CUBA'S DEMOGRAPHIC EVOLUTION SINCE THE REVOLUTION: A REGIONAL COMPARATIVE PERSPECTIVE

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Three partially concurrent global demographic developments have been underway since the second half of the Twentieth Century, a period largely coinciding with the years the Castro brothers have held sway over Cuba's destiny. These are the continuation and, in the case of some countries, conclusion of the so-called demographic transition; the onset of rapid population ageing; and, by numerical standards, unprecedented international migration flows. For years to come, the combined effects of these demographic trends will contribute to shaping Cuba's social and economic future, as well as those of other nations. How these trends evolved, including their pace, has also much to say about intended and unintended consequences of past political, economic and social policy prescriptions.

GLOBAL DEMOGRAPHIC TRENDS

Demographic Transition

The demographic transition, by now running its course in many countries, has seen a gradual shift from an ancient regime of high mortality and fertility, to one of sustained mortality decline, eventually followed by a gradual shift to lower fertility. Under the former regime, positive population growth rates were modest and often upended by unpredictable pandemics and other calamities. This dismal balance first began to be altered in the European continent as the Columbian exchange, the Industrial Revolution, economic growth and public health advances, among other determinants, gradually began to ease death's persistent hold. The forces unleashed by these developments eventually gave rise to conditions favoring fertility declines.

Gradually, as further medical and socioeconomic advances were achieved, the demographic transition spread to other continents, even though today it is still underway in many countries, including the poorest nations. The timing of the appearance of the demographic transition has been uneven and hinged, among other factors, on a country's relative development and a plethora of cultural and religious traditions. By the early 1960s, it was well underway in some of the most advanced developing countries, including Cuba, as death rates continued on a downswing, while fertility declined under the influence of socioeconomic improvements, higher educational attainment, and other "modernizing" influences. The demographic transition further accelerated with the appearance of effective modern contraceptives and adoption in many nations of increasingly comprehensive national family planning programs.

Currently the demographic transition has essentially run its course in North America and the higher and middle income countries (as defined by the World Bank) of the Eurasian landmass (including China and Southeast Asia), as well as in Australia and New Zealand. It is also nearing its end in most Latin American and Caribbean (LAC) nations. Much ground remains to be covered in lower income Asian countries and, particularly, in Africa where despite substantial mortality declines, fertility rates remain stubbornly high.

Population Ageing

The second overlapping demographic development, largely unforeseen even a few decades ago when population theoreticians were uncertain about what would follow the achievement of the demographic transition, has been "population ageing." As with the demographic transition, the transition to older age structures is spreading gradually, its breath and speed depending on the stage at which a country is with respect to this paradigmatic population shift. As it is widely known, the process is well-advanced among high income countries, already in evidence or just starting in middle income countries, and still to come in low income countries. In many of the richer countries, population growth has not only ceased; it has also turned or will soon turn negative, as the number of deaths exceeds the number of births. As ageing proceeds, it is sometimes delayed by age structure effects and, in some countries, by high net positive migration rates.

International Migration

Upon the above scenarios is superimposed still another demographic development that—while not unique from a historical perspective—is remarkable in terms of its current quantitative extent: international migration. Starting in the late XV Century the discovery voyages led to unprecedented population transfers across continents, while simultaneously contributing to major social catastrophes through genocidal conquests, the Transatlantic slave trade and the exchange of deadly contagious agents lethal to populations not previously exposed to them. In some respects, the higher population growth rates associated with Europe's demographic transition onset would play a decisive role in inducing the late XIX and early XX Centuries migratory flows from the old continent to overseas global destinations as push factors were enhanced. A similar process is currently underway, this time involving migrants departing low and middle income countries in which rapid population growth exacerbates political, economic and social problems, leading many to seek better alternatives elsewhere.

ANALYTICAL OBJECTIVES

I will review, in the following pages, how these trends have evolved in Cuba since around 1960, including how they have molded the country's current population profile. The review relies on a number of statistical tables. In a closing summary, some conclusions are offered regarding the implications of the comparative analysis:

- from the perspective of Cuba's demographic profile at the onset of the revolution;
- teasing out how policy choices contributed to the evolution of demographic trends; and
- considering how these trends may influence future developments in the country.

Data Source, Demographic Variables and Statistical Aggregates/Countries to be Examined

The data source used in this paper is the comprehensive United Nations compilation of demographic data in the Population Division's *World Population Prospects 2019* (United Nations 2019), the latest of this triennial series. This most recent iteration provides population estimates since the 1950s for 235 countries or areas, together with alternative population projections to the year 2100. Among the report major findings are that: the population of the world continues to grow, albeit at a slower pace; fertility rates continue to be high in some countries, as in others population growth is declining due to lower fertility or emigration, or both; there is a growing longevity gap between the richest and poorest countries; and the world's population is ageing rapidly, particularly in some countries.

Demographic Variables: The variables to be considered include those related to population size and growth (absolute population change for both sexes combined; annual rate of population change in percentages; and annual rate of natural increase)[1], a fertility indicator (the total fertility rate);[2] two mortality indicators (infant mortality rate and life expectancy

1. Crude birth rate minus the crude death rate. Represents the portion of population growth (or decline) determined exclusively by births and deaths. It is expressed as number of births per 1,000 population.

at birth for both sexes combined); two international migration indicators (net migration rate and net number of migrants); and four age structure indicators (median age of the population and total, child and old age dependency ratios).[3]

Comparison Aggregates/Countries: In conducting the exercise, Cuba's demographic evolution will be contrasted with that of several major population aggregates and a select number of purposively chosen Latin American and Caribbean (LAC) countries. For overall comparative purposes, comparisons are made with global and LAC population aggregates, together with global aggregates by income level (high, medium, low) as defined by the World Bank and adopted by the Population Division.[4] LAC comparison countries were differentiated according to four different grouping criteria, as follows.

- Costa Rica and Chile, two countries that in the early 1960s, resembled Cuba in terms of selected socioeconomic and demographic indicators;
- Several smaller Caribbean and Central American countries—including some of Cuba's closest geographical neighbors—at different demographic transition stages at the beginning of the period;
- A number of larger Central and South American countries—Mexico included—lagging behind other LAC countries in their demographic transitions in the early 1960s; and
- Argentina and Uruguay, the two countries leading the early LAC demographic transition.

Population Growth, Annual Rates of Population Change, and Natural Increase Rates

As shown in Table 1, while between 1960 and 2020, the global population is projected to increase from 3 to 7.8 billion people, or by 256%, Cuba's will increase by a more modest 159%, from 7.1 to 11.3 million. Cuba's relative population growth will be well below that of the globe and of the LAC region as a whole (196.6%), and also considerably lower than that of other middle income countries. Proportionally, it will expand at about one-third the rate of low income countries while growing at about the same pace as the richer countries. Only Puerto Rico and Uruguay in LAC will experience lower relative growth. One interesting outcome of these growth patterns, seldom noted, is that by 2020 some LAC countries that in 1960 had populations of about the same size as Cuba, have far more inhabitants today (Chile, Peru, Venezuela), while others with formerly smaller populations have caught-up with Cuba (Dominican Republic, Honduras), or exceed Cuba's population size (for example, in Ecuador, not shown, where the population is projected to rise from 4.5 million in 1960, to 17.6 million in 2020).

These varying population growth patterns are of course reflected in the estimated annual rates of population change, shown in Table 2. During the 1960–65 quinquennium, Cuba's was similar to those of middle income countries, while below those of high income countries. Meanwhile, rates for most middle income LAC countries were initially higher than for all middle income countries combined, but gradually began to converge attaining near parity by 2020. Exceptions were the small inland entities of Jamaica and Puerto Rico, already subject to high net emigration

2. The average number of live births a hypothetical cohort of women would have at the end of their reproductive period if they were subject during their whole lives to the fertility rates of a given period and if they were not subject to mortality. It is expressed as live births per woman.

3. For purposes of this exercise. the three traditional conventional ratios were chosen, Total dependency ratio (< 15 & > 65 +/ (15–64); Child dependency ratio (< 15)/15–64); and Old age dependency ratio (65+)/(15–64). However, the Population Division offers 17 options to choose from to accommodate different youth dependency ages (e.g., < 19; < 24), years of active life (e.g., 15–64, 20–64, and 25–69), retirement ages (65 and 70), and other criteria.

