Voluntary Pensions in Emerging Markets

New Strategies for Meeting the Retirement Security Challenge








By **Richard Jackson**

GAI Global Aging Institute

Principal℠

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Table of Contents

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Introduction

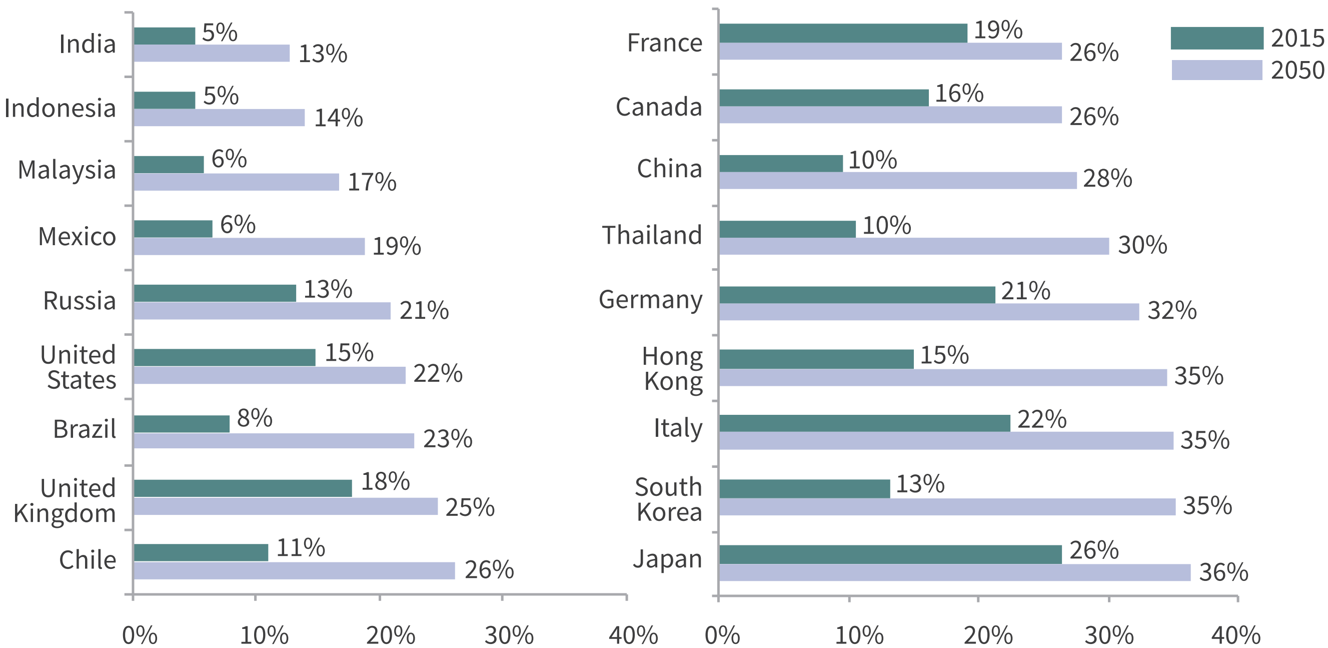
The developing world is on the cusp of a stunning demographic transformation with profound implications for the future of retirement. As birthrates decline and life expectancy rises, societies which most people in the developed world still associate with large families, large youth bulges, and large labor surpluses will be changed beyond recognition. By the middle of the century, the populations of many Latin American countries will be as old or older than that of the United States. Meanwhile in East Asia, which is aging even more rapidly than Latin America, some emerging markets will be vying with Italy, Germany, and Japan for the title of oldest country on earth. (**SEE FIGURE 1.**) Thirty-five years ago, there were ten times as many children in East Asia as there were elderly. Thirty-five years from now, there will be more elderly than children.[1]

The aging of today's emerging markets poses enormous social and economic challenges. As the demographic transformation gains momentum over the next few decades, businesses will have to cope with a deficit of young workers, while families will have to cope with a surplus of frail elders. Fiscal burdens will rise and economic growth will slow. Perhaps most fatefully, retirement insecurity could increase dramatically.

1. Unless otherwise noted, all demographic data cited in this report come from the UN Population Division. For references to the major data sources that GAI used in preparing the report, as well as to the large literature on voluntary pension systems that it consulted, see the "Technical Note on Data and Sources."

FIGURE 1

Elderly (Aged 65 & Over), as a Percent of the Population in 2015 and 2050



Source: *World Population Prospects: The 2015 Revision* (New York: UN Population Division, 2015)

The economic vulnerability of retirees is due in part to the limited reach of state pension systems.

The economic vulnerability of retirees is due in part to the limited reach of state pension systems in countries with large informal sectors. While today's developed countries were affluent societies before they became aging societies, many of today's emerging markets are aging while they are still in the midst of development and before they have had time to put in place the full social protections of a modern welfare state. In India and Indonesia, just one in ten workers are earning a contributory pension benefit of any kind, public or private. In China and Mexico, just one in three workers are earning a contributory pension benefit, while in Chile and South Korea just two in three are. Throughout the developing world, a large share of the elderly still depend heavily on the extended family for economic support. Traditional family support networks, however, are already under stress as countries urbanize and modernize, and will soon come under intense new demographic pressure as populations age and family size declines.

Yet even among workers fortunate enough to be covered by state pension systems, retirement insecurity is growing. Emerging markets with pay-as-you-go pension systems, in which current workers are taxed to pay for the benefits of current retirees, are finding it increasingly difficult to maintain the adequacy of those systems as declining birthrates and rising life expectancy push up the ratio of retired beneficiaries to contributing workers. Faced with projections showing that state pension costs were on track to double, triple, or even quadruple as a share of GDP over the next few decades, many of them, including Brazil, China, and South Korea, have already made dramatic reductions in the future generosity of pay-as-you-go state retirement provision that threaten to undermine the living standards of middle-class retirees.

Even among workers fortunate enough to be covered by state pension systems, retirement insecurity is growing.

In principle, emerging markets with funded state pension systems, in which workers' contributions are saved and invested and benefits are paid out of the accumulated assets, should be better prepared to confront their coming age waves. Yet in practice, they may be no more successful at maintaining retirement security than ones with pay-as-you-go systems. In countries like Chile, Hong Kong, and Mexico that have privately managed personal accounts systems, contribution rates are set too low to finance adequate replacement rates.[2] Meanwhile, in countries like India, Malaysia, and Singapore that have government-managed provident funds, low rates of return on contributions, preretirement withdrawals, and early retirement ages similarly undermine the adequacy of retirement benefits.

As things stand, alternative sources of retirement income support are unlikely to fill the gap left by inadequate state retirement provision. Tomorrow's retirees will not be able to rely on support from their extended families to the extent that today's retirees can. Employment opportunities for the elderly may also be limited in rapidly developing countries where older workers lack the skills to fill the jobs being created in the growth sectors of the economy. Meanwhile, rising life expectancy will put tomorrow's retirees at a growing risk of outliving whatever personal savings they may have.

All of this suggests that the success of emerging markets at ensuring retirement security will increasingly depend on their success at building robust voluntary pension systems. Until recently, the prevailing wisdom was that expanding voluntary pension systems should be a relatively low policy priority in societies where mandatory systems cover only a fraction of the workforce. But this logic is backwards. It is precisely the limited reach of mandatory systems that makes expanding voluntary ones so important. Nor is it true, as policymakers have sometimes assumed, that expanding voluntary pension systems would merely benefit the affluent. To the contrary, they have a central role to play in shoring up the deteriorating retirement income prospects of middle-class workers. They can even help to improve the retirement income prospects of workers in the informal sector, who currently enjoy little or no retirement security at all.

The success of emerging markets at ensuring retirement security will increasingly depend on their success at building robust voluntary pension systems.

This report examines the important contribution that voluntary pensions, including both personal pensions and employer-sponsored pensions, can make in ensuring retirement security

2. For convenience, the term "country" is sometimes used in this report to refer to Hong Kong SAR, which is a Special Administrative Region of the People's Republic of China. The use of the term is not meant to imply any judgment about the sovereignty or status of Hong Kong in international law or practice.

in aging emerging markets. Geographically, the report focuses on Asia and Latin America. Thematically, it focuses on strategies for increasing voluntary retirement savings in the formal sector, although it also discusses how voluntary pensions might improve retirement security in the informal sector, a topic that is currently the subject of considerable interest among pension experts worldwide.

The first chapter further explores the contours of the coming crisis in retirement security. The second chapter discusses some of the critical policy choices involved in designing voluntary pension systems. To identify best practices, it reviews the experience of the developed countries, where voluntary pensions are much better established than they are in the developing world. The third chapter reviews the current state of voluntary retirement savings in a selection of Asian and Latin American countries and considers how the lessons learned from developed-country experience can best be applied in the very different economic, social, and institutional environment in emerging markets. A conclusion then recaps the report's findings and calls on governments to make building robust voluntary pension systems a high priority.

Failure to respond to the challenge could have serious consequences. In the developed world, where cutbacks in the generosity of state retirement provision also threaten to undermine the living standards of tomorrow's retirees, countries that fail to put in place adequate substitutes may find themselves embroiled in an ugly intergenerational conflict over the division of public resources between young and old. In much of the developing world, the outlook is even more worrisome. Here it is not just a question of how to manage difficult economic and political trade-offs. On their current course, many countries face the prospect of a full-blown humanitarian aging crisis as a growing number of workers reach old age without adequate pensions, personal savings, or families to support them. The good news is that, from Chile to China, governments are increasingly aware of the challenge and are beginning to engage it. ▶

The Coming Crisis in Retirement Security

Chapter 1

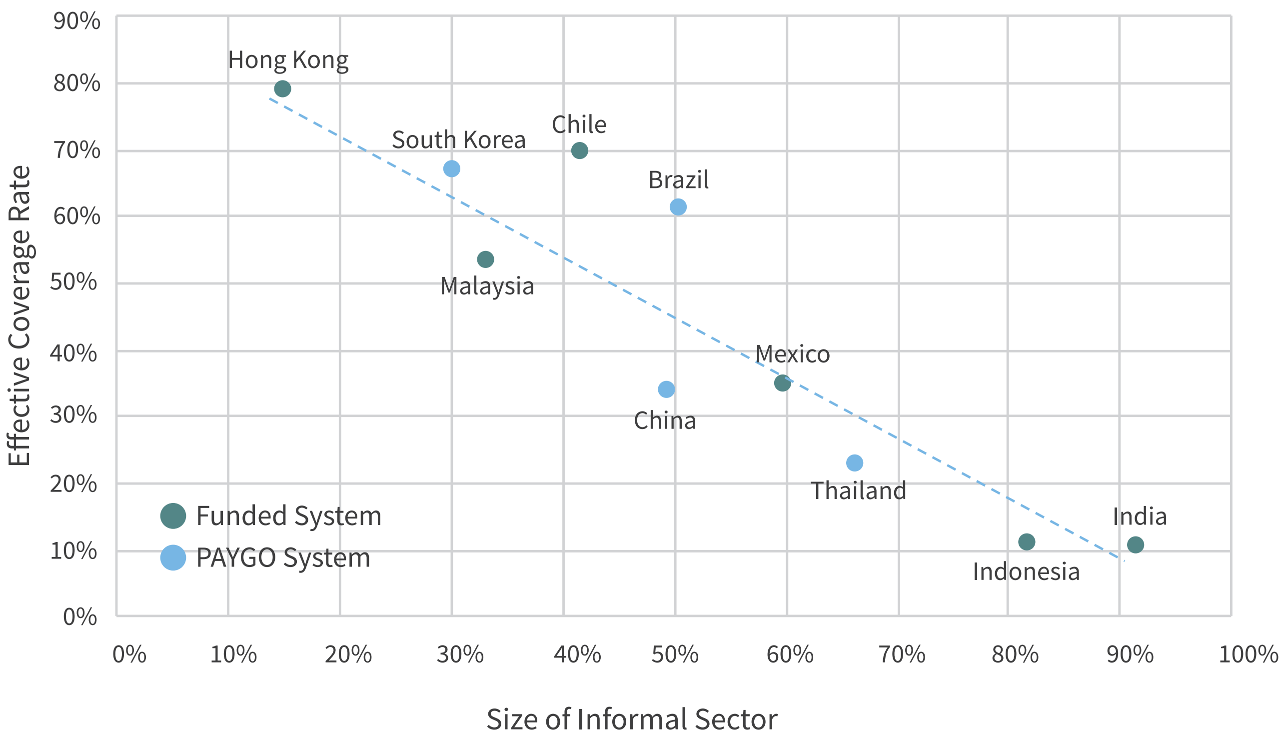
As the world's societies age, governments everywhere are struggling to ensure the sustainability and adequacy of retirement systems. In the developed world, the central challenge in most countries is how to reduce the growing fiscal burden of generous, pay-as-you-go state pension systems that were put in place in the early postwar decades when workers were abundant and retirees were scarce, but which are now being rendered unsustainable by declining birthrates and rising life expectancy. In the developing world, the challenge is often just the opposite: not how to alleviate the growing burden on the young, but how to ensure a measure of security for the old.

Across the developing world, governments face the same problem. Many workers fail to contribute to the state pension system, and even when they do contribute they do so irregularly, which means that the ultimate benefits they receive will still be inadequate. In general, participation rates are much lower among low-wage earners than high-wage earners, women than men, and workers at small firms than workers at large ones. They are also much lower among self-employed workers, who in some countries are explicitly exempted from contributing to the state pension system, than they are among wage and salary workers.[3] The extent of the coverage problem in each country, of course, is closely correlated with

3. See, among others, Barbara E. Kritzer, Stephen J. Kay, and Tapen Sinha, "Next Generation of Individual Account Pension Reforms in Latin America," *Social Security Bulletin* 71, no. 1 (February 2011); *Pensions at a Glance: Latin America and the Caribbean* (Paris: OECD/IDB/World Bank, 2014); and World Bank, *Live Long and Prosper: Aging in East Asia and Pacific* (Washington, DC: World Bank, 2016).

FIGURE 2

Effective State Pension Coverage Rate and Size of the Informal Sector in the Most Recent Available Year



Note: The effective coverage rate is the share of the labor force that contributes to a country's mandatory pension system or systems in a given year. The informal sector is defined as informal employment in the nonagricultural sector plus agricultural employment as a share of total employment. Estimates of the size of the informal sector were derived by adding agricultural employment to published estimates of nonagricultural informal employment. In the case of Hong Kong, nonagricultural informal employment was also estimated by GAI.

Source: For effective coverage rates, *Pensions at a Glance: Asia/Pacific 2013* (Paris: OECD, 2013); *Pensions at a Glance: Latin America and the Caribbean* (Paris: OECD/IDB/World Bank, 2014); and Seong Sook Kim, "The Republic of Korea," in *Pension Systems in East and Southeast Asia: Promoting Fairness and Sustainability*, ed. Donghyun Park (Manila: Asian Development Bank, 2012). For the size of the informal sector, ILO, *Statistical Update on Employment in the Informal Economy* (Geneva: ILO, June 2012); OECD, "Declaring Work or Staying Underground: Informal Employment in Seven OECD Countries," in *OECD Employment Outlook 2008* (Paris: OECD, 2008); Johannes P. Jütting and Juan R. de Laiglesia, eds., *Is Informal Normal? Towards More and Better Jobs in Developing Countries* (Paris: OECD, 2009); Melisa R. Serrano, ed., *Between Flexibility and Security: The Rise of Non-Standard Employment in Selected ASEAN Countries* (Jakarta: ASEAN Services Employees Trade Unions Council, 2014); the World Bank's World Development Indicators, available at http://data.worldbank.org/data-catalog/world-development-indicators; and GAI calculations

the size of its informal sector. When informal sectors are relatively small, as they are in Hong Kong and South Korea, state pension coverage tends to be high. When they are relatively large, as they are in India and Indonesia, state pension coverage tends to be low. This is the case, moreover, regardless of whether state pension systems are financed on a funded or pay-as-you-go basis. (**SEE FIGURE 2.**)

For many years, economists assumed that as emerging markets developed the size of their informal sectors would shrink, in effect solving the coverage problem. Unfortunately, it has not worked out this way. In much of the developing world, the failure to invest in quality universal education, high income inequality, and two-tiered labor markets have conspired to keep informality high and pension coverage low.

