

## CUBAN LIVING STANDARDS, BROADLY DEFINED, BEFORE AND AFTER THE CUBAN REVOLUTION

John Devereux<sup>1</sup>

If the Cuban revolution is a defining event in twentieth century Latin American history, then the sixtieth anniversary in 2019 of the revolution provides us with an opportunity to examine the successes and failures of Cuban communism. For the economy, there is a consensus that economic growth after 1959 is disappointing. Put differently, the revolution did little to improve the material wellbeing of the Cuban people. Yet, defenders of the revolution will point to progress in other areas, most notably education and healthcare. As is well known, Cuban infant mortality is below U.S. levels and Cuban students do exceptionally well in standardized tests.

The Cuban achievements in health and education ensure that Cuba does well on broad measures of wellbeing. For example, Prados de la Escosura (2015a) shows that Cuba is one of the leading Latin economies in terms of human development.

Can broad measures of development, which include health and education, restore the case for the revolution? To answer, I study Cuba before and after the revolution using the Human Development Index (HDI) of the United Nations. My sample covers one hundred and fourteen economies for 1960, 1985 and 2017, bracketing the late Republic, the peak of the revolutionary economy in the mid 1980's and the aftermath of the "special period." The results confirm Prados de la Escosura's (2015a) Cuban paradox, as

Cuba ranks third in human development among Latin American economies for 2017.

How robust are the Human Development findings for Cuba? One frequently voiced criticism is that life expectancy and average years of education provide a misleading picture of Cuban healthcare and the quality of Cuban education. While the Cuban healthcare system is deficient in many ways and education suffers at the secondary and tertiary levels, I conclude that Cuban achievements in health and education are real, though they are unlikely to outlive Cuban communism. Rather, I argue that the HDI approach is flawed for a more basic reason: it ignores an important component of any useful measure of welfare—political and economic freedom. As it turns out, once we include freedom in the HDI, Cuba ranks close to the lowest in Latin America, which strengthens the case that the revolution failed the Cuban masses.

To conclude, I argue that the HDI approach is incomplete for a second reason as it ignores the fact that the Cuban successes in health and education arise from unique Cuban institutions which, in turn, depend on the coercive power of a Cuban state characterized by a large and well financed security apparatus. This means that Cuban approaches to health and education cannot work outside Cuba. Nor will they survive political and economic reforms which restore to Cubans their basic political and economic

---

1. I thank my discussant Roger Betancourt and other members of ASCE for helpful comments.

rights. Sadly, the legacy of the Cuban revolution is an economy in shambles as well as health and education sectors which will not survive political reform.

## A HUMAN DEVELOPMENT INDEX FOR CUBA

I begin by introducing the human development index (HDI)—the most widely used broad measure of development.<sup>2</sup> The HDI measures “capabilities” by adding education and health to standard income measures.<sup>3</sup> In its current incarnation, the HDI is the geometric index of income (Y) per capita as measured by Gross National Income (GNI) in purchasing power parity (PPP) terms, health as given by life expectancy (H), and education (E) as given by average years of education and expected years of education. For this paper, I use average years of education because expected years of education is not available for 1955 or 1985.

Equation (1) gives the HDI index for country  $i$ .

$$\text{HDI}_i = (\text{Y.H.E})^{1/3} \quad (1)$$

The UN scales the HDI sub-indices to ensure that they are bounded between zero and one using the following transformation of the  $i$ 'th HDI element.

$$\text{Index}_i = (\text{Actual Value}_i - \text{Minimum Value}_i) / (\text{Maximum value}_i - \text{Minimum Value}_i) \quad (2)$$

The U.N. measures income in logs thereby imposing diminishing returns to income. I will return to this assumption later.

I provide HDI indices for three years, 1960, 1985 and 2017. I chose 1960 over 1957 or 1958, as the sample is larger for 1960 while 1985 is usually seen as a peak year for the revolutionary economy.

## Data Sources

To construct the HDI requires purchasing power-adjusted income per capita as well as life expectancy and average years of schooling.

*Income per capita:* The HDI uses a measure of income which is compatible over time and across space. For 1960 and 1985, I use GDP per capita in chained 2011 PPP adjusted prices from the Maddison Project.<sup>4</sup> I use GDP per capita as I do not have GNI for 1960 or 1985. The 2017 estimates use GNI and are in 2011 PPP adjusted prices from the 2018 Human Development Report.<sup>5</sup> The difference between GNI and GDP per capita is small for most countries for 1960 and 1985.

The Cuban GDP per capita estimates for 1960 and 1985 are from Devereux (2019), who shows Cuba with a GDP per capita of 30% of the U.S. for 1960 and 20% for 1985. For 2017, I use PPP adjusted Cuban GNI in 2011 prices from the U.N. HDI report which puts Cuban income per capita in PPP terms at 12% of the U.S.—the ratio of Cuban GDP to US GDP is smaller due to the Cuban receipt of payments from Venezuela for the services of doctors and other professionals which increases GNI relative to GDP. The decline in the relative standing of Cuba since 1960 reflects the slow growth of the revolutionary economy.

