Generational Transfers and Population Aging in Latin America

Luis Rosero-Bixby

Population aging, a direct consequence of the demographic transition, is often portrayed in negative, even dire terms. This chapter examines some of the probable effects of population aging in Latin America within the framework of the National Transfer Accounts (NTA) project (NTA 2010).[1] The starting point is the NTA estimates of the life-cycle deficit and intergenerational transfers in five countries: Brazil, Chile, Costa Rica, Mexico, and Uruguay. This information is then combined with long-term demographic trends, primarily in age composition, to estimate expected effects on the economy. These effects, also known as "demographic dividends" (e.g., Mason and Lee 2007), are both positive and negative, meaning that population aging in the region involves not only challenges and constraints but also opportunities for development and gains in standards of living.

In economic terms, the human life cycle typically includes long initial and final periods of dependency in which production, if any, is insufficient to meet consumption, and an intermediate period in which individuals produce more than they consume. The surplus in intermediate ages compensates for the "life-cycle deficit" at early and late ages through public and private transfers across generations, as well as through reallocations within the same generation. This cycle of deficit–surplus–deficit is neatly depicted by the age curves of consumption and production (labor income) in a given society (Lee, Mason, and Miller 2003).
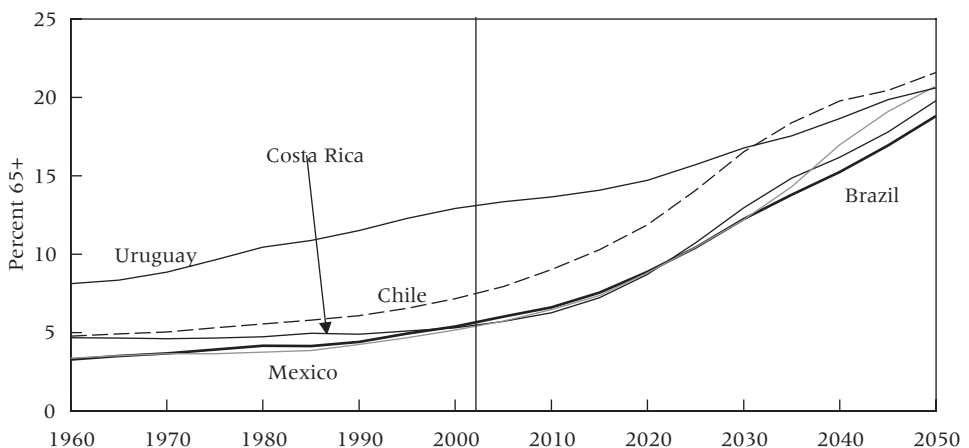
Individuals, families, and societies organize themselves in different ways to meet the life-cycle deficit at young and old ages by means of: (1) intergenerational private transfers (parents taking care of young children and working adults supporting their inactive parents and older relatives), (2) intergenerational public transfers (individuals paying taxes and the government providing services or cash to young or old individuals), and (3) intragenerational reallocations usually from middle to old ages through savings and accumulation of assets.

The existence of life-cycle deficits and surpluses tied to individual aging points up the importance of age structure. The demographic transition and the corresponding process of population aging modify the relative salience of life-cycle deficits with notable impacts on the economy at large, fiscal equilibrium, and economic well-being of families. The system of transfers and reallocations softens these economic impacts.

The second phase of the demographic transition—fertility decline—took place in most Latin American countries during the last three decades of the twentieth century (Chackiel 2006). The exceptions were countries or regions with large numbers of European immigrants, including Argentina, Cuba, Uruguay, and Southern Brazilian states, in which fertility declined and some population aging occurred contemporaneously with Southern Europe in the early twentieth century. In most of Latin America, however, recent fertility decline has resulted in early signs of population aging. This process will increase the proportion of the elderly population (aged 65 years and over) from about 5 percent to 20 percent between the beginning and the middle of the twenty-first century, as shown in Figure 1 for countries included in this chapter. This figure also shows the earlier start of population aging in Uruguay.

The World Bank classifies all five countries as "middle income." Their gross national income (PPP) is about $10,000 per person, less than one-fourth the level in the United States (see Table 1) but higher than the Latin American average ($8,500 in 2005). The year of the NTA estimates ranges from 1996 in Brazil to 2006 in Uruguay. Although this sample of Latin American countries includes the two regional giants—Brazil and Mexico—and thus most of the population in the region, low-income countries are under-

FIGURE 1 Percent of population aged 65 and older in five Latin American countries, actual and projected 1960–2050

SOURCE: CELADE 2009.

TABLE 1   Proportion of the older population within the total population and income per head in five Latin American countries and the United States

Country	NTA estimate year	Population aged 65+ (%)	2005 GNI per capita, US$ PPP
Brazil	1996	5.4	8,120
Chile	1997	7.0	11,100
Costa Rica	2004	5.8	8,650
Mexico	2004	5.1	12,360
Uruguay	2006	13.4	8,960
United States	2003	12.4	42,040

GNI = Gross National Income; PPP = Purchasing Power Parity.
SOURCE: NTA project. GNI from World Bank (2007).

represented and governments with welfare-oriented public policies may be over-represented.

