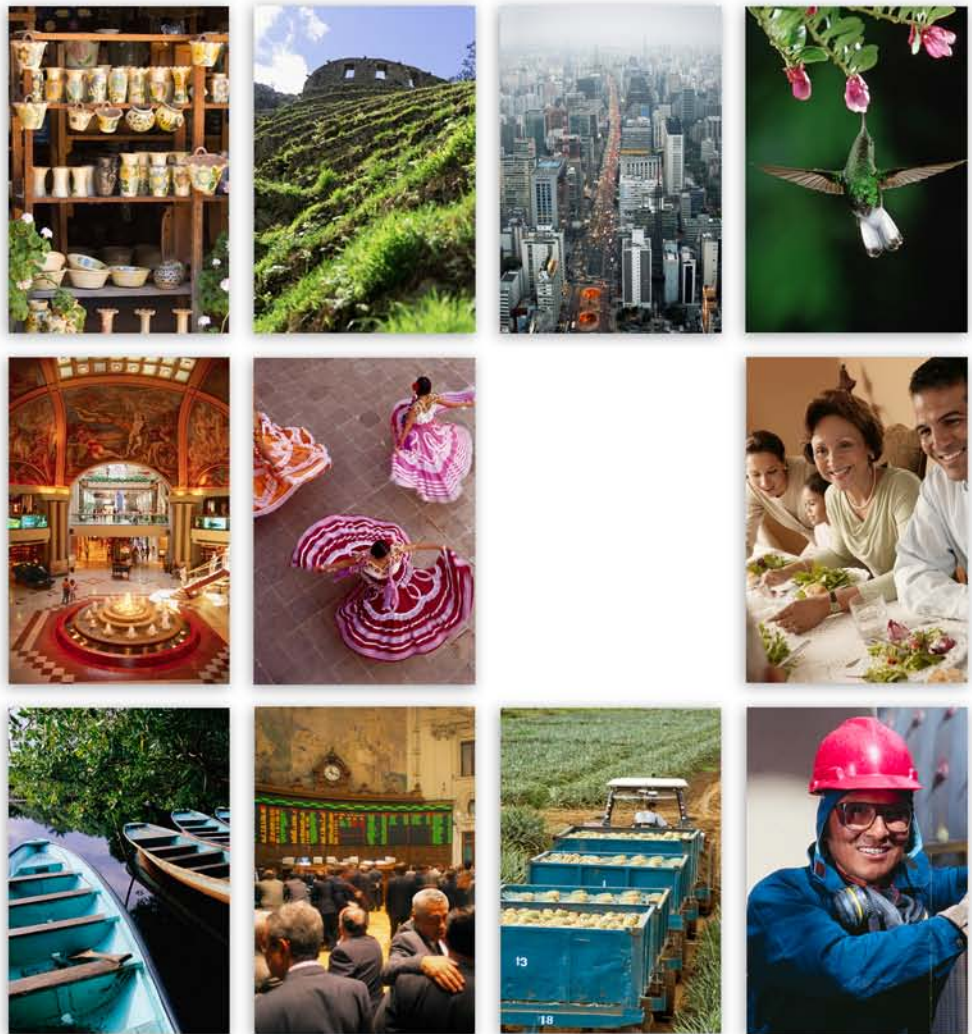


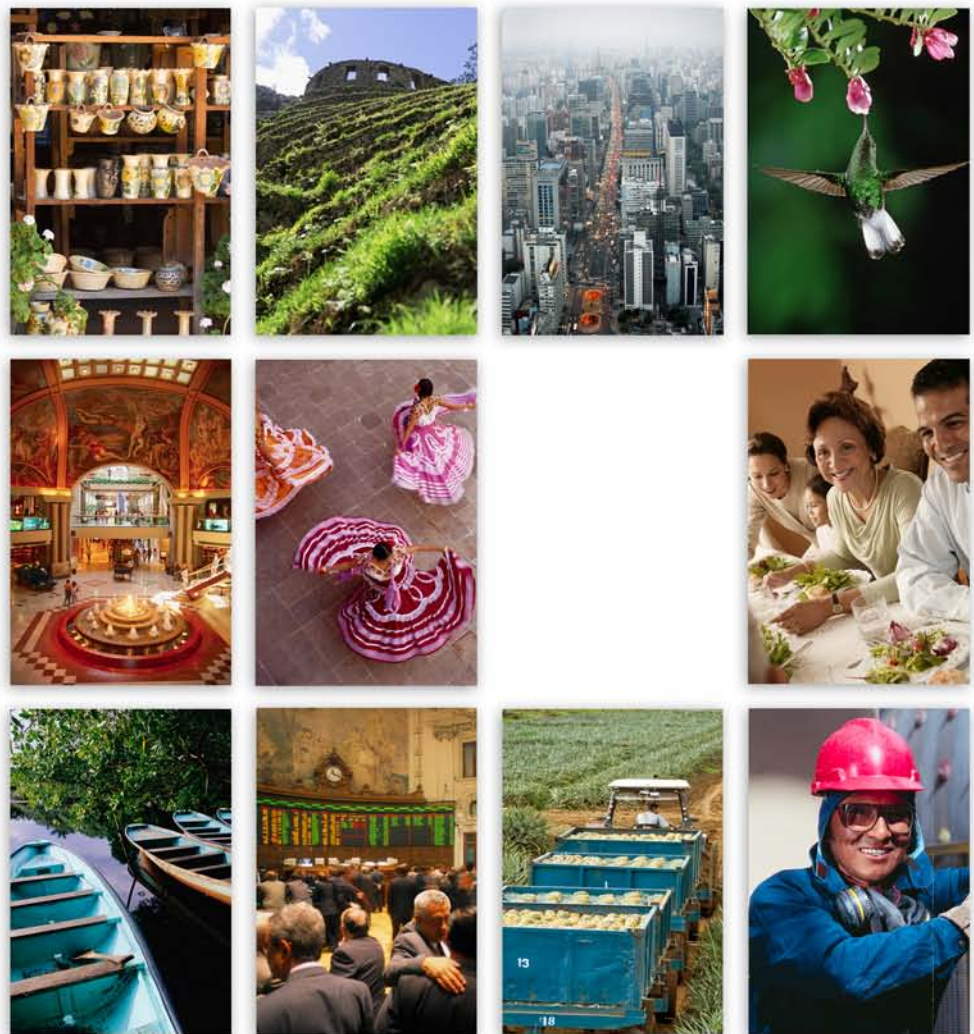
Latin America's AGING CHALLENGE



Demographics and Retirement Policy in Brazil, Chile, and Mexico

Latin America's

AGING CHALLENGE



Demographics and Retirement Policy in Brazil, Chile, and Mexico

by **Richard Jackson, Rebecca Strauss, and Neil Howe**
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introduction

When people in other parts of the world think of Latin America, they usually picture demographically youthful societies characterized by lofty birthrates, large families, and chronic labor surpluses. The challenge is a population that is too young and growing too fast.

While these popular images reflected reality in much of Latin America as recently as the 1980s, they are now hopelessly out-of-date. Latin America, in fact, is in the midst of a far-reaching demographic transformation. Fertility has fallen precipitously throughout most of the region over the past several decades and is now near, at, or even beneath the 2.1 replacement rate in most major countries, including Brazil, Chile, and Mexico—the three countries on which this report focuses. Meanwhile, life expectancy has soared and is approaching developed-world levels.

The number of elderly in Latin America will triple as a share of the population by 2050.

The result will be a dramatic slowdown in population growth and an equally dramatic aging of the population. The United Nations projects that the share of Latin America's population that is aged 65 or over will triple by mid-century, from 6.3 percent in 2005 to 18.5 percent in 2050.¹ Meanwhile, Latin America's median age will climb by 14 years, from 26 to 40. Latin America's coming age wave is by no means the largest in the world. By 2050, over 30 percent of the population will be aged 65 or over in some fast-aging countries in Europe and East Asia. But incredibly, several Latin American countries, including

Brazil, Chile, and Mexico, may have older populations than the United States. (See figure 1.)

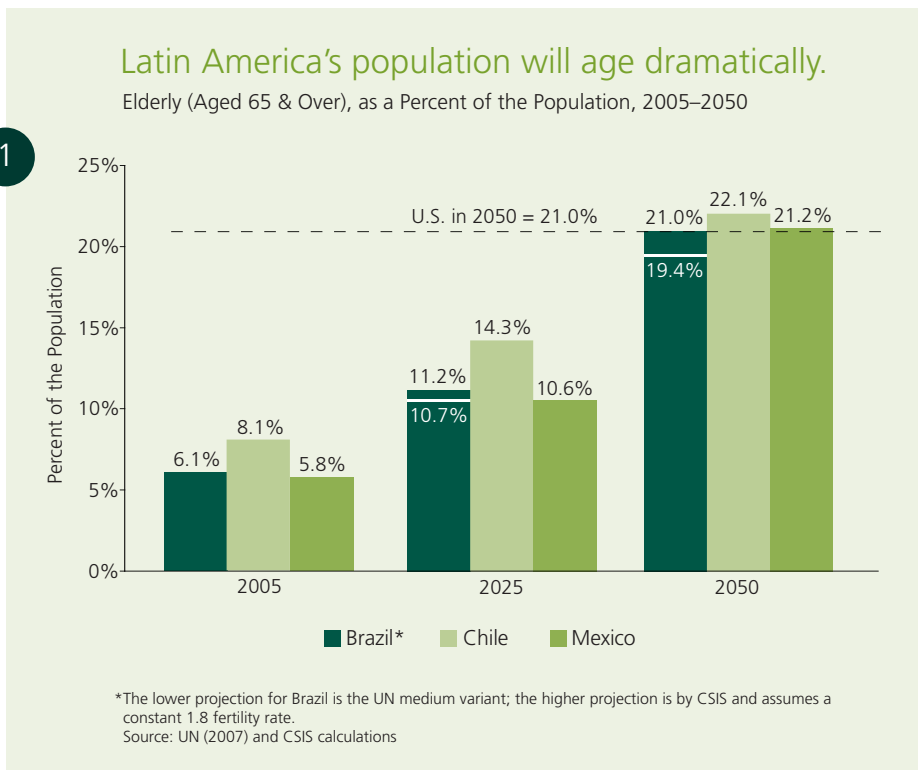
The coming age wave poses two fundamental challenges for Latin America. The first is to fashion national retirement systems capable of providing an adequate level of support for the old without imposing a crushing burden on the young. The second is to boost living standards while populations are still young and growing. While the United States, Europe, and Japan all became affluent societies before they became aging societies, Latin America may grow old before it grows rich. Unless Latin American countries succeed in promoting more rapid development and raising the growth path of their economies, many will have to pay for age waves

¹ Unless otherwise noted, all population projections cited in this report refer to the UN's 2006 Revision "medium variant." "Children" refers to the 0 to 19 age bracket, "working-age adults" to the 20 to 64 age bracket, and "elderly" to the 65 and over age bracket. The UN projections, as well as other major data sources cited in the report, are discussed in "A Note on Data and Sources."

of developed-world proportions with a fraction of the developed world's income and wealth. The future could bring widespread economic hardship—even a humanitarian aging crisis.

Latin America is making impressive progress in meeting the aging challenge.

Latin America is making impressive progress in meeting both challenges. On the retirement front, it has become a laboratory for pension reform—and an inspiration to reformers in developing countries around the world. Chile led the way in the early 1980s, when it initiated a transition from its traditional pay-as-you-go public pension system to a fully funded system of personal retirement accounts. Since then, nine other Latin American countries have enacted reforms that shift their public pension systems at least in part to a funded basis. Among the three countries featured in the report, Chile and Mexico have fully “privatized” their public pension systems. Brazil maintains a purely pay-as-you-go public pension system that threatens



to become an enormous burden on the economy as its population ages. Yet it too is building a voluntary private system of complementary funded pensions.

The global financial crisis and the plunge in world stock markets are causing policymakers in some Latin American countries to question the wisdom of basing old-age security on funded retirement savings. One country has gone beyond questioning. Argentina, which introduced a dual public pension system with parallel pay-as-you-go and personal accounts options in the mid-1990s, nationalized its pension funds in November 2008 and is now shifting back to a purely pay-as-you-go system.

While these concerns are understandable, they are misplaced. An effective retirement policy must focus on the long term—and there is no question

that Latin America's funded pension systems can, over the course of a working life, deliver higher benefits at lower contribution rates than the pay-as-you-go systems they replaced. To be sure, funded systems subject retirement benefits to the risks of ups and downs in financial markets. Economists largely agree, however, that workers nearing retirement can be protected from sudden financial downdrafts by prudent regulations that require them to move into fixed income assets at older ages. A growing number of Latin America's personal accounts systems, including Chile's and Mexico's, now encourage such lifecycle portfolio allocation. The financial risk of a funded system, of course, can never be entirely eliminated. But neither can the “political risk” of a conventional pay-as-you-go public pension system—that is, the risk that future



politicians will reduce its benefits. That risk will rise steadily as Latin America ages and the ratio of beneficiaries to workers soars.

Latin America's funded pension systems confer important advantages in confronting the age wave.

There are other potential advantages to funded systems. Unlike pay-as-you-go systems, which will impose a rising burden on workers and taxpayers as societies age, funded systems take pressure off public budgets. In the near term, they can help to broaden and deepen Latin America's capital markets. In the long term, they can help to buoy up national savings, which is likely to decline as dependency burdens rise. Along the way, they can foster a middle-class ethos of thrift and stewardship and, over time, help to narrow today's high levels of inequality in income and wealth.

To be sure, there are real problems with Latin America's funded retirement systems. At the micro level, high administrative fees can eat into worker account balances. Overly restrictive

investment rules also make it difficult for pension fund managers to maximize long-term risk-adjusted returns—and hamper their response to near-term crises like the one that now grips financial markets. Meanwhile, with the exception of Chile, most countries are failing to realize the full macro benefits of their funded retirement systems. While experts agree that these systems are already playing a crucial role in the development of Latin American capital markets, most countries have financed the “transition cost” from pay-as-you-go to funded systems by issuing debt, which means that the potential boost to national savings may never materialize.

The greatest cause for concern is the limited reach of formal retirement systems.

The greatest cause for concern, however, is the limited reach of Latin America's formal retirement systems—and this is a problem that applies equally whether they are funded or pay-as-you-go. The large size of Latin America's informal labor markets means that much of the workforce fails to contribute regularly to the public pension system. Many

workers—and in some countries the great majority—will thus arrive in old age with an inadequate pension or no pension at all. They will be dependent on social assistance to keep them out of poverty, or else they will have to fall back on traditional family support networks, which will themselves be weakening as families shrink in size. A high level of elder dependence on subsidized “minimum pensions” and means-tested social assistance may be manageable in today's relatively youthful Latin America. In the much older Latin America of 2030 or 2050, the economic and social costs will be enormous.

Latin America's retirement and development challenges are thus closely related. The right kinds of retirement policies can make successful development easier by minimizing the fiscal burden of Latin America's aging populations, increasing rates of savings and investment, and speeding the development of capital markets. But successful development is also essential to long-term retirement security, which will prove elusive so long as informal labor markets are so large and inequality is so high.

Latin America may be breaking out of its low-growth trap.

There are encouraging signs that the region may finally be breaking out of its low-growth trap. Chile led the way here as well with its program of market reforms in the 1980s—and is now the only major Latin American country that is steadily closing the income gap with the developed world. Since then, many other countries have pursued similar reforms, and the economic outlook is improving throughout the region. Per capita GDP, the most fundamental measure of living standards, grew more rapidly regionwide from 2002 to 2007 than over any five-year period since the early 1970s. Brazil appears to be solidifying its place in Goldman Sachs' "BRIC" tetrarchy of emerging global economic powers—and some suggest that Mexico should be added, changing the acronym to BRIMC.

