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Demographic and health conditions of ageing in Latin America and the Caribbean

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Dimensions of ageing

Reference to 'ageing societies' conjures imageries that differ sharply. In some cases they revolve around nearly bankrupt pension or social security systems, or about families physically and economically overburdened with responsibilities of simultaneously caring for very young children and the very old. In others, they point to societies overloaded with unsatisfied health care demands of the chronically ill, functionally disabled, and the mentally and physically impaired. In yet others, references to ageing evoke rumblings about stagnant economies, sluggish increases in productivity, heavy taxation burdens, conservative ideologies, and dismal mobility prospects for younger generations. As is plain from reviews of the process in general,[1–15] each and every one of these issues, sharing a negative connotation, corresponds to a dimension of the ageing process. In this paper we consider only two dimensions: demographic profile and health status. The demographic dimension consists of conditions related to the relative size, rate of growth, and composition of the elderly population. The health dimension is a function of conditions that influence current and prospective health status of the elderly population and their demand for and actual use of health care.

Demographic dimension: dynamic characteristics of the ageing process

The demographic momentum of ageing in the region is rooted in patterns of population growth experienced over the last 50 years or so. These patterns have led to continuous increases in the rate of increase of the elderly population (aged 60+), to significant shifts in other indicators of ageing, such as the mean ages of the population and, finally, to increases in the overall speed of ageing in the region. This process is mainly attributable to the sharp mortality declines experienced after 1940.

Although future trends fuelling ageing could conceivably experience reversals due to sudden changes in vital events, the most likely scenario is one where ageing will be reinforced as fertility plummets toward lower levels in an irreversible process. Thus, ageing in the region is driven by two forces: one is unchangeable for it is the result of past demographic history, and the other is unlikely to be malleable since it is the outcome of large macro processes with a powerful momentum of their own.

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Indicators of ageing

Although there are other useful alternatives, we chose to focus on three indicators of ageing, the proportion of the population above age 60, C(t), the mean age of the population, A(t), and an indicator of the availability of support among the younger generations, L(t). The first indicator is a conventional measure and needs little introduction. The second is also straightforward, albeit much less used, but of extreme utility in understanding patterns of growth of the elderly. The third, L(t), defined as a ratio of adult to elderly population is a crude indicator of kin availability and of constraints in the patterns of elderly residential arrangements. Although these indicators are loosely interrelated, the relation weakens when populations depart from stable equilibrium. Altogether, these indicators suffice to characterize the demographic nature of the growth of elderly people.

Demographic regimes and indicators of ageing

Populations with sustained high levels of fertility will have lower values in C(t) and A(t) but higher values in L(t) than populations with lower fertility levels. This is because in high fertility populations more recent cohorts are larger than the preceding ones, thus biasing the age distribution toward younger ages. Higher fertility levels imply both larger disparities in the size of successive cohorts and stronger biases toward a younger age distribution.

Mortality has an ambiguous effect on all indicators. In societies with high mortality levels, an improvement in survival conditions leads to lower values of C(t) and A(t) and is somewhat neutral for L(t) because those who benefit most from the improvements tend to be infants and young children, and much less so adults and the elderly. In these societies lowering mortality levels has the same effect as does an increase in fertility, namely, it inflates the relative size of the cohorts who are younger than 5 years. However, in societies with lower levels of mortality, improvements in survival tend to benefit more adults and elderly people, thus tilting the age distribution in the other direction. As a result, if we compare two societies with similar levels of fertility but different levels of mortality, the one with a lower level of mortality will have higher values of C(t) and A(t) and lower values of L(t) than the society with higher mortality *if and when mortality levels are relatively high at the outset*. When lower levels of mortality prevail the contrast between one and the other society will be reversed, and the one with lower mortality will experience higher values in C(t) and A(t) and lower values in L(t).[16] As a consequence of these relations, the association between all three indicators in populations with similar regimes of mortality and fertility is tight. Indeed, in this comparative static framework, knowledge of more than one indicator provides redundant information. However, in societies with de-stabilized demographic regimes where fertility or mortality or both have been changing rapidly, the relation between indicators will not always be as tidy and close, and examination of each of them merits separate attention.

No country in the region belongs to a stabilized population form. The actual regimes of de-stabilization are quite heterogeneous but admit a rather simple, though coarse, characterization.[17,18] With a few exceptions (Argentina, Cuba, Puerto Rico, and Uruguay), countries in Latin America and the Caribbean experienced high levels of fertility until about 1965–1970, when a precipitous decline began to spread in all but a handful of nations (mostly in Central America, Bolivia, Paraguay, Peru and Ecuador). Unlike fertility, mortality began to decline prior to 1950, although the bulk of gains in survival took place during the Post-World War II era. In Argentina, Cuba, Puerto Rico and Uruguay, pre-transitional fertility levels were lower than in the rest of the region, and began to decline before 1945. As of 1990 the age structures of all countries in the region reflect de-stabilized demographic regimes, mostly a combination of recent sharp fertility reductions and of less recent but equally sharp reductions in mortality.

Table 1 contains estimates of A(t), C(t), and L(t) for 1950–1955 and 1990–1995, and projected values for 2020–2025 for countries in Latin America and the Caribbean.