Indeed, in some fast-growing emerging markets, including Indonesia and Vietnam, informality is rising and pension coverage is falling.[4] The experience of today's emerging markets is thus in sharp contrast to the experience of today's developed countries, where pension coverage rose in tandem with economic growth.

In response, governments are rushing to put in place noncontributory, tax-financed "social pensions" to serve as backstops against destitution in old age. Between 2000 and 2013, an astonishing eighteen countries in Latin America and the Caribbean introduced some sort of social pension. Nor is it just Latin American countries. The social pensions movement is also sweeping the rest of the developing world, from sub-Saharan Africa to Asia, where Malaysia, South Korea, Thailand, and Vietnam have all recently established or expanded noncontributory pension systems.[5]

Yet however necessary social pensions may be, they do not add up to a viable long-term strategy for ensuring retirement security. In today's relatively youthful emerging markets, the limited reach of contributory pension systems is a serious economic and social concern. In tomorrow's emerging markets, with their soaring old-age dependency burdens, it could become an economic and social catastrophe. It is one thing for a country to have half or more of the elderly dependent on government social assistance when the elderly comprise 5 to 10 percent of the population. It will be another thing entirely when the elderly comprise 20 to 30 percent of the population.

Retirement insecurity, which up to now has been mainly a worry for informal-sector workers, is fast becoming a worry for middle-class workers as well.

In any case, retirement insecurity is no longer restricted to workers in the informal sector. While academics and policymakers have devoted considerable energy to addressing the coverage problem in emerging markets, they have paid much less attention to another problem whose potential for undermining retirees' living standards is at least as great. That problem is the deteriorating adequacy of state pension benefits. This deterioration affects all workers who contribute to state pension systems, even those who contribute regularly for a full career. And it means that retirement insecurity, which up to now has been mainly a worry for informal-sector workers, is fast becoming a worry for middle-class workers as well.

Emerging markets with pay-as-you-go pension systems are finding it increasingly difficult to maintain the adequacy of state retirement provision. Falling fertility and rising longevity translate directly into a rising aged dependency ratio of elderly to working-age adults, and a rising aged dependency ratio in turn translates directly and proportionally into a rising cost rate

4. See Makiko Matsumoto and Sher Verick, "Employment Trends in Indonesia over 1996–2009: Casualization of the Labour Market during an Era of Crises, Reforms and Recovery," Employment Working Paper no. 99 (Geneva: ILO, 2011); Giang Thanh Long, "Viet Nam: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia: Overview and Reform Directions*, ed. Donghyun Park (Manila: Asian Development Bank, 2011); Melisa R. Serrano, ed., *Between Flexibility and Security: The Rise of Non-Standard Employment in Selected ASEAN Countries* (Jakarta: ASEAN Services Employees Trade Unions Council, 2014); and Richard Jackson and Tobias Peter, *From Challenge to Opportunity: Wave 2 of the East Asia Retirement Survey* (Alexandria, VA: GAI, 2015).

5. See, among others, Robert Holzmann, David A. Robalino, and Noriyuki Takayama, eds., *Closing the Coverage Gap: The Role of Social Pensions and Other Retirement Income Transfers* (Washington, DC: World Bank, 2009); Kritzer, Kay, and Sinha, "Next Generation of Individual Account Pension Reforms in Latin America"; Rafael Rofman, Ignacio Apella, and Evelyn Vezza, eds., *Beyond Contributory Pensions: Fourteen Experiences with Coverage Expansion in Latin America* (Washington, DC: World Bank, 2015); and World Bank, *Live Long and Prosper: Aging in East Asia and Pacific.*

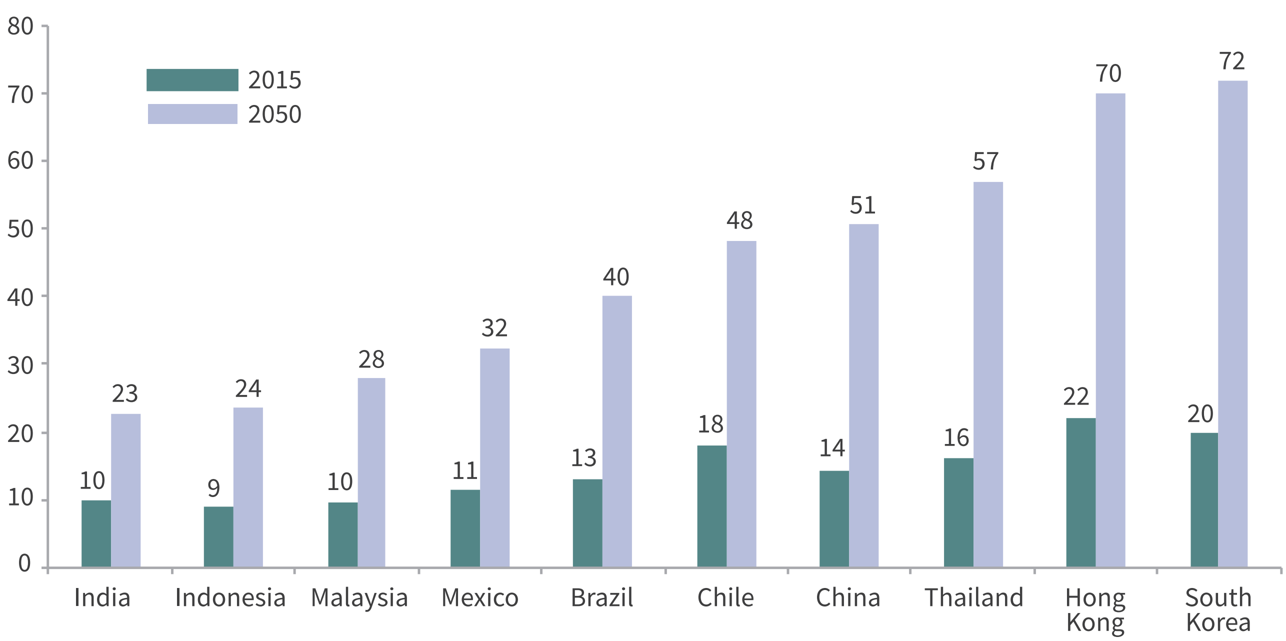
for pay-as-you-go pension systems. By 2050, the aged dependency ratio is on track to double, triple, or even quadruple in today's emerging markets. (**SEE FIGURE 3.**)

Many emerging markets are making deep reductions in the future generosity of pay-as-you-go state retirement provision.

Faced with this daunting demographic arithmetic, many emerging markets are making deep reductions in the future generosity of pay-as-you-go state retirement provision. South Korea, which had the poor timing to establish its National Pension System in 1988, just before its birthrate collapsed, has already slashed promised replacement rates for average-earning workers from 70 to 40 percent, and with the system still facing yawning long-term deficits, will undoubtedly have to slash them again. (**SEE FIGURE 4.**) In China, replacement rates in the Basic Pension System for Urban Employees, which were nearly 80 percent twenty years ago, have been falling steadily, in part because contributions to the second "notional defined contribution" tier of the system are by design credited with a rate of return that is far beneath the rate of wage growth. For future retirees, they are unlikely to be much more than 50 percent. Meanwhile in Brazil, a series of reforms since the late 1990s have progressively trimmed the generosity of a state pension system that once offered participants 100 percent replacement rates. Promised replacement rates in the RGPS, the pension regime for private-sector workers, have now fallen beneath 60 percent for average-earning workers, and, with total

FIGURE 3

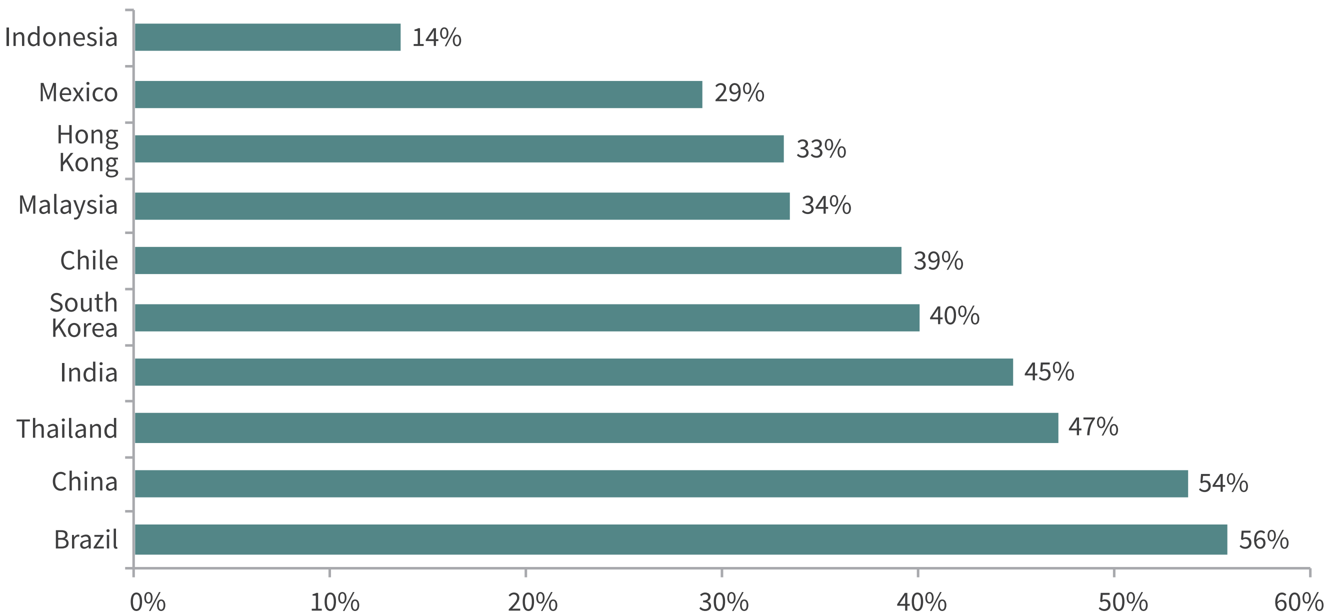
Aged Dependency Ratio: Number of Elderly (Aged 65 & Over) per 100 Working-Age Adults (Aged 20-64) in 2015 and 2050



Source: *World Population Prospects: The 2015 Revision*

FIGURE 4

Future State Pension System Replacement Rates for Full-Career Workers



Note: The projections are for average-earning workers entering the labor force today at age 20 and retiring at their state pension system's normal retirement age. In countries where replacement rates differ by gender, the projections are male-female averages. For Brazil, the projections refer to the RGPS; for Chile, the AFP System; for China, the Basic Pension System for Urban Employees; for Hong Kong, the MPF; for India, the EPF and EPS; for Indonesia, Old Age Security; for Malaysia, the EPF; for Mexico, SAR; for South Korea, the National Pension System; and for Thailand, the Old Age Pension System. All OECD projections refer to the OECD's baseline projection, except for India, where the projection is an average of the OECD's alternative projections for thirty- and forty-year careers using "economy-specific assumptions."

Source: For Brazil, Chile, and Mexico, *Pensions at a Glance: Latin America and the Caribbean*; for China, GAI calculations; for India, Indonesia, Hong Kong, Malaysia, and Thailand, *Pensions at a Glance: Asia/Pacific 2013*; and for South Korea, Neil Howe, Richard Jackson, and Keisuke Nakashima, *The Aging of Korea: Demographics and Retirement Policy in the Land of the Morning Calm* (Washington, DC: CSIS, 2007)

state pension spending still projected to double as a share of GDP by 2050, there is little question that large additional benefit cuts will be needed. Indeed, late in 2016 the Brazilian Congress began debating a major new pension reform package.[6]

Emerging markets with funded state pension systems are, in principle, better positioned to confront their coming age waves. While countries with pay-as-you-go pension systems will face a zero-sum trade-off between cutting benefits and raising taxes as they age, those with funded pension systems can escape the tyranny of their own demography by investing retirement savings in younger and faster growing countries around the world. This in turn means that funded pension systems will be able to finance higher replacement rates than pay-as-you-go systems can at the same contribution rate—or, conversely,

6. For South Korea, see Neil Howe, Richard Jackson, and Keisuke Nakashima, *The Aging of Korea: Demographics and Retirement Policy in the Land of the Morning Calm* (Washington, DC: CSIS, 2007). For China, see Richard Jackson, Keisuke Nakashima, and Neil Howe, *China's Long March to Retirement Reform: The Graying of the Middle Kingdom Revisited* (Washington, DC: CSIS, 2009) and Li Zhen and Zhao Qing, *Nominal Personal Account Reform in Basic Pension Insurance System* (Beijing: EU-China Social Protection Reform Project, July-November 2015). For Brazil, see *Pensions at a Glance 2015: OECD and G20 Indicators* (Paris: OECD, December 2015); Standard & Poor's, *Global Aging 2016: 58 Shades of Gray* (New York: Standard & Poor's, April 2016); and "Less Gold for the Old: Reducing Brazil's Pension Burden," *Economist*, February 25, 2017.

While countries with funded state pension systems are in principle better positioned to confront their coming age wages, in practice these systems are unlikely to deliver on their promise of greater adequacy.

the same replacement rates at a lower contribution rate.[7]

In practice, however, funded state pension systems are unlikely to deliver on their promise of greater adequacy. In most countries with privately managed personal accounts systems, mandatory contribution rates are too low to finance minimally adequate replacement rates. In Chile and Hong Kong, the contribution rate is just 10 percent. Under reasonable real rate of return and real wage growth assumptions, and given current fee levels, this is unlikely to generate replacement rates of more than 30 to 40 percent for full-career workers. In Mexico, the contribution rate is just 6.5 percent. Even including the "social quota," an income-related supplemental government contribution for which most workers qualify, average earners will be lucky to receive replacement rates of more than 25 to 30 percent. In contrast, contribution rates are often quite high in countries with mandatory provident funds, reaching 24 percent in Malaysia, 25 percent in India, and (depending on the age of workers) as much as 28 percent in Singapore. But the low rates of return on worker contributions to these government-managed systems, together with early retirement ages and liberal rules regarding preretirement withdrawals, mean that replacement rates will also be quite modest.[8]

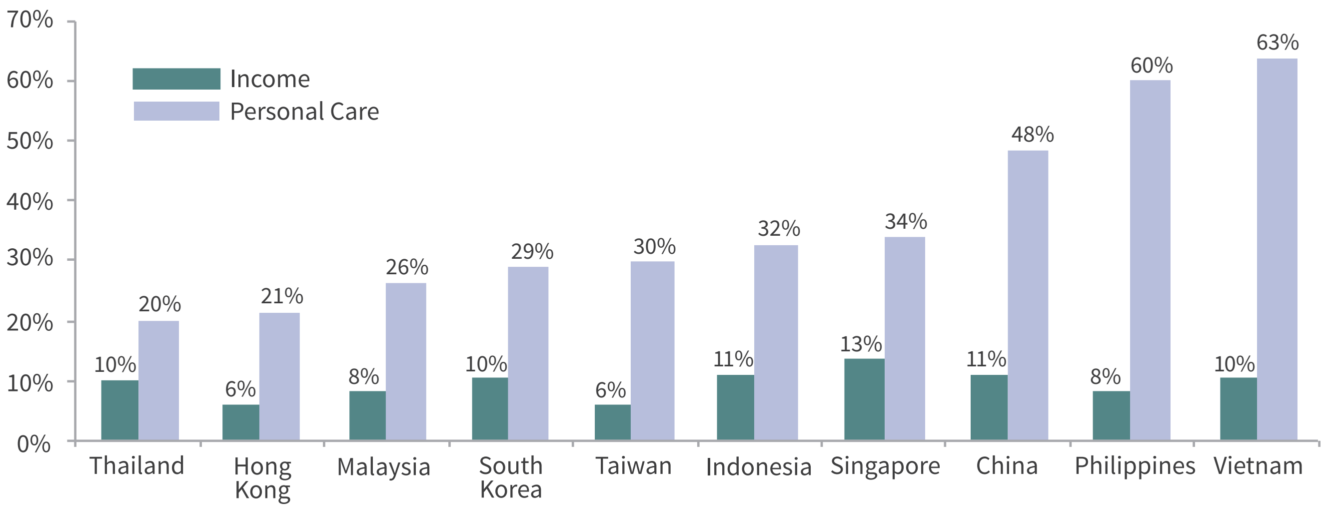
It is worth stressing that the replacement rates cited above are the best that most workers can hope to receive. The projections refer to workers who enter the labor force at age 20 and work without interruption until the state pension system's normal retirement age. Workers who contribute to the system for less than a full career, which in many emerging markets means most workers, will obviously have lower replacement rates. If the system has a contributable wage floor, workers whose salaries are beneath it will also have lower replacement rates. So will workers whose salaries exceed the system's contributable wage ceiling, if (as we should) we measure their replacement rates as a share of total wages instead of contributable wages. For workers in countries with pay-as-you-go pension systems, there is also the prospect of additional rounds of benefit cuts as populations age. Even countries that have so far resisted trimming the generosity of state retirement provision may have to reconsider. Thailand's Old Age Pension System currently promises full-career workers a replacement rate of nearly 50 percent in return for a combined employer-employee contribution rate of just 6 percent. The arithmetic works for the moment because there are now six working-age adults in Thailand for every elderly one. By 2030 there will be just three and by 2050 there will be fewer than two.