As this report goes to press, Latin America, like most of the world, is in the midst of a serious economic downturn. The IMF expects Latin America's economic growth rate to slow from 5.7 percent in 2007 and 4.6

percent in 2008 to 1.1 percent in 2009.² Mexico, which is more economically intertwined with the United States, may slow even more. Yet Latin America is much better positioned to weather today's global economic storm than in the past. It used to be that if the developed world caught a minor cold, Latin America caught pneumonia. According to leading international institutions, from the IMF to the Economic Commission for Latin America and the Caribbean (ECLAC), this time around could be different. Latin American economic fundamentals are stronger. Public debt levels are lower, monetary and fiscal policies sounder, and international currency reserves deeper. Chile, with its large reserve fund set aside during the recent commodity boom, may be particularly resilient. Most Latin American countries are also less vulnerable to the vagaries of single export markets and less dependent on the developed world. The United States and Europe constitute a shrinking share of their export markets, while Asian and other Latin American countries are a growing share. The same shift has occurred in

sources of international investment. Meanwhile, strong domestic demand, especially in Brazil, should provide some protection from the sour international economic climate.

Despite the progress, Latin America's long-term economic success is far from guaranteed.

Yet despite Latin America's real progress, its long-term economic success is far from guaranteed. While the recent improvement in the macroeconomic environment has been impressive, burdensome business and labor-market regulations continue to hamper the region's international competitiveness. Most experts agree that Latin American countries underinvest in human capital, perhaps the most crucial input that has propelled the East Asian Tigers into the economic stratosphere. Informal sectors show little sign of shrinking—and in some countries are growing. Meanwhile, despite recent declines in poverty, Latin America's historically high rates of inequality have barely budged, even in the region's fastest-growing economies.



Latin America has a demographic window of opportunity to prepare for its age wave.

The good news is that Latin America still has time to prepare for the aging of its populations. Unlike the age waves confronting today's developed countries, Latin America's still lies well over the horizon. For the next two decades, the number of dependent young in most countries will continue to fall faster than the number of dependent elders will rise, meaning that society's overall dependency burden will decline as well. During this period of "demographic dividend," population trends will tend to lean with economic growth. Latin America thus has a crucial demographic window of opportunity in which it can boost living standards and strengthen its retirement systems.

This report turns the spotlight on Latin America's aging challenge. It focuses in particular on three countries: Brazil, Chile, and Mexico. These countries represent a broad spectrum in terms of their economic

performance, the size of their welfare states, and, of course, retirement reform—from Chile (the original "privatizer") to Brazil (with its large pay-as-you-go pension system). Together, they account for a little over half of Latin America's population and nearly two-thirds of its GDP.

Chapter 1 further explores the dynamics of demographic change in Latin America and the challenges and opportunities it poses. Chapter 2 takes a close look at Latin America's personal account model and assesses its strengths and weaknesses. Chapter 3 zeros in on retirement policy in Chile, Mexico, and Brazil. We conclude that reform momentum is positive in all three countries—but that all three, with the possible exception of Chile, will need to enact additional reforms to ensure the adequacy and sustainability of their pension systems. We stress the importance of strengthening funded pension systems and outline a plan for Brazil to gradually move in that direction. We also stress the importance of constructing broad and adequate floors of protection.

In this regard, we believe that Chile's 2008 "reform of the reform," with its new "solidarity pensions," provides a promising model. A conclusion then briefly summarizes the report's findings and points to some of the broader implications of Latin America's aging for the future shape of its societies and place in the world economy.

A Latin America that fails to confront the aging challenge will be a Latin America in which economic and social insecurity grow and today's uneven distribution of income and wealth hardens over time. On the other hand, a Latin America that successfully prepares for the challenge will prosper as it ages. Living standards will rise and today's vast disparities between rich and poor, urban and rural, and European- and non-European-origin populations will steadily narrow. A Latin America that successfully prepares for the challenge will also be one that is positioned to assume a much larger role in a world in which most of today's global economic powers will be aging even faster than it is.

The Dimensions





challenge

of Latin America's Aging Challenge

By 2050, there will be as many people turning 65 each year in Latin America as being born. The coming age wave threatens to overburden the young and leave the elderly vulnerable to hardship in old age. Yet that need not happen if societies prepare for the challenge. The Chinese character for crisis is a combination of two separate characters, one for danger and one for opportunity. The same demographic forces that will ultimately bring about the dramatic aging of Latin America's population have also created conditions today that are especially favorable to economic growth. There are encouraging signs that Latin America may seize its opportunity. But there are also serious obstacles, some deep-rooted in its history, that it will first have to overcome.

The Demographic Transformation

As recently as the 1960s and 1970s, Latin America had among the highest fertility rates, lowest median ages, and fastest population growth rates of any region in the world. Even into the 1980s and 1990s, the great social and economic challenge in most countries was how to find sufficient resources to educate the young, house growing families, and create jobs for the legions of new workers entering the labor force each year.

Latin America, however, is being overtaken by a stunning demographic transformation. Over the past few decades, the population growth rate has dropped dramatically, from 2.7 percent per year in the 1960s to 1.3 percent per year in the 2000s—and it is still

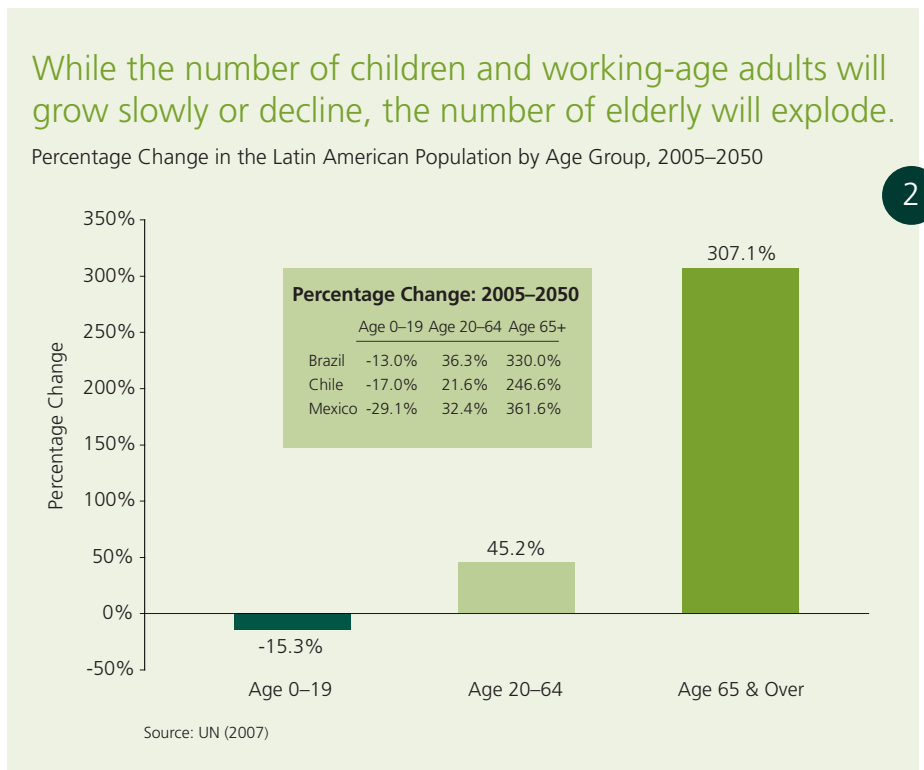
decelerating rapidly. The number of children is due to peak within the next 10 to 15 years in most Latin American countries, then decline. In Chile and Mexico, the number of children is already declining. The number of young adults in their twenties will peak and begin to decline almost everywhere within the next 20 to 25 years. By mid-century, the total working-age population will also be peaking in most countries—and in Brazil, Chile, and Mexico, it will be falling.

By 2050, there will be one Latin American elder for every child.

Even as the number of children and working-age adults grows slowly or declines, the number of elderly is

due to explode, quadrupling by 2050. (See figure 2.) As recently as 1975, there were 12.3 children in Latin America for every one elder. Today there are 6.3. By 2050, there will be just 1.3. A generation ago, the problem was too many babies. A generation from now, it will be too many old people.

There are two forces behind Latin America's demographic transformation: falling fertility and rising longevity. The first force is decreasing the relative number of young in the population, while the second force is increasing the relative number of old. Latin America, of course, is not the only region of the world experiencing these trends. Like the developed world before it, most of the developing world is now in the midst of what demographers call the "demographic transition"—the shift from high fertility and high mortality (the traditional norm) to low fertility and low mortality (the modern norm) that inevitably accompanies social and economic development.



Since the early 1950s, Latin American life expectancy has increased by a stunning 22 years.

The demographic transition began to gather momentum in most of Latin America in the 1950s and 1960s, when improvements in nutrition, sanitation, and basic public health led to a dramatic decline in infant and child mortality rates. In more recent decades, mortality has also declined rapidly at older ages as modern medicine has made steady progress against the chronic diseases that afflict the middle-aged and elderly. The resulting increase in life expectancy has been stunning. Since the early 1950s, life expectancy in Latin America has increased by 22 years regionwide, from 51.4 to 73.3. In Chile, where life expectancy reached an estimated 78.7 in 2008, people can now expect to live

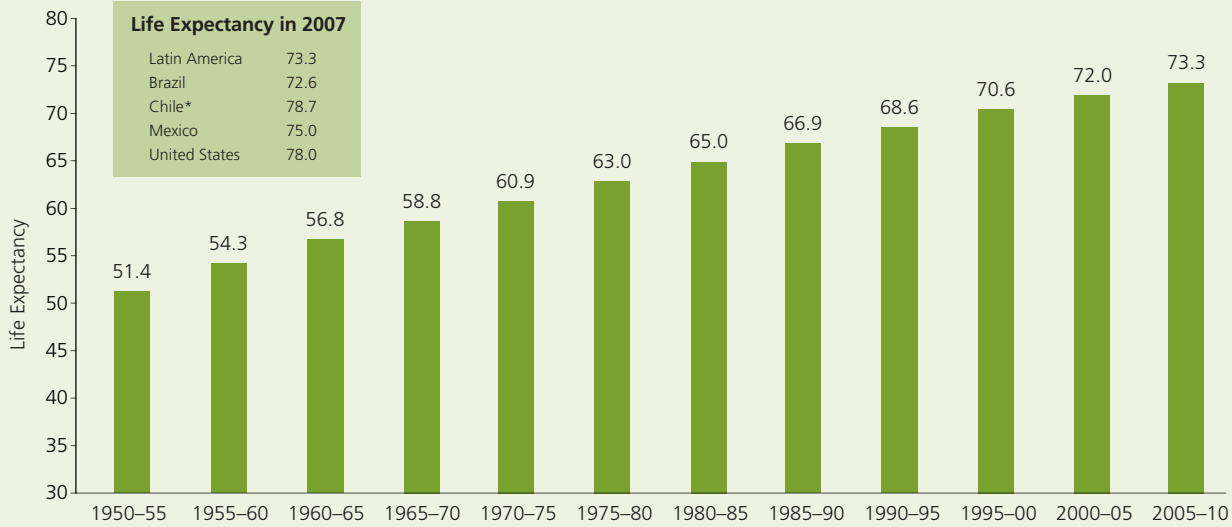
slightly longer than in the United States. (See figure 3.)

In most of Latin America, mortality began to fall well before fertility did—which is what explains Latin America's population boom. As recently as the late 1960s and early 1970s, the fertility rate—or the average number of lifetime births per woman—still towered in the 4.0 to 7.0 range almost everywhere in the region. The major exceptions were more ethnically European Argentina and Uruguay, where the demographic transition had begun much earlier and fertility rates hovered around 3.0. With birthrates high and infant and child mortality falling, population growth surged.

In Brazil and Chile, fertility has fallen beneath the 2.1 replacement rate.

Behind Latin America's age wave: A dramatic rise in life expectancy.

Life Expectancy at Birth in Latin America, 1950–2010



*Data are for 2008.
Source: UN (2007); CONAPO (2008); IBGE (2007); INE (2008); and U.S. Census Bureau (2008)

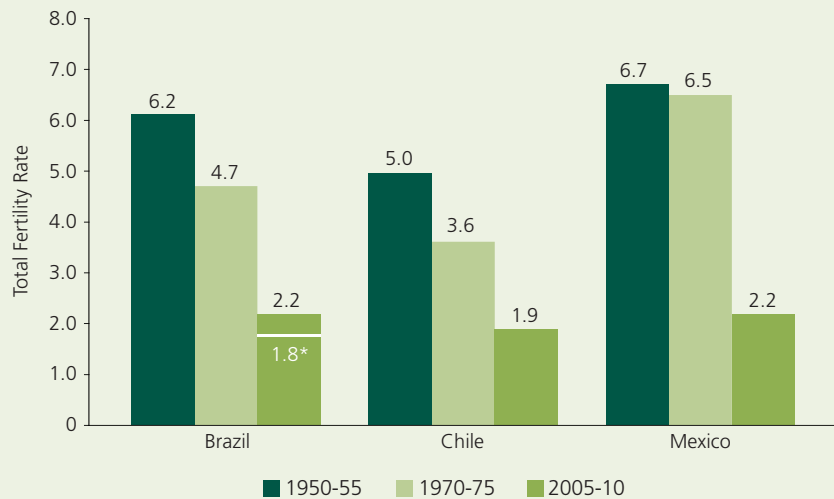
The fertility decline may have come late to most of Latin America, but once it began it proceeded at a stunning pace. Over the past three decades, fertility rates have fallen by at least half in the majority of countries, sinking beneath 3.0 everywhere except Bolivia, Paraguay, and a few Central American countries with large indigenous populations. In Brazil and Chile, fertility has apparently slipped beneath 2.1, the so-called replacement rate needed to maintain a stable population from one generation to the next. Nowhere, however, has the decline been more precipitous than in Mexico, whose fertility rate has fallen by two-thirds since the early 1970s. (See figure 4.) Now estimated at 2.2, it is almost identical to the overall U.S. fertility rate of 2.1—and far lower than the 3.1 fertility rate of the Mexican-origin population living in the United States.³

The timing and magnitude of the fertility decline in different countries will largely determine the timing and magnitude of their age waves. Argentina and Uruguay, where fertility

fell earliest, now have the oldest populations among major Latin American countries. Mexico, Brazil, and Chile are still much younger. But because their fertility declines have

Behind Latin America's age wave: An equally dramatic decline in fertility.

Total Fertility Rate, 1950–2010



*Brazilian government's estimate for 2006.
Source: UN (2007) and Ministério da Saúde (2008)

³ See Joyce A. Martin et al., *National Vital Statistics Reports* 56, no. 6 (Hyattsville, MD: National Center for Health Statistics, December 5, 2007), 45.

been so steep, they will eventually catch up with their older neighbors in Latin America's Southern Cone. In the case of Mexico, the aging of its population is being given an extra push by the large out-migration of working-age adults. Colombia also faces a large age wave. In Bolivia, Ecuador, Paraguay, Peru, and Venezuela, where fertility still remains significantly above replacement, the aging trend will be less severe.

The forces driving the demographic transition are rooted in powerful social and economic trends that few experts expect to be reversed. Absent a catastrophic pandemic, life expectancy will continue to rise. Future fertility behavior is more difficult to predict, but since the underlying drivers of Latin America's fertility decline are so closely intertwined with the broader currents of modernization in the region, a major turnaround in birthrates seems unlikely. These drivers include: urbanization (which is especially high in Latin America), rising female educational attainment, the mass entry of women into the market economy, the availability of effective contraception, and the ascendance of new cultural norms

(epitomized in Brazil's *telenovelas*) that glorify small families and independent lifestyles.

Latin America's fertility decline may not yet have run its course.

Indeed, Latin America's fertility decline may not yet have run its course. Behind the averages for most countries, there are still wide variations in fertility between socioeconomic and ethnic groups, with the best-educated women (who are disproportionately of European descent) having lower fertility rates than those of the least educated women (who are disproportionately of indigenous descent). Fertility is also much lower among urban populations than among rural ones. This suggests that fertility rates in Latin America may still have room to fall, especially if societies are successful in boosting educational attainment and reducing inequality.

The UN population projections that we use in this report assume that fertility will indeed continue to decline, eventually falling to 1.85 in all countries. According to the UN, Chile would reach that level by 2015,

while Mexico would reach it by 2020 and Brazil by 2030. In the case of Brazil, the future appears to have arrived early. The latest Brazilian government data published in July 2008 indicate that Brazil's fertility rate had already sunk to 1.8 in 2006, far beneath previous estimates that put it somewhere between 2.2 and 2.3.⁴ If the new number is accurate, Brazil's elderly share could reach 21.0 percent by 2050, significantly higher than the 19.4 percent that the UN projects for Brazil and on a par with its projections for Mexico (21.2 percent) and Chile (22.1 percent).⁵

Latin America's age wave has already been set in motion and cannot be easily reversed.