*Life expectancy:* Life expectancy for 1955 and 1985 is from the Clio website.<sup>6</sup> For 2017, life expectancy is from the U.N. HDI.

*Education:* I use the same sources as life expectancy.

2. I will not cover the history of Cuba in published United Nations HDI measures as this would require a separate paper. See Mesa-Lago (2002) for an early discussion.

3. Ravallian (2012) provides a critical survey of the HDI, while Betancourt (1996) is an early application to Cuba, see also Betancourt (2004). A frequently voiced complaint about the HDI is that it does not generate different outcomes as compared to just using income per capita. While this is true for rich economies, it does not hold for poor economies. As we shall see, Cuba is a prime example why the HDI differs from income per capita.

4. These data are available at: <https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2018>. I use the chained indices as my main interest is in comparing human development at a point in time which requires comparisons in current prices. The rates of growth implied by the Maddison project series are less reliable.

5. The HDI dataset is at: <http://hdr.undp.org/en/content/human-development-index-hdi>.

6. The website is at <https://clio-infra.eu/>

**Table 1. Comparing Human Development, 1960, 1985 and 2017**

Year		HDI 1960		HDI 1985		HDI 2017		
1	United States	0.74	1	Switzerland	0.86	1	Switzerland	0.94
2	Switzerland	0.74	2	United State	0.85	2	Germany	0.94
3	Australia	0.74	3	Australia	0.83	3	Norway	0.93
4	Canada	0.72	4	Germany	0.83	4	Canada	0.92
5	Germany	0.70	5	Norway	0.83	5	United States	0.92
32	Jamaica	0.52	36	Lebanon	0.62	34	Malaysia	0.79
33	Chile	0.51	37	Poland	0.62	35	Trinidad	0.79
34	Poland	0.49	38	Jamaica	0.62	36	Panama	0.78
35	Cuba	0.48	39	Cuba	0.62	37	Cuba	0.78
36	Lebanon	0.48	40	Mexico	0.60	38	Barbados	0.77
37	Panama	0.46	41	Portugal	0.60	39	Argentina	0.77
38	Singapore	0.45	42	Malaysia	0.60	40	Iran	0.77
110	Nepal	0.12	110	Burundi	0.22	110	Central African R	0.34
111	Guinea	0.11	111	Mozambique	0.19	111	Chad	0.32
112	Mali	0.09	112	Mali	0.19	112	Burundi	0.32
113	Niger	0.08	113	Niger	0.17	113	Niger	0.30
114	Burkina Faso	0.07	114	Burkina Faso	0.16	114	Burkina Faso	0.30

Table 1 gives the results for 1960, 1985 and 2017 for the sample of 114 economies.<sup>7</sup> To summarize, I give the top five and the bottom five countries. In addition, I provide the Cuban ranking as well as the three countries scoring above Cuba and the three economies scoring below it.

The U.S. leads in human development for 1960 (first panel) followed by Western Europe. Cuba performs well and it ranks 35 out of 114 countries. For Latin America, Cuba is below Uruguay and Argentina because Cuban life expectancy (62.3 years) is lower than Uruguay (67) and Argentina (64.5).

The second panel considers 1985. Switzerland has replaced the US at the top of the ranking. The relative position of Cuba is almost unchanged—it is 39<sup>th</sup>, below Argentina, Uruguay and, surprisingly, Panama in Latin America. For this year, Panama scores well because of high life expectancy and years of education.

The final panel provides the rankings for 2017. Switzerland again leads in human development, with Norway, Germany and the US close behind. Despite mediocre growth, Cuba's ranking has increased slightly to thirty-seventh. Remarkably Cuba comes third in Latin America—behind Chile and Panama.<sup>8</sup> Cuba leads Argentina and Uruguay. It leads Costa Rica, a country it is often compared to. Cuba does well in 2017 because the improvements in health and education after 1960 outweigh the relative stagnation in income per capita.<sup>9</sup> By 2017, Cuban life expectancy at 80 years equals the U.S. It is above Latin America except Costa Rica. Cuban years of education (11.8) lead Latin America and are well above Portugal or Spain.

The rankings in Table 1 are close to those of Prados de la Escosura (2015a). Since Prados de la Escosura (2015a) uses a different measure of education as well as a different transformation of education and health,

7. I use the standard U.N. upper and lower bounds. Life expectancy, minimum 20, maximum 85; Mean years of education, minimum 0, maximum 15; GDP, minimum 100, maximum 75,000.

8. Between 2011 and 2017, income per capita for Panama increased by 40%.

9. The results in Table 1 illustrate two fundamental features of the HDI. First, there are different trends in GDP per capita and the HDI for most poor economies. Indeed, the growth in real income per capita and the growth in the HDI index are almost uncorrelated for the entire sample between 1960 and 2017. Second, the HDI tends to exhibit rapid sigma convergence over time, as the variance of the log of the HDI for the sample of economies in Table 1 has fallen dramatically since 1960.

Table 1 shows his results are robust in the sense they hold using standard U.N. HDI measures.

To sum up, the HDI shows revolutionary Cuba in a relatively good light, suggesting that its dismal economic performance is partly compensated for by improvements in health and education.