7. On the economic advantages of funded pension systems in aging societies, see Horst Siebert, "Pay-As-You-Go versus Capital Funded Pension Systems: The Issues," Kiel Working Papers 816 (Kiel, Germany: Kiel Institute for the World Economy, 1997); Martin Feldstein and Jeffrey B. Liebman, "Social Security," in *Handbook of Public Economics,* vol. 4, ed. Alan J. Auerbach and Martin Feldstein (Amsterdam: Elsevier B.V., 2002); and Richard Jackson and Keisuke Nakashima, *Global Aging and Retirement Security in Emerging Markets: Reassessing the Role of Funded Pensions* (Alexandria, VA: GAI, 2015).

8. For a discussion of low rates of return and low replacement rates in provident funds, see, among others, Robert Holzmann, Ian W. MacArthur, and Yvonne Sin, "Pension Systems in East Asia and the Pacific: Challenges and Opportunities," Social Protection Discussion Paper no. 0014 (Washington, DC: World Bank, 2000); Dimitri Vittas, Gregorio Impavido, and Ronan O'Connor, "Upgrading the Investment Policy Framework of Public Pension Funds," Policy Research Working Paper no. 4499 (Washington, DC: World Bank, January 2008); Mukul G. Asher, "Malaysia: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia*, ed. Park; and Mukul G. Asher and Amarendu Nandy, "Singapore: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia*, ed. Park.

FIGURE 5

Shares of Respondents Saying "Grown Children or Other Family Members" Should Be Mostly Responsible for Providing Income and Personal Care to Retired People



Source: Richard Jackson and Tobias Peter, *From Challenge to Opportunity: Wave 2 of the East Asia Retirement Survey* (Alexandria, VA: GAI, 2015)

The inadequacy of state pension systems might be less worrisome if the elderly could count on alternative sources of income support. Yet the available alternatives are also becoming less reliable, starting with the most important one: the extended family. Up to now, governments throughout the developing world could assume that workers who arrived in old age without adequate pensions would be cared for by their grown children or other relatives. In the future, this assumption can no longer be taken for granted.

To be sure, the extended family still plays an important role in retirement security in the developing world. Yet even in the most traditional societies, attitudes and expectations are changing. When workers and retirees in East Asia were asked in a recent survey who, ideally, should be mostly responsible for providing income to retired people, no more than one in eight answered "grown children or other family members" in any of the ten countries surveyed. Not surprisingly, larger shares of respondents agreed that the family should play the leading role in providing personal care to retirees when they become sick or disabled or need help with daily living. Yet even here, this was the majority view in just two countries: the Philippines and Vietnam. (**SEE FIGURE 5.**) In most of the countries, moreover, much smaller shares of workers expect to live with or to be financially dependent on their children when they are retired than is the case for today's retirees.[9]

In short, as emerging markets develop and modernize the traditional role of the family in retirement security is receding. Part of the explanation doubtless lies in the diffusion of more individualistic "western" values. But part also lies in the demographic reality of declining family size. In Brazil and South Korea, the average number of children that the typical elder can turn to for sup-

9. Jackson and Peter, *From Challenge to Opportunity: Wave 2 of the East Asia Retirement Survey*.

As emerging markets develop and modernize, the traditional role of the family in retirement security is receding.

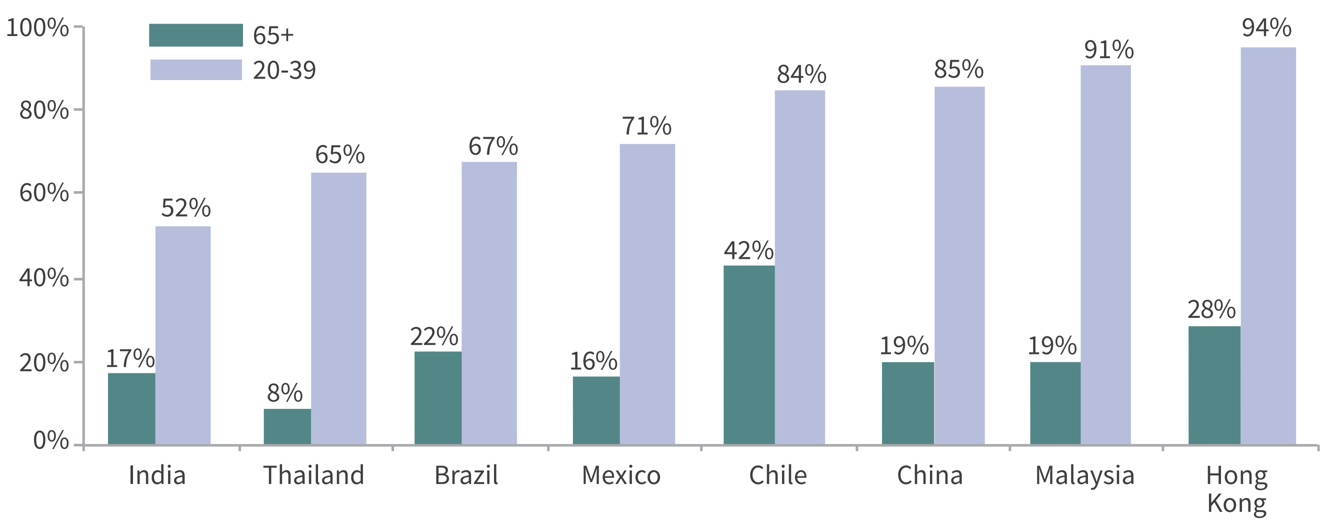
port will decline by 1.7 between 2010 and 2040. In China it will decline by 2.3 and in Mexico by 2.4.[10]

Continuing to work at least part time is of course another way to make ends meet in retirement. Although formal-sector retirement ages are low in most emerging markets, workers in the informal sector often remain employed well into their sixties or seventies. Meanwhile, many formal-sector retirees find new work in the informal sector, usually as independent workers or in low-wage service jobs. It is possible that many of the jobs that the elderly currently hold will vanish as emerging markets move up the global value-added scale. What is more certain is that the elderly will be locked out of the new jobs being created in the growth sectors of the economy. The reason lies in the enormous gap in educational attainment and skills levels that rapid development has opened up between the young and the old. While 52 percent of Indians aged 20 to 39 have completed at least lower secondary school, just 17 percent of those aged 65 and over have. In Mexico the equivalent figures are 71 and 16 percent and in Hong Kong they are 94 and 28 percent. (**SEE FIGURE 6.**) Although this educational and skills gap will ultimately narrow and close as younger and better-educated cohorts climb the age ladder, it is bound to persist for decades to come.

Along with family support and employment income, personal savings might help to bridge the gap left by inadequate state retirement provision. As things stand, however, only a small minority of workers are accumulating significant retirement savings on their own. This may not be surprising in Latin America, where household savings rates are generally low. Yet even in East Asia, which is known for its lofty savings rates, few workers have sufficient financial assets to finance more than a small fraction of a retirement that

FIGURE 6

Share of the Population with at Least a Lower Secondary Degree, by Age Group

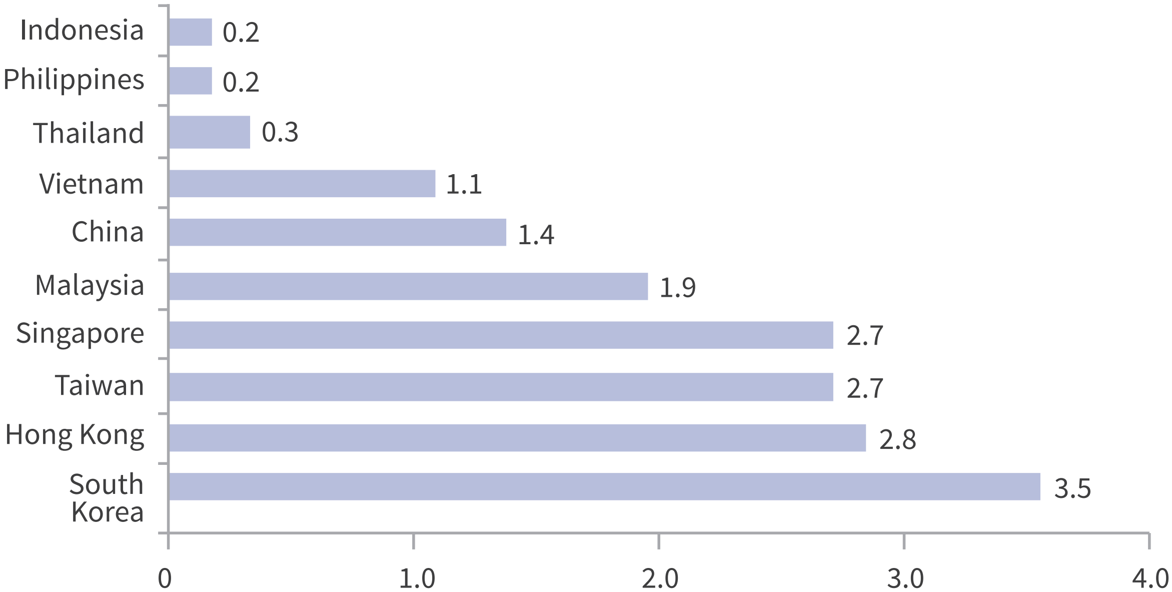


Source: Wittgenstein Centre Data Explorer, Version 1.2 (Wittgenstein Centre for Demography and Global Human Capital, 2015)

10. For the data on average family size, see Richard Jackson, Neil Howe, and Tobias Peter, *The Global Aging Preparedness Index, Second Edition* (Washington, DC: CSIS, 2013).

FIGURE 7

Average Net Financial Asset-to-Income Ratio of Survey Respondents at Age 50



Note: Assets include all classes of household financial assets; ratios are averages for respondents aged 45-54.
Source: Jackson and Peter, *From Challenge to Opportunity: Wave 2 of the East Asia Retirement Survey*

may last twenty-five years or more. In Indonesia, the Philippines, and Thailand, net household financial asset-to-income ratios at age 50, when workers are approaching retirement, are beneath 1-to-1. In China, Malaysia, and Vietnam, they are between 1-to-1 and 2-to-1. Only in high-income Hong Kong, Singapore, South Korea, and Taiwan do they exceed 2-to-1. (SEE FIGURE 7.) These figures, moreover, are averages for all households, including the affluent. Median asset-to-income ratios are even lower.[11]

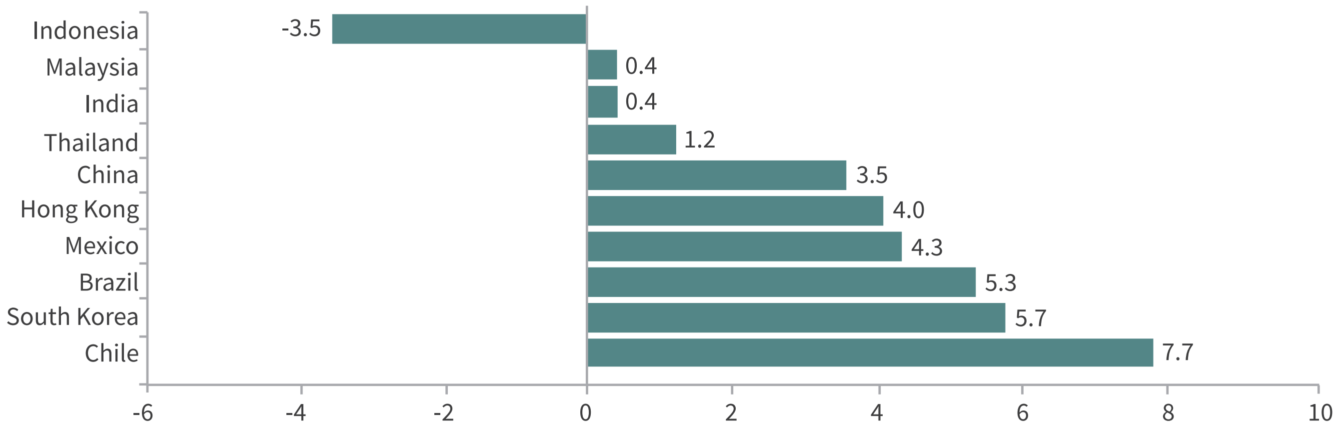
Rising life expectancy puts retirees at a growing risk of outliving whatever personal savings they may have.

Meanwhile, rising life expectancy puts retirees at a growing risk of outliving whatever personal savings they may have. Since 1950, life expectancy at birth in Latin America has risen by twenty-three years, while in emerging East Asia it has risen by thirty-two years. Looking to the future, the UN now projects that, by 2050, it will rise by another six years in Latin America and another seven in East Asia. It is worth recalling, moreover, that the history of life expectancy projections has been largely a history of embarrassing underestimates. The UN has raised its estimates of future life expectancy for most emerging markets in each successive revision of its long-term population projections over the past few decades. In some cases, the revisions have been enormous. The UN is now projecting that China, Hong Kong, and Mexico will attain life expectancies by 2050 that are roughly four years higher than what it was projecting just fifteen years ago. For Brazil, it is now

11. For a discussion of household savings in Latin America and Asia, see Eduardo Cavallo, Gabriel Sánchez, and Patricio Valenzuela, "Gone with the Wind: Demographic Transitions and Domestic Savings," IDB Working Paper Series no. IDB-WP-688 (Washington, DC: IDB, April 2016) and Eduardo Cavallo and Tomás Serebrisky, eds., *Ahorrar para desarrollarse: Como América Latina y el Caribe puede ahorrar más y mejor* (Washington, DC: IDB, 2016). For a discussion of the data on asset-to-income ratios in East Asia, see Jackson and Peter, *From Challenge to Opportunity: Wave 2 of the East Asia Retirement Survey*.

FIGURE 8

Change in Projected Life Expectancy at Birth for the Year 2050: UN 2015 Revision versus UN 2000 Revision



Source: *World Population Prospects: The 2015 Revision* and *World Population Prospects: The 2000 Revision* (New York: UN Population Division, 2000)

projecting that life expectancy will be five years higher, for South Korea six years higher, and for Chile eight years higher. (**SEE FIGURE 8.**)

The best way, and perhaps the only way, for emerging markets to stave off the coming crisis in retirement security is to build robust voluntary pension systems. In countries whose mandatory pension systems are financed on a pay-as-you-go basis, voluntary retirement savings can help to shore up retirees' living standards as rising aged dependency ratios force governments to reduce the generosity of state retirement provision. In theory, countries with funded state pension systems could solve much of the adequacy problem by increasing mandatory contribution rates. However, given that most of the public in these countries perceives mandatory contributions as taxes, encouraging voluntary retirement savings may be the only politically feasible option here as well. In all countries, moreover, voluntary pension systems provide a means to extend formal retirement protection to a much broader cross section of the workforce. They are not only critical for high-income workers with salaries above the mandatory pension system's contributable wage ceiling, but also for low-income workers with irregular contribution histories—and indeed, for workers with no contribution history at all.