Population aging in Latin America is taking place at a substantially faster pace than it did in Western Europe and the United States (Kinsella and Veloff 2001; Palloni, Pinto, and Pelaez 2002). Some analysts warn that economic growth may not keep pace with this change. Slow economic growth, in combination with a fragile institutional environment and the dismantling of the safety net provided by family and kin, would have deleterious consequences for the region (Palloni et al. 2005; Chackiel 2006).

This chapter argues that the increase in the aggregate life-cycle deficit at late ages will pose serious challenges for Latin American economies and governments. However, the relative increase in the elderly population cannot be taken in isolation from other demographic changes preceding it, namely the fall in the relative proportion of the young population and its corresponding life-cycle deficit. Most importantly, before these countries attain an age pyramid associated with a highly aged population, they will have relatively large numbers of people in the most productive part of the life cycle as well as in ages of maximum accumulation of wealth and capital. These windows of opportunity for the economy represent the aforementioned demographic dividends.

Data and methods

Data on age patterns of the economic life cycle (consumption and labor income), transfers (received from, and given to, the family and the government), and intragenerational reallocations (asset income) come from estimates made by the National Transfer Accounts project. NTA age profiles are mostly derived from national surveys on income and expenditures in house-

holds. The web page of the NTA project (NTA 2010) describes the method, which is also summarized by Lee, Lee, and Mason (2008). (See also Lee and Mason, in this volume.)

To obtain the age profiles of transfers from individuals to government, the NTA method disaggregates macroeconomic data on taxes according to the age profiles of income, property ownership, consumption, payroll, and social contributions. In turn, transfers provided by government include services (education, health, and others) and in-cash payments (mostly pensions) as reported in the national surveys and adjusted to the macro totals of the national accounts. Asset income, which is considered a reallocation from earlier accumulation and savings, includes income from property, imputed rent from an owner-occupied house, interest from bonds and the like, and operating surplus from corporations and small businesses.

This chapter complements NTA data with estimates of the age patterns of elderly recipients of long-term care and the corresponding age patterns of caregivers. The estimate is based on a Costa Rican survey (named CRELES) conducted among a national sample of elderly persons with over-sampling for the oldest old (aged 90 and older) (Rosero-Bixby and Dow 2009). Care-recipients are defined as individuals receiving help with any of four basic activities of daily living: toileting, bathing, bedding, and eating. This survey also identifies the main care-provider and his or her age. The two age profiles from Costa Rica were also used in the other four Latin American countries.

Population estimates and projections by age come from the United Nations Latin American Center for Demography (CELADE 2009) spanning the century 1950–2050. Population estimates for the age bracket 80+ were disaggregated into age groups 80–84, 85–89, and 90+, extrapolating the five-year survival ratios of age groups 65–69, 70–74, and 75+ under the assumption that mortality at those ages follows a Gompertz function.

Assuming that the NTA-estimated age pattern changes are essentially accurate, this chapter estimates or simulates trends in the demographically induced growth of several macroeconomic indicators. In these simulations the only elements changing over time are population size and age composition. By comparing these growth rates to each other, one can derive conclusions on whether demographic change is having positive or negative effects on several aspects of the economy. For example, if growth of labor income is larger than growth of consumption, the demographic change is opening a window of opportunity to improve standards of living by increasing per capita consumption now or in the future by investing the surplus. The following demographically induced growth rates were computed: consumption, labor income, asset income (which is considered a proxy of capital growth), tax revenue, transfers from government, private transfer receivers, private transfer providers, eldercare recipients, and potential eldercare providers.