4. See, datahelpdesk.worldbank.org/knowledgebase/articles/378834 for details regarding how The World Bank determines classificatory criteria. Groupings change from time to time; those used by the Population Division reflect current use. Some interpretative caution is warranted as the use of these definitions may introduce certain biases as over time some countries are likely to have shifted from one income category to another.

Table 1. Total Population (Both Sexes Combined), de Facto Population as of July 1 of the Year Indicated[a]

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Total population															
World	2536431	2773020	3034950	3339584	3700437	4079481	4458004	4870922	5327231	5744213	6143494	6541907	6956824	7379797	7794799
High income	694989	738 929	787 158	836 545	880 846	924 283	963 431	1 001 047	1 038 455	1 075 966	1 112 318	1 151 595	1 197 095	1 233 935	1 263 093
Middle income	1703597	1883962	2080781	2315968	2607461	2914556	3221988	3561446	3936199	4261804	4567891	4860124	5153738	5460516	5753052
Low income	137 042	149 214	165 954	185 871	210 778	239 242	271 058	306 762	350 701	404 387	461 021	527 686	603 340	682 576	775 711
Latin America & Caribbean	168 821	192 727	220 470	252 456	286 676	322 777	361 253	402 024	442 840	483 018	521 836	557 501	591 352	623 934	653 962
Cuba	5 920	6 539	7 141	7 958	8 713	9 446	9 849	10 098	10 597	10 888	11 126	11 262	11 226	11 325	11 327
Costa Rica	946	1 110	1 331	1 593	1 847	2 094	2 390	2 737	3 119	3 546	3 962	4 286	4 577	4 848	5 094
Chile	6 599	7 323	8 133	8 990	9 783	10 592	11 419	12 257	13 275	14 381	15 342	16 183	17 063	17 969	19 116
Dominican Rep.	2 365	2 781	3 294	3 878	4 500	5 145	5 804	6 464	7 133	7 819	8 471	9 097	9 695	10 282	10 848
Puerto Rico	2 218	2 196	2 295	2 508	2 632	2 845	3 091	3 263	3 403	3 568	3 669	3 632	3 580	3 382	2 861
Jamaica	1 403	1 541	1 629	1 757	1 876	2 028	2 163	2 336	2 420	2 534	2 655	2 740	2 810	2 891	2 961
El Salvador	2 200	2 433	2 766	3 201	3 673	4 155	4 591	4 937	5 270	5 629	5 888	6 052	6 184	6 325	6 486
Honduras	1 547	1 771	2 039	2 346	2 717	3 153	3 678	4 281	4 955	5 709	6 575	7 459	8 317	9 113	9 905
Mexico	27 945	32 351	37 772	44 124	51 494	59 608	67 761	75 983	83 943	91 663	98 900	106 005	114 093	121 858	128 933
Colombia	11 982	13 775	16 058	18 725	21 480	24 066	26 901	29 951	33 103	36 421	39 630	42 648	45 223	47 521	50 883
Peru	7 777	8 858	10 155	11 711	13 460	15 425	17 548	19 773	22 071	24 299	26 460	27 866	29 028	30 471	32 972
Venezuela	5 482	6 745	8 142	9 692	11 396	13 190	15 183	17 320	19 633	21 931	24 192	26 432	28 440	30 082	28 436
Argentina	17 038	18 789	20 482	22 160	23 881	25 866	27 897	30 216	32 619	34 828	36 871	38 893	40 896	43 075	45 196
Uruguay	2 239	2 373	2 539	2 695	2 810	2 830	2 915	3 012	3 110	3 224	3 320	3 322	3 359	3 412	3 474

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File POP/1–1: Total population (both sexes combined) by region, subregion and country, annually for 1950–2100 (thousands) Estimates, 1950–2020, custom data acquired via website.

a. Figures are presented in thousands: World and World Bank income groups; Latin America and the Caribbean, Cuba and selected countries.

Table 2. Annual Rate of Population Change (Percentage); World and by World Bank Income Groups; Latin America and the Caribbean, Cuba and Selected Countries; per quinquennium, 1950–55 to 2015–2020

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
World	1.78	1.80	1.91	2.05	1.95	1.78	1.77	1.79	1.51	1.34	1.26	1.23	1.18	1.09
High income	1.23	1.26	1.22	1.03	0.96	0.83	0.77	0.73	0.71	0.66	0.69	0.78	0.61	0.47
Middle income	2.01	1.99	2.14	2.37	2.23	2.01	2.00	2.00	1.59	1.39	1.24	1.17	1.16	1.04
Low income	1.70	2.13	2.27	2.52	2.53	2.50	2.48	2.68	2.85	2.62	2.70	2.68	2.47	2.56
Latin America & Caribbean	2.65	2.69	2.71	2.54	2.37	2.25	2.14	1.93	1.74	1.55	1.32	1.18	1.07	0.94
Cuba	1.99	1.76	2.17	1.81	1.62	0.84	0.50	0.96	0.54	0.43	0.24	-0.06	0.18	0.00
Costa Rica	3.20	3.63	3.60	2.96	2.51	2.64	2.71	2.62	2.56	2.22	1.57	1.32	1.15	0.99
Chile	2.08	2.10	2.00	1.69	1.59	1.50	1.42	1.60	1.60	1.29	1.07	1.06	1.04	1.24
Dominican Rep.	3.25	3.38	3.26	2.98	2.68	2.41	2.16	1.97	1.84	1.60	1.43	1.27	1.18	1.07
Puerto Rico	-0.20	0.89	1.77	0.97	1.56	1.66	1.09	0.84	0.94	0.56	-0.20	-0.29	-1.14	
Jamaica	1.88	1.10	1.51	1.31	1.56	1.29	1.54	0.71	0.92	0.93	0.63	0.51	0.56	0.48
El Salvador	2.01	2.57	2.92	2.75	2.46	2.00	1.45	1.31	1.32	0.90	0.55	0.43	0.45	0.50
Honduras	2.71	2.81	2.81	2.93	2.98	3.08	3.04	2.92	2.83	2.82	2.52	2.18	1.83	1.67
Mexico	2.93	3.10	3.11	3.09	2.93	2.56	2.29	1.99	1.76	1.52	1.39	1.47	1.32	1.13
Colombia	2.79	3.07	3.07	2.74	2.27	2.23	2.15	2.00	1.91	1.69	1.47	1.17	0.99	1.37
Peru	2.60	2.73	2.85	2.78	2.72	2.58	2.39	2.20	1.92	1.70	1.04	0.82	0.97	1.58
Venezuela	4.15	3.76	3.49	3.24	2.92	2.82	2.63	2.51	2.21	1.96	1.77	1.46	1.12	-1.12
Argentina	1.96	1.72	1.58	1.50	1.60	1.51	1.60	1.53	1.31	1.14	1.07	1.00	1.04	0.96
Uruguay	1.16	1.35	1.19	0.84	0.14	0.59	0.65	0.64	0.72	0.58	0.01	0.22	0.31	0.36

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File POP/2: Average annual rate of population change by region, subregion and country, 1950–2100 (percentage). Estimates, 1950–2020, custom data acquired through website.

rates in the 1960s (Table 7). The high emigration rate period for Cuba was just getting underway. This period also coincided with the highest global annual rates of population change, just as the effects of mortality-reducing interventions were beginning to be disseminated to and felt in third world nations. This can be seen in the accelerating rates of population change recorded in low income countries, a trend sustained until today, even though during the interval the global growth rate has been cut in half.

A complementary indicator for assessing population growth trends is the natural increase rate (NIR). While this variable excludes net migration, it is sensitive to age structure differences as differential age-specific mortality and fertility rates produce measures not dissociated from the shape of the population pyramid. The 1960–65 NIR for Cuba—then in the midst of its 1960s baby boom—was, together with those from most of the sample LAC countries, well above the average for middle income countries and about three times higher than in high income countries (Table 3). Notable regional exceptions were Argentina and Uruguay, where fertility levels were already relatively low. Chile was also an exception as although fertility was by then on a downward course, its mortality rates were higher than in Argentina and Uruguay.