In recent years, emerging markets have begun to wake up to the critical importance of promoting voluntary retirement savings.

In recent years, emerging markets have begun to wake up to the critical importance of promoting voluntary retirement savings. Many countries have implemented reforms aimed at strengthening existing voluntary pension systems for formal-sector workers, while some, including Malaysia, South Korea, and Vietnam, have launched entirely new ones. Meanwhile, a few countries, notably China, India, Malaysia, and Thailand, are experimenting with special voluntary pension systems for informal-sector workers.

Although these developments are encouraging, both the number of workers who participate in voluntary pension systems and the amount that they save will have to increase substantially if these systems are to play a significant role in improving retirement security. As emerging markets consider strategies for broadening and deepening their voluntary pension systems, they will have much to learn from the experience of the developed countries.

Best Practices for Voluntary Pension Systems

Chapter 2

Voluntary pension systems have long been a prominent feature of the retirement landscape in developed countries like Australia, Canada, Japan, the UK, and the United States, where they have played a vital role in supplementing mandatory state pension systems that are not particularly generous. Until recently, they were less important in countries with large welfare states. But as populations age and governments are forced to make dramatic reductions in the future generosity of pay-as-you-go state retirement provision, countries like Germany, Italy, and Spain are rushing to put them in place as well. Indeed, throughout the OECD governments are implementing reforms designed to strengthen existing voluntary pension systems or to jump start new ones.

Voluntary pensions can of course take many different forms. They may be employer-sponsored pensions or personal pensions; they may be defined benefit or defined contribution; and they may be structured as a second voluntary tier of a mandatory pension system or be set up as entirely independent systems.[12] Beyond their basic structure, a host of additional design choices can affect how successful they are at maximizing participation, increasing savings, and improving

12. The definition of voluntary pension used in this report excludes retirement annuity contracts purchased directly by individuals outside of a pension system. However, it includes retirement annuity contracts purchased within pension accounts, as well as those purchased with account balances upon retirement.

retirement security. To identify best practices, this chapter reviews the experience of the developed countries with voluntary pensions, from Riester Pensions in Germany and KiwiSaver Schemes in New Zealand to 401(k)s in the United States and NEST Pensions in the UK. Along the way, it relies heavily on the analysis and recommendations of the OECD.[13]

BASIC STRUCTURE

Most developed countries have both employer-sponsored occupational pension systems and personal pension systems. Employer pensions may be defined benefit plans, in which employees are promised fixed annual benefits based on years of service and employers assume responsibility for funding those benefits, or defined contribution plans, in which contributions are fixed but the ultimate benefits vary with investment returns. There are also hybrid plans, such as cash balance plans in the United States, that have some features of both. Personal pensions, on the other hand, are exclusively defined contribution plans. Unlike voluntary pension systems in the developing world, which sometimes piggyback on funded state pension systems, voluntary pension systems in the developed world are almost always entirely independent systems. All developed-country governments establish certain minimum standards that voluntary pension plans must meet to be designated as what in the United States are called "qualified retirement plans"—that is, to be eligible for tax-favored treatment.

Although personal pensions are growing in importance in the developed world, until a few decades ago voluntary pensions were almost by definition employer pensions—and even today, the employer pension model remains the dominant one in most countries. There is no question that this model has real advantages. Employer involvement in retirement savings signals its importance to workers, besides providing opportunities for financial education. It also lowers transaction costs by allowing the use of existing payroll infrastructure to route contributions to pension providers. In countries where almost all workers are formal-sector employees, enrolling them in employer-sponsored pension plans is generally the most efficient way to expand voluntary retirement savings, and governments therefore encourage employer pensions with tax incentives that are often more generous than those accorded to personal pensions. For their part, employers find that sponsoring pension plans can be an effective way to attract and retain valued employees.

The defined contribution model is much better suited to the needs of increasingly mobile workforces and aging populations than the defined benefit model.

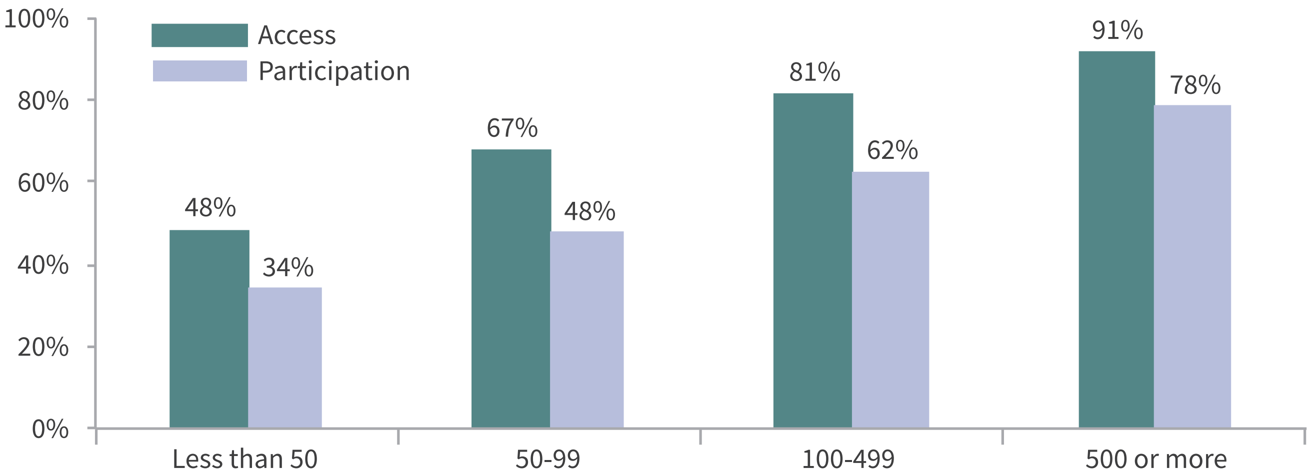
Traditionally, most employer-sponsored pensions were defined benefit plans. In recent years, however, there has been a dramatic shift to defined contribution plans, and in many countries, including Canada, the UK, and the United States, most defined benefit plans, at least in the private sector, are now closed to new entrants. This development has often been lamented by pension experts, who worry about the fact that the defined contribution model shifts investment risk from employers to employees.[14] While this is true, the critics overlook

13. References to "global best practice" in this report generally refer to OECD guidelines, which are summarized in *The OECD Roadmap for the Good Design of Defined Contribution Pension Plans* (Paris: OECD, 2012) and are further developed in related documents published by the OECD Working Party on Private Pensions. For additional details, see the "Technical Note on Data and Sources."

14. See, for instance, Mark Ruloff, "Defined Benefit Plans vs. Defined Contribution Plans," *Pension Section News* no. 57 (Washington, DC: Society of Actuaries, January 2005); Teresa Ghilarducci, *Future Retirement Income Security Needs Defined Benefit Pensions* (Washington, DC: Center for American Progress, March 2006); and Beth Almeida and William B. Fornia, *A Better Bang for the Buck: The Economic Efficiencies of Defined Benefit Pension Plans* (Washington, DC: National Institute on Retirement Security, August 2008).

FIGURE 9

Share of the U.S. Labor Force That Has Access to and Share That Participates in an Employer Pension Plan, by Size of Firm



Source: *National Compensation Survey: Employee Benefits in the United States, March 2016* (Washington, DC: U.S. Bureau of Labor Statistics, September 2016)

the many problems with traditional defined benefit pensions. The way in which benefits are accrued allows employers to subsidize career employees at the expense of job switchers, who suffer large "portability losses." It also allows them to enforce rigid retirement ages, penalizing employees who retire before or after the plan's normal retirement age. In most respects, the defined contribution model is much better suited to the needs of increasingly mobile workforces and aging populations. Unlike defined benefit plans, defined contribution plans are fully portable. Moreover, because benefits paid out are directly proportional to contributions paid in, they encourage longer work lives and reward later retirement. Along with the greater cost of defined benefit plans, which most employers are no longer willing to bear, these positive characteristics explain why every new voluntary pension system launched in recent years, from New Zealand's KiwiSaver to Germany's Riester Pensions, is a defined contribution system.

Along with the shift from defined benefit to defined contribution plans, there has been a shift from internal to external funding of pension plans. Employers have always invested defined contribution plan assets in the financial markets, and, in most countries with well-developed private pension systems, this has long been the rule for defined benefit plan assets as well. However, employers in a number of developed countries, including Germany, Italy, and Japan, have traditionally financed defined benefit pensions, as well as long-term severance pay obligations, through internal company "book reserves"—that is, reserves on the company's balance sheet that are only nominally segregated from other business capital. Global best practice calls for external funding of pension plans, and all developed countries are now moving in this direction.

Despite their many advantages, voluntary occupational pension systems have struggled to achieve anything close to universal coverage in the developed countries. Part of the uncovered workforce of course consists of self-employed workers. Part also consists of workers whose employers sponsor a pension plan, but who fail to enroll in it. Yet there are also many firms, and especially small firms, that do not sponsor a pension plan at all. In the United States, 91 percent of employers with 500 or more employees sponsor a plan, while just 48 percent of those with fewer than 50 employees do. (**SEE FIGURE 9.**)

The main reason that employers fail to sponsor pension plans is the cost. Only large firms can afford to set up defined benefit plans, which not only make employers responsible for funding a fixed benefit promise, but also involve complicated actuarial projections and, in some countries, require the payment of insurance premiums to a government agency like the U.S. Pension Benefit Guaranty Corporation. Yet even the more modest cost of establishing and operating defined contribution plans can be prohibitive for small employers.

Developed-country governments are trying to address the coverage problem in a variety of ways. Some countries now allow small employers to set up special pension plans that relieve them of some the reporting requirements and fiduciary responsibilities involved in standard plans. In the United States, for example, they can opt for a Simple IRA or a Simplified Employee Pension (SEP), more flexible and less burdensome alternatives to 401(k)s, the standard defined contribution pension plans that take their name from the section of the tax code that authorizes them. Other countries are experimenting with low-cost centrally managed pension plans. In the UK, for example, employers who do not wish to choose a private pension provider can enroll their employees in the new National Employment Savings Trust, or NEST, a government-managed pension scheme. Most importantly, a growing number of countries are going beyond encouraging employers to sponsor pension plans with the hope that workers will participate in them, and are instead turning to what is often called "soft compulsion."

SOFT COMPULSION

Although there was once a bright line between mandatory and voluntary pension systems, that line is being increasingly blurred. Until recently, a few developed countries, including Australia, the Netherlands, and Switzerland, had mandatory or quasi-mandatory occupational pension systems, while in the rest employer pensions were purely voluntary. Building on the insights of behavioral economics, however, a growing number of developed countries are introducing elements of soft compulsion into their voluntary pension systems by encouraging or requiring employers to switch enrollment from the traditional "opt in" model, in which employees have to make an active decision to participate in a pension plan, to an "opt out" model, in which they are automatically enrolled and have to make an active decision not to participate. The theory is that, human inertia being what it is, plans with "autoenrollment" should have significantly higher participation rates than plans without it.

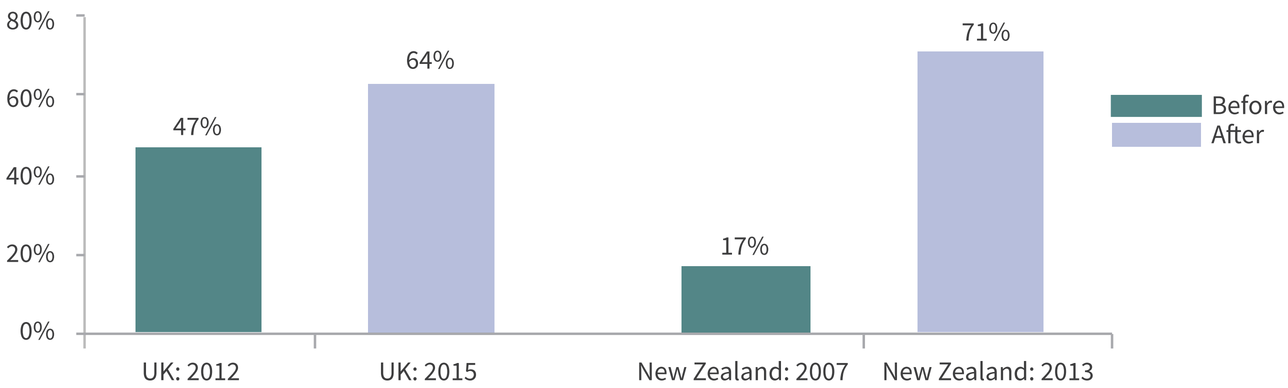
A growing number of developed countries are introducing elements of soft compulsion into their voluntary pension systems.

Autoenrollment first attracted widespread attention as a strategy for expanding pension coverage in the United States, where it has long been a feature of some employer pension plans. Beginning in the 1990s, studies began to show that those plans with autoenrollment usually had higher participation rates than those without it, even when other incentives to participate, such as the generosity of employer matching contributions, were comparable. The popularity of autoenrollment increased greatly following the passage of the Pension Protection Act of 2006, which cleared away some legal obstacles that had impeded its widespread adoption. As of 2015, roughly two-fifths of 401(k) plans were using it, and the share is still growing rapidly.[15] Mean-

15. For the Pension Protection Act, see Jack VanDerhei and Craig Copeland, "The Impact of PPA on Retirement Savings for 401(k) Participants," EBRI Issue Brief no. 318 (Washington, DC: EBRI, June 2008) and Barbara A. Butricia, Keenan Dworak-Fisher, and Pamela Perun, *Pension Plan Structures before and after the Pension Protection Act of 2006* (Washington, DC: Urban Institute, 2015). For the latest data on autoenrollment, see Vanguard, *How America Saves 2016: 15th Anniversary Edition* (Malvern, PA: Vanguard, 2016).

FIGURE 10

Share of the Labor Force Participating in an Employer Pension Plan in New Zealand and the UK, before and after Autoenrollment



Source: *OECD Pensions Outlook 2014* (Paris: OECD, 2014); Office for National Statistics, *Annual Survey of Hours and Earnings Pension Tables: 2015 Provisional and 2014 Revised Results* (London: Office for National Statistics, March 2016); and GAI calculations

while, some U.S. employers have begun implementing a second-generation enhancement to autoenrollment known as "auto-sweeping." In this arrangement, workers who have opted out of a pension plan are reenrolled at regular intervals. Each time, those workers who do not wish to participate must make a new active decision to opt out.

New Zealand, the UK, and Italy have introduced autoenrollment at the national level.

A few developed countries have gone much further than the United States and introduced autoenrollment at the national level. New Zealand led the way when it launched KiwiSaver in 2007. The government requires that all employers enroll new hires in a KiwiSaver Scheme, though employees retain the right to opt out. In effect, pensions are now mandatory for employers but optional for employees. The same is true in the UK, or more precisely it will soon be true. Beginning in 2012, the government began to phase in an employer mandate with a worker opt out, starting with larger firms and gradually extending it to smaller ones. The reform also provides for auto-sweeping employees who have opted out of their employer's plan at three year intervals. Meanwhile, Italy is requiring all firms to convert their internally funded severance pay plans into externally funded pension plans while, once again, allowing workers to opt out.