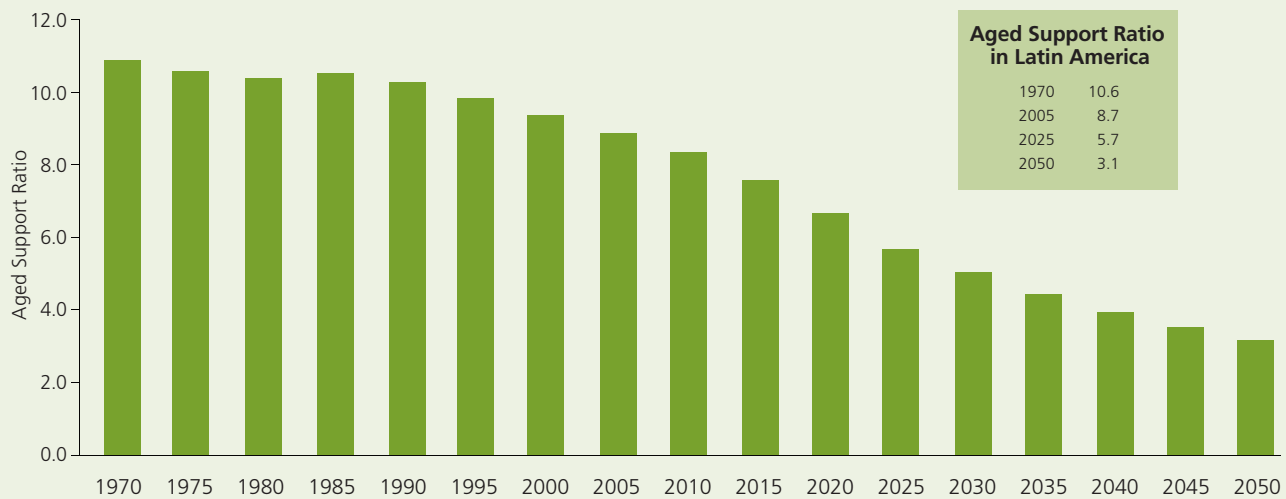
Non-demographers may suppose that population projections so far into the future must be highly speculative. But this is not the case. The aging of Latin America is the inevitable result of demographic trends that have already been set in motion. Unexpected shifts in mortality or fertility, like the recent surprise in Brazil, may exacerbate or mitigate the aging trend. The shifts, however, would have to be very large

⁴ See *PNDS 2006: Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher* (Brasília: Ministro da Saúde, 2008).

⁵ This alternative projection, made by CSIS using the DemoTools cohort-component projection software package, assumes a constant 1.8 fertility rate from 2005 through 2050.

There will be fewer workers to support each elder.

Aged Support Ratio of Working-Age Adults (Aged 20–64) to Elderly (Aged 65 & Over) in Latin America, 1970–2010



Source: UN (2007)

to substantially alter Latin America's demographic trajectory—and even then, they would take decades to have much impact. Demography is like an ocean liner. Once it is steaming full speed ahead, it can only be turned around slowly. For better or worse, the countries of Latin America will have to cope with the aging challenge.

The Old-Age Dependency Challenge

As the countries of Latin America age, they will have to transfer a rising share of society's income from working-age adults to nonworking elders. In 2005, there were 8.7 working-age adults in Latin America available to support each elder. That ratio is due to sink to 5.7 by 2025 and to 3.1 by 2050. (See figure 5.) In Brazil, Mexico, and Chile, it will fall even further—to 2.9, 2.7, and 2.5, respectively. In effect,

the average burden that must be shouldered by each worker will triple.

Much of this burden will fall on families, which remain the primary network of support for the elderly in many of Latin America's younger countries with less developed welfare states. But much of the burden will also show up in government budgets. Among the three countries featured in this report, the fiscal costs of aging will be greatest in Brazil, which already spends an enormous share of GDP (11.4 percent in 2006) on its pay-as-you-go public pension system. The costs will be more manageable in countries like Chile and Mexico that are transitioning to fully funded personal accounts systems. Yet here too, governments will come under mounting pressure to spend more on pensions, health care, and social services for their rapidly growing elderly populations.

Even as the old-age dependency burden grows, so will the vulnerability of the elderly.

Even as the old-age dependency burden grows, so will the vulnerability of the elderly. In Latin America's Southern Cone countries, the economic situation of the elderly at first glance seems relatively secure. Rates of pension receipt are high: 66 percent in Chile and 92 percent in Brazil and Argentina. Poverty rates are also low—in fact, lower than among younger adults. This picture, however, is deceptive. A large share of today's pensioners (in Brazil, two-thirds) receive subsidized “minimum pensions” or noncontributory “social pensions.” These benefits may lift most elders out of poverty, but they do not provide a secure source of retirement income. Given current trends, moreover, this is

unlikely to change in the future. Although all of the Southern Cone countries have ostensibly universal public pension systems, at least for wage and salary workers, the large size of their informal labor markets means that only a fraction of the workforce contributes regularly. In 2006, only 37 percent of Argentine workers, 41 percent of Brazilian workers, and 64 percent of Chilean workers contributed to the public pension system.

As family size shrinks, traditional support networks are already coming under increasing stress.

In the rest of Latin America, including Mexico, the economic situation of the elderly is even more precarious. Just 21 percent of Mexican elders now receive a public pension benefit of any kind. Poverty is widespread, with nearly one-third of Mexican elders living on less than two dollars a day, the World Bank's poverty threshold. A large share continue to work—nearly half of men aged 65 and over in 2006—usually in agriculture or low-wage service-sector jobs.

Two-thirds live with their children,⁶ and even those who do not are highly dependent on them for financial support. Yet as family size shrinks and urbanization and immigration break up extended families, these informal support networks are coming under increasing stress even before the age wave rolls in. For many elders, remittances sent home by offspring living in the United States are the sole source of income.

In today's relatively youthful Latin America, the limited reach of formal retirement systems has already become a growing social problem. In tomorrow's Latin America, with its soaring old-age dependency burden, it could become a social catastrophe. Old-age safety nets are vitally important, and countries like Mexico that lack one will need to create one. They are not, however, a long-term solution to the old-age dependency challenge. If half or more of elders are still dependent on social assistance when Latin America's age waves arrive, the economic and social costs will be enormous.

Retirement security will depend as much on successful development as successful retirement policy.

As we will see in the next chapter, the funded retirement systems that many Latin American countries are now building can reduce the future burden of growing elderly populations on both families and government budgets. They can also improve the adequacy of retirement income for those workers who contribute regularly. But so long as economic growth in Latin America remains slow, inequality remains high, and a large share of the workforce labors in the informal economy, no pension system can deliver widespread retirement security. In the end, retirement security in an aging Latin America will depend as much—or even more—on successful economic development as it will on successful retirement policy.

The Promise of the Demographic Dividend

Latin America's coming age waves and the steep rise in old-age dependency costs they will bring still loom over the horizon. For the

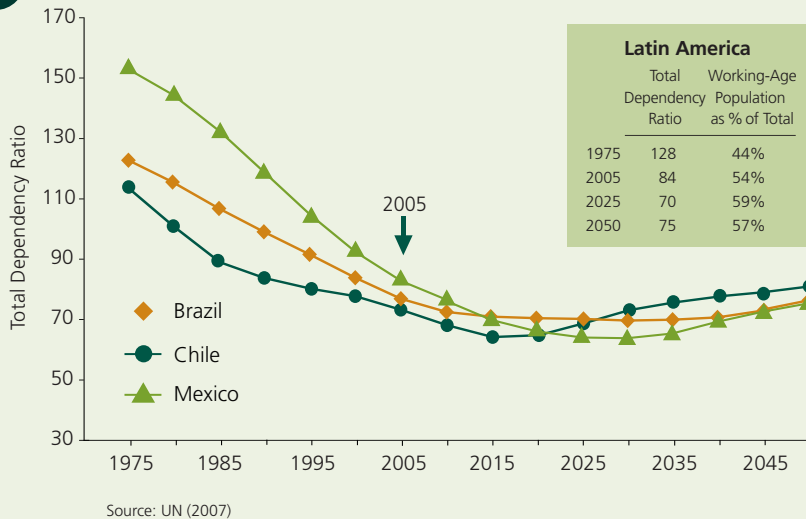
⁶ Paulo M. Saad, "Arreglos residenciales y su influencia en la calidad de vida en la vejez" (presentation at the meeting of the Latin American Demographic Center [CELADE], Santiago, September 9, 2003).



The demographic dividend: A declining total dependency burden.

Total Dependency Ratio of Elderly (Aged 65 & Over) plus Children (Aged 0–19) per 100 Working-Age Adults (Aged 20–64), 1975–2050

6



moment, demographic trends are leaning with economic growth—and, in most countries, will continue to do so for the next two decades. In fact, population trends in Latin America have never been as favorable as they are today, and they may never be as favorable again. Countries must take advantage of this window of opportunity to strengthen their retirement systems and to boost living standards before the demographic climate changes.

Population trends in Latin America will never again be as favorable to economic growth as they are today.

The opportunity arises from the dynamics of the demographic transition itself. When fertility first falls, the number of dependent children declines much faster than the number

of dependent elders rises, which means that society's total dependency burden declines as well. This, of course, is another way of saying that a growing share of the population is in the productive working years. The favorable demographics of this phase of the demographic transition are sometimes referred to as the "demographic dividend"—and they open up a window of opportunity for economic growth.

Latin America is already in the midst of its demographic dividend. The region's total dependency ratio—that is, the number of children and elders for every 100 working-age adults—has fallen dramatically over the past few decades, from 128 in 1975 to 84 in 2005. Meanwhile, the share of the population in the working years has surged from 44 to 54 percent. (See figure 6.) Behind these regional

averages, of course, lies considerable diversity. In Argentina and Uruguay, where fertility fell earlier and more gradually, the demographic dividend has been relatively small. In Brazil and Mexico, the drop in the total dependency ratio has been especially steep—and it will continue to fall until around 2030, when the relative growth in the number of elderly finally overtakes the relative decline in the number of children. Chile is also experiencing a large demographic dividend, but the total dependency ratio will bottom out sooner, around 2020.

Economists agree that the demographic dividend can bring important benefits. A falling dependency ratio and a rising share of the population in the working years in and of itself tends to push up per capita incomes. Above and beyond this simple arithmetic, the demographic dividend can also give rise to other powerful dynamics that increase living-standard growth. Labor-force participation rates may rise as fewer children free up adult time, and especially the time of women, for participation in the market economy.

Over time, savings rates may increase as more of the working-age bulge ages into its high-savings middle years. Smaller families may also be inclined to invest more in the “quality” of their children—and thus of the future workforce.

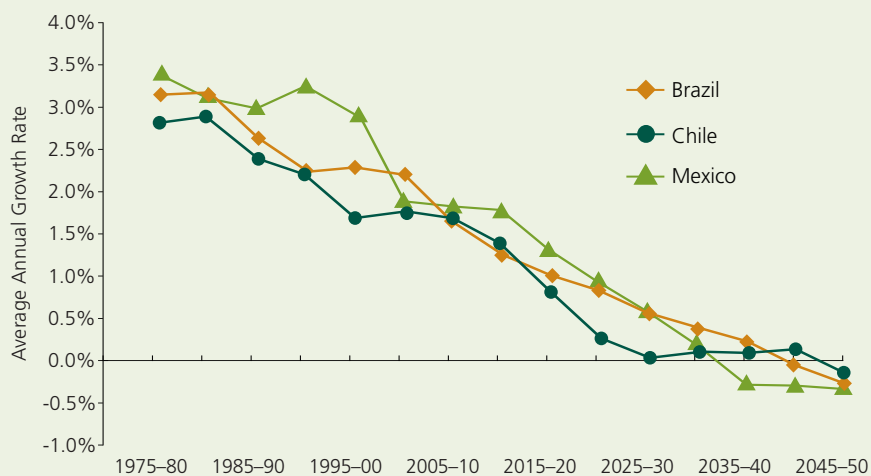
The dramatic deceleration in population growth could be an economic boon.

The dramatic deceleration in population growth that follows a large fertility decline can also be an economic boon. Many development economists consider a high rate of population growth to be a problem because it requires poor and middle-income countries to spend so much on capacity-enhancing investment simply to avoid “capital dilution” and keep from falling behind. The rate of growth in Latin America’s working-age populations is already slowing dramatically—and will continue to decelerate in the decades to come. (See figure 7.) As it does, societies will be able to consume more while maintaining the same rate of growth in the capital-to-labor ratio. They may also choose to redirect some

7

The growth in Latin America’s working-age populations is decelerating.

Average Annual Growth Rate in the Working-Age Population (Aged 20–64), 1975–2050



Source: UN (2007)

of their new consumable income and free time into more care per child, more schooling per student, or more training or technology per worker—what economists call “capital-deepening” investment. Either way, living standards will tend to rise.

These dynamics are not merely theoretical. Economists who have studied the demographic transition agree that it has given a powerful boost to economic growth in East Asia, underpinning the stunning rise of South Korea and the other Tigers and, more recently, of China. As in Latin America, fertility in East Asia has fallen dramatically since the late 1960s and early 1970s, pulling down the total dependency ratio and pushing up the share of the population in the working years. Many studies have concluded that the shift in the age structure of East Asia’s populations

accounts for between one-quarter and two-fifths of the growth in its per capita GDP since the mid-1970s.⁷

So far Latin America is failing to leverage its demographic dividend.

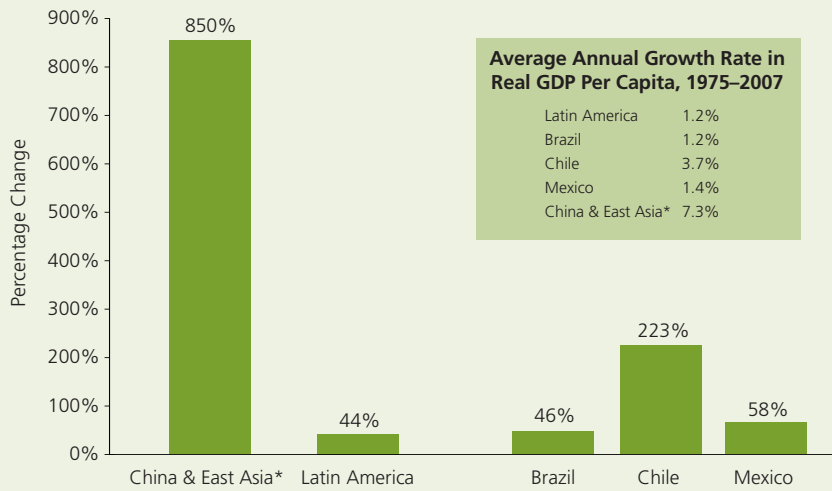
The economic benefits of the demographic dividend, however, are conditional on the broader economic, social, and political environment in each country. There is no guarantee that a country will leverage its dividend—and in fact, most Latin American countries have thus far failed to do so. Although the total dependency ratio has been falling in Latin America since the 1970s, economic performance has been disappointing. Between 1975 and 2007, per capita GDP in Latin America has grown at just one-sixth the rate that it has in East Asia—1.2 percent

⁷ See, for example, David E. Bloom and Jeffrey Williamson, “Demographic Transitions and Economic Miracles in Emerging Asia,” *World Bank Economic Review* 12, no. 3 (September 1998); and David E. Bloom, David Canning, and Pia N. Malaney, “Demographic Change and Economic Growth in Asia,” CID Working Paper no. 015 (Cambridge, MA: Center for International Development at Harvard University, May 1999).



Living standards in East Asia have grown far more rapidly than living standards in Latin America.

Cumulative Percentage Change in Real GDP Per Capita (in 2005 PPP Dollars), 1975–2007



*Excludes Japan.

Source: World Bank (2008a) and CSIS calculations

8

to dependents—but this is only an advantage if societies can allocate the extra labor to productive jobs. The demographic dividend may also mean a rising share of the population in the middle years—but the potential boost to savings may not materialize unless families are confident that their thrift will yield returns over time. To varying degrees in different countries, East Asia’s success in leveraging its demographic dividend has depended on sound macroeconomic policies, pro-business tax and regulatory regimes, public confidence in the rule of law, and massive public investments in infrastructure, R&D, and, above all,

per year versus 7.3 percent. While living standards in developing East Asia have risen by 850 percent over the same period, in Latin America they have risen by just 44 percent. (See figure 8.) Even in the fastest-growing country, Chile, they have risen by just 223 percent. While East Asia is closing the living-standard gap

with the developed world, most Latin American countries are not. (See table 1.)