The impact of the global demographic transition is visible in the steep NIR percent declines by the early 1990s regardless of income level, region or country, other than for the low income countries that by 2015–20 still had a rising NIR. Between 1960–65 and 2015–20, Cuba's NIR declined by 95%. Only Puerto Rico exceeded Cuba's relative decline, as per-

Table 3. Annual Rate of Natural Increase (per thousand population); World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; per quinquennium, 1950–55 to 2015–2020

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
World	17.8	18.0	19.1	20.5	19.5	17.7	17.7	17.9	15.1	13.4	12.6	12.3	11.8	10.9
High income	11.9	12	11.2	9.3	8	6.8	6.3	5.6	5.1	4.1	3.7	3.8	3	2.1
Middle income	20.1	20.1	21.7	24	22.7	20.3	20.1	20.3	16.5	14.3	13.1	12.5	11.9	10.9
Low income	18.4	21.8	23.2	25.3	26.7	27.4	28.5	28.9	27.9	27.8	27.8	28.1	27.8	26.8
Latin America & Caribbean	27	28	28.4	27	25.4	24.6	23.2	21.2	19.2	17.3	15.2	13.1	11.7	10.2
Cuba	20.9	19.2	27	24.1	20.4	11.7	10.4	11	7.7	6.7	5	3.6	3.2	1.3
Costa Rica	31.0	35.0	34.8	28.7	23.8	24.8	25.6	25.0	21.4	17.4	13.6	11.8	10.6	9.1
Chile	24.4	24.3	23.4	21.1	19.1	17.7	16.8	17.0	15.9	12.7	10.1	9.3	8.5	6.3
Dominican Rep.	33.9	35.9	35.0	32.4	29.7	27.3	25.4	23.6	22.2	19.7	17.7	16.0	14.8	13.6
Puerto Rico	28.4	27.4	25.3	20.1	18.6	17.9	13.9	11.7	9.5	7.3	6.0	4.8	2.6	-2.0
Jamaica	24.0	30.0	32.1	29.6	24.9	22.3	21.7	19.5	18.1	16.5	13.2	11.4	9.6	8.7
El Salvador	25.5	29.0	30.8	30.0	29.3	27.5	24.2	23.1	22.9	20.4	16.0	13.6	12.2	11.4
Honduras	27.3	29.3	30.7	32.5	32.9	33.7	33.4	32.4	31.2	30.3	26.4	22.4	18.9	17.4
Mexico	30.8	32.6	33.0	33.4	32.5	29.5	26.4	24.5	22.2	20.0	18.2	15.7	13.9	11.8
Colombia	31.1	33.7	34.2	30.8	26.0	25.5	24.1	22.0	20.8	18.2	15.8	12.6	10.7	9.5
Peru	26.4	27.7	29.0	28.6	28.4	26.9	25.7	24.7	22.3	19.0	17.1	16.6	13.9	12.6
Venezuela	34.1	35.4	34.4	32.3	29.2	28.1	26.3	25.0	22.1	19.7	17.9	16.1	14.2	11.1
Argentina	16.4	15.8	14.6	13.8	14.8	16.8	15.0	14.3	13.7	12.1	11.3	10.6	10.2	9.5
Uruguay	10.8	11.9	12.4	10.8	11.1	10.1	8.5	8.4	8.5	7.4	6.4	5.2	4.9	4.5

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File POP/3: Rate of natural increase by region, subregion and country, 1950–2100 (per thousand population). Estimates, 1950–2020, data acquired through website.

cent declines in the 60–70 range were close to the LAC norm, being higher in Chile, Costa Rica, Colombia and Jamaica. Among higher income countries, the NIR would decline by more than 80 percent.

Total Fertility Rate

While historically secondary to mortality as a driver of population growth, fertility is increasingly shaping the contours of contemporary populations. A particularly useful fertility indicator, the total fertility rate (TFR) is affected by measurement issues only as to whether it is estimated on a period (an age cross section of women at a given time) rather than a cohort basis (following the reproductive history of a group of women over time). It could be viewed as a straightforward replacement indicator since it represents the childbearing rate necessary to supplant current generations. A TFR of 2.1 children per woman suffices for replacement, the fraction above 2 accounting for losses due to infant and early child mortality.

The global TFR peaked between 1950 and 1970 when—in most world regions—it began a systematic decline, except in low income countries where it just began to drop by the late 1990s (Table 4). It still remains at high levels in many African and Moslem-majority countries. While the TFR was nearly halved in high income countries between the early 1960s and today, declines have been even faster in middle income countries, a typical LAC pattern. By 2015–20, an overall below-replacement TFR is anticipated for LAC.

Table 4. Total Fertility Rate (live births per woman); World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; per quinquennium, 1950–55 to 2015–2020

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
World	4.97	4.90	5.02	4.93	4.47	3.86	3.59	3.44	3.01	2.78	2.65	2.58	2.52	2.47
High income	2.99	3.01	2.94	2.65	2.34	2.06	1.94	1.85	1.82	1.73	1.71	1.76	1.72	1.67
Middle income	5.68	5.53	5.70	5.63	5.04	4.24	3.85	3.63	3.04	2.74	2.57	2.47	2.39	2.35
Low income	6.42	6.57	6.54	6.66	6.68	6.61	6.60	6.45	6.20	5.93	5.61	5.29	4.91	4.52
Latin America & Caribbean	5.83	5.85	5.83	5.46	4.92	4.44	3.94	3.45	3.08	2.77	2.49	2.26	2.14	2.04
Cuba	4.15	3.70	4.68	4.18	3.55	2.15	1.85	1.85	1.58	1.61	1.59	1.58	1.71	1.62
Costa Rica	6.12	6.65	6.50	5.26	4.06	3.70	3.50	3.41	3.07	2.61	2.15	1.94	1.85	1.76
Chile	4.85	4.75	4.58	4.08	3.47	2.94	2.62	2.60	2.52	2.20	1.95	1.90	1.85	1.65
Dominican Rep.	7.60	7.64	7.35	6.65	5.68	4.76	4.07	3.58	3.27	2.95	2.75	2.57	2.45	2.36
Puerto Rico	4.97	4.82	4.37	3.41	2.99	2.76	2.46	2.26	2.18	1.98	1.85	1.72	1.50	1.22
Jamaica	4.22	5.08	5.64	5.78	5.00	4.00	3.55	3.10	2.84	2.70	2.45	2.28	2.08	1.99
El Salvador	6.36	6.60	6.67	6.36	5.95	5.44	4.75	4.17	3.78	3.34	2.72	2.40	2.17	2.05
Honduras	7.50	7.50	7.42	7.42	7.05	6.60	6.00	5.37	4.92	4.56	3.87	3.24	2.73	2.49
Mexico	6.75	6.78	6.75	6.75	6.32	5.33	4.37	3.75	3.23	2.85	2.61	2.40	2.29	2.14
Colombia	6.51	6.68	6.64	5.86	4.72	4.16	3.58	3.17	3.01	2.70	2.44	2.10	1.92	1.82
Peru	6.95	6.95	6.88	6.55	6.03	5.37	4.73	4.20	3.62	3.05	2.72	2.68	2.40	2.27
Venezuela	6.46	6.46	6.18	5.70	4.94	4.47	3.96	3.65	3.25	2.94	2.72	2.55	2.40	2.28
Argentina	3.15	3.13	3.09	3.05	3.15	3.40	3.15	3.05	2.91	2.63	2.48	2.37	2.33	2.27
Uruguay	2.73	2.83	2.90	2.80	3.00	2.89	2.57	2.53	2.49	2.30	2.18	2.03	2.01	1.98

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File FERT/4: Total fertility by region, subregion and country, 1950–2100 (live births per woman). Estimates, 1950–2020, custom data acquired through website.

Cuba's TFR decline, while very rapid during the late 1960s and 1970s, became more gradual in later years, reaching a level comparable to that prevailing in high income countries by the 2010s. Again, only Puerto Rico showed a similar decline, slower than Cuba's at first, but accelerating by the end of the period. By 2015–20, Chile's TFR was as low as Cuba's, with Costa Rica slightly behind. Several other LAC countries have had TFR declines as large as those in Cuba, Costa Rica and Chile, but compressed into shorter time periods (e.g., El Salvador, Mexico and Colombia). Comparable TFR levels had been reached in Cuba by the late 1970s. TFR declines have been far less steep in Argentina and Uruguay, countries that entered the 1960s with already lower TFRs. These days these two countries have fertility levels comparable (Uruguay) or even higher (Argentina) than the regional average.