The momentum of ageing in the region is evident in these Tables as the empirical distributions for all the indicators converge toward values associated with increased ageing. Simultaneously, there is an increase in regional variance due to heterogeneity in the timing of the mortality and fertility transitions in the region. While C(t) was below 10–12% everywhere in 1950, the latest statistics for 1990 indicate that Argentina, Cuba, Barbados, Puerto Rico and Uruguay have all surpassed that value, and projections for 2020–2025 suggest that only in four countries will C(t) be contained below 12%. Elsewhere the fraction of the population above 60 will increase sharply and approach values similar to those reached by the US and Japan.

A(t) is highly sensitive to the specific trajectory toward older age distributions. Whereas in 1950 most countries in the region had values below 25 years, by 2020 all of them are expected to exceed 25 years, and most of them will attain values surpassing 30 years. During the period 1990–2025 A(t) will increase on average from 27.2 years to 33.3 years, a rate of increase of about 22%. A comparison of trajectories of A(t) in the region with those in northern Europe, US and Japan reveals that countries in the region will experience higher rates of changes in A(t) than what would be expected given their absolute values of A(t).

Over long periods of time—long enough to cancel out irregularities due to transient phenomena—the rate of change in A(t) is an indicator of the speed of ageing inherent in a demographic

Table 1 Values of C(t), L(t), and A(t): 1950–2025

	1950				1990				2025			
	C(t)	R(t)	L(t)	A(t)	C(t)	R(t)	L(t)	A(t)	C(t)	R(t)	L(t)	A(t)
Argentina	7.0	0.11	4.95	25.5	12.9	0.23	3.03	31.3	16.6	0.27	2.89	35.6
Bolivia	5.6	0.11	4.65	24.2	5.8	0.11	4.34	23.9	8.9	0.14	3.97	29.3
Brazil	4.9	0.09	5.16	23.5	6.7	0.12	4.31	27.4	15.3	0.25	3.24	35.0
Chile	6.9	0.12	4.52	25.4	9.0	0.15	3.72	29.6	18.2	0.31	2.69	36.2
Colombia	5.6	0.11	5.02	24.2	6.2	0.11	4.19	26.1	9.7	0.23	3.28	33.4
Costa Rica	5.7	0.11	4.22	24.3	6.4	0.11	4.27	26.4	14.3	0.22	3.09	33.8
Cuba	7.3	0.13	4.51	25.8	11.7	0.18	3.30	33.1	25.0	0.30	2.44	42.2
Dominican Republic	5.2	0.10	4.59	23.8	5.6	0.09	4.50	25.7	14.2	0.23	3.25	34.2
Ecuador	8.1	0.16	3.65	26.6	6.1	0.11	4.16	26.9	12.6	0.20	3.53	36.5
El Salvador	4.8	0.09	4.71	23.4	6.0	0.12	3.73	24.9	10.1	0.16	3.88	31.7
Guatemala	4.3	0.08	5.19	22.9	5.1	0.10	4.29	22.1	7.4	0.12	4.54	27.2
Honduras	3.9	0.08	5.40	22.5	4.5	0.09	4.57	22.3	8.6	0.14	4.17	29.4
Mexico	7.1	0.14	3.89	25.6	5.9	0.11	4.21	25.4	13.5	0.21	3.43	34.2
Nicaragua	4.1	0.08	5.15	22.7	4.3	0.09	4.61	21.7	8.4	0.13	4.35	28.4
Panama	6.5	0.12	4.34	25.0	7.3	0.14	3.89	27.1	10.5	0.25	3.13	35.2
Paraguay	8.9	0.17	3.54	27.4	5.4	0.10	4.32	24.7	9.4	0.16	3.79	29.9
Peru	5.7	0.11	4.66	24.3	6.1	0.11	4.29	27.0	12.6	0.20	3.56	36.8
Uruguay	11.8	0.20	3.37	30.2	16.5	0.29	2.69	34.2	18.4	0.31	2.57	37.3
Venezuela	3.4	0.06	7.00	22.0	5.7	0.10	4.61	25.6	13.2	0.21	3.32	33.2
Barbados	8.5	0.15	4.06	27.0	15.3	0.25	2.49	33.3	23.2	0.39	2.49	41.5
Jamaica	5.8	0.10	5.16	24.4	9.2	0.16	2.87	27.6	14.9	0.24	3.21	35.1
Trinidad	6.1	0.11	4.67	24.6	8.7	0.15	3.61	29.0	17.4	0.28	2.91	38.7
Puerto Rico	6.1	0.12	4.10	24.6	13.2	0.23	3.06	32.7	20.5	0.35	2.60	38.2
United States	12.5	0.21		30.8	16.6	0.27		35.6	24.7	0.44		40.6
Japan	7.7	0.24		26.2	17.4	0.27		39.6	32.1	0.59		46.6

Sources: Calculations using the United Nations data base (1999).

regime. In societies of the region where mortality and fertility declines are packed in a few years, the speed of ageing is much higher than that in areas such as western Europe and North America, where mortality and fertility decline took place more gradually over extended periods of time. The contrasts between the speed of ageing in Latin America and the Caribbean, on the one hand, and North America and western and northern Europe, on the other, are startling.[19] Indeed, they imply that the speed of ageing in the region will be at least twice as high as it was in other regions of the world for most of the time it takes to complete the passage from a youthful to an older society. The main implication of this regularity is that the transition toward older societies in countries of the region gathers speed when their age distributions are still relatively young.

