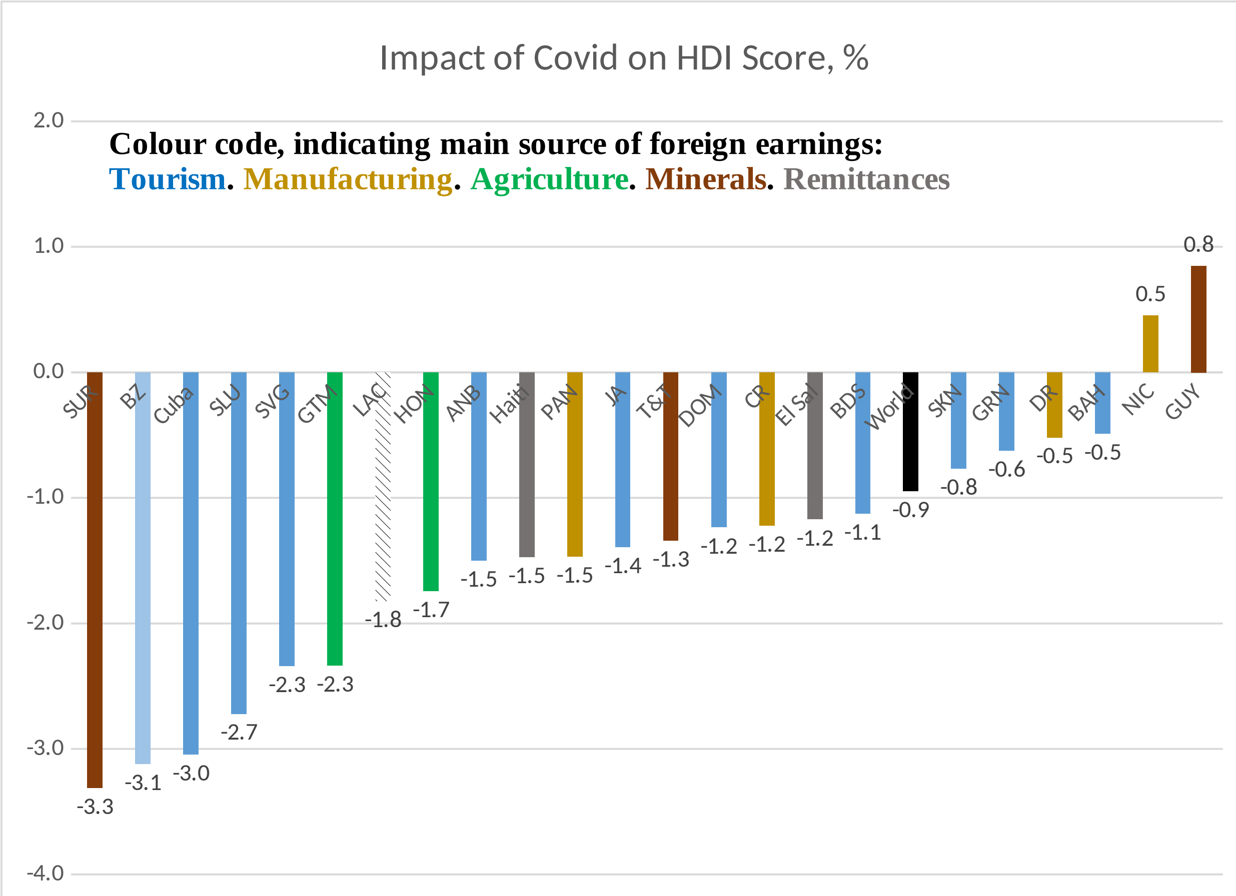
The area labelled *D* includes countries which are gaining ground relative to the region, with rates of improvement that are faster than the LAC average, but their HDI scores in 2021 remained below the regional average. This group includes the region's new oil exporter, Guyana, whose HDI score does not yet match the level of its neighbour, Suriname. This is a diverse group, including the CAC sub-region's two agricultural exporters, Guatemala and Honduras, Nicaragua, an exporter of light manufactured goods, and the two countries which rely on remittances from abroad for most of their foreign currency, Haiti and El Salvador.