Next, I will consider some objections to the HDI findings. The first objection is that the health and education measures used in constructing the HDI are misleading for Cuba.

## LIFE EXPECTANCY AND EDUCATION FOR CUBA

### Life Expectancy

The explanation for Cuba's high life expectancy partly lies in its low infant mortality. The United Nations puts Cuban infant mortality—defined as the number of *deaths* per 1,000 live births of children under one year of age—at 4.2 for 2017, as compared to 4.3 for Canada and 5.6 for the U.S. Yet critics of the Cuban regime argue that infant mortality and life expectancy provide a false picture of the quality of Cuban healthcare.<sup>10</sup> Assume, for the moment, that life expectancy is correctly measured. We have good reason to suppose that the other parts of the Cuban healthcare system are less impressive. After the “spe-

cial period”, Cubans without access to foreign remittances have difficulty obtaining even the most basic drugs such as ibuprofen, bandages or aspirin. Simple sanitary items are scarce.<sup>11</sup> The accounts of visitors to the island suggest medical infrastructure is crumbling. A recent ethnographic study, Kohut (2018), finds that waits for basic care are long and patients have limited access to specialists.<sup>12</sup> Along similar lines, Hirschfeld (2007a, 2007b) shows that Cubans relied on black and grey markets for much of their medical care.<sup>13</sup>

Second, reported Cuban statistics for life expectancy and infant mortality are flawed. In an important series of papers, Gonzalez (2015) and Gonzalez and Gilleskie (2017) make a persuasive case that Cuban doctors mis-classify some infant deaths as still births, thereby reducing measured infant mortality. Their estimates suggest that, correctly measured, infant mortality may be twice the reported rate, which would put Cuba at the level of Costa Rica and above the U.S. and Canada. Their results are plausible.<sup>14</sup> But even if they are correct, Cuban infant mortality is still well below most of Latin America. Their adjustments might reduce Cuban life expectancy by at most a year or so. This will not change the Cuban HDI index by much.<sup>15</sup>

---

10. See for example, Berdine, Geloso and Powell (2018a, 2018b).

11. The situation appears to have worsened after 2016 and dramatically so in 2019 due to the Venezuelan crisis.

12. This is partly the result of the posting of thirty to forty thousand Cuban doctors to Venezuela and elsewhere discussed later.

13. The quality of Cuban medical education is an open question as media reports suggest textbooks and other teaching media have not changed since the 1990s. In the US, 75% of those with Cuban medical degrees failed in the exam of the Educational Commission for Foreign Medical Graduates for licensing in the U.S. While this might be explained by language, news reports suggest that Cubans and graduates of Cuban medical schools appear to have similar difficulties in Brazil and Costa Rica where language is less of a problem.

14. One should note that most countries, including developed countries, differ in how they measure infant mortality, see MacDorman and Mathews (2009), therefore adjusting the Cuban data is no easy task.

15. In other ways, life expectancy understates Cuban achievements. Ghislandi, Sanderson and Scherbov (2019) provide a measure which accounts for inequality in life expectation. Once we make this adjustment, Cuba improves in the ranking as its adjusted life expectancy is above the US.

Despite its problems, the Cuban system still receives a positive rating from medical professionals. For example, Cuban healthcare is ranked highly in the Social Progress Index and other comparative exercises.<sup>16</sup> There is a consensus, even among critics on the island, that the poorest Cuban has access to basic healthcare and there are few racial disparities in treatment.

### Average Years of Education

The HDI measures education by average years of education, thereby assuming education quality is the same in all countries. This is a problem for many poor economies. But it is less of a problem for Cuba, as Cuban students score highly on standardized tests at the grade school level. The evidence for this is long standing. Two decades ago the World Bank provided third grade reading tests covering eleven Latin American countries, see Gasperini (2000). The results, in Table 2, are remarkable. Though initially greeted with skepticism, the World Bank results were confirmed by subsequent work. For example, UNESCO (2008) shows that Cuba had the highest third and sixth grade math and reading scores for Latin America and the Caribbean and so on.<sup>17</sup>

The evidence for high school and college education is, however, less clear cut. For third level education, Cuban universities lack proper facilities and have poor libraries, with few textbooks and little connec-

**Table 2. Third Grade Reading**

	Bottom quartile	Median	Top quartile
Argentina	230	263	295
Bolivia	199	232	275
Brazil	228	256	283
Chile	225	259	294
Colombia	207	238	271
Cuba	305	343	380
Honduras	190	216	248
Mexico	194	224	260
Paraguay	198	229	264
Dominican R.	191	220	256
Venezuela	212	242	272

Source: Gasperini (2000, p. 23).

tion to the internet. Other problems include low salaries for teachers, high exam failure rates and so on, see Mesa-Lago and Vidal (2010). In addition, Locay (2003) and others, question the allocation of students to various disciplines.