Finally, L(t) is a telling indicator for it reflects the availability of members of younger generations to elderly people. In many societies the residential arrangements of the elderly and the quality and quantity of transfers toward the elderly are strongly influenced by the magnitude of L(t). During the period 1950–2020 the median value of L(t) in the region drops from about 4.8 to 3.1 while its variance increases, reflecting inter-country differentials in the timing of the transition toward an older population. Barring reversals of fertility trends, the value of L(t) will continue its steep decline and will approach rapidly levels close to 1.5 or less.

As in the case of other indicators of ageing, relatively large changes in L(t) are packed into a very short period of time.[19] In north-western Europe and North America the transition towards an older population involves changes from values not exceeding 3.5 to values around 1.5. Instead, countries of the region experience far more massive changes, as the reduction in the absolute value of L(t) is almost twice as large, from values around 5.5–6.0 to about 2.5. Second, if future trends conform to projections, the change from levels of L(t) of about 3 to values around 1.5 will occur over a period of time that is nearly half as long as the period of time within which the same transition took place in North America and north-western Europe. The differences are striking, and suggest that the impact of ageing in the region will be felt much more suddenly than ever before.

Rate of growth of the elderly population in the region

As in the case of total populations, an important characteristic of the elderly population above age 60 is its rate of increase, R(t). Table 2 displays values of R(t) for the same periods reviewed before. To have a sense of magnitude, note that with a constant rate increase of 0.020, the doubling time of a population is of the order of 35 years, whereas a rate of increase of 0.040 produces a doubling time about half as long. Accordingly, the population aged 60+ during the period 1980–2025 in the region will, on average, experience at least one doubling and, in more than half of the cases, a trebling before the year

Table 2 Values of R (60+,t) and of total rate of growth, r(t): 1950–2025

	1950–1960		1980–1990		2015–2025	
	R(60+,t)	r(t)	R(60+,t)	r(t)	R(60+,t)	r(t)
Argentina	0.041	0.018	0.023	0.015	0.019	0.008
Bolivia	0.019	0.021	0.026	0.021	0.034	0.016
Brazil	0.038	0.030	0.027	0.019	0.043	0.008
Chile	0.031	0.022	0.025	0.016	0.035	0.009
Colombia	0.020	0.029	0.029	0.021	0.044	0.011
Costa Rica	0.021	0.036	0.044	0.028	0.044	0.013
Cuba	0.026	0.018	0.017	0.009	0.027	0.001
Dominican Republic	0.026	0.032	0.038	0.022	0.045	0.009
Ecuador	0.013	0.027	0.029	0.025	0.039	0.011
El Salvador	0.017	0.028	0.035	0.011	0.038	0.013
Guatemala	0.031	0.029	0.038	0.029	0.038	0.020
Honduras	0.032	0.032	0.036	0.031	0.044	0.016
Mexico	0.026	0.029	0.030	0.021	0.039	0.009
Nicaragua	0.025	0.031	0.032	0.025	0.047	0.016
Panama	0.030	0.027	0.029	0.021	0.038	0.009
Paraguay	0.025	0.021	0.012	0.030	0.047	0.019
Peru	0.025	0.026	0.031	0.022	0.037	0.011
Uruguay	0.013	0.013	0.018	0.006	0.012	0.004
Venezuela	0.061	0.040	0.039	0.026	0.041	0.012
Barbados	0.025	0.009	0.011	0.003	0.036	0.005
Jamaica	0.028	0.015	0.009	0.010	0.050	0.010
Trinidad	0.025	0.028	0.021	0.013	0.038	0.008
Puerto Rico	0.030	0.006	0.026	0.010	0.019	0.006
United States	0.023	0.016	0.016	0.010	0.025	0.008
Japan	0.026	0.012	0.036	0.006	0.004	-0.004

Source: All figures calculated using the United Nations data base (1999).

2025. Two regularities associated with these patterns are important:

Relative growth of the older population

The social and economic dimensions of the ageing process also depend on the dynamics of the population younger than 60: if this population grows as fast or faster than the population at older ages then some issues, such as support of the elderly, may be less pressing even though the absolute growth of the elderly population has problematic consequences of its own. In this view what matters is the *relative growth* of the two segments of the population: to the extent that and for as long as the population aged 60+ grows faster than the population below age 60, there will be ageing. Upward pressure on the fraction of the population aged 60+ will depend on R(t) and on the rate of increase of the younger population. Note that increases in the fraction of the population aged 60+, C(t), will proceed at a faster pace the larger the differences between these rates of increase are, and the longer the regime is maintained. A similar set of factors account for the decrease in the value of L(t).