Results

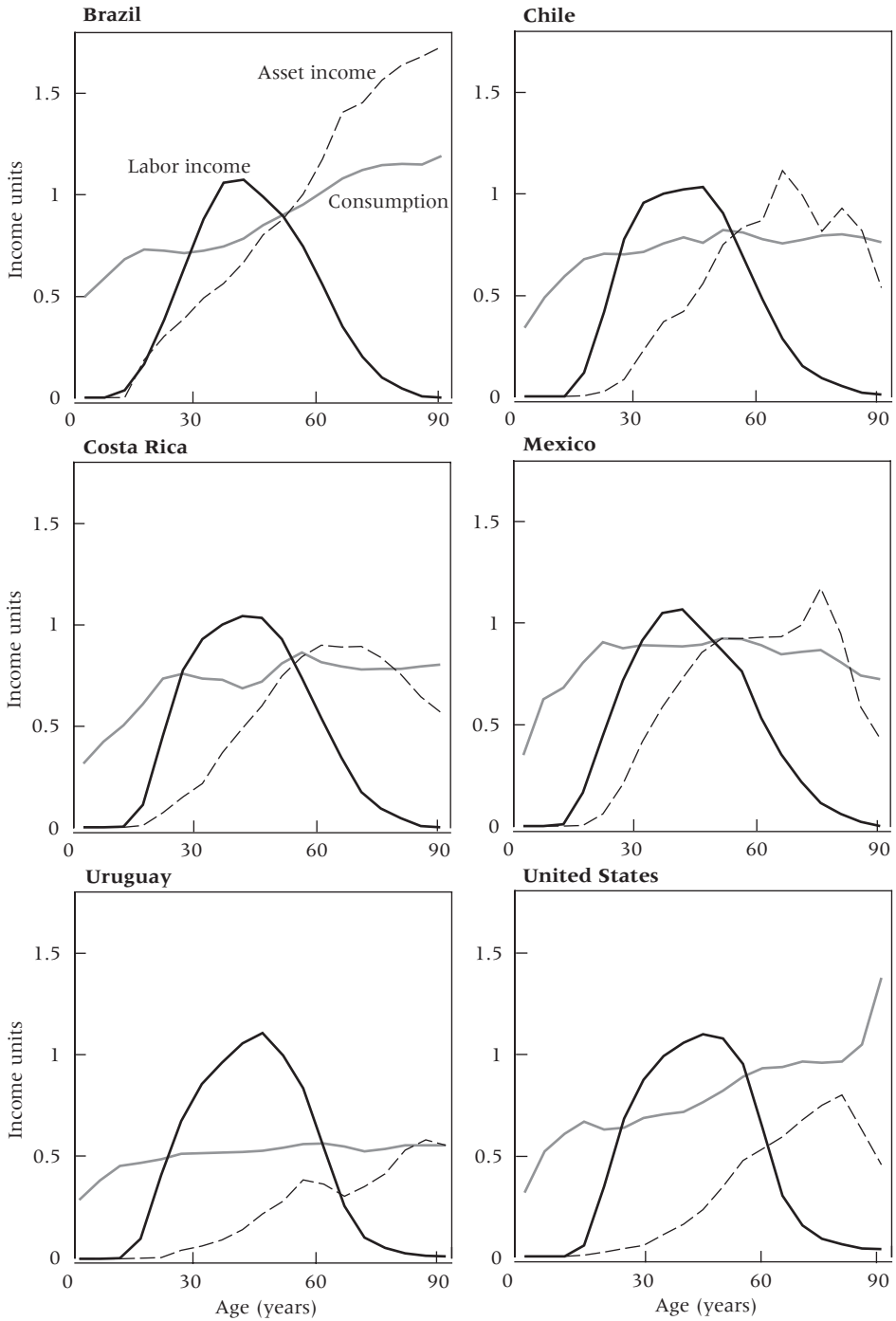### The economic life cycle and asset income
in Latin America

The NTA project's estimates of the two components of the life-cycle deficit (consumption and labor income) show that the "surplus" age span is surprisingly narrow in Latin America, ranging from 18 years in Mexico to 38 years in Uruguay (see Figure 2). This result originates in the late ages at which young people start producing a surplus (from age 23 in Uruguay to age 32 in Mexico) and the early age at which Latin American adults stop producing a surplus (from age 50 years in Mexico to 57 in Brazil). Most of the life cycle of a typical Latin American, with a life expectancy of 75 years, is thus spent in deficit. This result does not greatly differ, however, from the US pattern with a surplus age span of just 33 years. For all countries in Figure 2, ages above 65 are in deficit, which, in turn, is substantially larger than the deficit at young ages. Note, however, that these are per capita figures and, given that population numbers at old ages are relatively small, the corresponding total deficit may not be too big compared to the aggregated deficit for the young population.