Although Italy's reform has not done much to boost pension coverage, the results of New Zealand's and the UK's reforms have been impressive. Since the introduction of mandatory autoenrollment, the share of New Zealand's labor force that participates in an employer pension plan has risen from 17 to 71 percent, while the share of the UK's that participates has risen from 47 to 64 percent. (**SEE FIGURE 10.**) Both countries now have substantially higher participation rates than Canada (30 percent) or the United States (54 percent), countries whose occupational pension systems are at least as well developed, but which lack the mandate that New Zealand and the UK have.[16]

The governments of some countries might have to overcome considerable political or even legal hurdles to implement mandatory autoenrollment, which helps to explain why it remains the exception rather than the rule. Yet it is worth noting that even the United States, with its aversion to mandates of any kind, is beginning to move in this direction, albeit at the state level rather than the federal level. There are two basic approaches that the states are taking. The first approach, which is being pursued by California, Illinois, Oregon, Connecticut, and Maryland, would require employers to automatically enroll their employees in an IRA, a kind of personal pension designed for workers (or nonworking individuals) who do not have an employer pension. The second approach, which is being pursued by Washington and New Jersey, also includes a mandate, but instead of requiring automatic enrollment in an IRA, the states would set up managed 401(k) marketplaces where employers can shop among competing pension providers.[17]

Along with autoenrollment, autoescalation now forms part of global best practice.

Behavioral economics can not only be harnessed to increase the share of workers who participate in employer pension plans, but also to increase what they save once they are enrolled. If the default employee contribution rate is set at a high level, workers may overcome their inertia and opt out. If it is set at a low level, more workers will remain in the plan, but inertia will tend to keep them from increasing their contributions above the default rate. This suggests that the best strategy is to set the default rate low initially, but then to raise it automatically over time. Along with autoenrollment, "autoescalation" now forms part of global best practice. In the United States, roughly two-thirds of 401(k) plans that use autoenrollment also use autoescalation.[18] The most common arrangement is to set the initial default employee contribution rate at 3 percent, then to ratchet it up as earnings increase until it reaches the maximum employer matching rate.

ECONOMIC INCENTIVES

Although autoenrollment and autoescalation can be effective strategies for increasing voluntary retirement savings, economic incentives are also critical. Almost all developed-country governments subsidize voluntary retirement savings in order to persuade workers, who typically prefer current consumption to future consumption, to defer the receipt of a portion of their income until later in life. Traditionally, such subsidies have taken the form of preferential tax treatment. In the usual arrangement, contributions to qualified retirement plans can, up to certain limits, be paid out of pretax income, investment earnings accumulate tax free, and benefits are taxed in retirement when incomes, and hence marginal tax rates, are presumably lower—a type of tax treatment known as EET for "exempt, exempt, taxable." In recent years, however, a number of countries have also authorized retirement savings plans, such as Roth IRAs in the United States, that use an alternative TEE tax treatment. In this case, contributions are paid

16. For Canada, see *Pensions at a Glance 2015: OECD and G20 Indicators* (Paris: OECD, 2015); for the United States, see *National Compensation Survey: Employee Benefits in the United States, March 2016* (Washington, DC: U.S. Bureau of Labor Statistics, September 2016).

17. At the time of this writing, the prospects for these state-level reform efforts have been thrown into doubt. The implementation of the plans may depend on the states obtaining an exemption from Employee Retirement Income Security Act (ERISA) regulations governing private employer pension plans, and legislation passed by the U.S. Congress in April and May 2017 blocks this so-called path forward. For an overview of the state plans, see Mike Barry, "State Plans Update," Plan Advisory Services, October 12, 2015 and Mike Barry, "Update on State Plans: 2016," Plan Advisory Services, July 31, 2016. For the recent federal legislative developments, see Mike Barry, "Current Outlook: May 2017," Plan Advisory Services, May 4, 2017.

18. Vanguard, *How America Saves 2016: 15th Anniversary Edition*.

out of after-tax income, while both investment earnings and benefits are tax free.

Despite their widespread use, there is considerable debate whether tax preferences, which typically take the form of a deduction from the income-tax base, are the most efficient and equitable way for governments to subsidize retirement savings. Since their value rises along with marginal income tax rates, higher-earning workers in the top marginal tax brackets receive the greatest government subsidies, middle-earning workers in lower tax brackets receive smaller subsidies, and lower-earning workers, who often pay no income taxes, may receive little or no subsidy at all. In short, as usually designed, tax preferences are regressive. Although most pension experts agree that they increase net retirement savings, most also worry that their incentive structure does little to broaden coverage and promote retirement savings among those workers who need it most.[19]

Tax preferences have played a critical role in propelling the expansion of occupational pension systems.

Although this concern is legitimate, it misses an important dynamic. While tax preferences may not provide much direct incentive for lower- and middle-earning workers to save for retirement, they have played a critical role in propelling the expansion of occupational pension systems, and so have indirectly broadened pension coverage. The dynamic works like this. Governments grant tax preferences to employer-sponsored pension plans, and in some countries, including the United States, much more generous tax preferences than they grant to personal pension plans. For a plan to qualify for the tax preferences, however, a broad spectrum of the firm's employees must participate in it. Since managers and other highly compensated personnel stand to benefit the most personally from tax preferences, these "nondiscrimination rules" make it in their economic self-interest to ensure that pension coverage is extended to rank and file workers. In the U.S. 401(k) system, both employer matches and autoenrollment were originally developed, at least in part, as strategies for bringing enough lower- and middle-earning workers into pension plans to meet government nondiscrimination tests, thereby allowing higher-earning workers to take full advantage of the tax subsidies for retirement savings. In short, the very regressivity of tax preferences has ended up advancing a progressive policy agenda.

The best approach may be for governments to combine traditional tax preferences with flat subsidies and/or matching contributions.

While the debate over how to structure economic incentives in voluntary pension systems will doubtless continue, the best approach may be for governments to combine traditional tax preferences with flat subsidies and/or matching contributions, which tilt the other way and disproportionately benefit lower- and middle-earning workers. Several developed countries are doing just this. In Germany, the government supplements the savings of participants in Riester Pensions through flat subsidies, while in the UK and New Zealand participants in NEST Pensions and KiwiSaver Schemes receive government matching contributions. Meanwhile, Australia

19. For a review of the evidence, see Richard Hinz, "Voluntary Retirement Savings: Motivations, Incentives, and Design," in *Pensions for the Future: Developing Individually Funded Programs*, ed. FIAP (Santiago: FIAP, 2009).

has introduced government matching contributions for lower-earning workers who make additional voluntary contributions to Super, its mandatory funded state pension system.

The early experience with government subsidies and matches is encouraging. As we have seen, the share of New Zealand's labor force that participates in an employer pension plan has surged from 17 to 71 percent since KiwiSaver was introduced. Although KiwiSaver's autoenrollment provision helped to propel the increase, that provision only applies to newly hired workers. The take-up among current workers, which accounts for nearly two-thirds of KiwiSaver enrollment, appears to be largely explained by the government matches, as well as a "kick start" subsidy that the government offered new participants until it was suspended in 2015.[20] Meanwhile, the share of households participating in Germany's Riester Pensions, a personal pension scheme that has no autoenrollment provision, has risen from zero in 2001, when the system was introduced, to 38 percent in 2013. Both countries, moreover, have not only achieved relatively high levels of voluntary pension participation, but also, in contrast to countries that rely exclusively on standard tax preferences, relatively high levels across all income brackets.[21]

ACCUMULATION PHASE

Boosting participation is only the first challenge that countries face in building robust voluntary pension systems. Once workers are enrolled in a pension plan, it is also essential to have policies in place which, to the extent possible, maximize the return that they earn on their savings and ensure that it is preserved for retirement. In crafting these policies, governments must be careful not to let the perfect become the enemy of the good. In mandatory pension systems, it may be possible to enforce policies that pension experts agree will generally result in best outcomes, whether or not they are popular. In voluntary systems, whose success depends on the willingness of workers to participate, there will always be areas where compromise is necessary.

One such area is how much choice to allow workers in investing their retirement savings. The question does not come up with defined benefit plans, but it does with defined contribution plans, whether they are personal pensions or employer pensions. Most pension experts would agree that leaving investment decisions up to fund managers would result in higher long-term returns, since investment professionals are better equipped to manage retirement savings than individual pension plan participants, whose financial literacy is often rudimentary. Yet eliminating investment choice altogether would make participation in voluntary pension systems less attractive. Not surprisingly, different countries have come to different conclusions about how much discretion to allow workers in investing voluntary retirement savings. In some pension systems, such as Germany's Riester Pensions and the UK's NEST Pensions, investment choice is restricted to a handful of options with varying degrees of risk. In others, the scope for individual discretion is much broader. In the U.S. 401(k) system, for instance, workers are typically allowed to invest in

Global best practice is now gravitating toward default funds based on lifecycle investment principles.

20. Geoff Rashbrooke, "New Zealand's Experience with the KiwiSaver Scheme," in *Matching Contributions for Pensions: A Review of International Experience*, ed. Richard Hinz et al. (Washington, DC: World Bank, 2013).

21. Axel Börsch-Supan and Christopher Quinn, "Taxing Pensions and Retirement Benefits in Germany," MEA Discussion Papers no. 10-2015 (Munich: Munich Center for the Economics of Aging, November 2015) and Pablo Antolín, Stéphanie Payet, and Juan Yermo, "Coverage of Private Pension Systems: Evidence and Policy Options," OECD Working Papers on Finance, Insurance, and Private Pensions no. 20 (Paris: OECD, 2012).

one or more of a large panel of funds selected by their employer, while in IRAs investment choice is essentially unlimited.

Although pension experts can offer no definitive guidance on the optimal balance between government paternalism and individual choice, they are in broad agreement that every pension system should have a well-designed default fund. The design of default funds is critical because experience teaches that many workers fail to actively choose a fund, either due to inertia or, when many fund options are available, "information overload." Until recently, the default funds in most voluntary pension systems were highly conservative, which meant that many workers earned subpar investment returns. Global best practice, however, is now gravitating toward default funds based on lifecycle investment principles. There are two basic models: the target date model and the target risk or multifunds model. In the former, workers are assigned to a default fund whose risk profile is suitable for people with their expected retirement date. As that date approaches, the mix of assets in the fund gradually shifts from equities to fixed income. In the latter, the risk profile of each fund remains unchanged, but workers are transferred to new and more conservative funds as they grow older. Although each model has its advantages and disadvantages, the target date model is the preferred one in the developed world. Target date funds are now the most common default in the U.S. 401(k) system, and in a few pension systems, including the UK's NEST Pensions, they are the only default.

Another area where compromise may be necessary involves investment guarantees in defined contribution pension plans. Although such guarantees can be costly and counterproductive, there is widespread popular sentiment in some countries that workers should receive at least some protection against downside investment risk. If this is deemed politically necessary, there are worse and better ways to do it. Rate of return guarantees are a particularly bad idea, since fund managers cannot promise returns to workers that are above the long-term rate of return to capital. Inevitably, they will shift portfolios toward lower-risk and lower-return assets, and participants will bear the cost in the form of lower benefits. The least expensive and least harmful option is to offer a nominal capital guarantee, which in effect promises a zero rate of return over participants' working careers. Nominal capital guarantees, moreover, are especially valued by workers, who are reassured by the promise that "you will always get back at least what you paid in."[22] Although they are rare in the developed world, Germany's Riester Pensions now include one, apparently with little ill effect.

Most developed countries allow preretirement withdrawals, but limit, penalize, or otherwise discourage them.

Then there is the issue of early access to retirement savings. Ideally, voluntary pension systems would prohibit early access in order to preserve account balances for retirement, just as most mandatory systems do. Since most workers are liquidity constrained, however, prohibiting early access might drastically undercut participation. The compromise that most developed countries make is to allow preretirement withdrawals, but to limit, penalize, or otherwise discourage them. In New Zealand's KiwiSaver, for instance, participants can withdraw funds without a penalty, but only if they have a serious illness, become disabled, or need the funds to pay for medical or educational expenses or to purchase a home. Such "hardship withdrawals"

22. See the discussion in OECD, "Design and Delivery of Defined Contribution (DC) Pension Schemes: Policy Challenges and Recommendations" (report presented at the Cass Business School Conference on Defined Contribution Pensions: Guarantees and Risk Sharing, London, March 5, 2013).

are also allowed in the United States. The qualifying circumstances for hardship withdrawals in IRAs are similar to those in KiwiSaver Schemes, while in 401(k)s they are somewhat more restrictive. Some countries also allow withdrawals for any purpose subject to a tax penalty, at least in certain types of pension plans. In the United States, although non-hardship withdrawals are not permitted in 401(k)s, participants can withdraw savings from an IRA at any time subject to a 10 percent surtax.

Beyond these trade-offs and compromises, there are other critical design choices that can affect how much voluntary retirement savings workers accumulate. In occupational pension systems, policymakers need to determine whether there will be minimum employer contributions and minimum employer matches. Some developed countries require them and some do not. There also need to be provisions to ensure that voluntary retirement savings is fully portable. Global best practice calls for employee contributions to be immediately vested and for limits to be imposed on how long it takes for employer contributions to vest. These limits vary from country to country, but are generally between two and five years. In addition, voluntary pension systems need to provide for mechanisms that allow the rollover of account balances (or, in the case of defined benefit plans, accrued benefits) to another employer pension plan or to a personal pension plan in the event that employees change jobs before they reach retirement age. Better still, they should require rollovers.

Finally, there is the question of how to minimize fees, which can erode account balances and reduce workers' replacement rates. Global best practice frowns on imposing regulatory caps. Although such caps will obviously reduce fees, at least in the near term, they may distort investment decisions and have unintended and self-defeating consequences. If the cap on fees is set too low, fund managers may shift their investment portfolios toward lower-cost asset classes, whose lower returns in turn may offset the positive impact of fee reductions on account balances and replacement rates. On the other hand, if the cap is set too high the fees of all fund managers will tend to converge toward the maximum allowable fee, reducing price competition and, potentially, resulting in higher fees in the long term than would otherwise have been the case.[23]

The right approach to limiting fees is to promote efficiency-enhancing competition.

The right approach to limiting fees is to promote efficiency-enhancing competition. The most common strategies include reducing barriers to entry for pension providers; simplifying and standardizing fee structures to increase transparency; publishing regular statements that allow workers to compare net returns across different pension providers and investment funds; and assigning those workers who fail to choose a fund to a low-cost default fund. Another approach being tried in a number of countries, most notably New Zealand and Sweden, involves separating the pension system's asset management functions from its administrative and recordkeeping functions. While the former are handled by private pension providers, the latter are handled by a central government clearinghouse. Although most pension experts agree that this approach offers potential cost efficiencies, they also acknowledge that it requires sophisticated data collection and management

23. See Edward Whitehouse, "Administrative Charges for Funded Pensions: Comparison and Assessment of 13 Countries," in *Insurance and Private Pensions Compendium for Emerging Economies*, Book 2, Part 1 (Paris: OECD, 2001); World Bank, "Administrative Charges: Options and Arguments for Controlling Fees for Funded Pensions," in *World Bank Pension Reform Primer* (Washington, DC: World Bank, 2005); and Waldo Tapia and Juan Yermo, "Fees in Individual Account Pension Systems: A Cross-Country Comparison," OECD Working Papers on Insurance and Private Pensions no. 27 (Paris: OECD, 2008).

capabilities that may not be within the reach of all governments.[24]

PAYOUT PHASE

Every voluntary pension system must have a minimum retirement age or "preservation age"—that is, the age at which savings can be accessed without penalty. Some systems also have a maximum age at which participants must begin to withdraw their savings. The rationale for minimum preservation ages, of course, is that governments have an interest in ensuring that workers are adequately prepared for retirement and do not become free riders on the social safety net in old age. Indeed, that is why they grant tax preferences to voluntary retirement savings to begin with. The rationale for maximum withdrawal ages is that taxes on retirement savings are deferred, not forgone, and governments eventually want to recoup at least some of the lost revenue.

Although there is no clear best practice standard for setting minimum preservation ages, most pension experts would agree that it makes sense to coordinate them with retirement ages in state pension systems. After all, from a public policy perspective, the primary purpose of voluntary pension systems is to supplement the benefits that workers receive from mandatory ones. Yet just as compromises may be required during the accumulation phase of the voluntary pension lifecycle, so may they be required during the payout phase. For many workers, voluntary retirement savings also has a secondary purpose—namely, to provide them with the financial means to retire earlier than the state pension system's retirement age. Moreover, with state pension retirement ages now rising in most developed countries, the gap between when workers may wish to retire and when they become eligible for state pension benefits is growing. Although a few countries, including New Zealand, do set voluntary pension system preservation ages equal to their state pension retirement ages, many more, including Germany, the UK, and the United States, set them lower. In the United States, the Social Security normal retirement age, traditionally 65, is now rising in stages to 67. Meanwhile, the preservation age for 401(k)s and IRAs remains 59 and a half.