Fortunately, the US labor market provides useful information on the quality of Cuban education. The working paper version of Schoellman (2011) found exceptionally low returns to Cuba education in the US labor market; at 2.2% per year of education, they were the lowest in his sample, where rates of 8% or 9% were typical. In response, Locay and Devereux (2018) show that the returns to Cuban education in the US labor market are roughly the same for Cuban migrants educated before and after the revolution suggesting an education of reasonable quality.<sup>18</sup>

16. The Social Progress and other healthcare rankings appear to be the work of outside “country experts”, who may not have a close association with Cuba. Here is worth recalling an earlier attempt to rank healthcare. The 2000 World Health Report (WHO 2000), in which countries were ranked in terms of access to healthcare, Cuba scored well on this measure. The WHO also ranked countries in what it called the “responsiveness of their healthcare systems.” The WHO scored health care systems from zero to ten on criteria such as dignity, autonomy and confidentiality along with prompt attention, quality of basic healthcare amenities, and access to social support networks during care and choice of care provider. The WHO then combined scores for each component into a composite overall score using the results of a cross-country survey on preferences for health care. As we might expect, rich developed economies dominate the ranking. The U.S. is, by some distance, at the top of the rankings, followed by Switzerland, Luxembourg, Denmark, Germany and Japan. Cuba is down the pack at 116, tied with Guatemala, while Chile is 45 and Costa Rica comes in at 68.

17. Carnoy, Gove and Marshall (2007) argue that the tests results are representative of Cuban education at the elementary level.

18. However, Locay and Devereux (2018) find that the returns to experience in the U.S. labor market for Cuban migrants fell dramatically after the revolution, reflecting the fact that experience in a planned economy has little value in the U.S.

I conclude that Cuban achievements in education and healthcare are real.<sup>19</sup>

### DIMINISHING RETURNS TO INCOME

By using the log of income per capita, the HDI assumes diminishing returns to income. This assumption is an important one. Without diminishing returns to income, Cuba improves slightly for 1960, rising to 34<sup>th</sup>. For 1985, Cuba drops to 42<sup>nd</sup> while for 2017 it drops to 60<sup>th</sup>—below countries like Peru and the Dominican Republic.

The assumption of diminishing returns is defensible on two grounds. First, there is considerable empirical evidence supporting diminishing marginal utility of income, see Layard, Mayraz and Nickel (2008). Second, the logic of the HDI requires diminishing returns to income, see Betancourt (1996) and Prados de la Escosura (2015b). Without diminishing returns, income per capita would dominate the HDI rankings as income is unbounded while life expectancy and years of education have clear upper bounds. After all, this is why social scientists turned from income to broad measures of development in the first place.

In what follows, I assume diminishing returns to income.

### AN IMPORTANT OMISSION—FREEDOM

For Cuba, the most important omission from the HDI is freedom. Cuba denies its citizens basic human and political rights. It restricts their economic freedoms and it remains a society where the authorities control the dissemination of information and ruthlessly quash dissent. As a result, Cuba has long scored at the bottom, or close to the bottom, of the

standard rankings of human rights and personal freedom. To be sure, Cuba has made some moves in recent years towards an open society, but it has a long way to go.<sup>20</sup>

If personal freedom is as important for human capabilities as income, education and healthcare then the Human Development Index becomes (3) where F measures personal freedoms and where HDI II refers to the extended HDI.

$$\text{HDI II} = (\text{Y.H.E.F})^{1/4} \quad (3)$$

Various measures of personal freedom exist—there is the Heritage Foundation index of economic freedom, the Freedom House measures, the indices from the Varieties of Democracy Project and so on. I prefer the Heritage Foundation index of economic freedom as it is a broad measure encompassing economic and personal freedoms. Fortunately, the results are similar using other indices as Cuba scores exceptionally low on all.

Table 3 gives the results for 2017 using the extended HDI (HDI II). The first panel repeats the 2017 results from Table 1. The second and third panels give the results for human development including freedom (HDI II). I use the Heritage index of economic freedom in HDI IIA, while I use the Freedom House index of political rights in HDI IIB. The sample size falls by two as Iraq and Libya are not in the Heritage index.

As we might expect, Cuba does poorly when we include freedom. Using the Heritage Index, Cuba ranks 62<sup>nd</sup> out of 112. The Latin American countries below Cuba are El Salvador, Guatemala, Bolivia, Nicaragua, Honduras and Venezuela. Using the Freedom House Index of Political Rights, Cuba falls

19. To properly evaluate the effects of the revolution on human development, we should compare revolutionary outcomes to a counterfactual of what would have occurred had the revolution failed. There seems little doubt that income per capita would be higher without the revolution even with the modest growth rates of the 1950s. In addition, aggregate health outcomes might be the same or better given the well-developed Cuban health system of the late Republic with its low levels of infant mortality though access may be less equal. After all, it is hard to imagine a situation where simple medications such as aspirin would be unavailable in the context of the Republic. For education, however, the arguments for the revolution are stronger—at least at the primary level. Finally, the question of a counterfactual is a complicated one as it requires us to consider how healthcare and education have evolved over time. It may well be the case, that the revolution realized gains, particularly in education, earlier than the alternatives.

20. Betancourt (2019) documents how Cuba has made progress in basic human rights such as freedom of expression. So far, progress in areas such as property rights is minimal. Ben-Yishay and Betancourt (2010) make a persuasive case that such rights are crucial for growth.