Since in all likelihood fertility in the region will continue to fall toward very low values and mortality will also maintain a downward though decelerating course,[20] we will observe steadily declining values of the overall rate of growth. Instead, due to factors examined below, the values of R(t) will continue to increase. The consequence of these two reinforcing trends will be large increases in C(t) and large decreases in L(t). Table 2 shows that, with a few exceptions, the rates of increase of the population 60+ during the more recent periods are higher than the rate of increase of the total population. Furthermore, the differences between rates of increase for the population above age 60 and for the total population increase regularly during the period of time examined. Once again, this shows that the seeds of rapid ageing in the region have been present, though unnoticed, for quite a long time.

Trajectory of the rate of increase of the older population, R(t)

The rate of increase of the elderly population is a function of three characteristics: (1) changes in past birth rates, (2) changes in past mortality from age 0 until age 60 and (3) changes in mortality above age 60. Since this has important implications for the prospective health status of the elderly in the region we show that current and future growth among elderly is due to past mortality declines in the age group 0 to 60, not in the improvement of mortality for elderly people (aged ⩾60).

The characterization of past demographic trends in the region suggested above and the most important factors determining R(t) just outlined lead to two consequences. First, the population who will attain their 60th birthday between 2000 and 2025 belong to birth cohorts inflated by a mild surge of fertility in the years 1950–1965. Thus the rate of increase of the age group 60+ will increase in part because of these transient spikes in fertility levels. Second, and most importantly, these same cohorts were the beneficiaries of unusually large improvements in survival, particularly during early childhood. For example, individuals born in 1960 experienced lower levels of early child mortality than those born in 1955. This increases the size of the cohort attaining age 60 in 2025 relative to the size of cohorts that reach age 60 in the year 2020.

The key inference from these findings runs counter to popular beliefs: it is that the growth of current and future elderly population is mostly a function of *past* developments in mortality (and less so in fertility), and depends to a much lesser extent on mortality conditions at older ages.

To assess the magnitude of each of these factors we chose three countries that roughly approximate the diversity of experiences with mortality decline in the region. For each one of them we estimate the profile of mortality decline over the period 1900–1990 and calculate projected life tables to assess future changes during the period 1990–2020. We proceed then to estimate the (absolute) magnitude of the contribution of mortality changes to the rate of increase of the population in several quinquennial age groups, starting with the age group 50–54, at various points in time starting with the year 2000.

Figure 1 displays the estimated magnitude of these changes for age groups 50–54, 55–59, etc. for the year 2020 for these three countries. We also include estimates for the US for comparison purposes. The vertical axis in each figure represents the total cumulated change of mortality rates (per 1000) experienced by cohorts reaching ages noted on the horizontal axis during the year 2020. For example, compared to those who will be in the preceding age group in 2020, Chileans who will be in the age group 65–69 in the year 2020 will experience a cumulative rate of reduction in mortality rates between birth and age 60 that amounts to 0.0125. For those who will be 70–74 in 2020 the rate of decrease is approximately 0.028. Since the bulk of mortality decline, particularly during early childhood, occurred during the post-World War II years, the peak of the graphs is attained by cohorts born during those years (who will be aged between 70 and 80 in 2020). Older cohorts also experience mortality changes, but since they are not the beneficiaries of the typically larger gains accruing to early childhood, the magnitudes of the quantities are smaller. The estimates in the graph suggest that improvements in mortality between 0 and 60 account for about 43% of the total rate of increase of the Chilean population 60+ in the year 2020. In Mexico, the corresponding values are slightly lower. The remainder is accounted for by increases in the birth rate and, much less so, by improvements in mortality at older ages. The graph also makes evident that the contribution of mortality changes to the growth of these cohorts is lower in Uruguay than in either Chile or Mexico, as it should be given the earlier and more gradual nature of changes there.

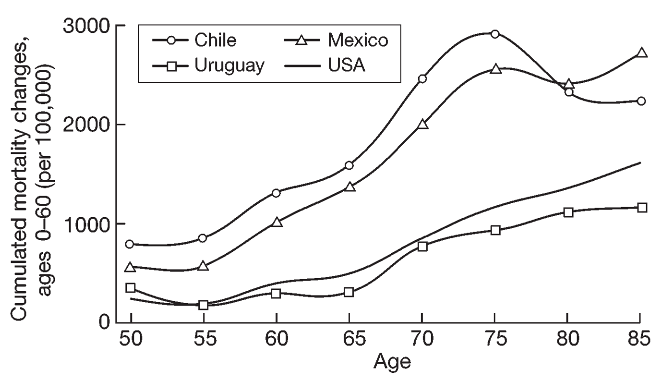

Figure 1 Cumulated changes in mortality; cohorts aged 60+ in 2020

Estimates for other countries in the region look very similar to those in Figure 1. The only difference is that in cases where the onset of the secular mortality decline is later than in Chile or Mexico, the curves are displaced toward the left, with peaks occurring among the younger cohorts.