Many pension experts believe that defined contribution systems should require the annuitization of account balances, at least up to some minimum threshold.

The need to balance conflicting goals also comes up in how to structure benefit payouts. In the days when defined benefit employer plans dominated the voluntary pensions landscape, this was of course a nonissue. Pensions, almost by definition, were lifetime annuities. In order to protect retirees against longevity risk, many pension experts believe that defined contribution systems should also require the annuitization of account balances, at least up to some minimum threshold. Yet others point out that protecting retirees against longevity risk must be balanced against their need to have funds on hand to meet financial emergencies, such as a health crisis, or their desire to leave a bequest. Annuities, moreover, are not only illiquid, but in an era of low interest rates may also lock in low benefit levels. Phased or programmed withdrawals do not have these drawbacks, but leave retirees vulnerable to longevity risk. The optimal solution, and the one favored by the OECD, may be to combine programmed withdrawals with a deferred lifetime annuity starting at (say) age 85.

24. See, for instance, Gustavo Demarco and Rafael Rofman, "Supervising Mandatory Funded Pension Systems: Issues and Challenges," Social Protection Discussion Paper no. 9817 (Washington, DC: World Bank, 1998) and Indermit S. Gill, Truman Packard, and Juan Yermo, *Keeping the Promise of Social Security in Latin America* (Washington, DC: World Bank, 2005).

Yet best practice and actual practice diverge widely in this area. Very few developed countries require either annuitization or programmed withdrawals in their voluntary pension systems, Germany being a notable exception. And one country that did require annuitization—the UK—recently dropped the mandate. As things stand, many developed countries, including New Zealand, the UK, and the United States, allow voluntary retirement savings to be withdrawn entirely as a lump sum upon retirement, the one thing that virtually all pension experts would agree is bad policy.

FIDUCIARY STANDARDS

Adherence to strict fiduciary standards may matter even more for the success of voluntary pension systems than mandatory ones. After all, in the absence of state coercion, the willingness of workers to participate in a pension system depends critically on trust. Fiduciary standards always apply to pension providers, who in most developed countries are under an obligation to observe the "prudent man" investment rule and seek to earn the highest risk-adjusted return for participants. Fiduciary standards may also apply to employers, who are under an obligation to choose qualified pension providers. Increasingly, they also apply to financial advisers. At least that is the case in the United States, where a new Department of Labor rule would subject most retail investment advice to fiduciary standards.[25] Despite some lapses, such as the UK's notorious personal pensions "miss-selling scandal" in the late 1980s, the generally high fiduciary standards in developed countries, together with adequate regulatory oversight, have helped to create an environment conducive to the expansion of voluntary pension systems.

Adherence to strict fiduciary standards may matter even more for the success of voluntary pension systems than mandatory ones.

Financial literacy may have an even greater impact on voluntary retirement savings than tax preferences, matching contributions, or other economic incentives.

PUBLIC EDUCATION

It is difficult to overstate the importance of public education in the success of voluntary pension systems. Indeed, some studies have concluded that financial literacy may have an even greater impact on whether workers participate in pension plans and how much they save when they do than tax preferences, matching contributions, or other economic incentives.[26] The conclusions of these studies, which were conducted in developed countries, may be even more relevant for emerging markets. ▶

25. At the time of this writing, the status of the new rule remains unclear. Although it was due to go into effect in April 2017, the Trump Administration has asked the Department of Labor to review it, and its implementation has been delayed. See Mike Barry, "DOL's New Conflict of Interest Regulation in Brief," Plan Advisory Services, April 16, 2017 and Mike Barry, "Administration Issues Executive Order Calling for Review of DOL's Conflict of Interest Rule," Plan Advisory Services, February 5, 2017.

26. See Julie R. Agnew et al., "Literacy, Trust, and 401(k) Savings Behavior," Center for Retirement Research at Boston College Working Paper 2007-10 (Chestnut Hill, MA: Center for Retirement Research at Boston College, 2007); Hinz, "Voluntary Retirement Savings: Motivations, Incentives, and Design"; and Annamaria Lusardi and Olivia S. Mitchell, "The Economic Importance of Financial Literacy: Theory and Evidence," *Journal of Economic Literature* 52 (March 2014).

Lessons for Emerging Markets

Chapter 3

Emerging markets around the world are beginning to focus on the importance of voluntary retirement savings. In recent years, many countries have enacted reforms aimed at strengthening existing voluntary pension systems, while some have launched entirely new ones. In most cases, these systems are designed to provide supplemental retirement income to workers who are already covered by their country's mandatory state pension system. A number of countries, however, are also experimenting with special voluntary pension systems tailored to the needs of informal-sector workers.

This chapter explores how emerging markets might build on these initial steps. It focuses in particular on eight countries in Asia and Latin America: Brazil, Chile, China, Hong Kong, India, Malaysia, Mexico, and Thailand. The first section offers a brief overview of the existing voluntary pension systems in these eight countries. Drawing on developed-world experience, the second section discusses strategies for increasing voluntary retirement savings in the formal sector. The third section examines the central role of employer pensions in broadening and deepening participation among middle-class workers. The fourth and final section explores the special challenges involved in extending voluntary retirement savings to the informal sector.[27]

27. The discussion in this chapter draws on dozens of specialized government, industry, and academic sources. For the most important, see the "Technical Note on Data and Sources."

TODAY'S VOLUNTARY PENSIONS LANDSCAPE

The eight countries on which this report focuses obviously differ in important respects, including their level of income and wealth, their degree of market development, and the extent of population aging they are due to experience. At one end of the spectrum there is India, a lower-middle-income society with a vast informal sector whose population will age only modestly over the next few decades. At the other end there is Hong Kong, a high-income, highly market-oriented society that, by the 2030s, will have one of the oldest populations on earth. There is also tremendous variety in the structure of state pension systems across the eight countries. Three have pay-as-you-go state pension systems (Brazil, China, and Thailand), three have funded personal accounts systems (Chile, Hong Kong, and Mexico), and two have government-managed provident funds (Malaysia and India).

Yet at the same time, all eight countries face a similar challenge. In all of them, mandatory pension systems are inadequate, family support networks are under stress, and a large share of the workforce remains at risk of poverty in old age. In all of them, building robust voluntary pension systems should therefore be a high priority.

The good news is that all eight countries have made at least a start. Among the three Latin American countries, Brazil is clearly in the lead. Voluntary pensions (or "complementary pensions," as they are known in Brazil) have been an important component of the overall retirement system for decades. They come in two types: "Closed Funds," which are occupational pensions, and "Open Funds," which are predominantly personal pensions. Although voluntary retirement savings is much less developed in Chile and Mexico, both countries are trying to promote it. Over the past fifteen years, Chile has enacted a series of reforms that encourage workers to open supplemental APV accounts (APV is the Spanish abbreviation for "voluntary retirement savings") with their AFPs, the pension funds that administer the country's mandatory personal accounts system, or with other qualified providers, such as insurance companies and mutual funds. The most important reform, which dates to 2008, introduced a new savings option, commonly known as "middle-class APV," that provides for government matching contributions, while also laying the groundwork for an occupational pension system known as APVC (the Spanish abbreviation for "group voluntary retirement savings") that is modeled on the U.S. 401(k) system. Mexico, which already has a small, but overregulated, occupational pension system, is also trying to boost participation in the voluntary tier of SAR, its mandatory personal accounts system.

Turning to Asia, Hong Kong has a well-established system of occupational pensions called ORSO Schemes that dates to the 1970s. Workers can also make additional voluntary contributions to the Mandatory Provident Fund (MPF), Hong Kong's personal accounts system. Thailand launched a system of occupational pensions called Provident Funds in 1987, while China launched a similar system, known as the Enterprise Annuity (EA) System, in 2004. In Malaysia, workers can make additional voluntary contributions to the Employees Provident Fund (EPF), the country's funded but centrally managed state pension system. To further encourage retirement savings, the government in 2012 also launched a separate voluntary pension system called the Private Retirement System (PRS) that includes both employer pension and personal pension options. In India, workers can make additional contributions to the voluntary tier of their country's mandatory funded state pension system, which (like Malaysia's state pension system) is known as the Employees Provident Fund (EPF). Whether or not workers participate in the EPF, and the vast majority do not, they can make contributions to two additional government-managed retirement savings schemes: the Public Provident Fund (PPF), which was established in 1968, and the National Pension System (NPS), also known as the New Pension System, which was originally set up for civil servants in 2004, but was then opened up in 2009 on a voluntary basis to the private sector. There is also a small system of occupational pensions called Superannuation Funds.

Although almost all of these voluntary pension systems are exclusively for formal-sector workers, some emerging markets, especially in Asia, are also trying to extend voluntary retirement savings to the informal sector. India's NPS includes a special option called Atal Pension Yojana that is specifically designed for employees at small firms, self-employed workers, and day laborers, who do not participate in the EPF. A number of other Asian countries have set up entirely separate voluntary pension systems for the informal sector. In 2010, China launched the National Rural Pension Scheme for workers with rural residences and the Urban Resident Pension Scheme for migrant workers, groups which up to then had lacked any pension coverage. That same year, Malaysia launched its own voluntary retirement savings system for informal-sector workers called the Malaysia Retirement Savings Scheme. A few years later in 2015, Thailand followed suit with its similar National Savings Fund.

The voluntary pension systems in all eight countries have certain positive characteristics in common. To begin with, they are all almost exclusively defined contribution systems, which well suits them to the needs of mobile workforces and aging populations. The partial exceptions are the occupational pension systems in Brazil, Hong Kong, and Mexico, where until recently the majority of plans were defined benefit. Just as in the developed world, however, a growing number of employers are unwinding these plans, offloading the liabilities to insurance companies, and enrolling newly hired workers in defined contribution alternatives. All of the voluntary pension systems, or at least all of the formal-sector ones, are also externally funded, which means that workers' savings are backed by marketable securities, rather than by the contingent promises of a former employer or a government insurance agency. All of the systems, moreover, benefit from at least some degree of favorable tax treatment designed to encourage voluntary retirement savings, together with well-developed fund management industries to invest the savings and highly professional regulators to enforce rules and standards.

The voluntary pension systems in today's emerging markets have one critical failing in common—namely, their limited reach.

Unfortunately, the voluntary retirement systems in today's emerging markets also have one critical failing in common—namely, their limited reach. To be sure, voluntary retirement savings in some of the eight countries has begun to grow rapidly over the past few years. In both Chile and Mexico, the number of voluntary savings accounts, or APV accounts, has roughly doubled since 2010. In Hong Kong, voluntary contributions to the MPF have risen from 13 percent of total MPF contributions in 2007 to 23 percent in 2016. Meanwhile, Brazil's Open Funds have also been experiencing rapid growth, whether measured by the number of contributors or by assets under management. Still, if we exclude China's two new pension systems for informal-sector workers, which have achieved remarkably broad coverage, participation in voluntary pension systems remains at best modest in all eight of the countries.

PENSION SYSTEM PROFILES

BRAZIL

Brazil's pay-as-you-go state pension system, which consists of the RGPS regime for private-sector workers and the RPPS regime for public-sector workers, is among the most costly and unsustainable in the developing world. Yet despite the expansiveness of state retirement provision, Brazil also has a relatively well-developed voluntary pension system—or, more accurately, systems. There are in fact two entirely separate voluntary (or "complementary") pension systems in Brazil, the so-called Closed Funds and Open Funds, each with its own rules and regulator. Closed Funds are occupational pensions sponsored by large employers, unions, or professional associations. Open Funds, as their name implies, do not have any necessary connection to employment. Although employers may contribute to an Open Fund on behalf of their employees, individuals can also contribute on their own behalf. The Closed Funds, which have been in operation longer, have more assets under management, but the Open Funds have more participants and are growing much faster.

CHILE

The personal accounts state pension model, which was first developed by Chile, has inspired similar reforms in more than a dozen other emerging markets in Latin America and beyond. Yet if Chile was a pioneer in mandatory retirement savings, it has lagged in voluntary retirement savings. There are no counterparts to Brazil's Open and Closed Funds. What voluntary retirement savings there is takes the form of worker and employer contributions (the latter are known as "agreed deposits") to supplemental retirement savings accounts that workers can establish with their AFPs, the pension funds that administer Chile's personal accounts system, or with other qualified providers, such as insurance companies and mutual funds. Although these APV accounts (APV is the Spanish abbreviation for "voluntary retirement savings") have existed since Chile's personal accounts system was launched in 1981, the share of workers who contribute to them remained trivial until a 2008 reform introduced a new savings option, known as "middle-class APV," that is designed to appeal to workers whose incomes are too low to benefit from tax incentives. The 2008 reform also introduced a new occupational pension system known as APVC (the Spanish abbreviation for "group voluntary retirement savings") that is modeled on the U.S. 401(k) system.

CHINA

Like Brazil, China has a pay-as-you-go state pension system that is burdened by large unfunded liabilities—and like Brazil, it is being compelled to make large reductions in the generosity of promised benefits as its population ages. Known as the Basic Pension System for Urban Employees, it consists of a first "social pooling" tier that pays a defined benefit and a second tier of "notional defined contribution" accounts. Unlike Brazil, however, China is still in the early stages of building its voluntary pension system. In 2004, it launched a system of occupational pensions for formal-sector workers known as the Enterprise Annuity (EA) System. In 2010, it also introduced two additional voluntary pension systems for informal-sector workers: the National Rural Pension Scheme for workers with rural residences and the Urban Resident Pension Scheme for migrant workers, groups which up to then lacked any pension coverage. While the EA System has been slow to take off, China's success in extending voluntary pension savings to informal-sector workers has been nothing less than spectacular.

HONG KONG

Unlike mainland China, Hong Kong has a funded state pension system. Although it is somewhat misleadingly called the Mandatory Provident Fund (MPF), it is a privately managed personal accounts system similar to Chile's, rather than a centrally managed provident fund like those in India and Malaysia. Unlike mainland China, moreover, Hong Kong also has a relatively well-developed voluntary pension system that is larger than that in any of the other countries except Brazil. About one in ten workers participate in employer-sponsored pension plans, which are called ORSO Schemes after the Occupational Retirement Schemes Ordinance that governs them. In most cases, however, these pensions substitute for rather than supplement the MPF, from which most ORSO-covered workers are exempted. Along with the

ORSO Schemes, there is also a second voluntary tier to the MPF to which participating workers and employers can make additional contributions.

INDIA

India has a funded but centrally managed state pension system with two tiers: The Employees Pension System (EPS), which pays a defined benefit, and the Employees Provident Fund (EPF), which is a defined contribution retirement savings scheme. Although barely 10 percent of India's workforce participates in a pension system of any kind, mandatory or voluntary, there are a surprising variety of voluntary pension options. Formal-sector workers who are covered by the EPF can elect to make additional voluntary contributions to it. Whether or not workers are covered by the EPF, and the vast majority are not, they can make contributions to two additional government-managed retirement savings schemes: the Public Provident Fund (PPF), which was established in 1968, and the National Pension System (NPS), also known as the New Pension System. The NPS was originally launched in 2004 as a defined contribution replacement for India's old defined benefit civil service pension system, but in 2009 was opened up on a voluntary basis to formal-sector workers at small firms not covered by the EPS and EPF, as well as to workers in the informal sector, who can join a special NPS plan called Atal Pension Yojana. There is also a system of occupational pensions called Superannuation Funds, but these are largely restricted to highly compensated employees at large firms.