**Table 3. Human Development Index, including Freedom, for 2017**

		HDI 2017		HDI II 2017 A		HDI II 2017 B		
1	Switzerland	0.94	1	Switzerland	0.86	1	Switzerland	0.95
2	Germany	0.94	2	Singapore	0.85	2	Norway	0.94
3	Norway	0.93	3	Australia	0.83	3	Germany	0.94
4	Canada	0.92	4	Canada	0.82	4	Canada	0.94
5	United States	0.92	5	New Zealand	0.81	5	Australia	0.93
34	Malaysia	0.79	59	Brazil	0.50	72	Tanzania	0.53
35	Trinidad	0.79	60	Ecuador	0.50	73	Iran	0.53
36	Panama	0.78	61	Tunisia	0.48	74	Lesotho	0.52
37	Cuba	0.78	62	Cuba	0.48	75	Cuba	0.52
38	Barbados	0.77	63	El Salvador	0.48	76	Egypt	0.51
39	Argentina	0.77	64	Viet Nam	0.47	77	Madagascar	0.50
40	Iran	0.77	65	Guatemala	0.46	78	Nigeria	0.50
108	Central African R	0.34	108	Central African	0.21	108	Niger	0.34
109	Chad	0.32	109	Burundi	0.20	109	Gambia	0.33
110	Burundi	0.32	110	Chad	0.19	110	Burundi	0.28
111	Niger	0.30	111	Burkina Faso	0.19	111	Chad	0.28
112	Burkina Faso	0.30	112	Niger	0.18	112	Central African R.	0.25

further in the ranking, to 75<sup>th</sup> position, where it is bracketed by Lesotho and Egypt. On this measure, Cuba has the lowest HDI in Latin America.

### HEALTHCARE, EDUCATION AND FREEDOM

The HDI measures of Table 2 and Table 3 will mislead the unwary in that they suggest that Cuban outcomes for education and healthcare are independent of political and human rights. In other words, the HDI approach implies that we can adopt Cuban policies for health and education without having to adopt the Cuban political system. Alas, this is not the case, as Cuban education and healthcare require a unique set of institutions which, in turn, depend for their existence on the coercive power of the Cuban state.<sup>21</sup> The easiest way to see why the HDI for Cuba breaks down in this fashion is infant mortality.

#### Infant Mortality

After the revolution, Cuba prioritized education over healthcare and infant mortality actually increased during first decade of the revolution, peaking at 47 in

1969, see Díaz-Briquets (1983)—well above the 1950s levels. Starting in the early 1970s, Cuba targeted infant mortality.<sup>22</sup> Since then, reducing infant mortality has preoccupied Cuban policy makers, receiving attention at the highest levels of government. By 1989, infant mortality was down to 11. Infant mortality continued to decline during the “special period” despite the collapse in Cuban income.

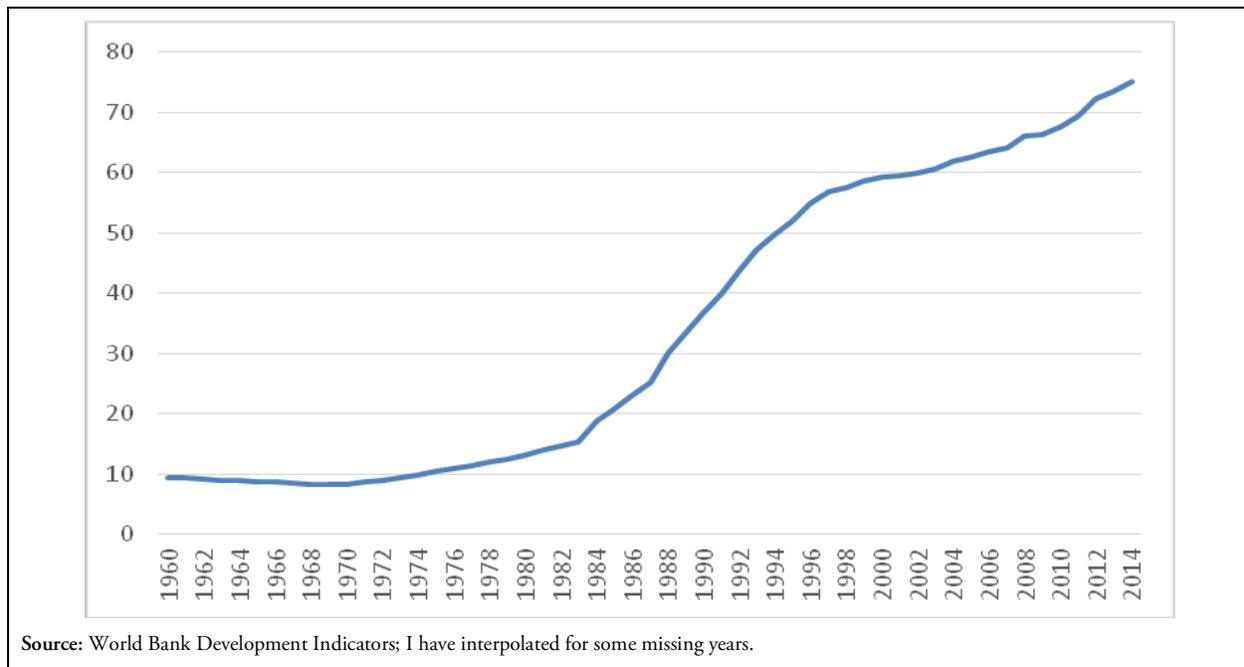
How did Cuba reduce infant mortality? The standard explanations point to Cuba’s unique system of community healthcare.<sup>23</sup> The policies can be summarized as follows: In 1965, Cuba instituted its system of community-based polyclinics. These efforts were redoubled in the 1970s when the authorities introduced a building program for hospitals and polyclinics. As outside researchers note, the emphasis in this period was on primary healthcare and preventative medicine. The final stage in Cuba’s move to community medicine came in 1984, when Cuba introduced neighborhood clinics called *consultorios*.