The fifth group of countries (Group *E* in Figure 1), comprising Suriname and five tourism economies, have HDI scores that are lower than the LAC average, and they have been falling further behind, because the annual improvement in every case has been slower than the LAC average. Suriname, whose main exports are oil and gold, shows the slowest improvement in this group, but its HDI score is closer to the LAC average than four of the tourism economies. Of the latter, St Vincent and the Grenadines recorded an HDI score which is just shy of the LAC average.

The impact of Covid-19

The grouping of countries according to the principal drivers of economic activity will aid us in assessing the pandemic's impact on well-being, as measured by the HDI, but first we take a look at the region's best performers over the past thirty years, namely Costa Rica, the Dominican Republic, Panama and Trinidad-Tobago. We compare regional performances with the average impact on countries worldwide (a decline of 0.9 percent in the HDI score), as well as the impact on the average HDI score for the wider Latin American and Caribbean region, a worsening of the score that was twice as large as the world average at -1.8 percent. (See Figure 2.)

Figure 2.



Of the four star performers in the Central America and Caribbean sub-region, the Dominican Republic was the least affected by Covid. Its 0.5 percent fall in the HDI score was the only loss of this group which was less severe than the world average. The fall in HDI score for the others was more severe than the world average, but less so than for the wider Latin American and Caribbean region.

Three of the eleven tourism economies sustained HDI losses that were less severe than the world average (The Bahamas, Grenada and St Kitts-Nevis); another four countries fared worse than the world average, but better than the average for the wider region (Barbados, Dominica, Jamaica and Antigua-Barbuda); the remaining four, among the most severely affected Latin America and the Caribbean, are St Vincent and the Grenadines, St Lucia, Cuba and Belize.

One of the four manufacturing exporters, Nicaragua, actually improved its HDI score between 2019 and 2021, one of only two countries in the sub-region to do so (the other was Guyana). The Dominican Republic was one of the less severely affected, as we have just noted. Costa Rica and Panama, the remaining countries in this category, were both hit harder than the world average, but not as severely as for the wider region.

The agricultural exporters were among the most severely affected in the sub-region. Honduras' HDI loss (-1.7 percent) was just shy of the Latin American and Caribbean average, while Guatemala's score fell by 2.3 percent, reflecting a much greater loss than for the wider region.

Of the three mineral exporters, Guyana and neighbouring Suriname were at the opposite ends of the distribution of outcomes, with Trinidad-Tobago somewhere in the middle. Guyana's score rose by a remarkable 0.8 percent, thanks to the fact that the beginning of oil exports coincided with the onset of the pandemic. Suriname's HDI loss was severe (-3.3 percent) almost twice the average for the Latin American and Caribbean region. Trinidad-Tobago's HDI score fell 1.3 percent.

The two countries that depend mainly on remittances for foreign exchange did not fare badly, both losing ground compared with the world at large, but suffering smaller losses than the wider Latin American and Caribbean region.