The lesson of East Asia is that favorable demographics only help to the extent that societies can efficiently allocate resources to value-added activities. The demographic dividend may mean a rising ratio of workers

15

Table 1

Most Latin American countries are failing to close the income gap with the developed world.

GDP Per Capita (in 2005 PPP Dollars), as a Percent of Developed-World Average, 1975–2007

| | 1975 | 1980 | 1985 | 1990 | 1995 | 2000 | 2007 |
|-------------------------------|------------|------------|------------|------------|------------|------------|------------|
| Latin America | 35% | 35% | 30% | 26% | 26% | 25% | 26% |
| Brazil | 34% | 36% | 31% | 27% | 27% | 25% | 25% |
| Chile | 22% | 26% | 23% | 25% | 33% | 33% | 37% |
| Mexico | 41% | 44% | 40% | 34% | 32% | 34% | 34% |
| China & East Asia* | 4% | 4% | 6% | 7% | 10% | 12% | 18% |
| China | 2% | 2% | 3% | 4% | 7% | 8% | 14% |
| Asian Tigers | 26% | 32% | 38% | 48% | 61% | 65% | 76% |

*Excludes Japan.

Source: World Bank (2008a) and CSIS calculations

human capital. Historically, many of these conditions have not existed in Latin America.

The good news is that the environment in Latin America is improving rapidly. Although serious challenges remain, the prospects for growth and development in the region are brighter than they have been in decades. The demographic window of opportunity has not yet closed—and there is still time to reap the benefits of the dividend.

The Development Challenge

Almost everywhere you look, economic trends in Latin America have recently begun to point in a positive direction. The region's per capita GDP grew faster from 2002 to 2007 than over any five-year period since the early 1970s. Inflation has receded since the 1990s and appears to have been contained in all of the region's major economies except Argentina and Venezuela. Until the current global economic crisis, public debt levels were also falling in most of the region, with especially large declines in Brazil, Chile, and Mexico.

As of 2007, Chile was running a current account surplus and Brazil's and Mexico's current accounts were close to balance. Even as foreign direct investment has soared, Latin American multinational companies, or "Multilatinas," have been leading an explosion of outward investment. In 2006, Brazil was actually a net source of FDI. Poverty rates have also fallen dramatically. Between 2003 and 2007 alone, the proportion of people in Latin America living under national poverty lines fell by nearly one-quarter.⁸

From 2002 to 2007, living standards in Latin America grew faster than over any five-year period since the early 1970s.

Much of the credit for the turnaround goes to improved macroeconomic management and market liberalization. Latin America has repudiated the import-substitution policies of the 1960s and 1970s that precipitated hyperinflation and debt crises, leading to the "lost decade" of the 1980s. Chile was the first to chart a new course, imposing fiscal

discipline and launching sweeping market liberalization reforms in the 1980s. Others followed suit in the 1990s and 2000s, including Brazil and Mexico. Budget deficits were reduced, inefficient state-owned businesses were privatized, import tariffs were lowered, and economies were opened to foreign trade. International agreements created regional trading blocs—first MERCOSUR in 1991 and then NAFTA in 1994. To be sure, some countries have bucked the broad regional trends, most notably Bolivia and Venezuela. The progress has also been punctuated by severe financial crises in Mexico (1994–95) and Argentina (2001–02). But despite the bumpy road, Latin America's improved macroeconomic outlook is undeniable—as attested by the investment-grade status accorded by Standard & Poor's to the sovereign debt of Chile, Mexico, Brazil, and Peru.

Much of the credit for improved economic performance goes to sound macroeconomic management and market liberalization.



Table 2

Latin American countries score poorly in international competitiveness comparisons.

| World Bank "Ease of Doing Business Index" | WEF "Global Competitiveness Index" |
|--|---------------------------------------|
| Ranking (Out of 181) | Ranking (Out of 134) |
| 40 Chile | 28 Chile |
| 53 Colombia | 59 Costa Rica |
| 56 Mexico | 60 Mexico |
| 62 Peru | 64 Brazil |
| 109 Uruguay | 74 Colombia |
| 112 Guatemala | 75 Uruguay |
| 113 Argentina | 83 Peru |
| 117 Costa Rica | 84 Guatemala |
| 125 Brazil | 88 Argentina |
| 136 Ecuador | 104 Ecuador |
| 150 Bolivia | 105 Venezuela |
| 174 Venezuela | 118 Bolivia |

Source: World Economic Forum (2008) and World Bank (2008b)

The improved outlook also owes much to a new ideology of policy pragmatism—or what Javier Santiso, Chief Development Economist at the OECD, calls “the political economy of the possible”⁹—that marries fiscal discipline with social protection policies. In many countries, fiscally conservative policies originally championed by the right have been embraced by the left (for instance, Brazil and Chile), while in others social investment agendas championed by the left have been embraced by the right (for instance, Colombia and Mexico). Shifts in political power are now much less likely to lead to abrupt shifts in policy than they were in the past. This long-term policy continuity is crucial to economic growth for many reasons, perhaps the most important one being that it boosts investor confidence, both domestic and foreign.

Structural economic problems may make it difficult for Latin America to build on its recent progress.

At the same time, Latin America’s democratic consolidation is pushing the region toward greater stability. In 1975, only 15 percent of Latin America’s population lived in countries that Freedom House characterized as fully “free”; today, 74 percent does.¹⁰ In a heartening testament to Latin America’s political progress, not only can anyone vote, but anyone can be elected—including members of indigenous populations (as we have seen in Bolivia and Peru) and women (as we have seen in Chile and Argentina).

Yet despite the dramatic turnaround, Latin America’s economic future remains in doubt. Much concern in

Latin America is now understandably focused on the fallout from the global economic crisis, which has already slowed regional economic growth in 2008 and threatens to slow it further in 2009. Much more worrisome than the near-term crisis, however, are the persistent structural economic problems which, even when global growth resumes, may make it difficult for Latin America to build on its recent progress.

Most Latin American countries score poorly in international competitiveness comparisons.

While the macroeconomic environment in Latin America has improved, burdensome business regulations, punitive tax policies, and overregulated labor markets continue to undermine competitiveness. In the World Bank’s most recent *Ease of Doing Business Index*, Chile (ranked 40 out of 181 globally) and Mexico (56) are among the region’s best performers, while Brazil (125) ranks very low.¹¹ (See table 2.) Brazil’s poor standing is, among other reasons, due to its ponderous tax code, which requires the typical business to spend

9 Javier Santiso, *Latin America’s Political Economy of the Possible: Beyond Good Revolutionaries and Free-Marketeters* (Cambridge, MA: The MIT Press, 2006).

10 *Freedom in the World* (Washington, DC: Freedom House, various years).

11 *Doing Business 2009* (Washington, DC: The World Bank, September 2008).

DEVELOPING ECONOMIES NEED TO INVEST HEAVILY IN R&D IF THEY ARE TO MOVE UP THE GLOBAL VALUE-ADDED SCALE.



an incredible 2,600 hours per year preparing, filing, and paying taxes. Latin American countries also score poorly in the World Economic Forum's *Global Competitiveness Index*, a somewhat broader measure of the overall economic environment. From labor-market flexibility and technological readiness to infrastructure and governance, the region as a whole ranks below its main global competitors: India, China, the East Asian Tigers, and Central and Eastern Europe.¹² Only Chile, Latin America's top performer on almost all competitiveness indicators, ranks in the top 50 (28 out of 134).¹³

Latin American countries are underinvesting in human capital.

Latin America is also underinvesting in human capital development, arguably the most important determinant of long-term living-standard growth. To be sure, most countries have made huge strides in educational attainment, especially in universalizing primary education. Mexico and Brazil, which long trailed regional leaders Argentina, Chile, and Uruguay, have achieved near universal primary school attainment—thanks in part to programs such as *Oportunidades* in Mexico and *Bolsa Familia* in Brazil, which provide income support to poor families on the condition they keep their children in school. But universal primary education is not enough to propel Latin America's economies forward. Development economists agree that universal secondary education is the key to international

competitiveness for middle-income countries—and it is here that Latin America lags. Seventy-one percent of 25–26 year olds have completed secondary school in Chile, but just 45 percent in Brazil and 36 percent in Mexico.¹⁴

The quality of secondary education in most Latin American countries is also widely acknowledged to be poor. On the Program in International Student Achievement (PISA) exams, the gold standard in cross-country educational comparisons, students from Brazil, Mexico, and even Chile score far lower than students in developed countries—and lower than students in most countries with comparable per capita incomes.¹⁵ Skewed spending priorities may partly explain the poor performance. Most Latin American governments spend

12 Augusto López-Carlos et al., "Assessing Latin American Competitiveness: Challenges and Opportunities," in Augusto Lopez-Carlos, ed., *The Latin American Competitiveness Review 2006: Paving the Way for Regional Prosperity* (Geneva: World Economic Forum, 2008).

13 *The Global Competitiveness Report 2008–2009* (Geneva: World Economic Forum, 2008).

14 Data refer to 2003 for Brazil and Chile and to 2004 for Mexico. See Sociometro, Inter-American Development Bank, <http://www.iadb.org/sociometro>.

15 "A Profile of Student Performance in Reading and Mathematics from PISA 2000 to PISA 2006," in *PISA 2006: Science and Competencies for Tomorrow's World* (Paris: OECD, 2007).



far more per student on university education, which benefits a small elite, than on secondary education, which benefits the broad population. In Mexico, the per student ratio of government spending on tertiary education to secondary education is 2.6 to 1. In South Korea, the ratio is precisely the reverse. It spends 2.8 times more per student on secondary than tertiary education.¹⁶ The tilt in Latin America's educational budgets may perpetuate socioeconomic inequalities, especially as the market-returns to skilled labor continue to increase relative to the returns to unskilled labor.

All of this helps to explain the large size of the informal sector in Latin America. Business and labor-market regulations impede the creation of formal-sector jobs, while inadequate human capital development means that workers do not have the skills to fill them. Across the region, the size of the informal labor market ranges from one-third to two-thirds of total

nonagricultural employment. Recent estimates put the share at 37 percent in Chile, 49 percent in Mexico, and 54 percent in Brazil.¹⁷ This high labor informality pulls down productivity growth, deprives governments of tax revenue, and leaves workers highly vulnerable, since they are under the radar of social insurance systems. It is also a key reason why inequality, as measured by the GINI coefficient, remains so high across the region, even in relatively faster-growing Chile.

Savings rates in Latin America remain chronically low.

Human capital is an essential ingredient in rising living standards, but it is not the only ingredient. Developing economies need to invest heavily in R&D if they are to move up the global value-added scale. According to the Inter-American Development Bank, South Korea alone spent more on R&D in 2002 than all of Latin America.¹⁸ Developing economies also need adequate savings to fund

productive investment. In East Asia, savings rates have surged during the course of the demographic transition, rising in China at the household level from 4 percent in 1975 to 24 percent in 2000.¹⁹ Yet savings rates in Latin America remain chronically low, in part because of lingering fears of hyperinflation. However much they save, developing economies need efficient capital markets to allocate their savings to the highest-return investments. Here Latin America is making rapid progress, thanks in part to the growth of its funded retirement systems.

If Latin America overcomes these obstacles and permanently raises the growth path of its economies, the old-age dependency challenge will become much less daunting. By the same token, as we will see in the next chapter, the right kinds of retirement policies can help Latin America meet its development challenge.

16 World Development Indicators 2008, The World Bank, April 2008, <http://www.worldbank.org>.

17 Data refer to 2003 for Chile and to 2005 for Brazil and Mexico. See Socio-Economic Database for Latin America and the Caribbean, CEDLAS and The World Bank, <http://www.depeco.econo.unlp.edu.ar/cedlas/sedlac>.

18 *Education, Science and Technology in Latin America and the Caribbean: A Statistical Compendium of Indicators* (Washington, DC: Inter-American Development Bank, 2006), 38.

19 Franco Modigliani and Shi Larry Cao, "The Chinese Saving Puzzle and the Life-Cycle Hypothesis," *Journal of Economic Literature* 42, no. 1 (March 2004), 147.





Latin America's Pension Revolution

Over the past 25 years, Latin America has been swept by a wave of pension reform. Chile led the way in the early 1980s when it closed its pay-as-you-go public pension system, which was careening toward bankruptcy, and replaced it with a system of fully funded personal retirement accounts. Since the early 1990s, nine other countries have also initiated partial or complete transitions to personal accounts systems.

The new systems vary considerably in design. Some countries, following Chile's example, have entirely replaced their pay-as-you-go public pension systems (Bolivia, El Salvador, and Mexico). Some maintain parallel pay-as-you-go and funded systems that workers must choose between (Colombia and Peru). And some (Costa Rica and Uruguay) have "mixed systems" that include a pay-as-you-go tier that covers all workers and an additional funded tier for higher-earning workers. Argentina, until it shut down its personal accounts system in November 2008, had a unique arrangement: a first tier consisting of a pay-as-you-go flat benefit plus a second tier that offered workers a choice between a pay-as-you-go earnings-related benefit and a personal account. Among the major Latin American countries, only Brazil, Ecuador, Venezuela, and (now) Argentina have purely pay-as-you-go public pension systems. Brazil, however, has a large voluntary funded system of "complementary" private pensions.

In this chapter, we first discuss the potential advantages of funded pension systems in an aging Latin America. We then examine some of the critical areas in which these systems are—or are not—living up to their promise.

The Advantages of Funded Pensions

Latin America's personal accounts pension systems are often referred to as "privatized" systems. The term, however, is misleading. Although worker contributions are managed and invested by private pension fund managers, the systems are mandatory public pension systems, or in some cases optional components of mandatory public systems. They operate under strict regulatory guidelines designed to protect participants or "affiliates"

against undue market risk while they are contributing workers and against longevity risk when they are retired—that is, against the risk of outliving their assets. Most also come with a minimum pension guarantee that provides a subsidized floor of retirement income protection to lifetime low earners, and so retain some of the redistributive features included in many public pay-as-you-go defined-benefit schemes.

Latin America's funded pension systems have decisive advantages over pay-as-you-go systems.

Funded pension systems have potentially decisive advantages over pay-as-you-go systems. In pay-as-you-go systems, a falling support ratio of contributing workers to retired beneficiaries translates directly into a rising cost rate and contribution rate. Funded systems, on the other hand, can free countries from the tyranny of their own demography. While the long-term rate of return that workers can earn in a pay-as-you-go system is limited to the rate of economic growth, the rate of return in a fully funded system is equal to the rate of return to capital, which is typically much higher, especially in aging societies with slowly growing workforces. Funded systems can thus offer participants higher benefits at any given contribution rate than pay-as-you-go systems can.

Funded pension systems may also improve incentives for workers to contribute, and thus broaden coverage. Because account balances are personally owned and because benefits paid out are proportional

to contributions paid in, at least for higher-earning workers who do not qualify for a minimum pension guarantee, workers may be less likely to view their contributions as a tax. Many of the original personal accounts advocates in the 1980s and 1990s believed that these incentives might be especially important in Latin American countries, where trust in government has historically been low, informal labor markets large, and tax compliance difficult to enforce.

There are other potential advantages as well. In the near term, funded pension systems can help to speed the development of Latin America's capital markets. In many developed countries, including the United States, funded pensions have played a crucial role in broadening and deepening capital markets. As pension funds grow, so do the size and liquidity of capital markets. Along with professional fund management come greater accountability, transparency, and long-term returns. In the long term, funded pension systems can help to maintain adequate rates of savings and investment, which is already a challenge in Latin America today and will become even more difficult as its populations age.

Any retirement system needs a robust floor of protection.

All of this helps to explain the rapid diffusion of the personal accounts model in Latin America. Whether the benefits of reform are actually realized, however, depends on how the systems are designed and implemented. Excessive administrative fees can erode workers' account balances, while overly restrictive investment policies can reduce rates of return and limit the positive impact on capital markets. Contribution rates must also be set at an adequate level to generate an adequate replacement rate. Any retirement system, moreover, whether pay-as-you-go or funded, also needs a robust floor of protection for those who arrive in old age with an inadequate pension or no pension at all.