MALAYSIA

Like India's state pension system, Malaysia's is funded but centrally managed. Unlike India's, however, there is just one tier: the Employees Provident Fund (EPF). Although EPF replacement rates are modest, voluntary retirement savings remains underdeveloped. Workers can make additional contributions to the EPF, but very few do so, in part because the mandatory contribution rate is so high and in part because the rate of return on contributions is so low. In the hope of increasing voluntary retirement savings, the government introduced a new voluntary pension system in 2012 called the Private Retirement Scheme (PRS) that allows greater investment discretion than the EPF does. Although the PRS provides for both employer pensions and personal pensions, to date the great majority of plans are personal. Like China and India, Malaysia has also launched a voluntary retirement savings system for informal-sector workers, which in its case is called the Malaysia Retirement Savings Scheme.

MEXICO

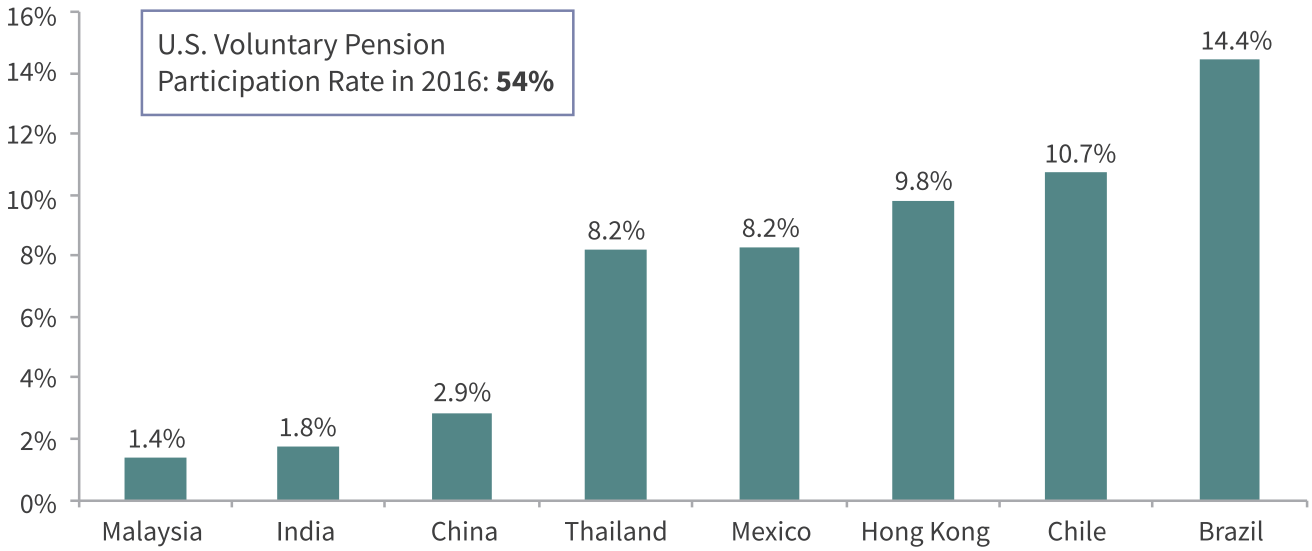
Mexico's state pension system, which is known as SAR (the Spanish abbreviation for "Retirement Savings System"), is a privately managed personal accounts system similar in design to Chile's and Hong Kong's. What distinguishes it is its very low contribution rate, which threatens to leave workers with the lowest replacement rates of any of the eight countries. Despite the inadequacy of state retirement provision, Mexico's voluntary pension system is also one of the least developed of any of the eight countries. Workers, but not employers (there are no "agreed deposits," as there are in Chile), can make additional contributions to SAR's second voluntary tier. There is also an occupational pension system that covers a small fraction of private-sector workers, but the high cost of complying with the burdensome regulations governing the system has stunted its growth.

THAILAND

Like Brazil and China, Thailand has a pay-as-you-go state pension system. Although Thailand's system, which is known as the Social Security Fund, is not especially burdensome today, its cost is due to rise rapidly as the country's population ages. While voluntary retirement savings is too limited to make up for likely future reductions in the generosity of state retirement provision, it is nonetheless more extensive than in any of the other countries except Brazil and Hong Kong. The government, moreover, is trying to expand it further. There is a comparatively well-developed system of occupational pensions known as Provident Funds that has been in existence since 1987. There is also a newer system of personal pensions called Retirement Mutual Funds that allows for additional tax-favored savings by Provident Fund members, as well as by workers not covered by an employer pension. After much delay, the government in 2015 also launched a long-promised voluntary pension system for informal-sector workers called the National Savings Fund.

FIGURE 11

Contributors to Formal-Sector Voluntary Pension Systems, as a Percent of the Labor Force in 2015 or 2016



Note: Data for some voluntary pension systems were not available. The pension systems included are: for Brazil, Closed Funds and Open Funds; for Chile, APV and APVC; for China, the EA System; for Hong Kong, ORSO Schemes; for India, the NPS and PPF; for Malaysia, the PRS; for Mexico, APV and private employer pensions; and for Thailand, Provident Funds. The data for Chile and Mexico refer to the number of APV accounts (with more than a zero balance) rather than to the number of APV contributors. The data for the United States exclude IRAs. The data for India exclude central government and state and local government NPS contributors, for whom participation is mandatory.

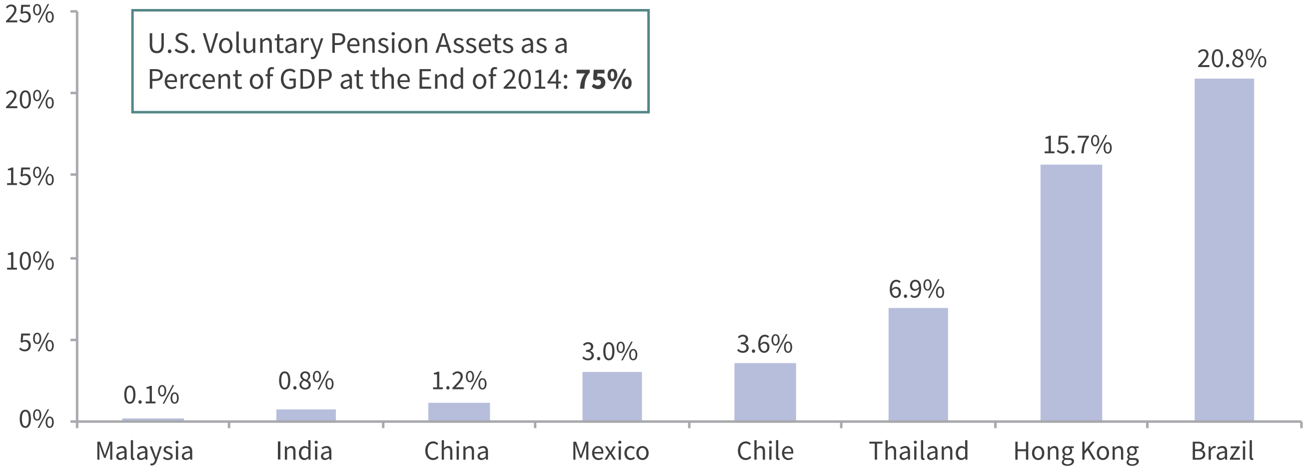
Source: For Brazil, ABRAPP and FenaPrevi; for Chile, the Superintendency of Pensions; for China, MOHRSS; for Hong Kong, the MPFA; for India, the NPS Trust and Ministry of Finance; for Malaysia, the PPA; for Mexico, CONSAR; for Thailand, the Thai Provident Fund; and for the United States, the U.S. Bureau of Labor Statistics

As **FIGURE 11** shows, participation in formal-sector voluntary pension systems now ranges from a low of 1 to 2 percent of the workforce in India and Malaysia to a high of 14 percent in Brazil. Admittedly, the numbers for some of the countries should be interpreted with caution. The data for Hong Kong refer to ORSO Schemes only. If voluntary MPF contributors were included, Hong Kong's participation rate would be substantially higher—indeed, probably higher than Brazil's. The participation rates for India and Malaysia are also at least somewhat understated, since they exclude voluntary EPF contributors. On the other hand, the participation rates for Chile and Mexico are greatly overstated, since the data refer to the number of APV accounts, many of which are inactive, rather than to the number of APV contributors. A more meaningful indicator of the importance of voluntary retirement savings in these two countries might be APV assets as a share of total personal account assets. In Chile, this share was just 5.3 percent in 2015 and in Mexico it was just 1.4 percent. The underdevelopment of voluntary pension systems is also evident if we look at voluntary pension assets as a share of GDP. In only three of the eight countries—Thailand (7 percent), Hong Kong (16 percent), and Brazil (21 percent)—does the share exceed 5 percent. (**SEE FIGURE 12.**)

Participation in voluntary pension systems not only remains restricted to a relatively small

FIGURE 12

Assets under Management in Formal-Sector Voluntary Pension Systems, as a Percent of GDP in 2015 or 2016



Note: Data for some voluntary pension systems were not available. The pension systems included are: for Brazil, Closed Funds and Open Funds; for Chile, APV and APVC; for China, the EA System; for Hong Kong, the MPF and ORSO Schemes; for India, the NPS and PPF; for Malaysia, the PRS; for Mexico, APV and private employer pensions; and for Thailand, Provident Funds. The data for the United States exclude IRAs. The data for India exclude central government and state and local government NPS contributors, for whom participation is mandatory.

Source: For Brazil, ABRAPP and FenaPrevi; for Chile, the Superintendency of Pensions; for China, WillisTowers Watson, *Global Pension Assets Study 2017* (Arlington, VA: Willis Towers Watson, 2017); for Hong Kong, the MPFA; for India, the NPS Trust and Ministry of Finance; for Malaysia, the PPA; for Mexico, CONSAR; for Thailand, the Thai Provident Fund; and for the United States, the Board of Governors of the Federal Reserve System

share of the workforce, but also tends to be highly skewed by income. Leaving aside the special voluntary pension systems for informal-sector workers, the majority of participants are higher-earning workers, who benefit most from the tax preferences for voluntary retirement savings and who often have salaries that exceed the state pension system's contributory wage ceiling. Although a few countries have recently taken modest steps to extend the appeal of their voluntary pension systems to a broader cross section of the workforce, these steps fall far short of what is needed. Even in Chile, with its middle-class APV, voluntary retirement savings remains largely limited to workers in the upper reaches of the income distribution. In 2016, two-thirds of APV contributors had incomes in the top quintile of the income distribution and nearly one-half had incomes in the top decile. (SEE FIGURE 13.) The distribution of APV assets is even more skewed, with 95 percent of the total held by workers with incomes in the top quintile of the income distribution and 89 percent held by workers with incomes in the top decile.

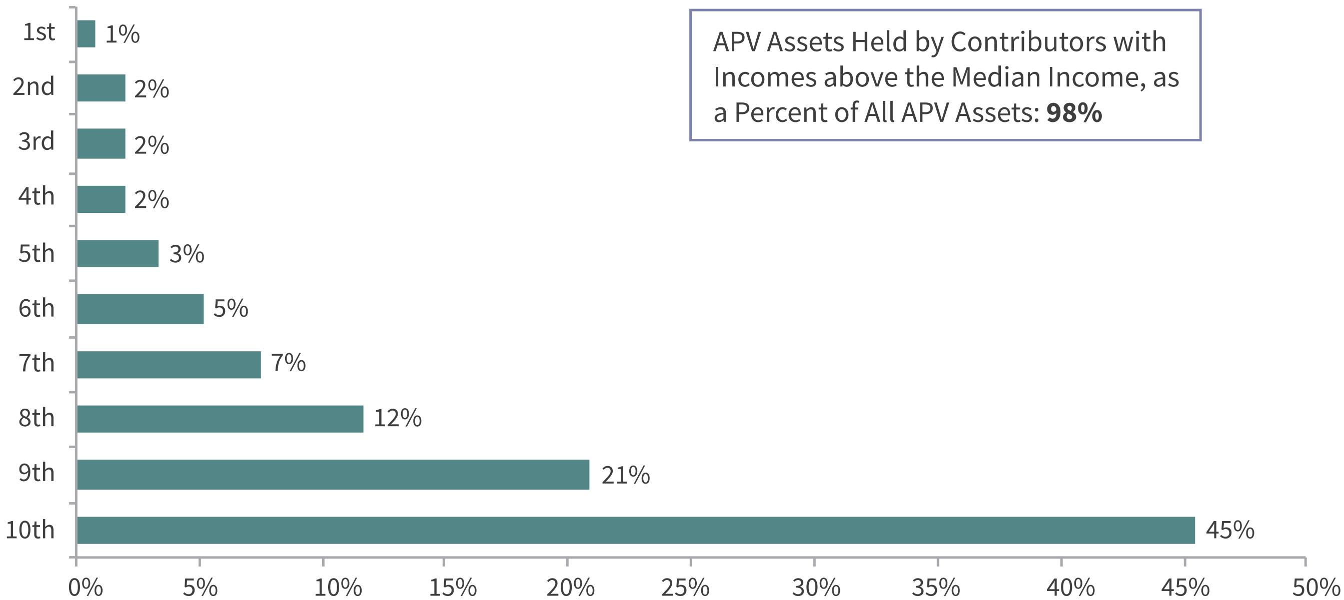
STRATEGIES FOR THE FORMAL SECTOR

Making significant progress in broadening and deepening voluntary pension systems for formal-sector workers will require far-reaching reforms. As emerging markets confront the challenge, they would do well to study the experience of the developed countries.

This experience teaches that reform will have to proceed on several fronts at once. If emerging markets are to succeed, they will need to lever-

FIGURE 13

Chilean APV Contributors by Income Decile in 2016, as a Percent of All APV Contributors



Note: The data refer to APV contributors to AFPs and exclude contributors to other qualified providers. Contributors are workers who made at least one APV contribution during the calendar year; income deciles refer to the income distribution of all AFP contributors; income refers to contributable wages.

Source: Unpublished data provided by the Chilean Superintendency of Pensions

age the lessons of behavioral economics in order to overcome workers' inertia and myopia. They will need to provide for new government subsidies and/or matching contributions to encourage the participation of lower- and middle-income workers. They will need to allow for considerable design flexibility in everything from eligibility rules to withdrawal rules, since, in the absence of state coercion, flexibility is crucial to success. They will need to ease the investment restrictions that in many countries now prevent fund managers from effectively doing their job, which is to earn the highest risk-adjusted return for pension participants. Finally, they will need to educate the public about the critical importance of voluntary retirement savings, since this is the basis for everything else.

Let's start with behavioral economics. Perhaps the most powerful lesson of recent developed-country experience is that autoenrollment in employer pension plans can lead to significant increases in participation rates. Without it, workers' inertia and myopia often prevail, even when pension plans offer significant economic incentives to participate, such as generous employer matches. To maximize participation in their occupational pension systems, emerging markets should require autoenrollment, as well, perhaps, as periodic auto-sweeping of those

To maximize participation in their occupational pension systems, emerging markets should require autoenrollment.

workers who decide to opt out of pension plans. At a minimum, those employers who choose to sponsor a pension plan should be required to automatically enroll their workers. More ambitiously, all employers could be required to sponsor a pension plan in which their workers would then be autoenrolled, as New Zealand and the UK do. Yet as things stand, none of the eight countries require employers to autoenroll workers in existing pension plans, much less mandate that they sponsor a plan.

Emerging markets could also automatically enroll all workers in the voluntary tiers of their state pension systems.

Although autoenrollment is usually associated with occupational pension systems, there is no reason why emerging markets could not also implement it in personal pension systems, provided that those systems use or could use employers' existing payroll infrastructure. Workers in Chile and Hong Kong can already elect to contribute to the voluntary tiers of their countries' personal accounts systems through payroll deductions, and the rules in Mexico could easily be changed to allow this. Workers in India and Malaysia can similarly elect to contribute to the voluntary tiers of their countries' provident funds. But why stop there? All of these countries could automatically enroll all workers, or at least all employees, in the voluntary tiers of their state pension systems. They could also provide for periodic auto-sweeping of those workers who decide to opt out. Automatic enrollment of independent workers would be considerably more problematic, but in some countries it might be possible to accomplish it using the government's tax filing infrastructure. Nor is automatic enrollment in voluntary personal pension systems necessarily limited to countries with funded state pension systems. Those with pay-as-you-go systems could establish second voluntary tiers of funded "add on" accounts in which workers would be automatically enrolled. In the developed world, Sweden has done something similar with its so-called Premium Pensions, though in its case the add-on accounts are mandatory.