A paradoxical implication: health status of elderly is a function of past mortality regimes

The most important inference from this review is the following: *a substantial fraction of future increases in R(t) and, therefore, of the ageing reflected in changes in C(t), L(t), and A(t), is attributable to mortality changes experienced during the period 1930–1990.* Furthermore, as shown elsewhere,[21] about 70% of this change is due to changes in mortality associated with infectious diseases in the first 10 years of life. This is a revealing statistic: it suggests that the relatively compressed schedule of ageing in the region can, in part at least, be traced to the medical and public health revolution that triggered the mortality decline nearly half a century ago.

Why should this feature of the growth of the elderly population be relevant? In what ways does it entail a legacy of the past with implications for the future health and disability status of the elderly? First, massive improvements in survival, particularly those concentrated within a few years after birth, are likely to induce important changes in the mean and variance of the frailty distribution of the elderly population. It is well-known that this fact alone could account for increases in the prevalence of morbid conditions as well as for slower improvements in mortality at older ages than would otherwise be the case.[22,23]

Second, a surging line of research is finding increasingly credible evidence that exposure to and contracting illnesses or deleterious conditions early in life may have enduring physiological effects that could play out and have a strong influence in adult life.[24–26] From the foregoing considerations we know that cohorts of elderly people who will reach 60 after the year 2000 are those who experienced the full benefits of the deployment of novel medical technology introduced during the post-World War II period. Their survival gains are less the outcome of quantum leaps in standards of living and more the result of successful reduction of exposure, better treatment, and speedier recoveries.[27,28] Might this combination of events enhance the expression of negative effects of early exposure to deleterious conditions and manifest itself in higher prevalence of later life illnesses and disability? In other words, could it be that those 'saved' by innovative technologies bear the imprint of a clash with early childhood illnesses that we would have never seen had the new technology not been in place?

These considerations lead to the following conjecture: elderly health status and functional limitations among the elderly in Latin America—particularly among the cohorts reaching ages 60 in the period 2000–2020—are likely to have worse distributions of health status than those observed among elderly in other places, even when relevant disparities in socioeconomic conditions are controlled for. If this proves to be true—and we show some evidence below that appears to confirm it—then the ageing process in the region is characterized not just by unprecedented speed and size, but also by large potential demand for health services.

Mortality and health status of the elderly

One of the root causes of population ageing may also influence the composition by health status of the elderly. To the extent that early life conditions have an impact in later life, we should expect important changes in the distribution of the elderly population by disability and health status. Improvements in survival during early life were largely the result of medical innovations and were not always accompanied by changes in standards of living. This may have altered the average propensity to experience later life illnesses and disability. A possible scenario is one where health and disability status deteriorates progressively as the cohorts who experience the bulk of mortality decline approach older ages. Since this process has different effects across social strata and rural-urban residence, we should also expect that social class differentials in health status among the elderly will increase as ageing progresses. This calls for careful evaluation and monitoring of the progression of elderly health status and disability, as they will exert disproportionate influence on demands for health care services.

Ageing societies face important dilemmas but none of them is as salient and consequential as those related to the health status of the elderly. In developed countries at least, health care expenditures are by far the largest component of transfers toward the elderly.[29] The level of these expenditures and their projected trajectory in the near future are of paramount significance for the adequate design of health policies and for realistic appraisals of the strength and weaknesses of pension and welfare programmes.[29,30] The actual magnitude of these expenditures will be a function of several variables, some of which are simply beyond the control of policy makers. There is some societal level of 'desired welfare' or expected level of well-being that, to some extent at least, all policies must reflect. This is partially under the control of interest groups, and the private and public sector. Given a desired level of well-being, health costs and health expenditures will depend on the health profile of the elderly and on the mix of technologies deployed to maintain or improve health conditions. Of these two components, the best known to us is the health status of the elderly.

The key factors affecting the health profile of the elderly are incidence and timing of onset of chronic illnesses and disability, magnitude of rates of recovery, and levels of mortality.[19] What do we know about each of these in the region? What do we expect about their trajectory in the near future, in light of the influence of past exposure and past behaviour, possible innovations in treatment, and new prevention strategies? Are these countries experiencing a compression[31] or expansion[22,23] of morbidity and mortality, or are they following some intermediate route?[32,33]

Mortality above age 60

Figure 2 is a map of life expectancies at age 60, E(60), for 1950–1955, 1990–1995 and 2020–2025. In virtually all countries the values of E(60) for the period 1990–1995 are close to 20 years, and compare favourably with estimates for Japan and the US. Although it is unclear if, and to what extent, estimates of E(60) are distorted by age-overstatement at older ages,[34,35] the time trends themselves (relative changes) are less likely to