Crucially, there is also the question of how the transition from an existing pay-as-you-go system to a new funded system is financed, since this determines the impact on fiscal balances and national savings. As worker contributions are diverted to the new personal accounts, the government must continue to pay the benefits of current retirees as well as



the benefits already accrued by current workers when they retire. If the new private savings accumulating within personal accounts is offset by an equal increase in government debt, the macro benefits of reform may not materialize. Public pension spending may decline, but long-term debt service costs will grow. At the macro level, the reform may be a wash—arguably leaving society as a whole no better off.

A Personal Accounts Report Card

The central goal of any pension system is to provide adequate benefits for retirees. Although Latin America's personal accounts systems are still too new to evaluate their track record on this crucial measure of success, there is little doubt they will outperform pay-as-you-go systems—at least for workers who contribute regularly. Between the establishment of Chile's personal accounts system in 1981 and December 2007, the real rate of return on worker contributions averaged 10.0 percent. Between the establishment of Mexico's system in 1997 and December 2007, the real rate of return averaged 7.3 percent. Admittedly, these returns were inflated by heavy investment in high-risk public debt and

are unsustainably high. But even assuming more realistic rates of return, Latin America's personal accounts systems will be able to deliver equivalent benefits at a much lower cost than pay-as-you-go systems could—or, alternatively, much higher benefits at the same cost.

Consider an illustration. In Chile, the net contribution rate to the personal accounts system—that is, the rate after subtracting administrative fees—is 10 percent of covered wages. At a 5 percent real rate of return, a reasonable long-term assumption for a global portfolio of stocks and bonds, a full-career worker entering the workforce in 2010, contributing 10 percent of wages for 40 years, and retiring in 2050 would earn a replacement rate of 60 percent. To finance the same benefit on a pay-as-you-go basis, his or her contribution rate would, as Chile's population ages, have to rise to 22 percent by 2050. A 60 percent replacement rate may not be adequate unless a retiree has other sources of income. But if society desires greater adequacy, it could raise the worker's replacement rate to 75 percent with a 12.5 percent contribution rate,

whereas in a pay-as-you-go system a 75 percent replacement rate would, by 2050, inflict a catastrophic 27 percent payroll tax burden on workers. (See figures 9a and 9b.)

Latin America's funded pension systems will be able to deliver higher benefits at a lower cost than pay-as-you-go systems can.

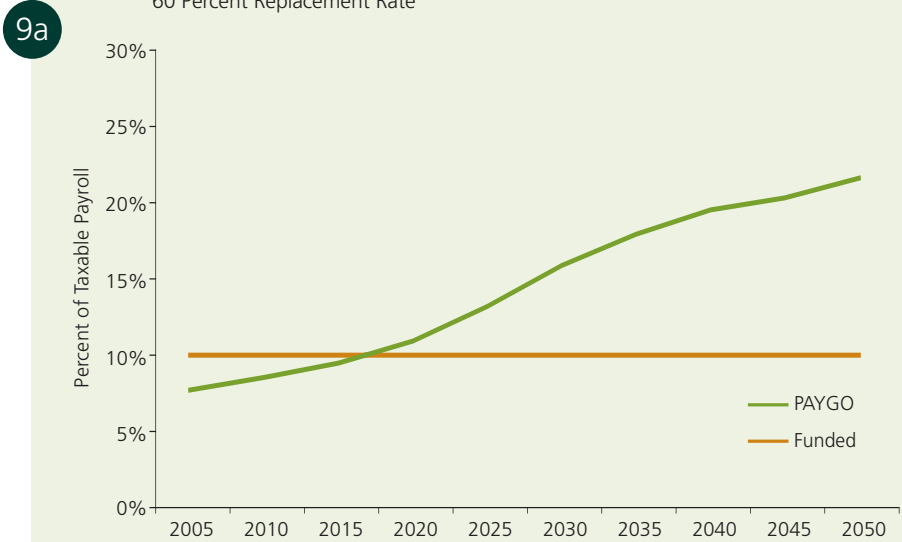
These illustrative projections may understate the relative advantage of funded pension systems in most Latin American countries. They assume a 2.0 percent real wage growth rate—which is about the average for Chile over the past 25 years, but is at least double the average for most countries. The lower the rate of real wage growth is, the greater is the advantage of funded systems over pay-as-you-go systems. If real wages were to grow at 1.0 percent per year in the future, the same full-career worker would earn a 75 percent replacement rate with his or her 10 percent contribution rate. A 12.5 percent contribution rate would generate a 95 percent replacement rate. To be sure, real rates of return might be lower in the future than the 5.0 percent we assume, and this

would push the other way. But in almost any reasonable scenario, the funded system would deliver a higher replacement rate at the same contribution rate as a pay-as-you-go system. In fact, real returns would have to sink beneath 3.0 percent, what many economists consider the long-term risk-free rate of return, for the funded system to lose its relative advantage.

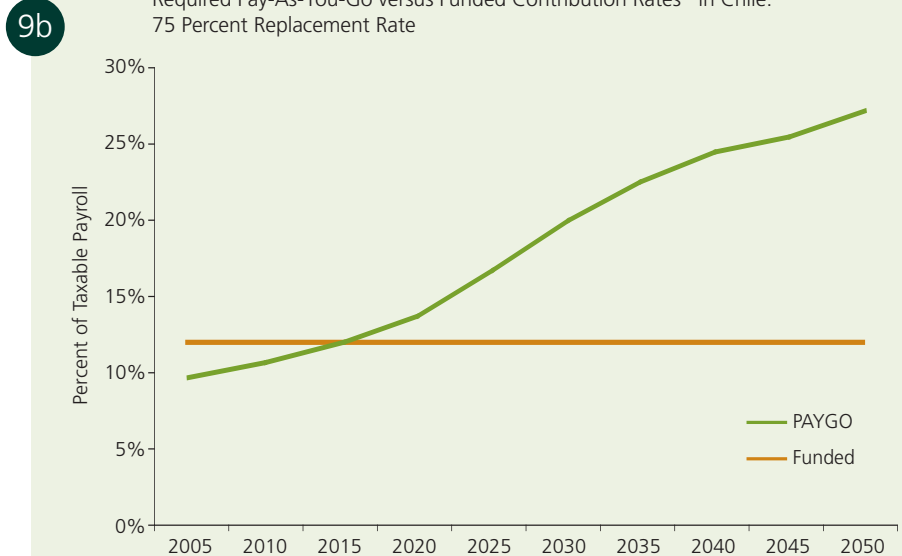
The replacement rates that personal accounts systems can generate are of course affected by administrative fees. According to one well-known study, the administrative fees charged by Latin American pension funds reduce eventual account balances—and hence replacement rates—by as much as 15 to 25 percent beneath what they otherwise would be.²⁰ High administrative fees are a legitimate concern, and reducing them has become a central goal of government regulation and reform. Some countries have capped fees. Others are relying more on competition—for instance, by standardizing fee structures to improve transparency and facilitate comparison between funds, by allowing workers to switch more frequently between funds, or by assigning new affiliates

Funded pension systems have a decisive cost advantage in an aging society.

Required Pay-As-You-Go versus Funded Contribution Rates* in Chile: 60 Percent Replacement Rate



Required Pay-As-You-Go versus Funded Contribution Rates* in Chile: 75 Percent Replacement Rate



* PAYGO calculations assume 2.0 percent real wage growth, universal coverage, and a retirement age of 65; personal account calculations assume 2.0 percent real wage growth, a 5.0 percent real rate of return, a 40-year career, and a retirement age of 65. Source: UN (2007) and CSIS calculations

who fail to choose a fund to the fund with the lowest fees (Chile) or the highest net return (Mexico). Average fees (measured as a share of wages) are now falling in most countries, and

in Mexico they have dropped by 50 percent between 2000 and 2007.

Latin America's personal accounts systems have been less successful at delivering high rates of pension



coverage than high rates of return. Coverage in some countries has risen significantly since reform, suggesting that incentives may indeed matter. Yet everywhere, it remains far from universal. In Chile, the share of the workforce that contributes to the pension system each year jumped from 42 percent in 1982, just after its reform was implemented, to 64 percent in 2006. In Mexico, the share rose slightly after its reform in 1997, but now appears to have plateaued at a low level—just 38 percent in 2006, even including contributors to the separate civil service pension system. It is true that rates of pension system “affiliation” are generally much higher than active contributor rates. But the number of affiliates merely refers to the number of workers with a personal account. Many affiliates do not contribute regularly, which means that many will arrive in old age with low benefits despite high rates of return.

Part of the explanation may lie in the design of the pension systems themselves. The minimum benefit guarantees in some systems may weaken incentives for low-wage earners to contribute regularly. Some

countries, moreover, have exempted significant parts of the labor force from mandatory coverage—for instance, self-employed workers in Chile. The biggest problem, however, is the large size of Latin America’s informal labor markets, which have proven more of an obstacle to boosting coverage than many reform advocates anticipated.

Low coverage rates remain a serious problem throughout Latin America, regardless of the type of pension system.

Low coverage thus remains a problem throughout Latin America, regardless of the type of pension system. During the late 1990s and early 2000s, the active contributor rate averaged less than 30 percent in eight Latin American countries (half with personal accounts systems and half with pay-as-you-go systems). In four countries, it averaged between 30 percent and 50 percent—a group that includes reformers Argentina and Mexico as well as nonreformers Brazil and Venezuela. Only Chile, Costa Rica, and Uruguay—all reformers—had contributor rates of over 50 percent.²¹

Not surprisingly, the low coverage problem is especially serious among low-wage earners. In Brazil, for example, the active contributor rate in 2002 was 17 percent for the lowest income quintile, but 67 percent for the highest income quintile. In Mexico, the rate was 10 percent for the lowest quintile, but 56 percent for the highest. The differential is not as wide in Chile, though even there the active contributor rate for the lowest quintile is much lower than for the highest—40 percent versus 70 percent in 2003.²² (See figure 10.) Clearly, it will be difficult to improve coverage so long as widespread poverty and large informal sectors coexist.

What all of this underscores is the importance of a robust floor of protection. Although most personal accounts and pay-as-you-go pension systems in Latin America have minimum pension guarantees that provide a poverty backstop, the guarantees do nothing to help those workers who do not contribute at all. In fact, since eligibility for the minimum guarantees generally requires many years of contributions (20 years in Chile and 25 in Mexico), even many low earners who do

21 Rafael Rofman and Leonardo Lucchetti, “Pension Systems in Latin America: Concepts and Measurements of Coverage,” Social Protection Discussion Paper no. 0616 (Washington, DC: The World Bank, November 2006).

22 Ibid.

contribute to the pension system will not do so long enough to qualify for a subsidized benefit.

The better solution is a noncontributory floor of protection paid for through general revenues. The floor can either be a universal flat benefit or a means-tested benefit, though the former is much more expensive. A few countries have universal noncontributory flat benefits, including Bolivia and Brazil (for rural elders). Many countries have small means-tested benefits for indigent elders. Any noncontributory floor of protection, of course, may further undermine incentives to contribute to the regular pension system. Chile has tried to address the problem with its new “solidarity pensions,” which (as we will see) are means-tested but explicitly integrated with the contributory pension system in a way that attempts to preserve incentives for workers to contribute.

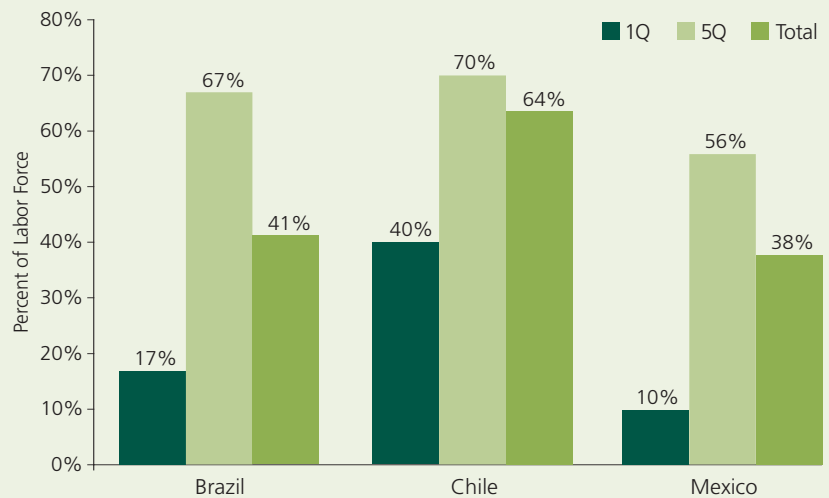
Funded pension systems are speeding the development of Latin America’s capital markets.

As for the macro benefits of reform, there is no question that the creation of

10

Pension coverage in Latin America is highly skewed by income.

Active Pension System Contributors, by Quintile and Total, as a Percent of Labor Force in Most Recent Year*



*Data for totals refer to 2006 for Brazil and Chile and 2007 for Mexico; data for quintiles refer to 2002–2004. Source: AIOS (2007); MPS (2007a); and Rofman and Lucchetti (2006)

funded pension systems is contributing significantly to the development of Latin America’s capital markets. The systems have given an enormous boost to domestic bond markets, particularly government bond markets, lengthening maturities and spurring the introduction of new securities like inflation-indexed bonds in Mexico and tradable recognition bonds in Chile. They have helped to increase stock market capitalization, though in most countries markets still remain illiquid and highly concentrated. Insurance markets have also grown as a result of pension reform, since in most countries with personal accounts systems pension fund managers are required to purchase survivors and disability insurance for affiliates. There have been other benefits as well: broader mortgage bond markets, better credit rating agencies, and improved corporate governance.

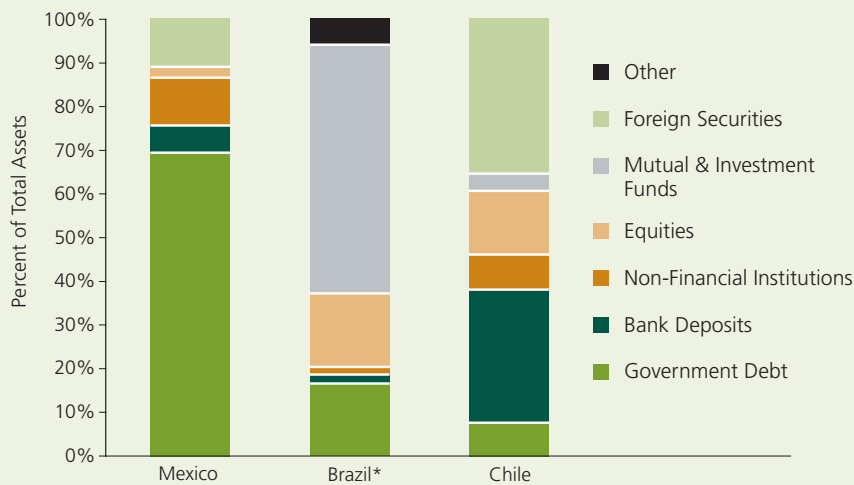
To be sure, restrictive investment rules have blunted the positive impact. Initially, regulations in all countries required most pension assets to be invested in government debt. The requirement was partly due to the conservative investment philosophy of the pension regulators, partly to secure a captive source of financing for the transition, and partly because adequate alternative investment options were not always available. As capital markets have developed, however, the regulations have been liberalized and portfolios progressively diversified in most countries. A few countries, notably Chile and Peru, are clearly moving in the direction of “prudent man” investment rules. Overinvestment in government debt, however, still remains a cause for concern in some countries, including Mexico. (See figure 11.)



Some pension systems are rapidly diversifying while others remain heavily invested in government debt.

Portfolio Composition of Pension Funds in December 2007

11



*Closed funds; data are for August 2008. Source: AIOS (2007) and ABRAPP (2008)

Restrictions on foreign investment need to be gradually lifted.