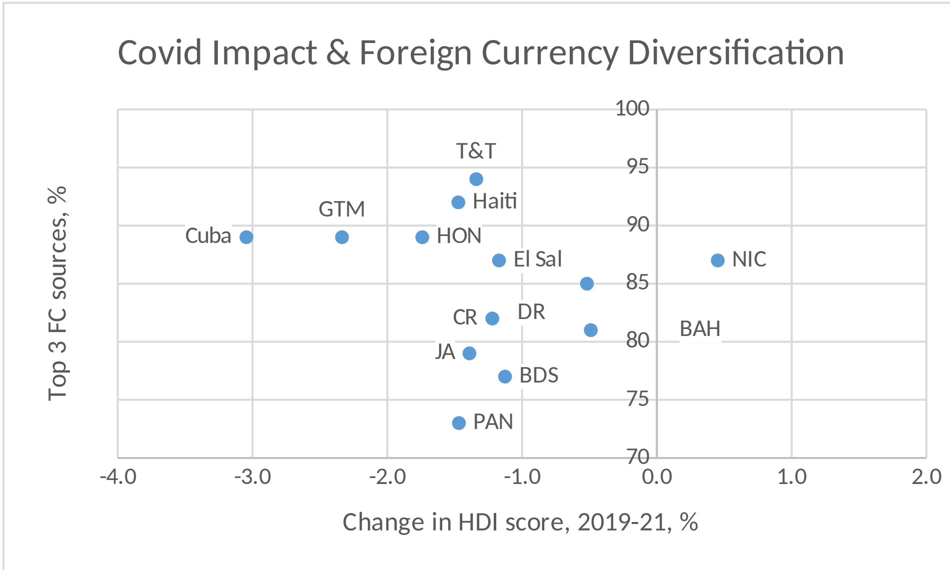
Summing up the impact of Covid-19 on the countries of Central America and the Caribbean

The four best performers in the Central American and Caribbean sub-region over the past 30 years - the Dominican Republic, Costa Rica, Trinidad-Tobago and Panama - were all among the less severely affected by Covid-19, and they would all have maintained their HDI advantage relative to the wider Latin American and Caribbean region during the pandemic. The tourism economies covered the entire range of outcomes: The Bahamas suffered the smallest loss in all of the sub-region, while Belize was the worst affected apart from Suriname. The outcomes for other tourism economies were situated all along the distribution. One of the manufacturing exporters (Nicaragua) made gains during the Covid years, while the others were among the least affected. In contrast, both the agricultural exporters suffered badly. Two of the mineral exporters, Guyana and Trinidad-Tobago, benefitted from the oil price boom, but we must seek further for the causes of Suriname's decline. The remittance-dependent economies were both among the countries that suffered relatively modest losses in HDI score.

Were more diversified economies less vulnerable to Covid-19?

It turns out that the Central American and Caribbean Region is not a good laboratory for testing whether more diversified small economies were more resilient than those that have a wider range of foreign currency sources. Figure 3 shows that even the region's most diversified economy, Panama, derived as much as 73 percent of foreign currency earnings from just three sources: exports of manufactured goods, tourism and revenues from the Panama Canal. Panama's HDI loss during the Covid-19 period, 1.5 percent, was a little more severe than the 1.3 percent loss suffered by Trinidad-Tobago, the region's least diversified economy, with as much as 94 percent of foreign earnings from the petroleum sector, tourism and income credits from overseas. Figure 3 reflects the fact that small open economies are limited in the range of products they can produce at internationally competitive prices by virtue of their small populations, even where they achieve high average levels of skill. It is in fact one of the factors that may be used to define economic size (Worrell, 2023). There is no evidence that the small differences in export concentration among Central American and Caribbean countries, all of whom are highly specialised exporters, made any difference to their Covid-19 experiences.