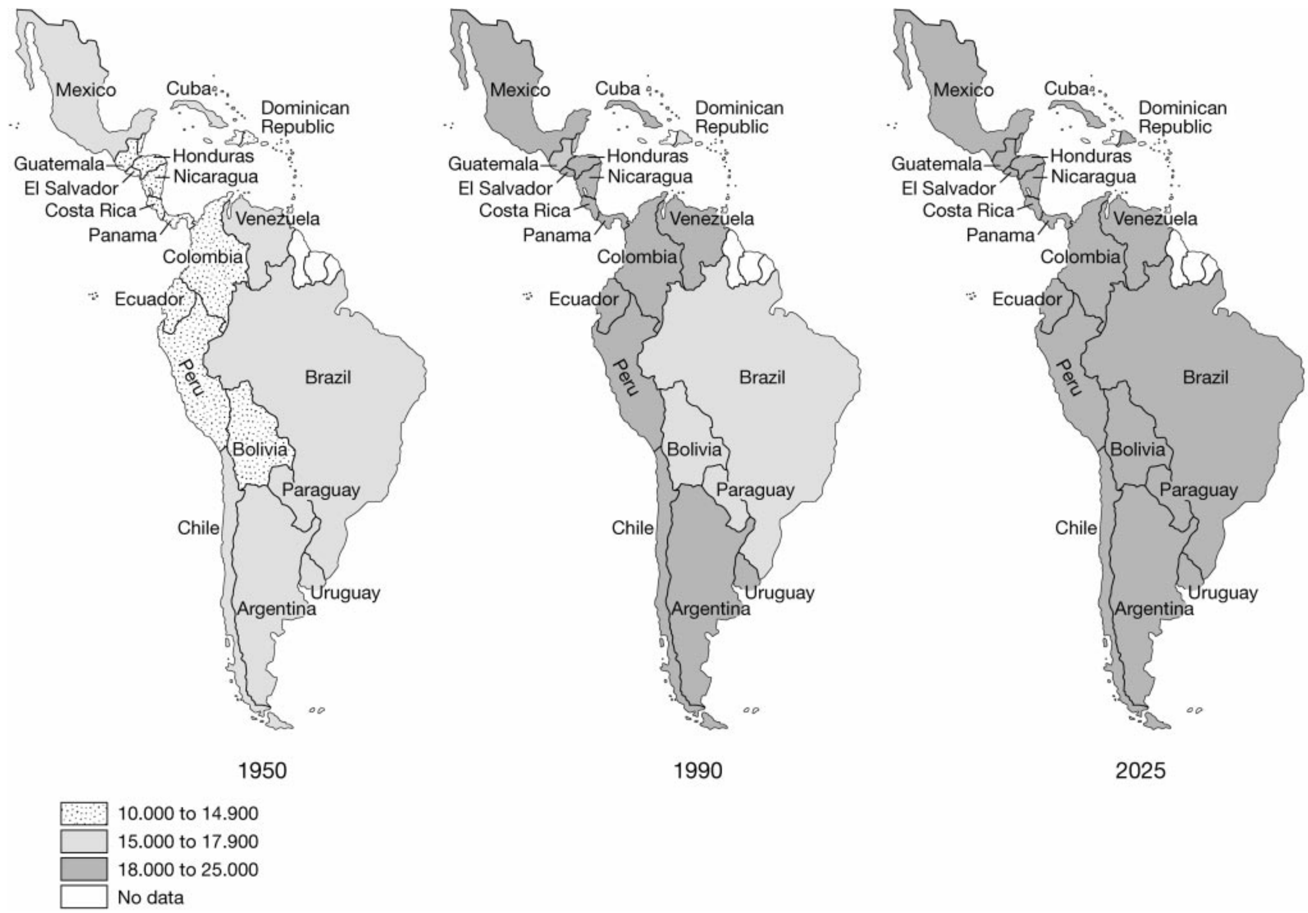

Figure 2 Maps of life expectancy at age 60 for the period 1950–2025

be affected by errors. These trends imply that, barring future increases in mortality, a newborn now will be expected to live an average of about 20 years of life above age 60. In 1950–1955 the corresponding number was almost 10 years. Thus, changes in mortality packed in the 50 or so years after World War II translate into 10 extra years of life to be lived above age 60. As implied by the 1990–1995 and 2020–2025 data, it is unlikely that the same pace of improvements will be maintained until 2020. The main question is this: how healthy will these extra years of life be? What kinds of health care costs are likely to be associated with extra years of life to be lived above age 60? If the elderly population is not only growing faster than ever before, but is also living longer than ever before, to what extent is the composite increase of person-years lived in old age dominated by person-years lived in good health? Some researchers have argued that increases in life expectancy lead necessarily to increases in the proportion of time lived with disability or ill-health.[36,32] Others argue the opposite by showing empirically that, in some countries at least, there has been a gradual but very noticeable improvement in morbidity and disability among the elderly[37–39] or, alternatively, by pointing to the relativistic nature of notions of ill-health.[40] The foregoing review of factors accounting for the rapid increase of the elderly population in the region suggests a more pessimistic stance since, as we saw before, the new cohorts of elderly people are likely to be more frail than average.

Although a convincing answer to these questions requires information on trends in health status that are unavailable to us, we can proceed indirectly by using preliminary results from a newly available data base on elderly people in the region.

Current health status gauged via self-reported health status and Activities of Daily Living (ADL)/Instrumental Activities of Daily Living (IADL)

A very recent source of information about health conditions among the elderly is the data collected as part of the project Health, Well-Being and Ageing in Latin America and the Caribbean (SABE). The project consists of a round of cross-sectional surveys of representative samples of elderly populations living in seven large cities of the region (Buenos Aires [Argentina], Bridgetown [Barbados], San Paulo [Brazil], Santiago [Chile], Havana [Cuba], Mexico City [Mexico], Montevideo [Uruguay]). Each sample consisted of between 1500 and 2000 target individuals aged ⩾60 and their surviving spouse.[19] The survey elicited information on a number of dimensions regarding health and well-being of the elderly. One of the modules included extensive questions on self-reported health status, self-reported chronic conditions, and functional limitations (ADL and IADL). From this module we calculate two indicators of health status: distribution of self-reported health and distribution of ADL/IADL.