The determinants of fertility declines in the LAC region and the world overall are generally well, if imperfectly, understood. They include the development, promotion and wide distribution of modern contraceptives, major improvements in average educational attainment, cultural changes associated with the status of women, value/costs attached to raising children, and a plethora of other modernizing influences arising from communication and economic improvements, and, in some societies, including Cuba, the tolerance and widespread reliance on induced abortion. Economic constraints are also known to exert an important influence in depressing childbirth in low fertility societies (for a review of these determi-

Table 5. Infant Mortality Rate (infant deaths per 1,000 live births); World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; per quinquennium, 1950–55 to 2015–2020

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
World	140	128	120	104	94	85	75	67	63	57	49	41	34	29
High income	55	44	37	30	24	20	15	12	10	8	7	6	5	5
Middle income	153	141	132	112	100	90	78	68	63	57	49	40	33	28
Low income	191	175	164	150	139	130	122	113	107	95	81	67	56	48
Latin America & Caribbean	126	113	101	91	80	70	59	48	38	31	25	20	17	15
Cuba	81	70	59	50	38	22	18	13	10	8	6	5	5	4
Costa Rica	103	93	82	70	56	35	23	17	15	12	11	10	9	7
Chile	123	118	107	88	67	44	25	18	14	11	8	8	7	7
Dominican Rep.	153	139	124	109	96	86	75	63	50	41	35	30	27	26
Puerto Rico	63	51	45	33	25	20	17	14	12	11	8	7	6	5
Jamaica	83	67	56	47	41	35	31	27	24	20	18	17	15	12
El Salvador	143	135	122	110	101	93	80	61	41	29	24	22	18	15
Honduras	169	154	135	119	104	81	65	53	43	35	28	23	18	15
Mexico	121	101	88	79	69	57	47	39	33	25	20	17	15	14
Colombia	117	100	86	75	63	50	38	31	26	22	20	17	14	13
Peru	159	148	133	121	104	95	80	67	50	36	25	18	14	13
Venezuela	101	84	69	58	46	39	32	27	23	20	17	15	15	26
Argentina	64	59	60	57	48	39	32	27	23	20	17	14	12	10
Uruguay	57	53	48	47	46	42	33	23	20	16	15	11	10	9

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File MORT/1–1: Infant mortality rate (both sexes combined) by region, subregion and country, 1950–2100 (infant deaths per 1,000 live births). Estimates, 1950–2020, custom data acquired through website.

nants in Cuba prior to and during the early days of the Revolution, see Díaz-Briquets and Pérez 1982).

Infant Mortality Rate and Life Expectancy at Birth

These two mortality indicators are quite meaningful when examining Cuba's demographic developments over the last six decades from a comparative perspective as the government showcases them when highlighting alleged revolutionary social achievements. Secular mortality gains since the Second World War, regardless of region or national income level, are among humanity's most significant historical accomplishments. Infant mortality and life expectancy at birth indicators are closely connected since the infant mortality rate (IMR)—particularly in high mortality populations—wields considerable weight on life expectancy at birth estimates. These two indicators were rather satisfactory in Cuba at the beginning of the study period (1955–60) when most other LAC countries had higher mortality. Notable exceptions were Jamaica, Puerto Rico, Argentina and Uruguay. Their more advanced mortality profiles likely arose, in the island territories, from comparative advantages derived from political and economic connections with high income metropolises, while Argentina and Uruguay were among the most economically advanced countries at that time, and not only in LAC.

As Table 5 shows, the Cuban IMR began an accelerated decline during the 1960s and 1970s, likely due to the expansion of health care services in the early years of the Revolution. The wider availability of health services principally benefitted neglected secondary cities and rural areas. Cuba's early advantage would eventually be erased through mortality reduc-

Table 6. Life Expectancy at Birth (both sexes combined): World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries per quinquennium, 1950–55 to 2015–20

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
World	46.96	49.36	51.19	55.43	58.09	60.27	62.07	63.71	64.56	65.63	67.04	68.92	70.87	72.28
High income	64.87	67.35	68.71	69.70	70.88	72.31	73.62	74.77	75.79	76.94	78.16	79.31	80.29	80.86
Middle income	43.31	45.75	47.79	53.18	56.38	58.90	60.91	62.75	63.77	64.86	66.21	67.98	69.94	71.42
Low income	35.12	37.85	39.94	42.24	44.55	46.62	48.39	50.11	50.28	51.68	54.10	57.61	61.06	63.45
Latin America & Caribbean	51.41	54.24	56.79	58.96	61.23	63.33	65.28	67.14	68.96	70.67	72.25	73.45	74.44	75.25
Cuba	59.44	62.39	65.39	68.53	71.02	73.13	74.28	74.68	74.83	76.22	77.21	78.11	78.46	78.69
Costa Rica	56.00	58.76	61.99	64.62	67.18	70.52	73.45	75.11	76.09	77.04	77.82	78.42	79.16	80.00
Chile	54.58	56.32	58.26	60.77	63.90	67.34	70.54	72.69	74.22	75.67	77.03	78.20	79.29	79.96
Dominican Rep.	45.99	49.78	53.33	56.55	59.50	61.87	63.76	65.61	67.46	68.78	70.07	71.44	72.62	73.81
Puerto Rico	63.54	67.92	69.13	70.73	72.36	73.53	73.90	74.60	73.83	74.87	76.78	77.93	79.14	79.85
Jamaica	59.56	63.65	65.54	67.22	68.60	70.18	71.32	72.37	73.90	74.12	74.12	74.15	73.98	74.33
El Salvador	44.62	48.13	51.58	53.93	55.76	56.23	57.16	61.57	66.09	68.04	69.60	70.64	71.83	73.00
Honduras	41.80	44.60	48.03	51.07	54.12	57.74	61.62	65.49	67.77	69.92	71.36	72.66	73.94	74.99
Mexico	50.71	55.29	58.49	60.32	62.60	65.33	67.76	69.87	71.86	73.35	75.12	75.18	74.94	74.98
Colombia	51.83	55.75	58.56	60.95	63.35	65.68	68.03	69.39	70.20	72.14	73.65	74.83	75.99	77.02
Peru	44.11	46.43	49.64	52.22	56.15	58.85	61.67	64.63	67.63	70.03	72.05	73.66	75.10	76.38
Venezuela	55.47	58.40	61.19	63.60	66.15	67.84	69.14	70.21	71.03	71.63	72.57	73.00	73.07	72.14
Argentina	62.60	64.61	65.34	65.87	67.32	68.75	70.24	71.09	72.16	73.12	74.02	74.87	75.68	76.45
Uruguay	66.14	67.15	68.38	68.59	68.81	69.64	71.02	72.17	73.07	74.27	75.22	76.38	77.05	77.70

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019, Online Edition*. File MORT/7–1: Life expectancy at birth (both sexes combined) by region, subregion and country, 1950–2100 (years). Estimates, 1950–2020, custom data obtained through website.

tion gains in other countries, some completely closing gaps not only with Cuba, but also with Puerto Rico (but not Jamaica). By 2015–20, the IMRs for Costa Rica and Chile closely approximated Puerto Rico's and Cuba's, the data suggesting Cuba may have the lowest regional IMR. Percentage-wise, however, the Chile and Costa Rica IMR declines were of a magnitude similar to Cuba's, whether measured from 1955–60 or 1960–65. A striking development in Table 5 is the rise in Venezuela's IMR for 2015–20, something unparalleled in the region.

Given the close correspondence between IMRs and life expectancies at birth, the IMR patterns described above are mirrored—in reverse—by the latter measure. An interesting development is that life expectancy gains were greater for countries whose earlier life expectancies had been lower at the beginning of the period (Table 6). This is to be expected as additional gains become increasingly difficult to achieve as life expectancy rises. While between 1960–65 and 2015–20, for example, Cuba's life expectancy increased by 20.3%, in Honduras and Peru the corresponding gains were of 56% and 54%, respectively. Percentage-wise gains in Costa Rica (29.1%) and Chile (37.2%) also exceeded Cuba's; in fact, by the end of the interval, both countries' life expectancies were higher (Costa Rica, 80.00; Chile, 79.96) than Cuba's (78.69). Presently the three countries have life expectancy levels similar to those of high income countries (80.87). Meanwhile, the life expectancy breach between countries with the lowest and highest have narrowed as well; by 2015–20 there was a seven year gap, whereas by 1960–65 it had exceeded 16

Table 7. Net Migration Rate (per thousand population): World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; per quinquennium, 1950–55 to 2015–20