Per capita income from assets is surprisingly high (Figure 2), especially in Brazil, where at ages 60 and above it exceeds 1.0, meaning that it surpasses labor income at peak ages.[2] In Chile, Costa Rica, and Mexico, asset income is about 1.0 by age 60, a higher level than in the United States. In Uruguay it is lower but still considerable. More important than the level of the curve is the shape, with maximum values at old ages (although at extreme old ages values tend to decline.) Because asset income likely mirrors productive assets owned by individuals (capital), population aging will result in substantial increases in capital.
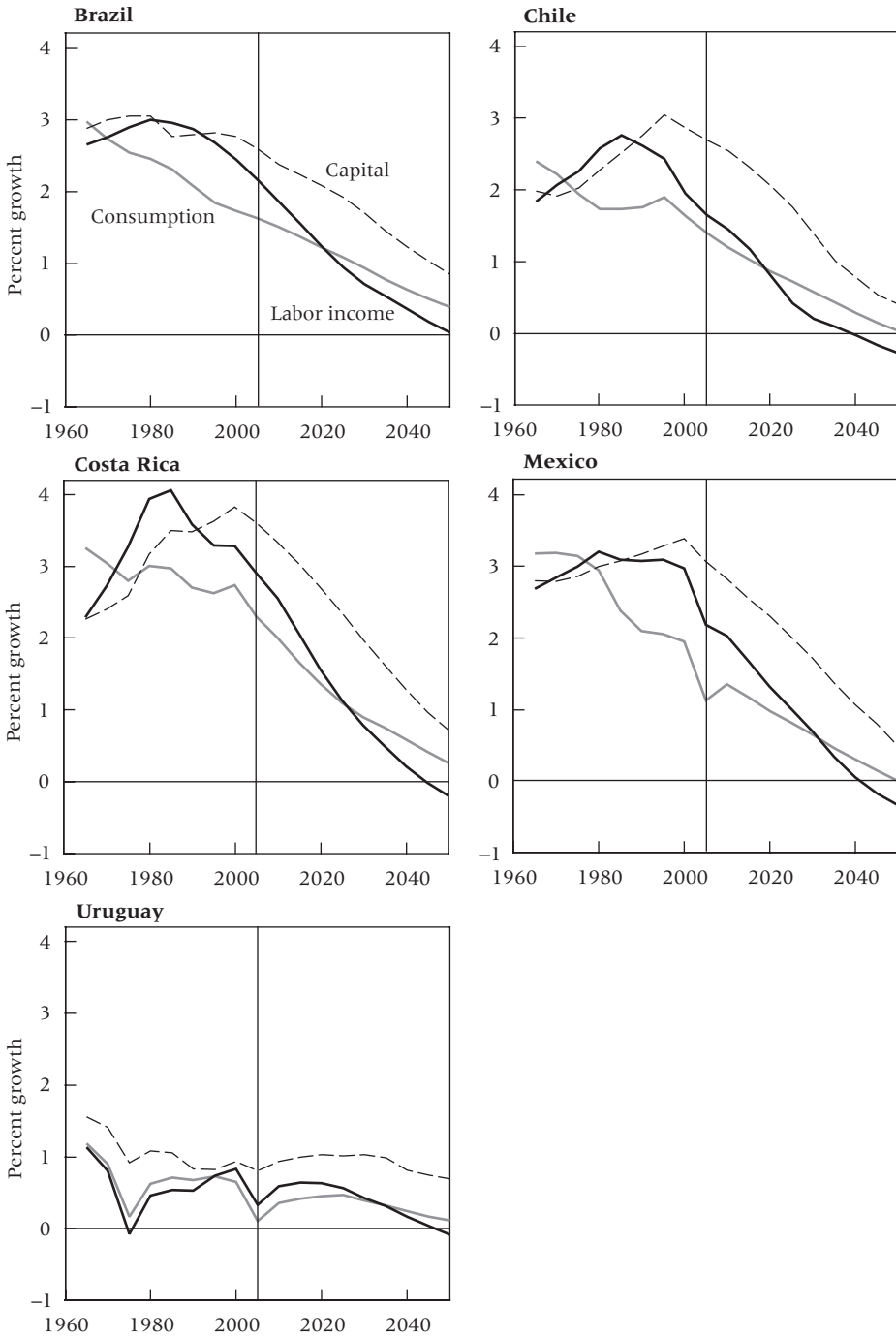
The two demographic dividends

The demographically induced growth in consumption, labor income, and capital is estimated (see Figure 3) by combining the NTA age profiles (which are kept constant over time) with the observed and projected age-specific population trends. In four of the five countries, demographically induced growth in consumption has been smaller than growth in labor income in the last two or three decades, and it will continue to be so for several more years. The difference between growth in these two categories is an estimate of the first demographic dividend (Mason and Lee 2007), which arises from a transitional stage when relatively large numbers of individuals (born during periods of high birth rates) are in the highly productive and surplus-producing ages. Faster potential growth in labor income than in consumption might translate into higher living standards or might result in higher investment levels in physical or human capital that will improve future living standards.

FIGURE 2 The life-cycle deficit and asset income in five Latin American countries and the United States around the turn of the millennium[a]

FIGURE 3   Growth rates in labor income, consumption, and capital in five Latin American countries, actual and estimated 1960–2050

The description above, however, does not fit Uruguay. This country displays no clear difference between the two growth curves. There is no first dividend because the process of population aging began several decades ago. The Uruguayan curves represent what will be observed in Latin America after the first quarter of the twenty-first century. The first demographic dividend will disappear by 2020 in Brazil and Chile, 2025 in Costa Rica, and 2030 in Mexico.