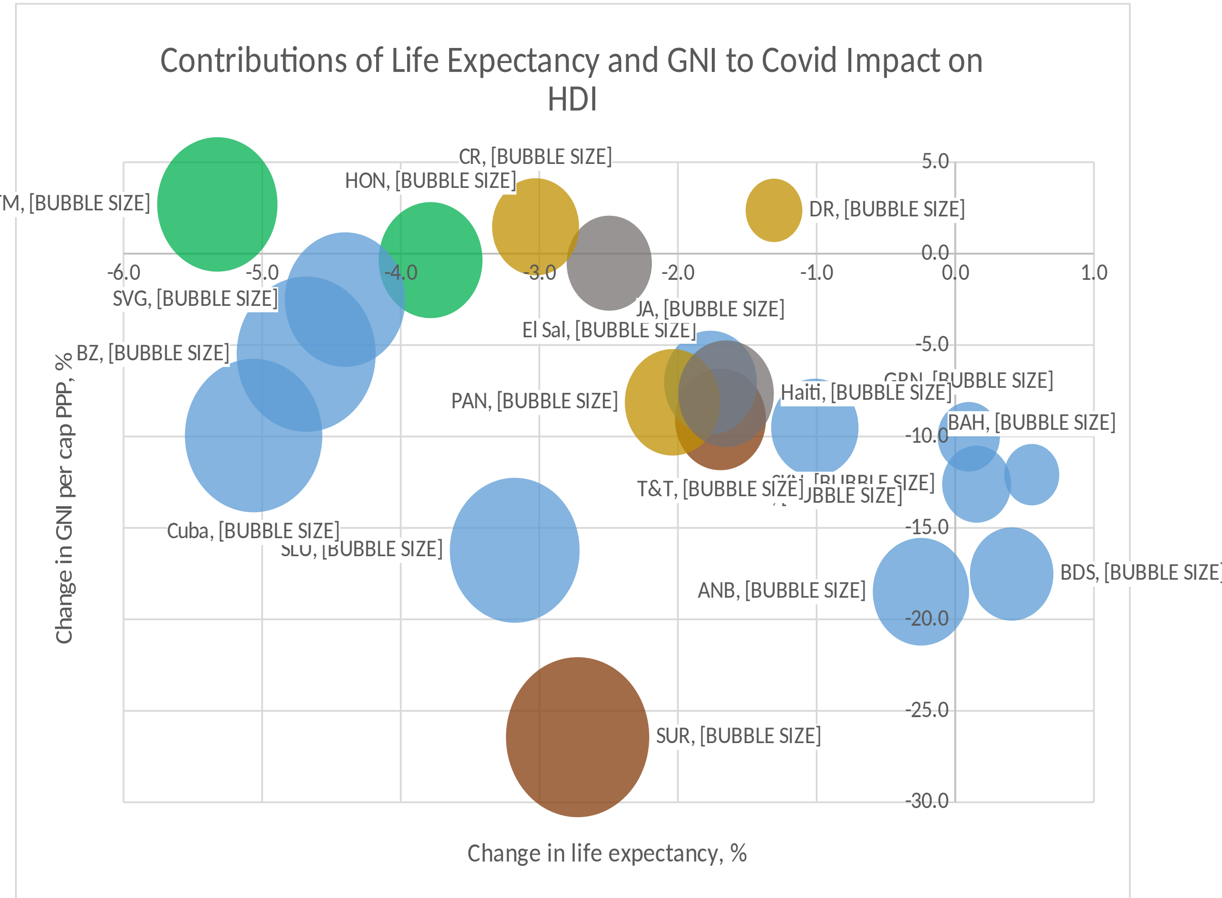
Figure 3.



The impact of Covid on income and life expectancy

In this section we examine two of the three components that make up the HDI, the GNI per capita at purchasing power parities and the average life expectancy at birth. Evidence of the impact on education of Covid shutdowns and remote instruction is not yet apparent in school dropout rates, and such evidence will not become apparent for many years. The impact of the pandemic will be long lasting, and a full assessment remains some time into the future. In this section we explore whether two of the three elements of the HDI score will help us to explain why some tourism economies did so much better than others; why exporters of manufactured goods did better than countries that exported mainly agricultural products; why the remittance-dependent economies were not more severely affected; and why Suriname did so badly. For the analysis we use Figure 4, which shows changes in GNI per capita at PPP on the vertical axis and changes in life expectancy on the horizontal axis, with the impact on the HDI score shown by the size of the bubbles. Suriname has the largest bubble because the 3.3 percent fall in that country's HDI score was the sub-region's most severe, while the bubble for The Bahamas is smallest, reflecting the fact that it was the least affected of the countries where the HDI score fell during the Covid years.

Figure 4.