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
High income	0.3	0.6	1.0	1.0	1.6	1.5	1.4	1.7	2.0	2.5	3.3	4.0	3.0	2.6
Middle income	0.0	-0.2	-0.3	-0.3	-0.4	-0.3	-0.1	-0.3	-0.6	-0.5	-0.7	-0.8	-0.3	-0.4
Low income	-1.4	-0.6	-0.6	-0.2	-1.4	-2.5	-3.8	-2.2	0.5	-1.7	-0.8	-1.4	-3.2	-1.2
Latin America & Caribbean	-0.5	-1.1	-1.4	-1.6	-1.8	-2.1	-1.8	-1.9	-1.9	-1.9	-2.0	-1.3	-0.9	-0.8
Cuba	-1.0	-1.6	-5.4	-6.0	-4.2	-3.3	-5.4	-1.4	-2.2	-2.4	-2.6	-4.3	-1.4	-1.3
Costa Rica	1.0	1.2	1.1	0.9	1.3	1.6	1.5	1.2	4.2	4.8	2.0	1.4	0.8	0.8
Chile	-3.6	-3.3	-3.4	-4.2	-3.2	-2.7	-2.6	-1.1	0.1	0.3	0.5	1.3	1.9	6.0
Dominican Rep.	-1.5	-2.1	-2.4	-2.7	-2.9	-3.2	-3.9	-4.0	-3.9	-3.7	-3.5	-3.3	-3.1	-2.8
Puerto Rico	-30.4	-18.5	-7.6	-10.4	-3.0	-1.3	-3.0	-3.3	0.0	-1.7	-8.0	-7.7	-13.9	-31.4
Jamaica	-5.3	-18.9	-17.0	-16.5	-9.3	-9.4	-6.3	-12.4	-8.9	-7.2	-6.8	-6.3	-4.0	-3.9
El Salvador	-5.4	-3.4	-1.6	-2.6	-4.6	-7.5	-9.7	-10.1	-9.7	-11.4	-10.5	-9.3	-7.7	-6.3
Honduras	-0.2	-1.3	-2.6	-3.2	-3.1	-3.0	-3.1	-3.2	-2.9	-2.1	-1.2	-0.6	-0.7	-0.7
Mexico	-1.5	-1.6	-2.0	-2.6	-3.3	-3.9	-3.5	-4.6	-4.6	-4.8	-4.3	-1.0	-0.7	-0.5
Colombia	-3.2	-3.1	-3.5	-3.4	-3.3	-3.3	-2.6	-2.1	-1.7	-1.4	-1.1	-0.9	-0.8	4.2
Peru	-0.4	-0.4	-0.5	-0.8	-1.1	-1.1	-1.9	-2.7	-3.1	-2.0	-6.7	-8.5	-4.2	3.1
Venezuela	7.2	2.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-1.5	-2.9	-22.3
Argentina	3.1	1.4	1.1	1.1	1.1	-1.7	1.0	1.0	-0.6	-0.7	-0.7	-0.6	0.1	0.1
Uruguay	0.9	1.6	-0.5	-2.5	-9.6	-4.2	-2.0	-2.0	-1.3	-1.6	-6.3	-3.0	-1.8	-0.9

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019, Online Edition*. File MIGR/1: Net migration rate by region, subregion and country, 1950–2100 (per thousand population), 1950–2100 (per thousand population). Estimates, 1950–2020. custom data obtained through website.

years. In terms of this indicator, Venezuela also regressed markedly, having by 2015–20 the lowest life expectancy among all LAC study countries.

Net Migration Rate and Net Number of Migrants

After the end of the Second World War, initially impelled by refugee flows and since the 1970s by globalization, international migration has acquired a prominence not seen since the first decades of the Twentieth Century. While on a global scale its relative significance is modest—in 2010–15, for example, when the globe's population crossed the 7 billion mark, there were 20 million net migrants—international migration is having a noticeable impact on the national-origin composition of many, mostly high income, destination countries. Its effects are also felt in a few migrant-receiving middle income countries, while lowering population growth in countries with high emigration rates. As shown in Table 7, since the 1950s, net migration rates have been consistently positive in high income countries, while the opposite has been true in middle and low income countries, but far higher in the latter than in the former. However, middle income countries experienced—barring some periods—the greatest migratory losses, as shown in Table 8. Observed fluctuations are likely to be a product of local regional upheavals, economic cycles, and introduction or relaxation of admission policies by migrant-receiving nations.

The LAC trend has been dominated by U.S.-bound Mexican emigration, although more recently flows from other countries have become more prominent as the net number of Mexican migrants has ebbed. Throughout the study period, the small Caribbean

Table 8. Net Number of Migrants (in thousands, both sexes combined); World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; per quinquennium, 1950–55 to 2015–2020

	1950–55	1955–60	1960–65	1965–70	1970–75	1975–80	1980–85	1985–90	1990–95	1995–00	2000–05	2005–10	2010–15	2015–20
Total population														
World														
High income	1 215	2 418	4 096	4 398	7 429	7 160	6 898	8 702	10 710	13 921	18 568	23 278	18 326	16 243
Middle income	-204	-1 952	-3 587	-4 201	-5 792	-4 009	-1 381	-5 162	-11 713	-10 366	-16 540	-19 335	-8 058	-11 760
Low income	-1 007	-469	-497	-185	-1 541	-3 149	-5 522	-3 590	985	-3 596	-2 091	-3 912	-10 216	-4 498
Latin America & Caribbean	-474	-1 139	-1 624	-2 194	-2 673	-3 515	-3 504	-3 956	-4 304	-4 668	-5 331	-3 793	-2 830	-2 607
Cuba	-30	-55	-204	-248	-190	-160	-270	-70	-120	-133	-146	-240	-80	-72
Costa Rica	5	7	8	8	13	17	19	17	69	90	42	30	20	21
Chile	-124	-129	-147	-196	-161	-148	-155	-69	4	19	42	107	164	559
Dominican Rep.	-19	-32	-43	-56	-71	-87	-118	-134	-144	-150	-153	-154	-153	-150
Puerto Rico	-336	-208	-92	-134	-41	-20	-48	-55	0	-30	-146	-138	-243	-490
Jamaica	-39	-150	-144	-150	-91	-98	-71	-147	-110	-93	-92	-87	-57	-57
El Salvador	-62	-44	-24	-44	-91	-164	-232	-257	-265	-327	-313	-286	-240	-203
Honduras	-2	-12	-29	-41	-46	-51	-62	-74	-78	-65	-42	-25	-30	-34
Mexico	-232	-287	-409	-616	-920	-1 254	-1 273	-1 836	-2 019	-2 296	-2 206	-562	-422	-300
Colombia	-208	-233	-307	-339	-380	-419	-371	-324	-288	-259	-231	-195	-193	1 024
Peru	-16	-20	-29	-49	-83	-94	-176	-281	-355	-256	-910	-1 203	-625	495
Venezuela	220	80	19	3	1	1	1	1	-2	-5	-23	-200	-431	-3 266
Argentina	280	141	122	130	142	-230	140	160	-105	-128	-125	-120	30	24
Uruguay	10	20	-6	-34	-136	-60	-30	-30	-20	-26	-104	-50	-30	-15

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File MIGR/2: Net number of migrants (both sexes combined) by region, subregion and country, 1950–2100 (thousands). Estimates, 1950–2020, custom data obtained through website.

island countries/territories, along with several of the Central American nations like El Salvador, have contributed sizable migrant contingents. The last decade has seen net migration sign changes as some former emigration countries have become attractive destinations for regional migrants. Chile, Colombia and Peru stand out as they may be hosting close to four million Venezuelans. This is a significant regional demographic reversal as for decades Venezuela was a net recipient of migrants from other LAC countries.

By regional standards, emigration rates from Cuba have been high during some periods (early 1960s, Freedom Flights, Mariel, 1994 *Balsero* outflow) but seldom high enough to rival those of other nations/territories such as Jamaica, Puerto Rico, and El Salvador. And while Mexican rates often were lower than for these countries, the quantitative significance of Mexican immigrants in the United States population—the main destination for regional migrants—dwarfed that of all other countries combined given Mexico's large population base. Since the early 1960s, in seven of the last 14 quinquennia, Cuba's net negative migration rates exceeded Mexico's, Cuba currently having a negative net migration rate nearly three times higher. Chile, meanwhile, has become, as noted, a magnet for migrants from other LAC countries particularly from Venezuela, Cuba and Haiti.