Figure 3 also shows that asset income is growing faster than labor income, an indication that the capital/labor ratio is increasing, which in turn should result in increasing labor productivity. This demographically induced growth in capital per worker, the second demographic dividend, has been increasing in the last few decades and will continue to do so up to 2050 and beyond. Even Uruguay is benefiting from this dividend.
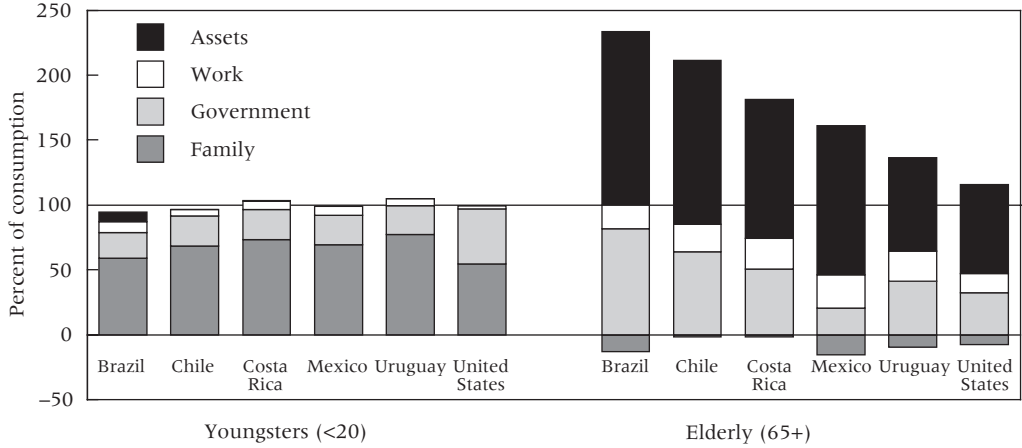
Generational transfers to young and old ages

How have governments, families, and individuals managed to finance consumption in deficit ages? There are only three possibilities, in addition to the scant labor income generated at those ages: public and private transfers and returns from assets. The relative importance of these funding sources varies substantially across the life cycle. Figure 4 shows the sharp contrast between young (under 20) and old (65 and over) ages. Among the young, family transfers are the most important source to fund consumption, ranging from about 60 percent in Brazil to 77 percent in Uruguay. Public transfers account for about one-fourth of the consumption of young people, mostly by providing public education. This share in Latin America is smaller than in the United States and other developed countries, where governments spend substantially more on public education in absolute and relative terms.

In contrast, asset income is the most prominent source of consumption by the elderly in Latin America (and in the United States). Asset income accounts for more than 100 percent of consumption at old ages in Brazil. Adding asset income to other income sources and transfers results in figures larger than consumption in the five countries, meaning that elderly Latin Americans have, on average, a critical surplus for savings, which they appear to continue accumulating until death.

The elderly in these countries, with the exception of Mexico, receive large net transfers from government. In per capita terms, they receive substantially higher public transfers than young people. At the same time, the total amount transferred to elderly persons is small because of the relatively small numbers at these ages. An extreme case is Brazil, where net public transfers (what is received from government minus what is paid in taxes) represent 81 percent of consumption among people over age 65. In Uruguay, Costa Rica, and Chile the corresponding figure ranges from 41 to 64 percent.

FIGURE 4 Sources of financing consumption of the young and the elderly population, five Latin American countries and the United States, 2000

SOURCE: NTA project.

In Mexico, the least welfare-oriented state in the group and perhaps more representative of other Latin American countries, net public transfers to the elderly population represent only 21 percent of their consumption, compared to 32 percent in the United States (Figure 4).

Labor income, in turn, funds between 20 and 25 percent of the consumption of elderly Latin Americans, substantially less than the share of asset income and even public transfers, except in Mexico where labor income at these ages is somewhat higher than net public transfers (Figure 4).

Contrary to popular belief, private transfers to the elderly, on balance, are null (Chile and Costa Rica) or even negative (indicating transfers from the old to the younger generations) in these estimates. The elderly in Latin America (and also in the United States), far from being an economic burden to their families, are an economic asset. On balance, they do not rely on contributions from their children to meet consumption needs. In other regions of the world this may not the case and net private transfers may play a key role in supporting older adults.

Generational transfers and sectoral demographic dividends

In analogy to the life-cycle deficit defined for the economy as a whole by comparing the labor income and consumption curves in Figure 2, one can define life-cycle deficits separately for government and families, as shown in the upper panels of Figure 5 for Costa Rica for 2004 (the curves are broadly similar for the other four countries).