Despite the trend toward portfolio diversification, most countries still maintain low limits on foreign investment, Chile being the only major exception. While these limits may seem prudent in the midst of today's global market meltdown, they pose a serious long-term problem. Although Latin American capital markets are broadening and deepening, the growth in pension fund assets is outpacing domestic investment opportunities. To be sure, there are some legitimate arguments for the limits on foreign investment. Savings sent abroad does not increase the domestic capital stock or worker productivity. Governments maintain, with some justification, that the money should instead be invested

in creating jobs, building housing, or improving public infrastructure at home—especially in view of the tax incentives that pension savings receives. But in the end, restrictions on foreign investment, like requirements to load portfolios with government debt, undermine the primary purpose of any funded pension system—which is to earn the highest risk-adjusted return for participants.

Except in Chile, reforms have failed to raise national savings.

While the impact of personal accounts reforms on Latin America's capital markets has been uniformly positive, the impact on national savings has not. In Chile, the reform appears to have boosted national savings and consequently investment and growth.²³ Government pension spending has been declining steadily since the

mid-1980s and will continue to do so in decades to come. At the same time, the government has been running large budget surpluses that have offset lost revenue as pension contributions were diverted to the personal accounts. The Chilean experience, however, has not been repeated in other countries, where reforms have been largely debt-financed.

Leveraging the full macro benefits of reform will require fiscal discipline that many Latin American countries now lack. This failing, of course, is by no means unique to Latin America. The United States has been accumulating a large Social Security trust-fund surplus that is supposed to partially prefund the retirement of its baby boom generation, but has cancelled out the boost to national savings by running larger deficits in the rest of the federal budget. The fact remains, however, that funded pension systems have the potential to raise national savings, whereas pay-as-you-go systems are sure to lead to rising contribution rates, rising fiscal costs, and lower national savings as societies age. Either that, or benefits will have to be cut, undermining the pension system's adequacy.

²³ See, for example, Vittorio Corbo and Klaus Schmidt-Hebbel, "Macroeconomic Effects of Pension Reform in Chile," in International Federation of Pension Fund Administrators (FIAP), ed., *Pension Reform: Results and Challenges* (Santiago: FIAP, 2003); and Andrew A. Samwick, "Is Pension Reform Conducive to Higher Saving?" *The Review of Economics and Statistics* 82, no. 2 (May 2000).

Retirement Reform





reform

in Chile, Mexico, and Brazil

Most Latin American countries have made significant progress in building adequate and sustainable retirement systems that will help them confront their coming age waves. The progress, however, varies considerably across the region—and across the three countries featured in this report.

Chile, which launched Latin America's first personal accounts system in 1981, may be the best prepared of all countries in the region to meet the challenge. The fiscal costs of its old pay-as-you-go pension system are steadily declining and funded pension assets have already reached impressive levels as a share of GDP. In recent years, the failure of Chile's personal accounts system to achieve universal coverage has raised serious concerns about its ability to provide adequate benefits to all retirees. A major "reform of the reform" in 2008, however, greatly strengthened the system's adequacy while preserving—or even enhancing—its strengths.

The outlook in Mexico is less certain. Mexico established a personal accounts system in 1997, modeled on Chile's, that helps to lay the foundations for long-term retirement security. Pension liabilities are relatively small and funded pension assets are growing rapidly. The pension system, however, only effectively covers a small fraction of the population. Mexico has the lowest rate of elderly pension receipt among the three countries featured in this report and the highest rate of elderly poverty. Most elders still depend on the extended family for support in old age—and with fewer than two in five workers contributing regularly to the public pension system, the situation of tomorrow's elders may remain precarious. While strengthening its

funded pension system, Mexico will also need to build a robust floor of poverty protection.

Brazil faces a daunting long-term challenge. In contrast to Mexico, Brazil has among the highest rates of elderly pension receipt and among the lowest elderly poverty rates in Latin America. But as its population ages, its expensive pay-as-you-go pension system will threaten to place an unsustainable burden on the budget and economy. Either that, or Brazil will have to make deep cuts in benefits that jeopardize the system's adequacy. To escape this zero-sum dilemma, we recommend that Brazil initiate a partial transition to a funded personal accounts system—and outline a plan that would allow it to do so.

chile

Chile

On the eve of its pioneering reform, Chile's pension system was in shambles—institutionally fragmented, inequitable, and extremely expensive. Founded in the early 1920s, it had morphed by the late 1970s into a byzantine patchwork of 32 pension funds (called *cajas*), with over a hundred different schemes that varied widely from sector to sector in eligibility rules and benefit levels. Financially, the system was plagued by high payroll tax rates, widespread evasion, and yawning deficits. Between 1960 and 1980, the ratio of contributors to beneficiaries plunged from 10.8 to 2.2, pushing the system to the brink of collapse.²⁴

Although there had been previous attempts at reform, it was not until the rule of General Pinochet that the pension system was finally overhauled. The Pinochet government's "privatization" plan, the first such in the world, was part of a larger macroeconomic reform agenda instituted by the "Chicago Boys"—economic advisers who had been trained in

neoclassical economics at the University of Chicago.

Ninety-five percent of prereform workers in Chile switched to its new personal accounts system.

The pension reform closed the old pay-as-you-go system to new entrants and replaced it with a mandatory system of fully funded personal retirement accounts. Current workers at the time of the reform were given a choice of remaining in the old system or switching to the new system. Those who switched received "recognition bonds" equal to their accrued benefits that were deposited in their personal accounts and payable upon retirement. Over a million workers switched in the first year, and 95 percent of all prereform workers eventually did so.²⁵ The new system in principle covered the entire workforce, except for the self-employed, for whom participation was optional, and members of the armed forces and police, who remained under a separate pay-as-you-go system. The

mandatory contribution rate was set at 10 percent of monthly wages up to a cap, plus premiums for survivors and disability insurance and administrative fees. Workers were also allowed to make additional tax-favored voluntary contributions to their main retirement account or to a separate voluntary account.

In a model followed by all subsequent Latin American personal accounts reforms, participating workers, or affiliates, choose among a selection of competing pension fund managers, which in Chile are called *Administradores de Fondos de Pensiones (AFPs)*. The pension system is supervised by a special government regulatory agency, which, among other functions, certifies the AFPs and sets investment guidelines. Although the guidelines initially required most assets to be invested in government debt or bank deposits, they have been progressively liberalized. As of December 2007, 26 percent of assets were in private domestic securities and mutual funds and 36 percent in foreign securities—far and away the largest foreign investment share of

24 *The Chilean Pension System*, Fourth Edition (Santiago: Superintendency of Pension Fund Administrators, 2003), 37.

25 Mauricio Soto, "The Chilean Pension Reform: 25 Years Later," *Pensions: An International Journal* 12, no. 2 (March 2007), 101.



any Latin American pension system. Originally, AFPs were required to place all of their affiliates in the same investment fund. In 2002, however, Chile switched to a multifund model. Each AFP can now offer five fund choices with varying levels of risk. Affiliates who fail to choose are assigned to a fund based on their age.

The original reform also provided for two separate poverty backstops. Affiliates who contribute to their personal accounts for at least 20 years and whose account value at retirement is below a minimum threshold were entitled to a government-financed “top up” benefit called the minimum pension guarantee. There was also a small noncontributory means-tested benefit known as PASIS, worth about half the minimum pension, for elders who either fail to contribute for 20 years or were never in the system at all. As we will see, this original poverty floor was fundamentally restructured by a major new reform that went into effect in 2008.

The reform’s architects hoped that it would reduce the fiscal burden of

rising pension costs, boost worker replacement rates, and, along the way, help to foster the development of Chile’s capital markets and fuel economic growth. By linking benefits more tightly to contributions and by offering the security of personal ownership of retirement assets, they also hoped that the reform would increase participation in the pension system and thus, in the long run, reduce old-age poverty.

Chile’s pension funds have exploded from 1 percent to 64 percent of GDP since its 1981 reform.

At the macro level, the pension system’s success has been impressive. Pension spending has been falling steadily as a share of GDP, from well over 6.0 percent in the mid-1980s to just under 3.0 percent today. The government projects that it will continue to fall in the future, dropping to 1.6 percent of GDP by the mid-2020s, when the transition will be largely complete.²⁶ Although the impact on national savings is difficult to measure, many studies have concluded that it has been

positive, mainly because the government offset revenue losses during the transition by running large budget surpluses. There is no question about the positive impact on capital market development. Chile’s pension funds have exploded in value from 1 percent of GDP in 1981 to 64 percent in 2007, broadening and deepening capital markets. Although it is difficult to separate the impact of Chile’s pension reform from its overall market reform agenda, some studies conclude that it has contributed significantly to Chile’s strong growth performance over the past 25 years.²⁷

As we have seen, the system has also generated high real rates of return, which means that replacement rates will also be substantial—at least for workers who contribute for a full career. Yet over the past decade, there has been growing concern that the system will leave many Chileans—perhaps most—with inadequate benefits in old age. Although the active contributor rate has risen over the past 25 years and is now among the highest in Latin America, it was still just 64 percent in 2006.

26 Consejo Asesor Presidencial para la Reforma Previsional, *El derecho a una vida digna en la vejez: Hacia un contrato social con la previsión en Chile* (Santiago: Presidencia de la República de Chile, July 2006), Annex 4.

27 See, for example, Vittorio Corbo and Klaus Schmidt-Hebbel, “Macroeconomic Effects of Pension Reform in Chile,” in International Federation of Pension Fund Administrators (FIAP), ed., *Pension Reform: Results and Challenges* (Santiago: FIAP, 2003).



The problem is that, though most Chileans contribute to the system at some point in their work lives, only a minority contribute regularly. The structure of the minimum pension guarantee may have added to the problem by reducing incentives for low-wage workers to contribute at the margin. Most of the coverage problem, however, lies in the structure of Chile's labor market, with its high levels of self-employment and informality.

In 2006, new projections based on actual worker contribution histories confirmed that a large share of affiliates might indeed face hardship in old age.²⁸ A staggering 45 percent of affiliates would have pensions below the minimum pension guarantee threshold, but would *not* have met the contribution requirements to qualify for the subsidized benefit. The affiliates at the bottom end of the pension distribution were mostly female, low-wage, or irregularly employed.

By the 2006 presidential election, there was broad consensus that the pension system once again needed serious retooling—though there was

less agreement on what shape the reform should take.²⁹ Initially, there was much speculation that the victor from the center-left Concertación coalition, Michelle Bachelet, might roll back the personal accounts system. Instead, following the recommendations of her Advisory Commission on Pension Reform—better known as the Marcel Commission after its chairman, Mario Marcel—the Bachelet government backed a well-crafted reform plan that strengthened the personal accounts system while creating a more robust floor of protection.

Chile's new "solidarity pensions" provide a promising model for other countries.

The "reform of the reform," which became law in 2008, created a new and more generous noncontributory "solidarity pension" that replaces both the means-tested PASIS benefit and the minimum pension guarantee. When the reform is fully phased in in 2012, elders with family incomes of less than 60 percent of the national average will be eligible for a full solidarity

pension if they have no contributory pension benefit. Elders with a contributory pension who meet the income test will still be eligible for a solidarity pension, but it will be reduced by roughly one peso for every three pesos in contributory benefits. Under the old system, low-earning workers had little incentive to contribute once they qualified for the minimum pension guarantee. Under the new system, each extra peso in contributions will always earn an extra return.

The reform includes other measures designed to increase participation in the system and improve its adequacy. It makes participation by the self-employed mandatory, with the requirement to be phased in over seven years; it seeks to boost the participation of young low-wage workers by paying subsidies to employers who offer them formal-sector jobs; and it supplements the accounts of women to compensate them for time spent as noncontributors while at home raising children.

At the same time, the reform sought to improve the efficiency



Mexico

of the personal accounts system. It continues the process of gradually liberalizing investment guidelines, most notably by further raising the ceiling on foreign investment. It also includes a variety of measures aimed at enhancing competition and reducing fees. These include: standardizing and streamlining the system's commission structure by requiring AFPs to charge a single monthly percentage-of-earnings fee; assigning new affiliates who fail to choose an AFP to the AFP with the lowest commissions; and setting up an educational fund that will be used to improve the financial literacy of affiliates.

While strengthening the mandatory system, the reform also created new incentives to contribute to the pension system's voluntary component, where participation has been low. As of June 2008, there were just 1.6 million voluntary pension accounts, compared with 8 million mandatory accounts—and of these 45 percent were empty.³⁰ To encourage voluntary savings, the reform provided for additional tax incentives and created a new

Voluntary Collective Pension Savings scheme (APVC) in which worker contributions can be matched by employer contributions.

Chile's "reform of the reform" has succeeded in improving the pension system's adequacy without undermining its efficiency—and so leaves Chile better positioned than ever to confront the age wave. It is doubtful, however, whether the new incentives and subsidies will alone dramatically raise the share of the workforce that contributes regularly to the pension system. Ultimately, broad retirement security will depend on Chile's success in reducing inequality and increasing the size of its formal sector—that is, on the success of its broader development agenda. Yet here too there is reason for optimism, since Chile has long been a regional leader in economic development as well as pension reform.

Mexico

Nearly one in three Mexican elders now live beneath the World Bank's poverty threshold of two dollars a day—a share that could rise in the

future unless Mexico strengthens its old-age safety net. Imagine, in Mexico's cities, millions of today's midlife adults aging by the 2030s into millions of indigent elders who lack a pension or personal savings. Or imagine, in the countryside, millions of demographically stranded elders without nearby children to support them. Looking ahead, the late Mexico scholar Delal Baer warned of a "social catastrophe" in Mexico's future if it fails to prepare for its age wave.³¹

Mexico in fact took an important step toward meeting the aging challenge in 1997, when the government of Ernesto Zedillo replaced its old pay-as-you-go pension system for private-sector workers, which was plagued by widespread evasion and spiraling payroll tax rates, with a new system of funded personal retirement accounts. Mexico's personal accounts system shares much in common with the original Chilean system. Workers choose among competing pension funds, known as *Administradoras de Fondos para el Retiro*, or AFOREs. Participation

by the self-employed is voluntary. And there is a minimum pension guarantee, equal to the minimum wage, for workers who contribute for 25 years.

But Mexico's system also differs in critical ways. At just 6.5 percent of covered wages, the contribution rate is lower than in Chile—though the government also makes an additional flat contribution, known as the “social quota,” to each worker's account. There is no noncontributory pension, except for a small benefit for indigent elders aged 70 and over in certain rural communities. All current workers at the time of reform were transferred to the personal accounts system, but received a “life-switch” option that guarantees them the benefit they would have received under the old system if, at retirement, that benefit is larger than their personal account benefit. Civil servants, employees of PEMEX, Mexico's oil giant, and a few other groups were exempted from the reform and allowed to remain in their own separate (and costly) pay-as-you-go systems.

Eighty-five percent of affiliates in Mexico contribute to the pension system less than half the time.

While Mexico's new pension system helps position it to confront the age wave, its benefits are inadequate. After administrative fees, the net contribution rate for an average-earning worker, including the social quota, was just 7.3 percent in 2006. Even over a full 40-year career, this may only be enough (assuming a 5.0 percent real rate of return) to generate a replacement rate of 40 percent. To be sure, the social quota, which equals 5.5 percent of the (real 1997) minimum wage, boosts the net contribution rate for low earners, raising it all the way to 11 percent for minimum wage workers. But since very few low-wage workers contribute regularly, very few will earn adequate benefits, despite the generous government match. According to one projection, over half of affiliates will need to have their account balances topped-up to reach the minimum pension level. Yet given the fact that more than

85 percent of affiliates contribute less than 50 percent of the time, few will satisfy the 25-year contribution requirement to qualify for the minimum pension guarantee.³² Mexico, in other words, is in the same situation in which Chile found itself before its “reform of the reform”: Many workers will need the minimum pension guarantee, but only a small minority will qualify for it.

At the same time, Mexico is failing to realize the full macro benefits of reform. To begin with, the life-switch option, for which the great majority of transition generation retirees will qualify, leaves taxpayers on the hook for the old system's unfunded liabilities. Since the old system only covered a fraction of the workforce, this alone may not be a large fiscal burden. But the government will also have to top-up the accounts of future retirees who qualify for the minimum pension—and, just as the Chilean government did, it will surely come under pressure to cover the much larger number who fall below the minimum pension level but fail to qualify for the guarantee.

³² Tapen Sinha and Maria de los Angeles Yañez, “A Decade of Government-Mandated Privately Run Pensions in Mexico: What Have We Learned?” in Stephen K. Kay and Tapen Sinha, eds., *Lessons from Pension Reform in the Americas* (New York: Oxford University Press Inc., 2008).