Median Age and Dependency Ratios

Fertility and mortality trends, together with net migration trends, determine the nature of a population's age structure. This evolution, in turn, could be assessed by examining indicators such as the median

Table 9. Median age: World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; at indicated years, 1950 to 2020

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Total population															
World	23.6	23.1	22.6	22.0	21.5	21.9	22.6	23.3	24.0	25.1	26.3	27.4	28.5	29.6	30.9
High income	28.7	29.0	29.1	29.1	29.3	29.6	30.7	31.9	33.2	34.6	36.1	37.5	38.7	39.9	41.0
Middle income	22.1	21.5	20.9	19.9	19.5	20.1	20.8	21.7	22.6	23.9	25.2	26.5	27.8	29.1	30.7
Low income	19.0	18.9	18.6	18.4	18.0	17.7	17.6	17.4	17.4	17.5	17.5	17.7	17.9	18.4	19.0
Latin America & Caribbean	19.8	19.4	18.9	18.6	18.6	19.1	19.8	20.8	21.8	23.0	24.2	25.8	27.4	29.1	31.0
Cuba	22.3	22.4	22.9	22.3	22.2	22.6	24.1	25.6	27.7	30.2	32.8	35.6	38.4	40.8	42.2
Costa Rica	18.3	18.1	17.4	17.2	17.8	19.1	20.5	21.9	23.0	24.1	25.3	27.2	29.1	31.2	33.5
Chile	20.6	20.7	20.6	20.4	20.6	21.6	22.9	24.3	25.7	27.0	28.7	30.5	32.2	33.8	35.3
Dominican Rep.	17.1	16.8	16.0	15.5	16.0	17.0	18.1	19.2	20.3	21.4	22.5	23.7	25.0	26.5	28.0
Puerto Rico	18.4	18.5	18.5	21.2	21.7	22.7	24.7	26.3	28.6	30.4	32.3	33.4	34.7	38.0	44.5
Jamaica	22.2	22.0	19.8	18.6	17.2	17.4	19.5	20.6	22.2	23.5	24.9	26.2	27.5	29.0	30.7
El Salvador	18.5	18.1	17.6	17.1	17.1	17.4	17.9	18.6	19.6	20.9	22.0	23.0	24.2	25.7	27.6
Honduras	18.8	17.9	17.0	16.3	16.1	16.1	16.2	16.4	16.9	17.5	18.2	19.3	20.7	22.5	24.3
Mexico	18.6	17.8	17.2	16.8	16.7	16.9	17.4	18.5	19.7	21.3	22.9	24.7	26.2	27.7	29.2
Colombia	18.1	17.4	16.7	16.2	16.7	17.8	19.1	20.5	21.9	22.9	24.1	25.7	27.5	29.5	31.3
Peru	19.2	18.7	18.2	17.7	17.6	17.9	18.5	19.2	20.1	21.2	22.7	24.1	25.5	27.5	31.0
Venezuela	17.2	17.3	17.0	16.9	17.1	17.9	18.9	19.9	20.9	22.0	23.2	24.5	25.8	27.3	29.6
Argentina	25.4	26.0	26.6	26.9	27.1	27.2	27.2	27.1	27.0	27.1	27.6	28.5	29.6	30.5	31.5
Uruguay	27.8	28.4	28.9	29.3	29.6	30.0	30.2	30.4	30.7	31.1	31.6	32.7	33.9	35.0	35.8

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019, Online Edition*. File POP/5: Median age by region, subregion and country, 1950–2100 (years) Estimates, 1950–2020, custom data obtained through website.

age and dependency ratios. The joint effects of parallel and declining fertility and mortality trends between 1960 and 2020 is reflected in the 37% percent rise in the world's median age, from 22.6 to 30.9 years (Table 9). While increases were recorded in both high and middle income countries, they were higher in middle income countries given their initial younger age structures and higher fertility. Notice that the median age for low income countries remained largely unchanged as declining mortality rates counteracted stable high fertility rates.

The LAC and global patterns differ, regardless of income level, as median ages between 1960 and 2020 for most, but not all study countries, rose by a greater number of years. Cuba's absolute increase was only exceeded by that of Puerto Rico, an obvious regional outlier; these are the two entities with the currently older median ages. Percentage-wise, however, the increase in median age was higher in Costa Rica (92.5%) and Colombia (87.4%) than in Cuba (84.3%), but not Puerto Rico (140.5%). The smallest relative changes were registered in Argentina and Uruguay, for reasons noted earlier, and in Honduras which entered the measuring period with a very young age structure. The Cuban and Puerto Rican median ages are seven to 18 years higher than for other LAC countries.

Such median age and associated fertility history differences have resulted in distinctive dependency ratios across regions and countries, as can be seen by comparing the statistics, briefly summarized below and presented in Tables 10, 11 and 12. Whereas total dependency ratios have declined in all study regions, the declines have been more substantial in middle income countries, and less so among low income countries. The declines in LAC, a pre-eminent middle income region, nearly always have exceeded those for middle income countries as a whole. The

Table 10. Total Dependency Ratio (<15 & 65 +)/(15–64): world and World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; at indicated years, 1950 to 2020

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Total population															
World	64.9	68.4	72.8	75.4	75.0	73.7	70.1	65.9	63.9	62.0	58.7	54.8	52.8	52.4	53.3
High income	55.6	58.1	60.3	59.7	58.8	56.7	54.1	51.0	50.3	50.2	49.5	48.8	48.8	51.0	53.8
Middle income	67.7	71.8	77.2	80.9	80.1	78.5	73.9	68.6	65.6	62.8	58.4	53.2	50.4	49.5	50.2
Low income	82.0	82.2	83.6	86.0	89.0	90.5	91.7	92.4	92.8	92.1	91.5	90.1	88.2	84.9	80.6
Latin America &Caribbean	78.5	81.6	85.4	87.8	86.2	82.7	78.1	73.7	69.8	65.6	60.9	56.7	52.8	50.1	48.9
Cuba	68.8	68.2	65.9	72.1	75.0	78.7	65.3	54.6	47.6	46.5	45.8	43.0	43.4	44.3	46.7
Costa Rica	86.2	88.5	93.5	94.4	90.5	78.5	68.9	65.8	67.2	64.4	58.1	51.0	46.2	44.6	45.1
Chile	70.9	73.2	76.1	77.2	73.7	68.2	62.3	58.0	56.4	56.0	53.8	49.5	45.9	45.3	45.9
Dominican Rep.	92.7	95.7	103.1	106.6	101.7	92.9	84.3	77.8	73.0	69.5	65.9	62.2	57.4	54.7	53.8
Puerto Rico	89.0	90.6	91.9	79.5	75.9	66.9	65.5	62.4	58.7	55.7	53.7	52.6	50.9	53.0	57.7
Jamaica	66.4	69.8	84.5	93.8	107.4	101.0	86.8	78.3	72.7	69.2	66.6	61.4	54.4	49.5	48.0
El Salvador	87.6	89.2	93.4	96.6	95.5	92.6	89.9	86.3	79.6	74.3	72.8	69.8	63.2	56.6	54.4
Honduras	86.0	91.7	98.1	102.9	103.6	103.2	102.8	100.1	97.0	92.0	86.9	79.9	71.1	61.4	55.2
Mexico	86.1	91.9	96.5	100.4	100.7	99.2	94.9	85.5	77.0	70.7	64.9	59.9	55.4	52.3	50.3
Colombia	87.8	93.2	98.5	101.5	97.1	87.5	77.2	70.6	67.2	64.3	60.7	56.6	51.2	47.5	45.4
Peru	81.7	84.9	89.3	93.1	92.3	90.0	85.1	80.0	75.5	70.8	64.8	60.1	57.0	54.8	50.2
Venezuela	91.6	91.1	93.6	94.7	92.7	86.1	79.9	74.6	71.5	67.0	62.5	57.9	55.0	53.2	54.4
Argentina	54.7	56.5	57.7	57.3	57.2	58.7	62.7	65.2	65.9	64.0	61.8	59.2	56.8	56.1	55.8
Uruguay	56.5	55.6	56.3	57.4	58.2	59.6	59.9	60.7	60.4	59.9	60.3	59.4	56.7	55.2	54.9

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019, Online Edition*. File POP/11-A: Total dependency ratio (<15 & 65 +)/(15–64) by region, subregion and country 1950–2100 (ratio of population 0–14 and 65+ per 100 population 15–64) Estimates, 1950–2020, custom data acquired through website.

only exceptions in Table 10 are Cuba and Argentina—and Uruguay even more so—reflecting their earlier lower fertility.