Transfers paid by particulars to the government—that is, the tax curve in Figure 5—mirror the age pattern of labor income. This is not surprising given the importance of income taxes and automatic deductions from salaries for social security (which in Costa Rica includes health insurance) and the insignificance of taxes on income from assets (mostly owned by the elderly) in Latin America. In turn, the age curve of transfers paid by the government differs substantially from the consumption curve. It has a bump at young ages (attributable to public education transfers) and a steep upward slope at old ages (attributable to public pensions and public health expenditures.) The per capita fiscal deficit is thus huge at old ages, and population aging will be especially problematic for governments if these age profiles stay constant.
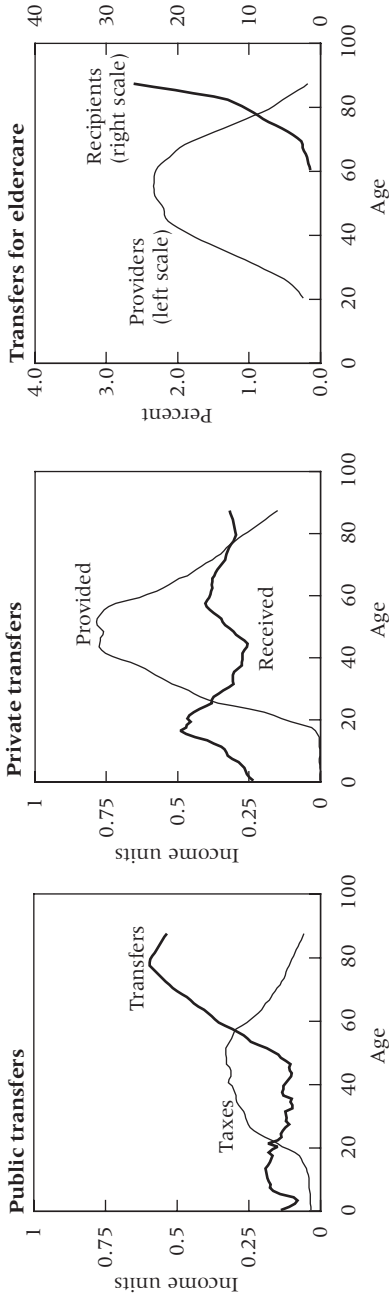
The age profiles of private transfers, both received and provided, define a life-cycle deficit for families. (The great majority of these transfers occur within households: less than 10 percent take place between households.) As shown in Figure 5 for Costa Rica, per capita transfers received are higher at young ages, whereas the age curve of transfers provided resembles the labor income curve, with the difference that the deficit appears only at very old ages (near 80 years of age in Costa Rica and even later in other countries). Elderly individuals in Costa Rica and elsewhere in Latin America give their families and kin substantially more than they receive in their 60s and 70s. At very old ages a deficit may occur but this is rather small. Given these age profiles of private transfers, population aging has the potential of improving families' standard of living.

A third type of generational transfer, not considered in the NTA project, involves informal transfers of nonmarket services. The two most important are infant and child domestic care and unpaid long-term care provided to the elderly, especially the infirm. This chapter considers only eldercare. In Costa Rica, the proportion of the elderly receiving assistance in daily life activities is less than 5 percent until about age 75 (Figure 5). After this age the proportion increases rapidly. Care providers are usually spouses, children, and, to a lesser extent, grandchildren and others. The estimated age distribution of caregivers in Costa Rica resembles a bell shape, with a median age of 54 (Figure 5). The proportion of individuals providing care is very small in the Costa Rican population (shown with a left scale that is amplified ten times in comparison to the right scale for Receivers in Figure 3), peaking around 3 percent by ages 65–70. This proportion will rise quickly with population aging, reaching about 20 percent by 2060 if provision for eldercare remains unchanged with almost no public services.
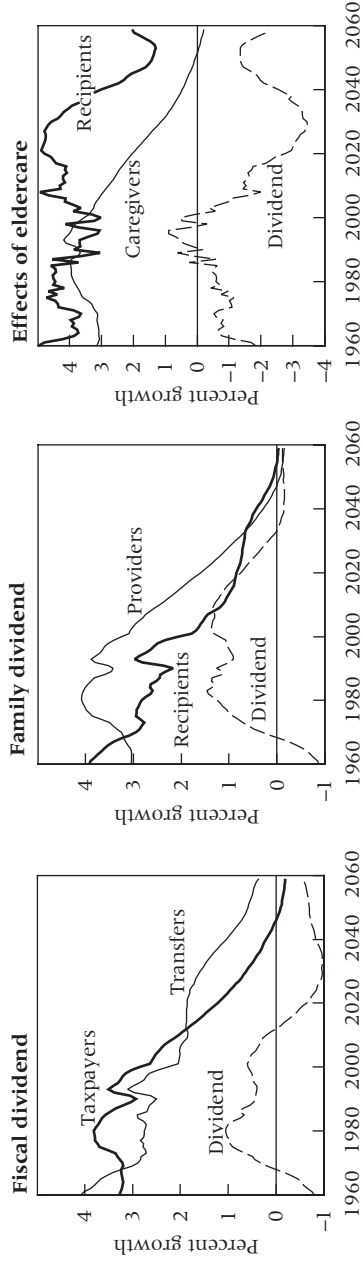
The lower panels of Figure 5 show the demographically induced growth in these three types of transfers and the corresponding demographic effects. Negative differences indicate that instead of a demographic dividend, demographic change is taking a toll from the corresponding sector. Table 2 sum-

FIGURE 5 Generational transfers estimated in 2004 and demographic effect of transfers, actual and projected, 1960–2060, in Costa Rica

a. Intergenerational transfers by age, 2004

b. Two dividends and effects of eldercare, 1960–2060

marizes these effects for the five countries and three periods: (1) 1975–2000, recent history; (2) 2001–2025, contemporary effects; and (3) 2026–2050, the medium-term future.