In contrast to these accounts, I would emphasize two additional factors as explaining Cuban achievements.

21. The following section draws on an earlier paper, Devereux (2010). More recently, Berdine, Geloso and Powell (2018a, 2018b) emphasize the problem of coercion in interpreting Cuban health outcomes.

22. See Eberstadt (1988).

23. See Drain and Barry (2010) for references.

**Figure 1. Doctors per 10,000, 1960–2014**

The first is Cuba's uniquely high labor inputs to healthcare. As it turns out, Cuban healthcare is underpinned by extraordinary amounts of doctors and nurses—among the highest per capita in the world.

To show Cuba's investment in doctors, Figure 1 traces the evolution of doctors in Cuba as measured by doctors per 10,000 population.

The number of doctors per capita fell during the early 1960s with migration. Starting in the early 1980s, Cuba trained a very large number of doctors and other health professionals. The rise in doctors per capita has been astonishing. Doctors per 10,000 population went from 13 in 1980, high by developed country standards, to 36 in 1990 and 59 in 2000, representing a remarkable investment by a poor economy.<sup>24</sup>

The second reason why infant mortality declined is that the Cuban government focused single mindedly on infant mortality over other medical objectives using unique institutional features of the Cuban system. This has gotten little attention from researchers

as for the most part, outside doctors and scholars rely on statistics or on short visits to Cuba rather than direct observation of how the Cuban healthcare system works. Indeed, there is a dearth of fieldwork for Cuba and what exists, from Kath (2006, 2010) and Hirschfeld (2007a, 2007b), relates to the late 1990s and early 2000s.<sup>25</sup> The available ethnographic accounts show that the Cuban authorities alter the behavior of patients and healthcare providers in ways that tend to reduce infant mortality using tools that are not available in more open societies.

Take doctors: all indications suggest that Cuban doctors make exceptional efforts to ensure the health of pregnant women. The explanation for their actions is straightforward. The Cuban state places extraordinary pressure on doctors and hospitals to ensure healthy births. The best evidence for this is seen in the fact that the authorities carefully investigate every infant death. They can and do impose severe sanctions on doctors and hospitals. As a result, health workers pay particularly careful attention to pregnant

24. For later years the estimates for doctors are harder to interpret because they appear to include doctors outside Cuba working on medical missions for the Cuban government most notably in Venezuela.

25. More recently, there is Kohut (2018).

mothers and young infants, perhaps to the exclusion of other patients.<sup>26</sup>

As we have seen, the Cuban system places family doctors and clinics in each community, which allows doctors to monitor the health of pregnant women and young infants to a greater degree than is possible for developed economies, where privacy and confidentiality are prized. Finally, Cuba allows doctors to compel actions from mothers that likely reduce measured infant mortality using tools not present in other societies. I will give two examples. The first is Cuban maternity homes.

**Maternity Homes (*hogares maternos*):** Initially, Cuba developed its maternity homes as a way of ensuring safer pregnancies for rural women with limited access to healthcare. Over time, the role of the maternity home changed. Eventually, women who are underweight, women pregnant with twins and women who have what Kath (2006, p. 357) calls “social problems” are assigned to maternity homes. Stays are as short as a few days or they can last for the entire pregnancy. During the early 1970s, 4% of mothers used maternity homes. By 1989, this had increased to 23%. By 2000, 40% of mothers were resident for some period in the homes, see Sixto (2002). Recent accounts in the Cuban media suggest the system has continued to the present.

The maternity homes improve nutrition and provide health care to at risk women.<sup>27</sup> The choice of whether

to send women to maternity homes is made by family doctors in conjunction with the local organs of the state. It may be the case that women have little say in the matter. For the late 1990s, as Kath (2006, p. 358) documents, they needed official passes to leave the building. Kath (2006) also shows that women are sometimes kept against their will.

The second, more controversial, example is the termination of pregnancies.