Self-reported health status

Table 3 displays the percentage of the population aged 60+ reporting their health in various categories in a continuum from 'bad' to 'very good'. Although we do not discuss age patterns, preliminary analyses reveal that they follow a 'J-shaped' form with sharp increases at the oldest ages of the fraction reporting themselves in poor condition. The Table also includes comparable percentages calculated from the Health and Retirement Study (HRS) and Asset and Health Dynamics Among the Oldest Old (AHEAD), two of the most important data sources on the elderly in the US. All estimates were calculated by gender and, for the US, by ethnic group. Several remarks are in order. First, to maximize comparability, we collapse the 'very good' and 'excellent' categories used in both the SABE studies and the HRS and AHEAD. The combined category is more comparable across studies. We also assumed that the category 'fair' used in AHEAD and HRS is comparable with the middle category used in SABE. Second, because in all countries the proportion reporting poor condition increases sharply after age 65 and the age distribution in SABE countries is much younger than in the AHEAD study, comparisons of the unstandardized proportions self-reporting in ill-health will understate the US advantage over SABE countries. By contrast, since the age distribution of HRS is younger than in SABE countries, we would expect the opposite pattern to prevail.

While self-reported health status is not an ideal indicator of health conditions, it has been shown to be a remarkably accurate predictor of subsequent ill-health and mortality.[41–43] Three features stand out in the Table. First, with the possible exception of Argentina, the fraction that reports being in the 'poor' or 'fair' categories is higher in countries of the regions than comparable figures for the White population in the AHEAD and HRS studies. It should be remembered that the sample studied in AHEAD corresponds to an older age bracket (70+), whereas those of the HRS correspond to a slightly younger age bracket (51–61). In the AHEAD the fraction of the White population reported to be in poor/fair health condition is 33.5% among males and 34.0% among females. In Argentina, the country in the region with the best distribution, the corresponding numbers are 28.5% among males and 38.8% among females. In all other countries the percentages are far worse than among the White populations both in HRS and AHEAD and, in some cases, even worse than the Black population in both US studies.

Second, the heterogeneity within the region is substantial and is only weakly correlated with mortality levels. In fact, the lowest percentage reported as being in poor or fair health condition occurs in Argentina while the highest occurs in Mexico. The highest and lowest life expectancies are in Cuba and Brazil, respectively.

Third, there are very large gender disparities and they all favour males. The differences can be as large as 12 percentage points (in Uruguay) and as tenuous as 4 or 5 percentage points (in Chile). This is in contrast with findings in the US and other developed countries where the male-female differences are muted or display the opposite pattern, namely, one whereby females report themselves in better health conditions than males.[44] If the observed gender differentials do indeed reflect latent ill-health or limitations the patterns are ominous since elderly women are at higher risk of experiencing worse economic conditions than elderly males. The combination of worse health status and lower standards of living for elderly females does not bode well for countries where the gender disparity in survival creates a large population of dependent elderly women.

What to make of these figures? First, one could argue that, in addition to other problems, health self-reports may be contaminated by (unknown) biases which, in the region of Latin America at least, would exaggerate bad health. This may be true, and we need to await the results of further internal consistency checks before passing definitive judgement on the validity of the measures. However, in defence of self-reports as good valid indicators of health status, one must note that these countries represent a sample with substantial cultural heterogeneity—some of these countries do not even share the same language—but that, if one excludes Argentina, the within-region homogeneity in self-reports is fairly high.

Second, a counter argument is that the figures in Table 3 do not take into account socioeconomic status and that countries

Table 3 Self-reported health conditions for population ⩾60 years, 1980–1995

	Males				**Females**			
	Poor	Fair	Good	Very Good (Excellent)	Poor	Fair	Good	Very Good (Excellent)
Argentina	3.9	24.6	45.7	25.9	6.3	32.5	45.2	16.0
Barbados	5.0	37.7	37.9	19.4	5.6	47.6	33.8	12.9
Brazil	7.2	44.4	37.7	10.8	8.9	46.7	33.7	10.7
Chile	18.1	39.7	32.8	9.4	23.2	44.9	27.3	4.6
Cuba	9.7	45.1	38.9	6.3	15.3	53.1	26.7	4.9
Mexico	19.6	47.0	27.8	5.6	22.6	48.5	24.8	4.1
Uruguay	4.2	26.8	50.1	18.9	8.5	34.9	40.6	16.1
USA Blacks HRS[a]	12.6	22.5	30.6	34.3	12.0	22.7	33.1	32.2
USA Blacks AHEAD[b]	20.4	30.0	28.0	21.6	19.7	29.7	27.6	22.9
USA Whites HRS[a]	7.7	12.3	28.8	51.2	6.7	14.3	25.8	54.6
USA Whites AHEAD[b]	12.5	21.0	32.0	34.6	11.5	22.5	30.4	35.6

[a] Health and Retirement Study.