The fiscal demographic effect is generally smaller and of shorter duration than the first general demographic dividend and the family dividend. In Costa Rica it lasts from 1970 to 2012, with a peak in 1980. In these years, demographic change probably resulted in increases in tax revenues larger than the increases in public obligations to the population. This dividend has largely expired. Starting in 2013 Costa Rica's government will face a relative shrinkage of its tax base and an increase in its obligations. The trends in other countries are analogous. As shown in Table 2, in the first quarter of this century governments in Brazil and Chile face a negative fiscal dividend growing at the annual rate of about –0.5 percent per year; Mexico still has a positive fiscal dividend growing at the annual rate of 0.6 percent, while in Costa Rica and Uruguay the situation is neutral. In the years 2026–2050 governments in all five countries will face adverse fiscal conditions, although these will be less severe in Uruguay (where much of population aging happened decades ago) and Mexico (where transfers to the elderly are less generous).

TABLE 2   The demographic effects on the economy in five Latin American countries in three periods

Period and country	Demographic dividends (annual percent growth)				
	Labor minus consumption	Capital/ labor ratio	Fiscal dividend	Family dividend	Elder care
1975–2000					
Brazil	0.71	0.05	0.36	1.02	–0.77
Chile	0.71	0.23	0.61	1.37	–0.47
Costa Rica	0.82	–0.11	0.74	1.10	0.05
Mexico	0.80	0.10	0.84	1.01	–0.48
Uruguay	–0.06	0.32	–0.16	0.11	–1.47
2001–2025					
Brazil	0.19	0.69	–0.52	0.76	–1.87
Chile	0.05	1.18	–0.49	0.77	–2.12
Costa Rica	0.35	0.96	–0.07	0.96	–1.42
Mexico	0.55	0.91	0.59	1.15	–1.49
Uruguay	0.19	0.41	0.05	0.59	–0.78
2026–2050					
Brazil	–0.28	0.88	–0.81	0.23	–2.55
Chile	–0.33	0.86	–0.77	0.04	–2.49
Costa Rica	–0.33	1.06	–0.82	0.14	–2.86
Mexico	–0.20	0.97	–0.36	0.28	–2.92
Uruguay	–0.08	0.68	–0.28	0.33	–1.17

SOURCE: NTA project.

The family demographic dividend is much larger and longer lasting than other effects. The growth in private transfer-givers is faster than the growth in transfer-recipients since 1970, a situation that will last until around 2034 in Costa Rica. Thereafter the differential growth is close to zero (Figure 5). In the more than six decades from 1970 to 2034, demographic change might be expected to generate improvements in the living standards of Costa Rican families. The situation is similar for families in all five countries (Table 2). In the first quarter of the current century, annual growth in the family dividend ranges from 0.6 percent in Uruguay to 1.15 percent in Mexico. The figures were higher in the previous 25 years, and they will be smaller in 2026–50. No country will have negative figures (Table 2).

Regarding the eldercare effect, it is not surprising that population aging renders it mostly negative. Costa Rica's growth in eldercare recipients hovers around high annual rates of 4 percent from 1960 to 2040 (Figure 5). Given that the growth of the pool of caregivers was between 3 percent and 4 percent until 2008, the economic effect was negative, but this toll was not large. Starting in 2009, however, this demographic penalty exceeded 1 percent and will continue growing until about 2030 when the trend will reverse. Analogous trends can be described for the other countries. The summary in Table 2 shows that in 2001–25 eldercare needs are having a negative impact ranging from 0.8 percent per year in Uruguay to 2.1 percent in Chile. These figures will be even higher in 2026–50. These trends indicate that higher and higher proportions of the population, mostly at ages 45–65, will have to provide unpaid care to one or more elderly relatives.

Discussion

Estimates from the National Transfer Accounts project for five Latin American countries show some surprising or little-known circumstances regarding the systems of intergenerational transfers and intragenerational reallocations that deal with their life-cycle deficits, namely:

1. The elderly (those 65 or older) in Latin America are far from being a net economic burden to their families; the economic transfers they provide to their family members are larger than those they receive from them.

2. Elderly Latin Americans are relatively wealthy. Their per capita income from assets by age 65 is as high as (or even higher than) labor income at peak working ages.

3. Elderly Latin Americans receive a disproportionately high share of per capita public transfers. Population aging, however, may render this circumstance unsustainable.

4. While family transfers are by far the main source of consumption needs at young ages, asset income and public transfers (especially pensions) fund most consumption at old ages, and these even allow for substantial savings and transfers to other family members.

A United Nations (2005) study on living arrangements of the elderly around the world found that, in Latin America, about 71 percent co-reside with children or grandchildren, well above the 20 percent level of co-residence in North America and Europe. This high level of co-residence with young generations (in part a reflection of high fertility in the past) results in higher intensity of family transfers per elderly person. The generational direction of these transfers, however, is mainly downward. Moreover, a survey of the Costa Rican population aged 60 and over found that in 96 percent of cases, children were the ones living with their parents (either they never left the parental home or at some point they returned to it). The perception of the elderly population as a burden for their adult children appears to be a myth in Latin America. Perhaps that is true for the oldest-old population. In the five countries examined here, however, men and women aged 65–79 years—that is, 80 percent of the population aged 65 and older—are relatively well off, receive substantial government transfers, and in some cases even have labor income.