**Terminating Pregnancy:** In the Cuban system, pregnant women are compelled to have at least two ultrasound tests, with more when there are signs of trouble. Among some observers, there is a belief that the appearance of abnormalities or any indication of potential problems leads to abortion. We do not know much pressure doctors apply to mothers in these circumstances, but accounts from émigrés suggest that it is overwhelming. In extreme cases, there may even be forced abortions.<sup>28</sup> What is certain is that Cuba has a high abortion rate. Over recent decades, the abortion rate averaged between 35 and 45 for each one hundred live births.<sup>29</sup>

We cannot determine the role that maternity homes and the termination of risky pregnancies have played in reducing Cuban infant mortality.<sup>30</sup> The point of this discussion, however, is that pregnant women in Cuba appear to have no choice about maternity

---

26. These pressures lead doctors to underreport infant deaths as outlined in an earlier section. They may also explain why maternal mortality is so high for Cuba given its low infant mortality.

27. I suspect that these homes have played a key role in reducing low weight births. The proportion of Cuban babies born underweight is low even by developed economy standards. This was not always the case. In 1974, 12% of children were born underweight. Since then the proportion has fallen to 6%, see Sixto (2002) and WHO (2008).

28. Kath (2006) and Hirschfeld (2007a) provide instances of what appeared to be compulsory abortions. It is also worth noting that one of Cuba’s best-known dissidents, Dr. Oscar Biscet, was imprisoned for his role in publicizing what he claimed were cases of forced abortions.

29. See Henshaw, Singh and Haas (1999) for comparative data. Others who have worked in the Cuban system suggest the true number is higher.

30. Berdine, Geloso and Powell (2018a) also emphasize the importance of abortion.

homes, and if certain accounts are true, they may also have little choice about abortion.<sup>31</sup>

How much of the reduction in infant mortality is rooted in the power of the Cuban state? The short answer is that we do not know. One way of thinking about this question is to consider the effects of political liberalization on Cuban healthcare. Reform will surely lessen the Cuban physician's ability to monitor and coerce their patients. It will reduce the power of the state to punish doctors who do not meet targets for infant mortality. It will also lead to resources going elsewhere in the health sector. Perhaps most importantly, reform will reduce the number of healthcare professionals in the system as doctors (and nurses) will leave for higher incomes elsewhere given that current salaries are less than one hundred U.S. dollars per month. Recent accounts suggest that this is already happening in Cuba. One would expect the exodus of health professionals to be felt most severely in the poorer Eastern provinces of Cuba.

To summarize, if the successes of the Cuban system arise from a unique institutional setting and from the large numbers of poorly paid doctors and other medical professions, then the quality of healthcare must suffer with a move to a more open, albeit still poor, society. A similar argument holds for education given that high labor inputs and centralized control of teachers and parents underpin Cuban education at the lower grades.

### CONCLUDING COMMENTS

Cuba does well in broad measures of development such as the U.N. Human Development Index. Yet these findings should provide little solace to support-

ers of the revolution, as the positive results for Cuba require us to ignore Cuba's dismal record for political and economic freedom. Taking freedom into account, Cuba goes from a leading Latin economy in 2017 to close to the lowest in the region.

The HDI results for Cuba are problematic for a second reason, as the HDI disguises the fact that the Cuban model of health and education depends on unique Cuban institutions that cannot be replicated outside Cuba, as the suppression of patient and parental rights inherent in Cuban healthcare and education is unlikely to have wide appeal in a democracy. It is also unlikely that poor economies could fund such a labor-intensive approach to healthcare or education without centralized control of the labor market. Moreover, even if developing economies had the political will to impose the Cuban model of health and education, as is perhaps the case in Venezuela, they are unlikely to have the institutional capabilities to do so. While the Cuban successes are real, the lessons of the Cuban model for other developing economies are few. Finally, any lessening in the power of the Cuban state will lead to an exodus of doctors and teachers with immediate consequences for healthcare and education implying that Cuban educational and healthcare systems in their current forms are unlikely to survive political liberalization.

In sum, the legacy of sixty years of revolutionary rule is a shattered economy and health and education systems that will have to be rebuilt from scratch. While broad measures of development are important for Cuba, they are unlikely to rescue the revolution from its critics.

---

31. A more controversial question regards the forced sterilization of women with physical or mental disabilities. Consider the following account from a Cuban doctor interviewed by Kath (2006, pp. 358–359): “We had at one stage a problem with a nineteen-year old patient who had a slight mental delay but she was in secondary school ... [and she was] a patient with whom one could have a conversation. She fell pregnant with [a heart condition that prevented a normal pregnancy] meaning we had to order a termination... Despite the fact that we recommended very specifically that this patient should *not* be sterilized the obstetrician responsible for carrying out the pregnancy termination on this young woman went ahead and sterilized her, without our consent, without the patient's consent and without the family's consent.”