[b] Asset and Health Dynamics Among the Oldest Old.

differ in terms of the distribution of elderly individuals by social class. However, if social class differentials are as expected, standardization for social class will increase rather than decrease the prevalence of those self-reporting poor health. Thus, the figures in Table 3 are probably erring on the optimistic side, i.e. they understate the prevalence of those reporting ill health in the SABE countries.

Finally, without controls for relative socioeconomic status, the comparison with the US may seem unjustified as observed differences could be entirely due to lower average standards of living in countries of the region. But if this were so the empirical evidence would indeed support our main contention, namely, that ageing in Latin America is occurring not only at faster speed but with an unparalleled burden of ill-health.

In summary, although it remains to be confirmed, we believe that these self-reports are not just ephemeral cultural constructs but that they truly provide the first glimpse that something not quite expected is afoot among the elderly in Latin America.

Prevalence of ADL and IADL

Table 4 displays the proportion of the elderly with at least one ADL or one IADL by gender and by broad age groups. Total prevalence of ADL and IADL reflect the same patterns as did the figures for health self-reports: Argentina, Barbados and Uruguay appear to be in a better position than the remaining countries, particularly Chile (ADL), and Brazil and Chile (ADL and IADL). Similarly, the contrasts by gender are as accentuated as those observed for health self-reports because females appear to experience prevalence rates that are markedly higher than males. The patterns by age show a clear and expected increase for the oldest group (75+). Note that, with the single exception of Uruguay, more than a third of those 75+ experience at least one IADL whereas the prevalence of ADL is slightly lower across the board and lowest in Argentina, Barbados and Uruguay.

Against just about any standard, these are very high levels of prevalence of ADL and IADL and point to needs that, in the changing social and political contexts of these countries, may well require practical solutions quite different from the traditional ones.

Conclusion: fragile institutional contexts, poverty, inequality and accelerated ageing

The region is ageing 'prematurely', the composition by health and disability status may take a turn for the worse and become unfavourable sooner rather than later, and family and kin networks are losing ground before societal mechanisms to effect institutional transfers are securely in place. An important difference between countries of the region and more developed countries is the relation between the speed and size of the momentum towards ageing, on the one hand, and the social and economic contexts of the societies where the process is taking place, on the other. The ageing process in developed countries takes place long after they achieve high standards of living, reduce social and economic inequalities, and implement a number of mechanisms to offset the effects of residual inequalities, at least in the area of access to health services. Social and economic development in North America and northern and western Europe are already in place when the demands of an ageing society (and even the concerns about it) are recognized. No country in the region is blessed with a similar institutional history. Quite the contrary: in almost all cases a highly compressed ageing process begins to take place in the midst of fragile economies, rising poverty levels, expanding rather than contracting social and economic equalities, and contracting rather than expanding access to collectively financed services and resources. Not long ago, the region was exposed to a drastic and costly process of adjustment in response to a prolonged and deep economic recession ('debt crisis') that engulfed the economies of virtually all countries. But this recession is only the most visible part of a more entrenched, regular, and durable process of economic deterioration.

In a bleak overview of conditions in the region, Kliksberg[45] presents evidence suggesting that levels of poverty have increased drastically since 1985 as have levels of economic inequality; that unemployment rates have increased, particularly among the most youthful and poorest segment of the population; that deficits in budgets associated with public health have ballooned and, finally, that the informal sector of the

Table 4 Prevalence of activities of daily living (ADL) and instrumental activities of daily living (IADL) in seven Latin American Countries[a]

ADL	Males	Females	IADL	Males	Females
Argentina	12.9	20.3	Argentina	9.6	22.2
Barbados	10.7	15.7	Barbados	15.8	23.6
Brazil	14.9	22.3	Brazil	18.3	32.4
Cuba	14.2	22.5	Cuba	14.5	24.8
Chile	18.1	29.7	Chile	16.7	32.1
Mexico	16.4	21.6	Mexico	14.7	29.0
Uruguay	10.9	21.0	Uruguay	7.8	16.4
ADL	**60–74 years**	**75+ years**	**IADL**	**60–74 years**	**75+ years**
Argentina	12.9	29.6	Argentina	11.9	32.1
Barbados	9.1	21.4	Barbados	12.4	34.2
Brazil	15.5	32.3	Brazil	19.3	52.1
Cuba	13.9	30.7	Cuba	10.9	42.1
Chile	19.3	38.4	Chile	16.6	46.8
Mexico	14.2	35.8	Mexico	15.1	47.1
Uruguay	13.4	26.4	Uruguay	8.8	23.8

[a] Defined as proportions with ⩾1 ADL or IADL.

economy has expanded considerably. These aggregate trends translate into strong effects at the individual level. In particular, most subpopulations experience a sustained decreased in real income, poorer access to health services and erosion of their capacity to claim public sources for retirement and welfare.[46,47] But the most vulnerable groups are the elderly and children and it is in these groups where we will see the bulk of deleterious effects.

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