According to Mexican pension expert Tapen Sinha, “The new system might not save much money in the long run, and in fact may turn out to be more expensive.”³³

Mexico’s pension funds are still overinvested in government debt.

The system’s original investment rules were also highly restrictive, channeling virtually all contributions into public debt. Over the past few years, the rules have been gradually relaxed. Investment in domestic equities has been allowed since 2002, and foreign investment has been allowed since 2004. But as of December 2007, 69 percent of total pension fund assets were still in government debt, compared with just 8 percent in Chile. Although surging demand by the AFOREs has helped fuel the rapid development of Mexico’s bond markets, the restrictions have so far retarded the impact on equity markets. They have also undermined the potential savings boost of the reform. In effect, workers contribute to their personal

accounts, and the AFOREs then lend the money to the government, which uses it to pay pension benefits owed under the old system.

A major reform enacted in 2007 may help to boost long-term returns and replacement rates. The reform allows further diversification of pension portfolios by raising the ceiling on equity investments and by introducing multifunds like those in Chile. It also overhauled the system’s complex fee structure. Originally, each AFORE had considerable latitude to design its own structure, with charges on contributions, charges on assets under management, or a combination of the two. The reform limits AFOREs to a single charge on account balances. To facilitate cost comparisons by affiliates, it also introduced a net-rate-of-return indicator that tracks the performance of AFOREs over the previous 36 months. All new affiliates who fail to choose a fund are automatically assigned to the AFORE with the highest net rate of return.

Mexico’s 2007 reform may boost long-term returns and replacement rates.

The same year, the government of Felipe Calderón also tackled reform of the civil service pension system, which had long been a third rail of Mexican politics. The system, which offers participants outsized replacement rates at early retirement ages, was forecast to run ever-widening deficits. The reform closed the existing pay-as-you-go system to new hires and opened a new personal accounts system. Unlike private-sector workers under the 1997 reform, prereform public-sector workers can choose to remain in the old pay-as-you-go system—though they will face higher retirement ages if they do. Although civil servants will initially contribute to a special government-run fund called PensionISSSTE, after 2010 they will be able to join the AFORE of their choice. Only a tiny fraction of prereform workers have switched, however, which means that the pay-as-you-go system will endure for many decades to come.



brazil

The inadequacy of the benefits offered by Mexico's pension system remains a pressing concern.

While recent reforms have pushed Mexico's pension system in the right direction, the inadequacy of its benefits remains a pressing concern. The personal accounts system's low basic contribution rate clearly needs to be raised. One way to do this without imposing a new burden on workers would be to shift the additional 5 percent contribution that they now make to a government-run housing fund (known as INFONAVIT) to their personal retirement accounts. As it is, contributions to the housing fund earn a low administratively determined rate of return and often go unused. Another way to raise the contribution rate—or more precisely, the net contribution rate—would be to restructure Mexico's costly survivors and disability insurance system. In Mexico, these benefits are financed on a pay-as-you-go basis with a 2.5 percent of payroll worker contribution. In other Latin American personal accounts systems, pension

funds purchase survivors and disability insurance for their affiliates at much lower cost—an average of just 1.0 percent of payroll in Chile.

At the same time, Mexico must build a floor of old-age income protection. Just one in five elders now receive a pension benefit—and given the current low active contributor rate this share may not rise much in the future. Yet despite the greater vulnerability of its elders, Mexico has no broad floor of old-age poverty protection. Rather than a minimum pension guarantee for which only a minority of workers will qualify, Mexico needs to introduce a noncontributory pension along the lines of Chile's solidarity pensions. An adequate system would come with a significant price tag. But this is a cost that Mexico will ultimately have to bear one way or the other.


Brazil

Unlike Chile and Mexico, Brazil retains a purely pay-as-you-go public pension system. There are two main regimes: the general regime, or RGPS, for the private sector and the civil service

regime, or RPPS, for federal and state civil servants. The combined cost of the two regimes totaled 11.4 percent of GDP in 2006—more than many developed countries with much older age structures spend on their public pension systems.

The rising fiscal burden of Brazil's public pension system has long been a major policy concern. Payroll tax rates are high—20 percent for employers and 8 to 11 percent for workers in the private-sector RGPS regime, depending on their wage level. Yet despite the high payroll tax rates, the pension system is running large deficits. Reform has been difficult, in part because most of Brazil's basic pension provisions were written into its 1988 constitution, which means that legislating any significant change in the rules requires commanding a three-fifths majority in the Chamber of Deputies.

Prior to the 1998 reform, private-sector pensioners in Brazil received 100 percent replacement rates.



Nonetheless, Brazil succeeded in enacting a significant reform of the private-sector regime in 1998. Prior to the reform, pensions replaced 100 percent of a worker's average earnings in the three years prior to retirement. The reform cut the generosity of the pension formula by switching the base used in calculating benefits to career-average earnings. It also introduced an "actuarial factor" (*fator previdenciário*) into the formula that penalizes early retirement and indexes benefits to life expectancy.

Yet in most respects, the private-sector regime remains very generous. Despite the cut, RGPS replacement rates remain relatively high. Workers can still retire at any age with a "seniority pension" if they have met the minimum contribution requirements (35 years for men and 30 years for women). Those who fail to meet the requirements can collect benefits at age 65 (for men) or age 60 (for women) with just 15 years of contributions. Survivors benefits, equal to 100 percent of the deceased worker's retirement benefit, are payable for life without regard to the

age of the spouse, the length of the marriage, or the presence of minors—provisions far more generous than those in any developed country.

Civil service pensioners in Brazil make up 13 percent of all pensioners but receive 42 percent of all public pension benefits.

Meanwhile, a push to reform the civil service regime began to gather momentum—not just because of the high cost of the RPPS, but because of the huge inequity in the system's lavish benefit provisions. Civil service pensions are so generous that even though civil service pensioners make up just 13 percent of all Brazilian pensioners, they receive 42 percent of all public pension benefits.³⁴

In 2003, the Lula government took a first step toward redressing the imbalance. For civil servants already in the system, the 2003 reform raised the minimum retirement age from 53 to 60 for men and from 48 to 55 for women. It also imposed a surtax on civil service pension benefits that

exceed the maximum private-sector benefit. For new civil servants, the reform went further. Benefits will be calculated based on the same formula used for private-sector retirees and maximum benefits will be set at the same level. Over time, the reform will gradually align the deals offered to public- and private-sector workers. The process, however, will take a half-century to complete.

As in other Latin American countries, many workers fail to contribute to the pension system. The active contributor rate in Brazil was just 41 percent in 2006, including both the private- and public-sector regimes. The share of elders who receive benefits, however, is far higher than the share of workers who contribute, which helps to explain the system's high cost and large deficit. At 92 percent, Brazil's pension receipt rate is only rivaled by Argentina's. Since 1988, there has been a noncontributory rural pension paid to elders aged 60 and over regardless of income. Since 1993, there has also been a means-tested pension for indigent elders aged 65 and over.

³⁴ The data refer to 2003. See "Brazil: Programmatic Fiscal Reform Loan: Social Security Reform Project," Program Document no. 32226-BR (Washington, DC: The World Bank, May 6, 2005), 9.

Brazil has one of the lowest elderly poverty rates in Latin America.

These special pensions have reduced elderly poverty rates in Brazil to one of the lowest levels in Latin America. But they have also created disincentives to participate in the formal sector and contribute to the regular pension system. Workers who collect the noncontributory rural and means-tested pensions receive benefits that are identical to the minimum contributory pension they would receive if they had paid into the RGPS. The benefits, moreover, are all pegged to Brazil's generous minimum wage, which has been rising rapidly in real terms and as a share of average wages.

As Brazil ages, its pension system threatens to become an even larger burden on the budget and economy.

As Brazil ages, its pension system threatens to become an even larger burden on the budget and economy. To be sure, government projections now show that the cost of the RGPS

will rise only marginally in the future, from 7.2 percent of GDP in 2007 to 8.1 percent of GDP in 2040.³⁵ These projections, however, are highly optimistic. They assume that the minimum wage, and hence the minimum pension, will only be adjusted for inflation in the future, which means that its value will fall steadily relative to the average wage—thus reversing current policy. This assumption has a large impact on the projections, since minimum pensions, which are received by two-thirds of all beneficiaries, now account for 45 percent of all RGPS expenditures. The projections also assume that the ceiling on contributory wages will only be indexed to prices, which means that, over time, a progressively larger share of total wages will be over the ceiling. This in turn means that benefits will replace a progressively smaller share of worker earnings.

To put the implications of the government projections in perspective, we have calculated an alternative projection that assumes both the average RGPS retirement age and the average RGPS benefit relative to the average wage will remain unchanged

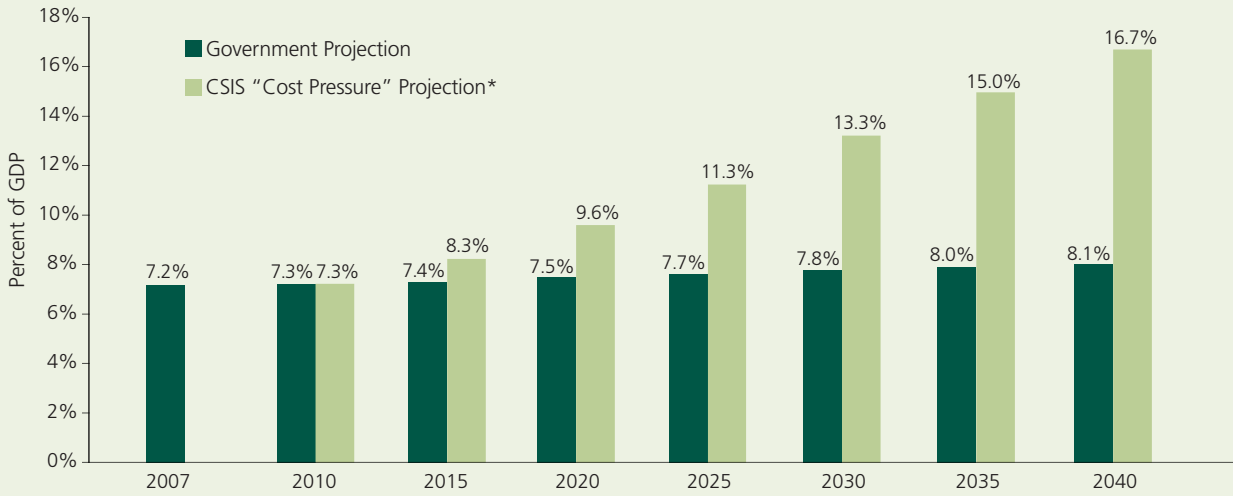
in the future. Under this hypothetical “cost pressure” projection, the cost of the RGPS would rise to 16.7 percent of GDP in 2040, more than double today's level. (See figure 12.)

Brazil thus finds itself on the horns of a dilemma. Controlling the long-term cost of the RGPS will mean reducing its benefits far beneath what most Brazilians now expect it will provide. On the one hand, these reductions are sure to face growing public resistance. On the other, if the reductions implied by the government's projections actually occur, the generosity of the system will eventually fall so far that it will come to be widely regarded as inadequate. The only way out of the dilemma is for Brazil to rely less on pay-as-you-go transfers and more on funded retirement savings and the higher returns it can generate.

Brazil already has a voluntary system of “complementary” private pensions. There are two types: open funds, in which any worker can participate; and closed funds, which are generally employment-based and restricted to workers earning more than the RGPS contributory-wage ceiling.

Brazil's pension system will come under intense cost pressure.

RGPS Pension Benefits as a Percent of GDP, 2007 and Projections for 2010–2040



*The CSIS "cost pressure" projection assumes that both the average RGPS retirement age and the average RGPS benefit relative to the average wage will remain unchanged in the future.
 Source: MPS (2007b) and CSIS calculations

The combined assets of Brazil's private pension funds totaled an impressive 20 percent of GDP in 2006—more than in any Latin American country except for Chile. Only a modest share of the workforce, however, contributes to the funds—and most of the workers who do contribute are higher earners. The restricted closed funds hold the lion's share of assets (80 percent), but cover just 2 percent of the workforce. Participation in the complementary pension funds has up to now been limited to private-sector workers. The 2003 reform of the civil service regime provides for the creation of complementary funds for new hires, but the legislation is still pending.

Brazil needs to broaden the share of the workforce accumulating funded retirement savings.

To meet the aging challenge, Brazil needs to broaden the share of the workforce that accumulates funded retirement savings. The best way to do this is to gradually transform the RGPS, at least in part, into a system of funded personal accounts. In the 1990s, Brazil considered transitioning to a funded personal accounts system, but rejected the idea because the transition cost was deemed too large. Although the 1998 reform has reduced the system's unfunded liabilities, even a partial transition would still pose a daunting challenge. The RGPS has no surplus that could be redirected to personal accounts. Indeed, as of 2006, it was running a deficit of 1.8 percent of GDP. Payroll taxes are already high, which means that jump-starting a funded system with an extra "add on" contribution is out of the question.

Nonetheless, it is possible to design a fiscally responsible transition plan. We outline a possible approach on the following two pages that would create a personal accounts component within the RGPS without raising the system's contribution rate or increasing its deficit. The reform would require difficult political choices. But it would also bring considerable benefits. Brazil's current pension system has helped to lift millions of elders out of poverty and is widely viewed as a social success. The problem is that it will not be sustainable as Brazil ages. It is time, while the window of opportunity lasts, for Brazil to retool the system so that it can continue to fulfill its vital mission.

PERSONAL

A Personal Accounts System for Brazil

The personal accounts system we propose would be organized and implemented as follows. A public regulator would be created, which would establish a personal account in each worker's name. Initially, the accounts might be centrally administered by the regulator because all would be small and many would be empty. But when account balances reach some minimum threshold, they would be transferred to a certified private pension fund manager of the worker's choice, or if the worker fails to choose, to the manager or managers with the lowest administrative fees. All contributions assigned by default would be invested in lifecycle funds that adjust asset allocation according to age.

The plan would be mandatory, because its benefits would constitute an important part of what Brazil deems to be an adequate retirement income—and because experience

shows that the people who opt out of a voluntary system tend to be the people most in need later on. The accounts would also be strictly regulated, with rules to protect workers against both investment risk and longevity risk. The guidelines for portfolio allocation could be modeled after those for Brazil's complementary closed funds. Preretirement withdrawals would be prohibited and all assets would be transformed into monthly benefits upon retirement by means of a population-wide annuitization formula.

The personal accounts would be funded with part or all of workers' current personal RGPS contributions. Simply carving out the contributions without accompanying cost-saving reforms would increase the RGPS deficit, canceling out the new personal accounts savings. The plan would therefore establish a strict deficit-neutrality rule. Contributions

would only flow to the personal accounts to the extent that reforms succeed in reducing the RGPS deficit—or ultimately, creating a RGPS surplus.

The worker RGPS contribution, which amounts to about 10 percent of taxable payroll, currently accounts for roughly one-third of total RGPS contributions and pays for roughly one-quarter of total RGPS expenditures. To redirect half of worker contributions to the personal accounts—the minimum reform goal—would thus require finding savings equivalent to roughly 12.5 percent of RGPS expenditures.

There are several ways to achieve savings of this magnitude without further reductions in the adequacy of RGPS retirement benefits beneath those already scheduled in current law. One way to generate near-term savings would be to tighten the eligibility rules and reduce the generosity of survivors pensions,



1 accounts

which accounted for 24 percent of all RGPS expenditures in 2007. Reducing their generosity by one-third would, over time, save 8 percent of expenditures. In the longer term, significant savings could also be achieved by eliminating seniority pensions, which accounted for 33 percent of RGPS expenditures in 2007. Recipients of these pensions on average retire five years earlier than other RGPS pensioners. If they retired at the same age, it would, over time, save another 7 percent of RGPS expenditures. While a hike in the retirement age obviously constitutes a cut in lifetime benefits, it does not reduce replacement rates or harm benefit adequacy. Higher retirement ages, moreover, would not only help finance the reform plan, they would also be good for Brazil's economy, which will need to keep older workers on the job longer as its population ages and younger workers become relatively scarce.