The tourism economies that performed as well as, or better than, the manufacturing economies were those that minimised the loss of life from Covid. The Bahamas and the Dominican Republic each suffered a slippage of 0.5 percent in HDI score, the least severe among countries where the HDI fell between 2019 and 2021, despite the fact that GNI per capita for The Bahamas fell 12 percent, compared the Dominican Republic, where GNI per capita rose over the Covid years, by 2.4 percent. However, life expectancy in The Bahamas continued to rise during the Covid years, by 0.6 percent, whereas life expectancy in the Dominican Republic fell 1.3 percent. Life expectancy continued to improve in three other tourism economies, Barbados, St Kitts-Nevis and Grenada; they all suffered large cuts in GNI per capita, as much as 17.5 percent for Barbados, but their HDI losses were smaller than every country in the sub-region, except only the Dominican Republic, thanks to the gain in life expectancy.

Three of the manufacturing exporters made GNI gains between 2019 and 2021: Nicaragua, with a remarkable seven percent increase, the Dominican Republic and Costa Rica (1.5 percent). Panama was the only one in this category to suffer a loss of GNI per capita, and it was substantial, at 8.1 percent. However, what mainly determined the impact of Covid on the HDI was life expectancy. For Nicaragua, the loss in life expectancy was marginal, and as a result the country was one of only two in the sub-region to register an improvement in the HDI score (Guyana was the other). The Dominican Republic and Costa

Rica suffered HDI losses proportional to their life expectancy reduction. Panama's HDI loss was only slightly greater than for Costa Rica (1.5 percent compared with 1.2 percent) despite the wide disparity in GNI changes during the Covid years.

The outcomes for the tourism economies defy all the usual generalisations. It is not the case that the tourism economies were more heavily impacted by the pandemic than were countries that exported minerals, manufactured goods or agricultural produce. It is not the case that tourism economies were more severely impacted than more diversified economies. Some were, others were not. It is true that a majority of tourist economies suffered the largest contractions in GNI per capita at purchasing power parities. Antigua-Barbuda recorded the second largest decline in the sub-region, 18.5 percent; Suriname, with a loss of 26.4 percent, was the only country that was harder hit. At the other end of the scale, the GNI loss was only 2.5 percent for St Vincent and the Grenadines, a country where tourism has been the mainstay of the economy for two decades or more.

The extent to which the country was able to minimise the loss of life from Covid is clearly the factor that makes the difference between those tourism economies which suffered mild declines in their HDI score and those which were very severely affected. The four least affected economies, The Bahamas, Grenada, St Kitts-Nevis and Barbados, all registered gains in life expectancy over the 2019 - 2021 period, thanks to their low death rates from Covid. At the other extreme, high death rates in Cuba and Belize led to a fall in life expectancy in the region of five percent, and losses in their HDI scores that were among the most severe in the Central American and Caribbean sub-region.

The severity of the loss of life also accounts for the poor HDI outcomes for the countries whose main exports are agricultural products, Guatemala and Honduras. Guatemala's GNI per capita increased during the Covid years, and Honduras' stagnated, but did not decline. However, both countries recorded big losses in life expectancy.