Given that the total dependency ratio has two components, it is instructive to review how each has behaved over time across regional aggregates. As should be expected, the child dependency ratio declined without exception—both absolutely and relatively—in each of the statistical aggregates/countries in Table 11. Not surprisingly, declines were largest in middle income countries. Equally predictable is that, as a general rule, declines were more pronounced in countries with initially higher fertility. In this regard, Puerto Rico continues to depart from the generalized LAC pattern, although its relative decline (-69.6%) was not much higher than in Costa Rica (-65.6%), Colombia (-65.2%) and Cuba (-60.0%). All other LAC countries cluster somewhat lower (in the 50% range), except Argentina and Uruguay, where they are much lower (in the 20% range).

A more mixed picture emerges when comparing dependency ratios between 1960 and 2020. Invariably, the ratios rose. On a global scale, the old age dependency ratio increased by 66.3%, or from 8.6 to 14.3. In high income countries the absolute change was of 14.5 percentage points, whereas in low income countries it barely reached 0.5 points. Middle income countries, at 5.6, matched the global average, gaining about a third as many points as high income countries, LAC's increasing by 6.7 points. Again, Puerto Rico and Cuba departed from the broader regional trend, as their old age dependency ratios increased by 22.4 points and 15.6 points. Chile and Costa Rica also saw rapidly-rising old age dependency ratios (ris-

Table 11. Child Dependency Ratio (<15)/(15–64); World and by World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; at indicated years, 1950 to 2020

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Total population															
World	56.5	59.9	64.2	66.5	65.7	64.0	60.1	56.0	53.8	51.4	47.8	43.6	41.2	39.9	39.0
High income	43.5	45.1	46.6	45.3	43.3	40.3	36.9	33.9	32.1	30.9	29.3	27.5	26.3	25.7	25.6
Middle income	60.8	65.0	70.5	74.1	72.9	70.9	66.0	60.7	57.6	54.2	49.5	43.9	40.9	39.1	37.9
Low income	76.2	76.6	78.2	80.5	83.3	84.8	85.8	86.5	86.8	86.1	85.5	84.1	82.1	78.9	74.6
Latin America & Caribbean	72.3	75.2	78.8	80.8	78.9	75.2	70.4	65.9	61.6	56.9	51.8	46.9	42.3	38.5	35.6
Cuba	61.4	60.5	58.2	63.5	64.8	66.6	52.4	41.2	34.3	32.8	31.5	27.5	25.4	24.1	23.3
Costa Rica	80.7	82.8	87.7	88.5	84.3	72.1	62.2	58.8	59.6	56.1	49.3	41.4	35.5	32.0	30.2
Chile	65.0	67.1	69.5	70.1	66.4	60.6	54.4	49.6	47.1	45.3	42.0	36.9	32.2	29.9	28.1
Dominican Rep.	87.4	90.5	98.0	101.4	96.4	87.7	78.8	71.9	66.6	62.4	57.9	53.4	48.2	44.6	42.2
Puerto Rico	81.7	81.8	81.6	69.1	64.2	56.1	52.2	48.0	43.0	39.3	36.2	34.0	31.1	28.4	24.8
Jamaica	59.9	62.8	76.5	83.3	95.7	89.2	74.2	65.9	60.2	56.7	53.5	48.6	41.7	36.8	34.6
El Salvador	80.1	82.5	87.0	90.2	89.2	86.3	83.3	79.1	71.9	65.9	63.3	59.0	51.6	44.4	41.1
Honduras	78.5	85.0	91.7	96.4	97.1	96.6	96.2	93.7	90.4	85.3	80.0	73.0	64.3	54.4	47.5
Mexico	79.7	85.6	89.8	93.2	93.1	91.6	87.3	78.1	69.4	62.7	56.4	50.9	45.9	42.1	38.8
Colombia	81.8	87.4	92.7	95.7	91.1	81.5	70.9	64.1	60.3	56.7	52.4	47.5	41.2	36.2	32.3
Peru	75.4	78.6	82.9	86.4	85.7	83.2	78.3	73.2	68.5	63.3	56.7	51.3	47.3	43.5	37.1
Venezuela	87.2	86.7	89.1	90.0	87.7	80.7	74.1	68.5	65.0	60.2	55.2	50.0	46.4	43.5	42.1
Argentina	48.2	49.0	49.0	47.5	46.3	46.7	49.5	51.2	51.1	48.5	46.0	43.4	40.8	39.4	38.1
Uruguay	43.6	42.9	43.5	44.2	44.1	44.2	43.0	43.1	41.7	40.0	39.3	37.8	34.8	32.7	31.5

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. File POP/12-A: Child dependency ratio <15/(15–64) by region, subregion and country, 1950–2100 (ratio of population 0–14 per population 15–64). Estimates, 1950–2020, custom data acquired through website.

Table 12. Old Age Dependency Ratio (65+)/(15–64): World and World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; at indicated years, 1950 to 2020

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Total population															
World	8.4	8.5	8.6	8.9	9.3	9.7	10.0	9.9	10.1	10.6	10.9	11.2	11.6	12.6	14.3
High income	12.1	13.0	13.7	14.5	15.5	16.4	17.3	17.1	18.2	19.3	20.3	21.3	22.5	25.3	28.2
Middle income	6.9	6.8	6.7	6.8	7.2	7.6	7.9	7.9	8.1	8.5	8.9	9.2	9.5	10.4	12.3
Low income	5.8	5.6	5.5	5.5	5.6	5.7	5.9	5.9	6.0	6.1	6.0	6.0	6.0	6.0	6.0
Latin America & Caribbean	6.3	6.4	6.7	7.1	7.3	7.5	7.8	7.9	8.2	8.7	9.1	9.8	10.5	11.6	13.4
Cuba	7.4	7.7	7.7	8.6	10.2	12.0	12.9	13.4	13.3	13.7	14.4	15.5	18.0	20.3	23.3
Costa Rica	5.5	5.7	5.8	5.9	6.2	6.4	6.7	7.0	7.7	8.3	8.8	9.6	10.7	12.6	14.9
Chile	5.9	6.1	6.6	7.1	7.3	7.6	8.0	8.4	9.3	10.7	11.8	12.6	13.7	15.4	17.9

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019, Online Edition*. File POP/13-A: Old age dependecy ratio 65+/(15–64) by region, subregion and country 1950–2100 (ratio of population 65+ per 100 population 15–64) Estimates, 1950–2020, custom data acquired through website.

Table 12. Old Age Dependency Ratio (65+)/(15–64): World and World Bank income groups; Latin America and the Caribbean, Cuba and selected countries; at indicated years, 1950 to 2020 (Continued)

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Dominican Rep.	5.3	5.1	5.2	5.2	5.2	5.3	5.5	5.9	6.5	7.2	8.0	8.7	9.2	10.1	11.6
Puerto Rico	7.3	8.9	10.4	10.3	11.7	10.8	13.3	14.4	15.7	16.4	17.5	18.6	19.8	24.5	32.8
Jamaica	6.4	7.0	8.0	10.5	11.7	11.8	12.6	12.4	12.6	12.5	13.0	12.8	12.7	12.7	13.4
El Salvador	7.4	6.7	6.5	6.4	6.3	6.3	6.6	7.2	7.8	8.3	9.5	10.7	11.5	12.1	13.4
Honduras	7.5	6.7	6.4	6.6	6.5	6.5	6.6	6.4	6.6	6.7	6.9	6.9	6.8	7.0	7.7
Mexico	6.5	6.3	6.7	7.2	7.6	7.6	7.7	7.4	7.6	8.0	8.5	9.0	9.5	10.2	11.4
Colombia	6.1	5.8	5.8	5.9	5.9	6.1	6.3	6.5	7.0	7.6	8.4	9.1	10.0	11.4	13.2
Peru	6.3	6.3	6.5	6.7	6.7	6.7	6.7	6.7	7.0	7.5	8.0	8.8	9.8	11.3	13.1
Venezuela	4.4	4.3	4.5	4.7	5.1	5.4	5.8	6.1	6.5	6.9	7.3	7.8	8.6	9.8	12.3
Argentina	6.5	7.5	8.7	9.8	10.9	12.0	13.2	14.0	14.8	15.4	15.7	15.7	16.0	16.7	17.7
Uruguay	12.9	12.7	12.8	13.2	14.1	15.5	16.8	17.6	18.7	19.9	21.0	21.6	21.9	22.5	23.4

Source: United Nations. Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019, Online Edition*. File POP/13-A: Old age dependecy ratio 65+/(15–64) by region, subregion and country 1950–2100 (ratio of population 65+ per 100 population 15–64) Estimates, 1950–2020, custom data acquired through website.

ing by 171.2% and 156.9%, respectively). Venezuela's rise was also substantial (173.3%), likely a partial reflection of the high negative net migration rates siphoning away many working age adults. In other LAC countries, the old age dependency ratio percent increase hovers around 100%.