The generational transfer system prevalent in Latin America will make the national treasury the most important (and maybe the only) economic casualty of population aging. Changes in the age patterns of taxation and/or public transfers, however, such as increasing taxes on wealth or increasing retirement ages, can reduce this fiscal burden. High rates of economic growth brought about in part by the demographic dividends can also help to finance public transfers to the elderly. Moreover, the eventual burden of an aged population for taxpayers will probably be compensated by the greater contribution of the elderly to the well-being of families, since the elderly provide on average more than they receive from children. Bequests from parents who continue to save can also provide relief.

Before the recent rise in the proportion of the elderly population, Latin American economies have benefited from the relatively faster increase in the population at ages contributing to the life-cycle surplus. This demographic dividend is, however, almost over. A second demographic dividend will continue for many years, resulting from the relatively faster growth of the population in ages of maximum accumulation of wealth and the corresponding increase in the capital/labor ratio that should improve productivity. Some of the potential consequences of demographically induced growth rates might prove to be unsustainable, however, and policy changes will be proposed to avoid them. The government, for example, might seek to reduce public transfers to the elderly and increase tax revenues from them in order to avoid the negative fiscal effects associated with population aging. Nevertheless, the only major burden confronting Latin American families is the quickly growing need for long-term care for elderly relatives.

Notes

Figures in this chapter are available in color in the electronic edition of the volume.

1 This chapter is based mainly on data from the National Transfer Accounts (NTA) Project, which is an international collaboration of research teams in more than 30 countries to measure, analyze, and interpret macroeconomic aspects of age and population aging around the world. Ronald Lee from the University of California at Berkeley and Andrew Mason from the East-West Center in Hawaii are co-principal investigators. This project started in 2004. Its Latin American component is funded by the Canadian International Development Research Center (IDRC) and coordinated by the UN Economic Commission for Latin America and the Caribbean (ECLAC)

under the coordination of Jorge Bravo, Dirk Jaspers, and Paulo Saad. The local research teams are headed by: Ivan Mejia Guevara and Juan Enrique Garcia, CONAPO, Mexico; Luis Rosero-Bixby and Paola Zuñiga, University of Costa Rica, Costa Rica; Cassio M. Turra and Bernardo Lanza Queiroz, CEDEPLAR, Brazil; Jorge Bravo and Mauricio Holz, CELADE, Chile; and Marisa Bucheli, Universidad de la República, Uruguay.

2 Note that the figure uses a normalized monetary scale of "income units" in which one income unit is the average labor income at ages 30 to 49, also referred to as income at peak ages. In the Latin American countries each unit is about US$5,000 per year, whereas in the United States it is $42,000.

References

Chackiel, J. 2006. "Latin America: Toward an old and decreasing population?," *Papeles de Población* 50: 24–55.

CELADE. 2009. "Data on population estimates and projections," «http://www.eclac.cl/celade/proyecciones/basedatos_BD.htm». (Downloaded April 2009.)

Kinsella, K. and V. Velkoff. 2001. *An Aging World*. Washington DC: United States Bureau of the Census

Lee, R. D., A, Mason, and T. Miller. 2003. "From transfers to individual responsibility: Implications for savings and capital accumulation in Taiwan and the United States," *Scandinavian Journal of Economics* 105(3): 339–357.

Lee, R., S-H Lee, and A. Mason. 2008. "Charting the economic lifecycle: Population aging, human capital accumulation, and productivity growth," *Population and Development Review* 34(Supp.): 208–237.

Mason, A. and R. Lee. 2007. "Reform and support systems for the elderly in developing countries: Capturing the second demographic dividend," *Genus* 62(2):11–35.

NTA. 2010. "National Transfer Accounts," «http://www.ntaccounts.org/». Accessed 18 October 2010.

Palloni, A., G. Pinto, and M. Pelaez. 2002. "Demographic and health conditions of ageing in Latin America," *International Journal of Epidemiology* 31: 762–771.

Palloni, A., M. McEniry, R. Wong, and M. Pelaez. 2005. "Ageing in Latin America and the Caribbean: Implications of past mortality," in *Proceedings of the United Nations Expert Group Meeting on Social and Economic Implications of Changing Population Age Structures*. New York: United Nations Population Division, pp. 253–284.

Rosero-Bixby, L. and W. H. Dow. 2009. "Surprising SES gradients in mortality, health and biomarkers in a Latin American population of adults," *Journal of Gerontology: Series B– Psychological and Social Sciences* 64B(1): 105–117.

United Nations. 2005. *Living Arrangements of Older Persons Around the World*. New York: United Nations.

World Bank. 2007. *World Development Report 2007*. New York: Oxford University Press.