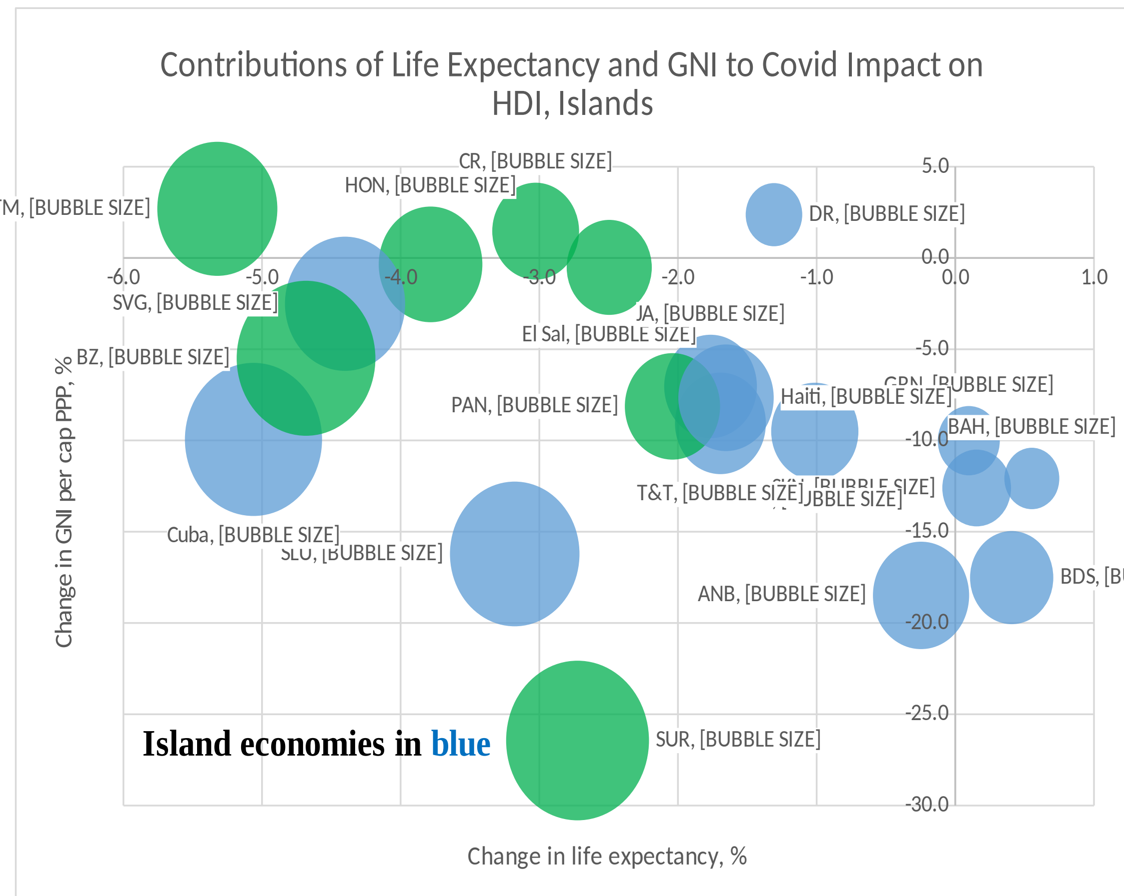
The mineral exporters are a disparate group. Guyana's exceptional gain in HDI score is entirely a result of the jump in GNI as a result of the start of oil exports. Had the GNI gain been less spectacular, the decline in Guyana's life expectancy - five percent - would have been reflected in major loss in the country's HDI score. The HDI outcome for Trinidad-Tobago is a combination of a nine percent loss of GNI, in the mid-range for the sub-region, and a modest 1.7 percent loss in life expectancy. Suriname's life expectancy fall of about three percent aggravated the impact of the contraction in the country's GNI.

The two countries which depend mainly on remittances as a source of foreign exchange were among those which were less severely affected by Covid. Of the twenty countries where HDI scores declined, El Salvador was number six, counting from The Bahamas, the least affected loser. In terms of the magnitude of losses, the decline in Haiti's HDI score (1.5 percent) was not as severe as the average for Latin America and the Caribbean (1.8 percent). In either case the outcome was a result of modest contraction in GNI and small percentage decline in life expectancy.

What emerges from this analysis is the primacy of minimising loss of life, as compared to loss of income, in reducing the adverse impact of the Covid-19 pandemic on HDI scores. Several tourism economies are among the smallest losers, even though this group suffered the largest GNI declines. Within the tourism group, the least affected were the countries where life expectancy continued to improve during the Covid period. Manufacturing and agricultural exporters avoided any negative impact on the GNI (except for Panama), but both agricultural exporters suffered major loss in HDI scores because of the decline in life expectancy, as did Costa Rica. In contrast, the HDI loss for the Dominican Republic was mild, because the decline in life expectancy was a modest 1.3 percent. Only very extreme GNI changes, such as were observed for Guyana and Suriname, are sufficient to make an impact on the HDI score.