If larger accounts are desired, savings may have to be found outside the RGPS. One obvious source is the RPPS, which remains extraordinarily generous for any worker who joined before 2003 and will continue to be an outsized burden on the budget for decades to come. The plan provides that savings from any additional reforms to the RPPS be directed to the new personal accounts system. Over time, these transfers might allow the equivalent of the entire worker RGPS contribution to flow into funded savings accounts.

The reform plan would need to be phased in gradually in order to avoid explicit or implicit borrowing from the RGPS or RPPS. In the first few years of the plan, only new workers would have a share of their RGPS contributions redirected to their personal accounts. Over time, however, current workers would have a share of their contributions

redirected as well. Since the size of that share would be determined by the extent of the savings in the RGPS or RPPS, the plan is not only deficit neutral, but would create a powerful political constituency behind ensuring that the pay-as-you-go benefit cuts actually occur. Workers would ultimately have their RGPS benefit reduced actuarially to reflect their smaller contribution to pay-as-you-go component of Brazil's retirement system. This in turn would generate additional long-term savings.

The plan we have outlined would help to ensure a more secure retirement for tomorrow's workers as the generosity of today's RGPS is inevitably reduced. Because the level of personal accounts funding each year would depend directly on improvements in the balance of Brazil's pay-as-you-go pension systems, it would also be much more likely to raise national savings than a debt-financed transition plan.





Latin America at a Crossroads

If you take a stroll through Mexico City today, the odds that the next random person you meet will be elderly are just one in 16. Take the same stroll in 2050, and the odds will be one in five. By then, there will be more people in their 60s than in their 20s and more over age 80 than under age 5. How well Mexico—and the other Latin American countries now undergoing the same demographic transformation—prepare for their much older future will profoundly affect the dynamism of their economies and the mood of their societies. It could even determine whether they realize their aspiration of becoming affluent and fully developed economies.

By 2050, there will be more Mexicans in their 60s than 20s.

Latin America's success in meeting the aging challenge will depend as much on effective development strategies as effective retirement policies. An aging Latin America will need broad and adequate and secure retirement systems that can provide generous benefits for the old without imposing a heavy burden on the young. But this may not be possible unless Latin America also raises the growth path of its economies, increases the size of its formal sectors, and reduces today's pervasive inequality. The new challenge of supporting a much larger elderly population is thus inextricably intertwined with the broader economic and social challenges that have long faced the region.

Fortunately, Latin America has time to prepare for its coming age wave. As we have seen, the same demographic forces that will ultimately lead to the dramatic aging of its populations have now opened up a window of opportunity for economic growth and development that in most countries will last well into the 2020s.

Latin America will need to build on its recent economic progress.

Before the window closes, Latin America will need to build on its recent economic progress. Countries will have to reform business and labor-market policies that discourage participation in formal labor markets and impair competitiveness. They will have to raise chronically low rates of savings on all balance sheets, public and private. To allocate

savings efficiently to productive investment, they will need broader and deeper capital markets. To move their industries up the global value-added scale, they will have to invest more in R&D, as Brazil is now doing (with aircraft) and Chile (with agribusiness). Above all, they will have to invest more—and more effectively—in human capital, the ultimate resource of an aging society. Along with broadening access to quality education for youth, this will mean retraining older cohorts of less skilled workers, who will dominate Latin America’s labor forces for decades to come.

Funded retirement systems can help fuel development.

At the same time, Latin America will need to build on its pioneering innovations in pension reform. We have argued that Latin America’s funded personal accounts systems confer important advantages in confronting the aging challenge. As populations age, they will be able to generate ample replacement rates for retirees at far lower contribution rates than pay-as-you-go systems can.

They also have the potential to fuel economic development by reducing long-term fiscal burdens, by speeding the development of capital markets, and by helping to maintain adequate rates of savings and investment. Countries like Brazil that have large pay-as-you-go public pension systems will need to increase their reliance on funded retirement savings or face a zero-sum trade-off between a steeply rising contribution burden on tomorrow’s workers or deep reductions in benefits for tomorrow’s elderly. Countries that already have savings-based public retirement systems in place will need to leverage their benefits more fully. They will have to exercise fiscal discipline during the transition from pay-as-you-go to funded in order to boost national savings. While maintaining strict government oversight, they will also need to gradually liberalize investment rules so that participants receive the highest risk-adjusted returns.

In the long run, as development transforms Latin America’s labor markets and participation in its formal retirement systems grows, funded pension savings could become the

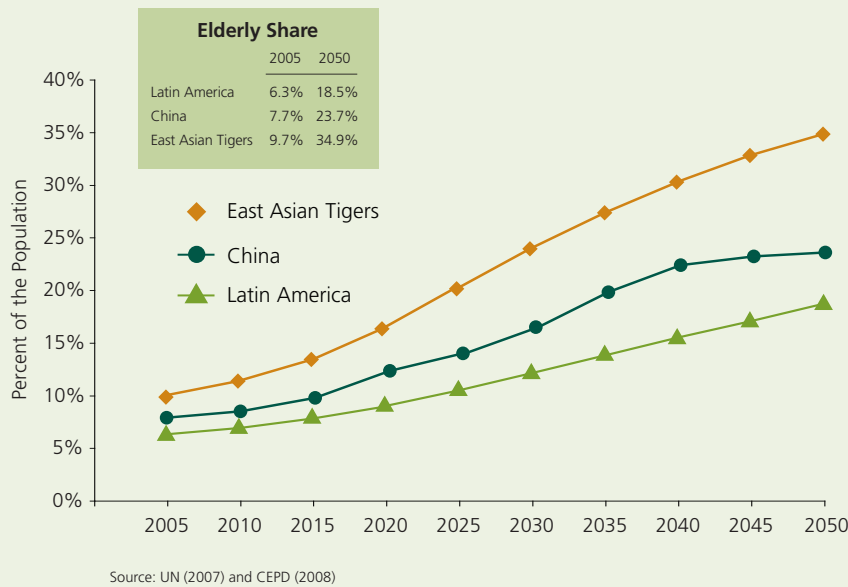
mainstay of support for the great majority of elders. But over the next few decades, all countries will need robust floors of old-age income protection for the large share of workers who will arrive in old age with an inadequate pension or no pension. Latin America is making progress here as well. Many countries, including Brazil and Chile, now provide some sort of basic pension benefit to elders whether or not they have contributed to the formal retirement system. Mexico, which still lacks a floor of old-age income protection, will need to put one in place. The availability of these noncontributory benefits may to some extent hamper efforts to encourage more workers to participate in contributory retirement systems. But there are ways to mitigate the incentive problem by integrating the two systems, as Chile has shown. In any case, a broad and adequate floor of old-age income protection is a social necessity.

If Latin America prepares for its aging challenge, it will be positioned to assume a much larger role in world affairs.



East Asia's age waves dwarf Latin America's.

Elderly (Aged 65 & Over), as a Percent of the Population, 2005–2050



If Latin America prepares successfully for its aging challenge, it will not only prosper as the twenty-first century unfolds, but will also be positioned to assume a much larger role in world affairs. For much of its history, Latin America has been what *The Economist's* former Latin America bureau chief Michael Reid calls the "forgotten continent" and *Foreign Policy* editor Moisés Naim calls the "lost continent"—bypassed by the main currents of global economic and geopolitical events.³⁶ Two or three decades from now, Latin America could well be the "indispensable continent."

Most of today's dominant—and many of its emerging—economic powers are due to age both much sooner and much more than Latin America will. The 2020s will likely be a decade of fiscal crisis and economic

stagnation in the developed world, as old-age dependency burdens soar and (except in the United States) working-age populations enter a steep decline. East Asia, whose economic and geopolitical rise now seems predestined, will confront a massive age wave in the 2020s and 2030s that dwarfs Latin America's. (See figure 13.) Tax burdens will rise, savings rates will fall, and today's current account surpluses will evaporate. Russia and Eastern Europe, meanwhile, will be in the grips of an unprecedented population implosion—with Russia plummeting from fourth place in global population rankings in 1950 to twentieth place in 2050.

Global population shifts are creating important economic opportunities for Latin America.

These global population shifts may offer important opportunities for Latin American countries. Skilled labor will be in high demand in developed economies with contracting workforces. To the extent that Latin American countries master the outsourceable skills in demand by global corporations, they will reap the returns in higher wages and living standards. Beyond the labor-market synergies, there may be capital-market synergies. As economic growth begins to slow in the developed world and East Asia in the 2010s and 2020s, global savers will be looking for investment opportunities in fast-growing regions with stable governments, skilled workforces, and business friendly environments. By the 2020s and 2030s, many economists believe that the world will enter an era of capital shortages. If so, Latin America's growing pension funds could become a crucial source of savings that helps fuel global growth.

Latin America stands at a crossroads where the paths forward lead in very different directions. Down one path lies the future where Latin America fails to leverage its demographic

36 Michael Reid, *The Forgotten Continent: The Battle for Latin America's Soul* (New Haven, CT: Yale University Press, 2007); and Moisés Naím, "The Lost Continent," *Foreign Policy*, no. 157 (November / December 2006).

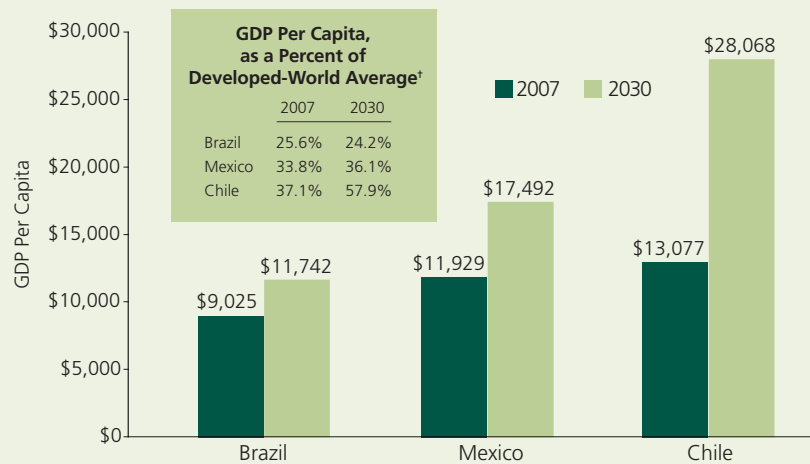
dividend. A generation from now in 2030, if historical growth rates continue, living standards would barely have budged except in Chile. (See figure 14.) Growing old-age dependency burdens would leave governments hard-pressed to maintain safety nets for the rising tide of indigent elders. With incomes growing slowly and the age of the average citizen steadily increasing, risk-taking, entrepreneurship, and mobility are likely to decline. As people seek to protect their economic and social privileges, inequalities in income and wealth could harden. While the mood of youthful societies in the face of adversity is often hope, the mood of aging societies in similar circumstances may be despair.

Then there is the path of higher growth and expanding opportunity. If all countries match Chile's historical growth performance, living standards would double throughout Latin America by 2030. If higher growth is accompanied by effective reform of business and labor-market regulations and large-scale investment in human capital, the size of informal sectors will shrink as tomorrow's better educated

14

Unless growth accelerates, living standards in most of Latin America will only rise slowly.

GDP Per Capita in 2005 PPP Dollars, 2007 and Projections for 2030*



*Projections assume that labor-force participation rates by age and sex will remain unchanged and that growth in real GDP per employed person will equal the 1975–2007 average in each country.
 †For the developed-world GDP projection, see *The Graying of the Great Powers* (CSIS, 2008).
 Source: World Bank (2008a); UN (2007); CSIS (2008); and CSIS calculations

workers migrate toward new skilled jobs. The tax base would broaden, allowing societies to undertake ambitious new investments in national goals. Poverty would fall and inequality, the hallmark of Latin America since colonial times, would steadily decline. The aging of Latin America's populations would still pose a serious challenge. But amidst growing and more equitably shared affluence, it would be much more tractable.

In this future, it would not only be Chile that enters the ranks of high-income countries. Argentina, which in the 1920s had the world's fourth highest per capita income (just behind the United States, Canada, and New Zealand and just ahead of the UK), would be rapidly regaining the ground it has lost. Brazil, with its enormous population and

continental-sized economy, would solidify its position as a global economic power. Mexico would doubtless maintain its close relationship with the United States, but on entirely new terms—no longer as a source of low-wage labor, but as a supplier of skilled workers and perhaps even of scarce capital.

The whole world has a stake in Latin America's success.

The whole world has a stake in Latin America's success. We are convinced that it will seize the opportunity and prosper while it ages—thereby bettering not only its own future, but the future of the rest of the world.



A Note on Data and Sources

In researching and writing this report, CSIS consulted dozens of specialized studies on the implications of population aging for Latin America's economies, societies, and, of course, retirement systems. This note makes no attempt to review this rich secondary literature. Its purpose is more limited—to orient the reader toward the basic data sources used in preparing the report.

Most basic demographic data, both historical and projected, are from the United Nations Population Division and are published in *World Population Prospects: The 2006 Revision* (New York: UN Population Division, 2007). These include total population, population by age and sex, and most historical data on fertility rates and life expectancy. Unless otherwise noted, demographic projections refer to the UN's most commonly used "medium variant" projection. The alternative long-term population projection for Brazil was made by CSIS using the DemoTools cohort-component projection software package.

Basic economic and development data come from a variety of sources. Data on GDP, in both exchange rate and purchasing power parity (PPP) dollars, come from the World Bank's World Development Indicators (WDI) database and are available at <http://www.worldbank.org>. Most labor-force and employment data come from the International Labor Organization's LABORSTA database and are available at <http://laborsta.ilo.org>. The basic poverty measure (share of the population living on less than two dollars a day) and inequality measure (GINI coefficient) cited in the report come from the World Bank's WDI database. Data on poverty rates by age, however, come from Leonardo Gasparini et al, "Poverty among the Elderly in Latin America and the Caribbean," CEDLAS Working Papers no. 55 (La Plata: Center for Distributional, Labor, and Social Studies at the National University of La Plata, July 2007). Basic fiscal data come from the World Bank's WDI database and the UN Economic

Commission for Latin America and the Caribbean's CEPALSTAT database, which is available at <http://www.eclac.org>. Data on current account balances and foreign direct investment (FDI) come from standard international sources.

Basic data on Latin America's funded pension systems, except for Brazil's, come from the International Association of Latin American Pension Fund Supervisors (AIOS) and are available at <http://www.aiosfp.org>. These include number of contributors, real rates of return, administrative fees, portfolio allocation, and pension assets as a percent of GDP. Most of this data is also compiled by the International Federation of Pension Fund Managers (FIAP) and is available at <http://www.fiap.cl>.

For Brazil, we relied on a variety of sources. Most data on Brazil's public pension system come from the Brazilian Ministry of Social Security (MPS), and in particular its Social Security Statistical Yearbook



data sources

(AEPS), which is available at <http://www.mpas.gov.br>. Most data on Brazil's private ("complementary") pension system come from "Brazil: Programmatic Fiscal Reform Loan: Social Security Reform Project," Implementation Completion and Results Report no. ICR717 (Washington, DC: The World Bank, December 19, 2007). Data on portfolio allocation, however, come from the Brazilian Association of Pension Funds (ABRAPP) and are available at <http://www.abrapp.org.br>.

A special word is required about the active contributor rates and pension receipt rates cited in the report. Active contributor rates were calculated as the ratio of contributors to public pension schemes to the total labor force. Rates of pension receipt were calculated as the ratio of recipients of old-age pensions from public pension schemes to the population aged 65 and over. Since the recipient figures include pensioners under age 65, they somewhat overstate receipt rates

among the elderly. To the extent feasible, we included all public pension schemes in our calculations. The data for Chile, however, exclude the special regime for the armed forces; the data for Mexico exclude the PEMEX scheme and a few other minor programs.

For personal account systems in Argentina, Chile, and Mexico, we used data from AIOS and FIAP. For other schemes, we used the following sources. For Chile, data on the residual pay-as-you-go scheme, as well as data on recipients of noncontributory pensions, come from the Chilean Social Security Agency (SUSESO) and are available at <http://www.suseso.cl>. For Mexico, data on the scheme for public-sector workers come from the Public Workers' Social Security Institute (ISSSTE) and are available at <http://www.issste.gob.mx>. For Brazil, data on contributors to public pension schemes come from the Brazilian Ministry of Social Security and are available at <http://www.mpas.gov.br>; data on

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