CLOSING COMMENTS: CUBA'S DEMOGRAPHIC DEVELOPMENT AND TRENDS IN COMPARATIVE PERSPECTIVE AND IMPLICATIONS

The secular demographic patterns reviewed reveal that in 1959 when the Castro Revolution assumed power, Cuba was far a backward country. By then-current comparative demographic standards, it was doing rather well. This is particularly evident with respect to the mortality indicators examined; they had attained, in the late 1950s, more favorable levels in Cuba than in most LAC (and middle income) countries. Exceptions were Argentina and Uruguay, at the time among the world's most developed countries, and the small island nations of Jamaica and Puerto Rico that derived considerable benefits from their wealthy metropolitan linkages.

But there was more. While the association between more favorable mortality indicators and income level is direct and unambiguous, that between socioeconomic development and lower fertility is also explicitly posited by demographic transition theory. On this score, Cuba's relative privileged status in terms of the TFR as compared to other LAC and middle income nations was even more pronounced. At the time only Argentina and Uruguay had lower TFRs, with Puerto Rico soon to begin closing the gap as it became the location for one of the earliest, large-scale family planning programs implemented anywhere in the world.

The mortality and fertility trends reviewed in this paper suggest that revolutionary policies were instrumental, whether intentionally or not, in furthering Cuba's demographic transition: the pace of mortality and fertility decline accelerated during the ensuing decades. The short-lived baby boom that accompanied the early years of the revolution soon gave way to a steep fertility decline. Various factors accounted for this development. Among these were social policies that began to alter the status of women, along with their childbearing expectations, such as improvements in educational attainment and increases in female labor force participation. Another was that the bountiful prosperity promised during the early days of the revolution soon turned to the austerity that, with recurring ups and downs, has dominated Cuba's economy for six decades.

Less noted, but just as influential, was that by the mid-1960s, the revolution's "moralistic" reproductive phase gave way to a radical reversal with long-term major demographic consequences. From condemning and largely proscribing as a capitalistic aberration the culturally-tolerated and generalized—yet technically illegal—acceptance of induced abortion as a fertility control measure, the practice was legalized and embraced with gusto. This was done partly to help bring the baby boom to an end as the swelling number of children began taxing national resources but also as a means to facilitate the achievement of social and public health objectives for which, in years to come, the regime would gain much international praise: raising the status of women and improving health standards by lowering mortality rates.

This is not the place to evaluate how effectively social objectives were met, but it is appropriate to examine the secular performance of public health policies given their profound demographic consequences. The rapid ageing of Cuba's population is among the most salient of these consequences. The universal availability of abortion services, generally viewed as one of the main—if not principal—national family planning method, contributed not only to the initially rapid fertility decline, but also became the predominant proximate determinant of the country's below replacement fertility trend, one unlikely to be reversed. It is entirely plausible—in fact, more than likely—that Cuba, like many other countries, absent its extreme reliance on induced abortion eventually would have crossed the below replacement fertility threshold. But just as certain is that as a result of the early, widespread and consistent reliance on induced abortion as a family planning method Cuba reached that turning point earlier than it would have otherwise.

A recent research effort has shed light over what some observers of Cuba's demographic and public health developments have wondered about but could not conclusively determine: that induced abortion or some other practices were connected, in one way or another, with the low infant mortality and high life expectancy rates reported by the country. Some effect could be expected from the openly acknowledged decades-long policy of detecting congenital abnormalities leading to prophylactic pregnancy terminations to prevent babies with higher than average neonatal and early childhood mortality risks from being born (Díaz-Briquets 1986). Gonzalez (2015; Gonzalez and Gilleskie 2017) has documented a far more significant medical reporting procedure whereby Cuban IMR estimates are lowered through a statistical artifact whereby fetal and early neonatal deaths are misclassified. A related consequence of this manipulation is that it induces an unwarranted upward bias in life expectancy estimates. When corrected for misclassification biases, Gonzalez concludes that Cuba's actual IMR may be twice as high as reported. The associated upward bias on life expectancy at birth estimates may be just as significant, likely amounting to several years.

If Gonzalez's conclusion is valid, it raises several important issues regarding the comparative analyses presented here. First and foremost that Chile and Costa Rica, quietly and without the excessive admiration lavished on Cuba, have been as or more successful than Cuba in tackling the mortality challenge. Even though at the beginning of the study period both countries had higher IMRs than Cuba, by 2015–20 they outperformed Cuba as their IMRs were at the same level or lower than Cuba's. Equally striking is that the relative 2015–20 life expectancy advantage of these two countries over Cuba would be even greater than indicated by the estimates on Table 6. If these adjustments are warranted, it would appear that the objective of researchers concerned with the effectiveness of international health policies would be better served by turning their attention to the experiences of Chile and Costa Rica, rather than continuously focusing on Cuba's. A comparative perspective would be particularly enlightening to establish how, in the absence of induced abortion as a mortality-reducing public health tool, Chile and Costa Rica became the best LAC regional performers.

Two other concurrent research themes, germane to Cuba's current demographic predicament and already at the apex of the national policy agenda, are how to confront the economic and social challenges posed by persistent below-replacement fertility and

the related rapid ageing of the country's population. About the latter not much can be done presently since the ageing process unfolds gradually and is irreversible over the short- to medium-term. Certain policy levers, such as changes in statutory retirement ages and pension payments, retraining part of the public health medical force to prioritize geriatric needs, etc., could be used to mitigate the most alarming consequences of the ageing trend. The effectiveness of these policies, however, is far from assured given Cuba's current stagnant economic environment and magnitude of the problem.

Particularly challenging is how to encourage women and families to have more children. Cuba, like other wealthier countries, is formulating and beginning to implement policies to that effect. What we understand from evaluations conducted elsewhere is that only limited success should be expected. Successful interventions often depend on generous subsidies, which the struggling Cuban economy is ill prepared to afford, even less so when a stated policy priority is doing away with subsidies to the extent possible.

Yet, worried about the future, Havana has announced various pro-fertility policy initiatives. Among these is the budgeting of a 50 million pesos (CUP) national construction fund to provide high parity mothers/families (having three or more children under age 12) with homes, as it has been determined that the perennial housing shortage is among the main reasons Cuban women limit childbearing (Silva Correa 2019; "Casas para madres" 2019). The national infecundity clinic network is also being expanded. Since as many as 100,000 couples would like to procreate but are unable to do so, successful outcomes in these clinics could help raise the birth rate. Efforts are also underway to increase the number of child care centers.

Perhaps the most consequential measure would be to dissuade women from continuing to rely on induced abortions to limit their childbearing, as they have done in the past. This has been a long-standing unaddressed public health concern, as the medical authorities are cognizant of the often deleterious consequences for women's health of sequential abortions. Such lackadaisical attitude appears to be changing as the national press is drawing growing attention to the fact that repeated abortions, particularly by young girls, often result in infecundity and other complications (Barbosa León 2019; "¿Por qué el 'alarmante'?" 2019; "El 30% de los abortos" 2019). It is not inconceivable that as a policy expediency the government may be considering selective measures to lower the incidence of induced abortions as a partial intervention to raise the birth rate.

While this would constitute a stunning policy reversal—for decades, pregnancy termination has been regarded as a sacrosanct right of women—there are indications potential policy changes may be on the offing. Aside from the increasing attention given by the official press to the issue, there has been a report to the effect that the Health Ministry has granted Catholic Church representatives permission to conduct pro-life advocacy efforts, alleging religious and health reasons, among women seeking pregnancy terminations in selected medical facilities in two of Cuba's provinces (Quiñones Haces 2019). Could this be a harbinger of forthcoming select abortion restrictive policies, perhaps by aggressively attempting to convince pregnant women to forego abortions? Such a policy could be justified on its public health merits, while simultaneously contributing to the pursuit of a high priority demographic goal.

While it remains to be seen whether the emerging pro-fertility policy framework may be successful, it is ironic that over the short- to medium-term it will have perverse consequences. A higher birth rate today, when the elderly share of the population is growing rapidly, will aggravate an already onerous dependency burden for which the country is woefully unprepared. These are daunting choices policy-makers will be forced to sort out.

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