## REFERENCES

- Carnoy, M., Gove, A. K., and J. H. Marshall. (2007). *Cuba's Academic Advantage: Why Students in Cuba do Better in School*. Stanford University Press.
- Ben-Yishay, A. and R. Betancourt, (2010). "Civil Liberties and Economic Development." *Journal of Institutional Economics*, 6: 281–304.
- Berdine, G., V. Geloso and B. Powell. (2018a). "Cuban Infant Mortality and Longevity: Health Care or Repression?." *Health policy and planning*, 33: 755–757.
- Berdine, G., V. Geloso and B. Powell. (2018b). "Cuban Infant Mortality and Longevity: Health Care or Repression? A reply." *Health policy and planning*, 33: 764–765.
- Betancourt, R. (1996). "Growth Capabilities and Development: Implications for Transition Processes in Cuba." *Economic Development and Cultural Change*, 44: 315–331.
- Betancourt, R. (2004). "The Role of the State During a 'Democratic' Transition: Cuba." Cuba Transition Project, Institute of Cuban and Cuban–American Studies, Miami: University of Miami.
- Betancourt, R. (2019). "Cuba's 'Structural' Reforms: Missed Opportunities and Lower Living Standards." Unpublished, University of Maryland.
- Devereux, J. (2010). "The Health of the Revolution: Explaining the Cuban Healthcare Paradox." Working Paper.
- Devereux, J. (2019). "The Absolution of History: Cuban Living Standards after Sixty years of Revolutionary Rule." Working Paper.
- Díaz-Briquets, S. (1983). *The Health Revolution in Cuba*. Austin. University of Texas Press.
- Drain, P. and M. Barry. (2010). "Fifty Years of U.S. Embargo: Cuba's Health Outcomes and Lessons." *Science*, 328: 572–573.
- Eberstadt, N. (1988). *The Poverty of Communism*. New Brunswick, NJ: Transaction Publishers.
- Gasperini, L. (2000). *The Cuban Education System: Lessons and Dilemmas*. World Bank Studies: Education Reform and Management Publication Series, Vol. 1, No. 5.
- Ghislandi S., W. Sanderson, and S. Scherbov. (2019). "A Simple Measure of Human Development: The Human Life Indicator." *Population and Development Review*, 45: 219–233
- Gonzalez, R. M. (2015). "Infant Mortality in Cuba: Myth and Reality." *Cuban Studies*, 19–39.
- Gonzalez, R. M., and D. Gilleskie. (2017). "Infant Mortality Rate as a Measure of a Country's Health: a Robust Method to Improve Reliability and Comparability." *Demography*, 54: 701–720.
- Henshaw, S., S. Singh, and T. Haas. (1999). "Recent Trends in Abortion Rates Worldwide." *International Family Planning Perspectives*, Volume 25.
- Hirschfeld, K. (2007a). *Health, Politics, and Revolution in Cuba Since 1898*. New Brunswick, New Jersey, Transaction Publishers.
- Hirschfeld, K. (2007b). "Re-examining the Cuban Health Care System: Towards a Qualitative Critique." *Cuban Affairs*, Vol. 2, Issue 3.
- Kath, E. (2006). "Father Knows Best? Cuba's Proactive Approach to Healthcare." *Cuba in Transition*. Association for the Study of the Cuban Economy, Washington, D.C. Volume 16.
- Kath, E. (2010). *Social Relations and the Cuban Health Miracle*. Routledge.
- Kohut, I. (2018). "The Cuba Paradox: An Assessment of Primary and Maternal Healthcare in Cuba Today." University of Pennsylvania.
- Layard, R., G. Mayraz, and S. Nickell, S. (2008). "The Marginal Utility of Income." *Journal of Public Economics*, 92: 1846–1857.
- Locay, L. (2003). "How Prepared is Cuba's Labor Force to Function in a Market Economy?" *Cuba in Transition*. Association for the Study of the Cuban Economy, Washington, D.C. Volume 13.

- Locay, L. and J. Devereux. (2018). "Comparing the Quality of Education in Pre- and Post-Revolutionary Cuba." *Cuba in Transition*. Association for the Study of the Cuban Economy, Washington, D.C. Volume 28.
- Mesa-Lago, C. (2002). "Cuba in the Human Development Index in the 1990s: Decline, Rebound and Exclusion." *Cuba in Transition*. Association for the Study of the Cuban Economy, Washington, D.C. Volume 12.
- Mesa-Lago, C, and P. Vidal. (2010). "The Impact of the Global Crisis on Cuba's Economy and Social Welfare." *Journal of Latin American Studies*, 42: 689–717.
- MacDorman, M. and T. J. Mathews. (2009). *Behind International Rankings of Infant Mortality: How the United States Compares with Europe* Hyattsville, MD: National Center for Health Statistics.
- Prados de la Escosura, L. (2015a). "Human Development as Positive Freedom: Latin America in Historical Perspective." *Journal of Human Development and Capabilities*, 16: 342–373.
- Prados de la Escosura, L. (2015b), "World Human Development, 1870–2007." *Review of Income and Wealth*, 61: 220–247.
- Ravallion, M. (2012). "Troubling Tradeoffs in the Human Development Index," *Journal of Development Economics*, 99: 201–209.
- Schoellman, T. (2011). Education Quality and Development Accounting. *The Review of Economic Studies*, 79: 388–417.
- Sixto, F. (2002). "An Evaluation of Four Decades of Cuban Healthcare." *Cuba in Transition*. Association for the Study of the Cuban Economy, Washington, D.C. Volume 12.
- UNESCO. (2008). *Student Achievement in Latin America and the Caribbean*. Santiago, Chile.
- World Health Organization. (2000, 2008). *Annual Health Report*. United Nations.