It is evident from Figure 5 that the lesser losses in life expectancy of a majority of tourism economies are due mainly to the fact that they are island economies, and do not reflect superior health systems or better pandemic control policies. During the most virulent stages of the pandemic air traffic came to a standstill; this had a dramatic impact on incomes, with the loss of all tourist revenue. However, this loss of access kept the pandemic at bay; for most of 2020 the arrival numbers in island economics were so low that it was possible to detect most new cases, and track and trace contacts of affected purposes. Fortuitously, when air traffic reached volumes which made it impractical to continue these measures, less deadly strains of the virus had become prevalent. This combination of circumstances accounts for low death rates; life expectancy continued to rise in four of the 13 island economies between 2019 and 2021, and another six islands experienced losses of less than two percent. However, insularity provides only part of the explanation for the lesser impact on life expectancy, and there were three island economies where losses in life expectancy were among the worst in the region: St Lucia, St Vincent and the Grenadines and Cuba. The fact that Cuba suffered the worst health impact of any island economy is surprising, because the island is reputed to have a superior health system, sufficiently trained and staffed to allow the Cuban authorities to deploy medical teams to countries in the Latin America, the Caribbean, Europe and elsewhere.

Figure 5.



Several caveats apply with respect to the inferences so far. The Covid-19 pandemic is still with us as I write this in November 2022; its continuing effects on GNI and life expectancy will be reflected in future *Human Development Reports.* The effect of long Covid may well impact life expectancy into the future. Moreover, the present analysis is incomplete, because, as mentioned at the outset, the educational index included in the HDI is yet to show any effect of the pandemic. However, we know that education everywhere was interrupted by Covid, with effects that are bound to show up in the data in years to come. Beyond this, refinements of the HDI score, to account for income inequalities, will reveal that the apparent gains in Guyana's HDI score have overstated the gain in human development in that country, because it will take many years for the boom in oil revenues to affect the incomes of the average Guyanese.

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Table 1. Foreign Currency Earnings - Sources (% of foreign currency supply)

		Main	Other current sources > 10%	Largest exports, % of total exports
Tourist economies	ANB	84		
	BAH	62		
	BDS	56	Income 12, Exports 10 (rum), Other services 10	
	Cuba	47	Exports 29 (medicaments 7, cigars 7), transfers 13	
	DOM	59	Transfers 27	
	GRN	71		
	JA	33	Transfers 31, exports 15 (alumina 63, bauxite 11)	
	SKN	79		
	SLU	83		
	SVG	56	Transfers 13	
	BZ	43	Exports 41	
Mainly mfg	DR	36	Tourism 25, transfers 24	Medical instruments 10, cigars 10, elec apparatus 7, jewelry 6
	CR	47	Other services 19, tourism 16	Medical instruments 19, bananas 10, other fruit 9, orthopedic 6
	NIC	38	Agr 25, Transfers 22, other services 10, tourism 7	Garments 27, wire and cable 11, meat 10, coffee 9
	PAN	45	Tourism 16, other services 12	Pharmaceuticals 29, garments 16, cosmetics 5
Agr	GTM	49	Transfers 33, travel 7	Bananas 8, coffee 7
	HON	64	transfers 19, travel 6	Coffee 27, wire and cable 10, seafood 8, palm oil 7
Minerals	GUY	52	Other current inflows 14	Oil 40, gold 12 (2021 estimate)
	SUR	79		Gold, oil
	T&T	86		
Remittances	El Sal	42	Exports 35	Garments 24
	Haiti	68	Exports 22	Garments 36

Sources: UN Economic Commission for Latin America and the Caribbean, *Statistical Yearbook 2021*

IMF Staff Reports on Belize (May 10, 2022), Guyana (Sept. 27, 2022) and Suriname (March 25, 2022)