The experience of the developed countries also teaches that autoescalation can help to maximize savings once workers are enrolled in a voluntary pension plan. Once again, behavioral economics comes into play. As we have seen, inertia means that most workers are likely to save at the default contribution rate, and if the default rate rises automatically over time they will save more. Emerging markets should therefore require, or at least encourage, the use of autoescalation in their occupational pension systems. To the extent that they implement autoenrollment in their personal pension systems, they should implement autoescalation there as well. Yet as things stand, none of the eight countries now require autoescalation in their voluntary pension systems.

While the eight countries have been slow to leverage the lessons of behavioral economics, they all try to incentivize voluntary retirement savings by providing it with at least some degree of favorable tax treatment. Global best practice provides no real guidance on the optimal size (and hence fiscal cost) of tax preferences, and every country will reach its own conclusions based in part on competing uses to which the foregone government revenue could be put, including financing other types of subsidies for voluntary retirement savings. It does, however, suggest some broad principles about how tax preferences should be structured. It is important that both individual and employer contributions enjoy favorable tax treatment, something which is not currently the case in all eight countries. In Hong Kong, for instance, individual voluntary contributions to the MPF are not tax deductible. It is helpful to provide for two tax regimes, one in which contributions are tax deductible and withdrawals are taxable and the other in which the

It is crucial that the rules governing tax preferences be clear and consistent, since saving for retirement is a long-term proposition.

reverse is the case, something which only a few of the eight countries do, most notably Brazil and Chile. Finally, it is crucial that the rules governing tax preferences be clear and consistent, since saving for retirement is a long-term proposition. When a government, as Mexico's recently did, curtails the tax deductibility of voluntary retirement savings, then partially reverses course just two years later, it undermines confidence in the system. In China, it was only in 2013, nearly ten years after the EA System was launched, that the government finally clarified its tax treatment—a failure that is widely blamed for stunting the system's growth.[28]

While adequate tax preferences are important, the governments of emerging markets need to recognize that something more is required to encourage broader participation in voluntary pension systems. Even more than in the developed world, the tax deductibility of retirement savings is at most a minor consideration for a large share of the workforce. In societies where income inequality is so high, many workers, and in some cases the great majority, pay no income taxes at all, and so receive no tax benefit from voluntary retirement savings. Even when workers do pay income taxes, moreover, they may not itemize deductions or file tax returns. In Mexico, for instance, the income taxes owed by most workers are calculated by their employers based on a standard deduction and directly forwarded to the government. Only workers earning at least eighteen times the minimum wage, or about 7 percent of the labor force, are actually required to file tax returns.[29]

There are several ways that governments could retilt economic incentives in voluntary pension systems so that they are more income-neutral or even, if desired, progressive. They could, for instance, substitute tax credits for tax deductions, which would disproportionately benefit low- and middle-earning workers. Alternatively, and less disruptively, they could retain standard tax deductibility, but combine it with a new system of government flat subsidies and/or matching contributions.

Although government flat subsidies and matching contributions can be effective at boosting participation in voluntary pension systems, their use is quite limited.

Although much evidence suggests that government flat subsidies and matching contributions can be effective at boosting participation in voluntary pension systems, their use is quite limited in the eight countries. In Latin America, Chile's middle-class APV includes a modest 15 percent government matching contribution. Mexico provides an extraordinarily generous three-to-one government match to encourage voluntary retirement savings—but only for civil servants. Private-sector workers receive nothing. Brazil provides a one-to-one match for civil servants, but once again nothing for the rest of the workforce. Government matching contributions are used more widely in Asia, but only in the special

28. See Stewart H. Leckie, "The People's Republic of China: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia*, ed. Park; Mark C. Dorfman et al., *China's Pension System: A Vision* (Washington, DC: World Bank, 2013); and Douglas Appell, "China's 401(k) May See Vast Growth," *Pensions & Investments*, March 3, 2014.

29. *OECD Reviews of Pension Systems: Mexico 2015* (Paris: OECD, 2015).

voluntary pension systems for informal-sector workers that are being put in place in China, India, Malaysia, and Thailand. Once again, governments provide for no flat subsidies or matching contributions to encourage voluntary retirement savings by the broad middle class.

In the long run, the cost of more generous subsidies for voluntary retirement savings will be far less than the cost of social pensions.

If emerging markets are to succeed at building robust voluntary pension systems, this will need to change. Along with automatically enrolling workers in the voluntary tiers of mandatory personal account systems and provident funds, governments should supplement their savings with flat subsidies and/or matching contributions. Although it would be more complicated, it might also be possible to introduce similar savings supplements into entirely independent personal pension systems, such as Brazil's Open Funds or Malaysia's PRS, where the flat subsidies or matching contributions might take the form of refundable tax credits that would be deposited to workers' retirement accounts. To keep costs manageable, government flat subsidies could be income-related, as they are in Germany's Riester Pensions, and government matching contributions could be capped, as they are in every developed country that uses them. Governments could also supplement the savings of workers in employer pension plans, as is done in New Zealand's KiwiSaver Schemes and the UK's NEST Pensions. Although all of this will be expensive, in the long run the cost of more generous subsidies for voluntary retirement savings will be far less than the cost of social pensions for workers who arrive in old age with insufficient savings.

Emerging markets also need to keep in mind that flexibility may be just as important as economic incentives in promoting voluntary retirement savings. The need for flexibility comes up with eligibility rules. In many countries, workers must be contributing to the mandatory state pension system in order to be eligible to contribute to the voluntary system. China, for example, restricts participation in the EA System to workers who participate in the Basic Pension System for Urban Employees, while Chile restricts participation in the voluntary tier of its personal accounts system to workers who participate in the mandatory tier. The desire of governments to enforce compliance is understandable, and it may make perfect sense for workers at medium and large firms. However, it can become counterproductive for independent workers and workers at small firms, for whom the mandatory system's contribution requirements may be too burdensome. The most important thing is that workers are saving at least something for retirement.

The need for flexibility also comes up with investment options. Severely restricting individual choice, as Malaysia does in the EPF, may undercut workers' enthusiasm for voluntary retirement savings, while allowing virtually unrestricted choice, as Hong Kong does in the MPF, may lead to information overload and poor investment outcomes. The best compromise is to combine a well-designed default fund with a limited panel of additional fund options. The choice of default fund is particularly important, since, human inertia being what it is, many if not most workers will end up remaining there. As we have seen, global best practice calls for placing workers in a target date or target risk fund when they first enroll. Although actual practice in the eight countries varies considerably, it appears to be converging on this standard. Voluntary pension systems in several countries, including Chile's APVC and Malaysia's PRS, already have default investment strategies that incorporate the principles of lifecycle investing, and others are beginning to move in this direction.

The need for flexibility comes up again with early access to voluntary retirement savings.

Ideally, all of the savings would be preserved until retirement, but if such a requirement were enforced there would be even less voluntary retirement savings than there is today. With the exception of Thailand, all eight of the countries therefore make at least some allowance for preretirement withdrawals, just as most developed countries do. Some of the countries appear to strike a reasonable balance between early access and preservation. Chile and Brazil, for instance, impose tax penalties on most early withdrawals, while Malaysia requires that contributions, whether to the voluntary tier of the EPF or to the PRS, be split between two accounts. The first account, which receives 70 percent of the total, must be preserved for retirement, while the second account, which receives 30 percent, may be accessed early. India takes a similar approach to limiting preretirement withdrawals in the NPS. In a number of countries, however, the balance appears to tilt too much toward early access. In Hong Kong and Mexico, for instance, workers can choose to allocate all of what is ostensibly retirement savings to special short-term savings accounts from which it can be withdrawn at any time. Meanwhile in Thailand, where preretirement withdrawals are in principle prohibited, workers in practice can access their retirement savings whenever they want by cancelling their Provident Fund membership and withdrawing the balance.

The success of any funded pension system, whether mandatory or voluntary, also requires a liberal investment regime that allows fund managers to earn the global rate of return to capital. Yet many of the eight countries require pension funds to load portfolios with government debt and limit investment in equities. Almost all of them, moreover, place restrictions on foreign investment. Until 2016, Brazil's Open Funds were entirely prohibited from investing in foreign securities, and China's EA System still is. To be sure, there has been at least some movement in recent years toward relaxing investment restrictions in almost all of the eight countries, and the pension funds of some, most notably Chile and Hong Kong, are now globally diversified. Yet in others, investment restrictions continue to tilt portfolios toward domestic assets, and especially government debt.

Global diversification of pension portfolios will become all the more important as the populations of emerging markets age and domestic returns to capital decline.

Regulatory limits on foreign investment are particularly damaging. While it is understandable that governments would prefer retirement savings to be invested at home in creating jobs, building housing, or improving public infrastructure, restrictions on foreign investment, like requirements to load portfolios with government debt, ultimately undermine the primary purpose of any funded pension system, which is to earn the highest risk-adjusted return for participants. Although capital markets are becoming broader and deeper in all eight of the countries, the growth in pension fund assets threatens to outpace domestic investment opportunities in some. Global diversification of pension portfolios, moreover, will become all the more important as the populations of emerging markets age, economic growth slows, and domestic returns to capital decline. Without it, countries with funded pension systems may find themselves no more able to escape the tyranny of their own demography than countries with pay-as-you-go ones.

There are additional issues that some emerging markets will need to address if they are to maximize savings during the accumulation phase of the voluntary pension lifecycle. The pension systems in some countries, notably Malaysia's EPF and India's EPF and PPF, feature counterproductive rate of return guarantees that may end up lowering ultimate account balances beneath what they would be without them. These should be repealed, or at least replaced with less costly nominal capital guarantees. The pension systems in some countries, notably China's EA System, also fail to provide for the full portability of retirement savings. This needs to be corrected. Then there is the issue of fees, which are unusually high in some emerging markets. In Hong Kong's MPF, total fees now average 1.6 percent of assets under management, roughly three times what they do in Chile's personal accounts system. To bring them down, Hong Kong will need to automate contributions, fund transfers, and recordkeeping, much of which is now done by hand, as well as reconsider a "full service" investment model that greatly adds to costs.[30] Yet it is also possible for fees to be too low. In India's NPS, total fees are less than 0.2 percent of assets under management, almost all of which goes to cover administration and recordkeeping. The latest government auction set investment management fees at just 0.01 percent, which makes industry participation a loss-making proposition.[31] While the regulator's intention is to preserve as much retirement savings as possible for participants, you cannot run a pension system without fund managers.

Allowing access to voluntary retirement savings at age 55, as Malaysia and Thailand do, makes no sense in societies where life expectancy is rising so rapidly.

As for the payout phase of the voluntary pension lifecycle, actual practice diverges widely from global best practice in virtually all of the eight countries, just as it does in the developed world. Although a few countries, including Brazil and Chile, offer workers the option of annuitizing their account balances, only India's NPS actually requires even partial annuitization. Everywhere else, voluntary retirement savings can be withdrawn entirely as a lump sum. Governments would do well to reassess the wisdom of allowing unrestricted lump sums and, as the OECD suggests, consider requiring that retirees combine programmed withdrawals with a deferred annuity. They would also do well to reassess whether current preservation ages, which are very low in some of the eight countries, match the needs of their aging populations. Allowing access to voluntary retirement savings at age 55, as Malaysia and Thailand do, makes no sense in societies where life expectancy is rising so rapidly. (**SEE FIGURE 14.**)

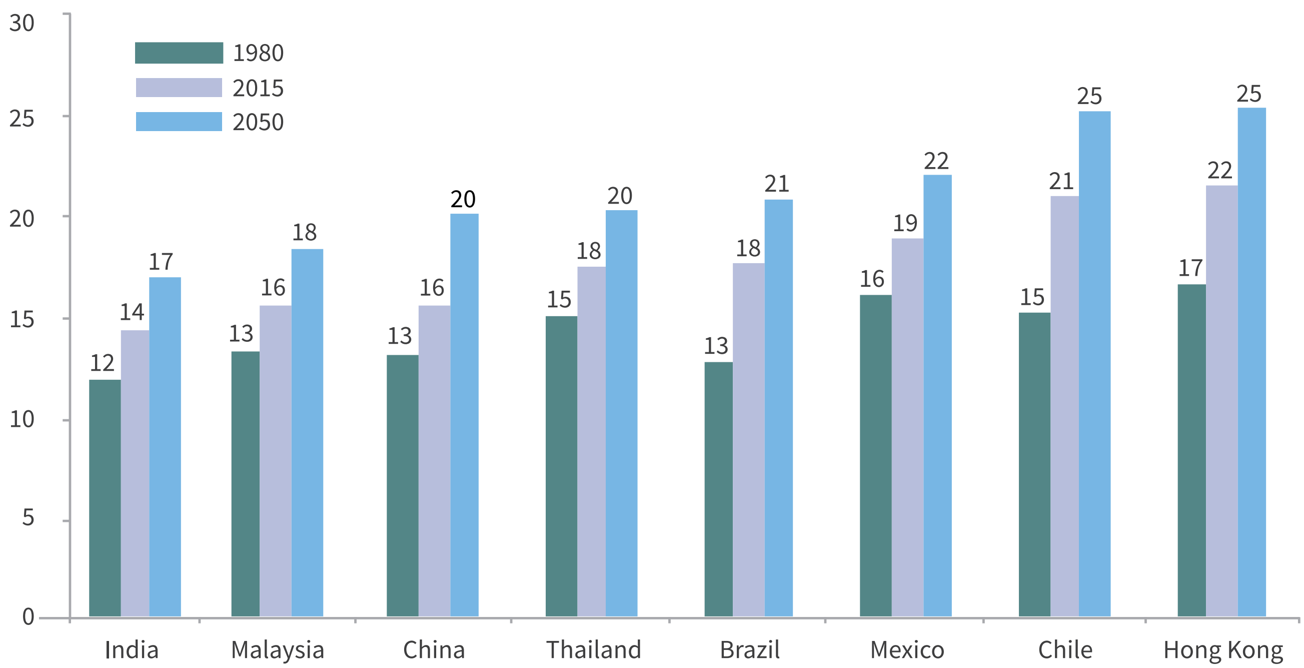
Whatever particular mix of reforms emerging markets enact, they will need to be accompanied by a large-scale public educational campaign involving both government and the financial services industry. With the possible exception of market-oriented Hong Kong, a large share of the workforce in the eight countries not only knows little or nothing about the importance of voluntary retirement savings, but lacks even the most basic financial literacy. A recent survey in Mexico found that just three in five workers enrolled in SAR, the country's mandatory personal accounts system, know that the system also includes supplemental voluntary retirement savings accounts. A recent survey in India found that four in five

30. For the latest data on MPF fees, see MPFA, *Mandatory Provident Fund Schemes Statistical Digest* no. 2016-12 (Hong Kong: MPFA, December 2016); for comparative data on fees in funded pension systems around the world, see Liviu Ionescu and Edgar A. Robles, "Update of IOPS Work on Fees and Charges," IOPS Working Papers on Effective Pensions Supervision no. 20 (Paris: International Organization of Pension Supervisors, April, 2014); for a discussion of MPF fees and strategies for reducing them, see Ernst & Young, *Managing the Changing Landscape of Retirement Savings: Report on a Study of Administrative Costs in the Hong Kong Mandatory Provident Fund System* (Hong Kong: Ernst & Young, November 2012).

31. "Applicable Fees/Charges Levied on NPS Subscribers," National Pension System Trust (NPS Trust), http://www.npstrust.org.in/images/Applicable_FeeCharges_under_NPS_wef_01Sep16.pdf.

FIGURE 14

Life Expectancy at Age 65 in 1980, 2015, and 2050



Source: *World Population Prospects: The 2015 Revision*

Regulators, industry groups, and even nonprofit organizations have begun to engage the financial literacy challenge more seriously.

informal-sector workers do not even know what a pension is.[32] Thankfully, from India and Hong Kong to Chile and Mexico, regulators, industry groups, and even nonprofit organizations have begun to engage the financial literacy challenge more seriously. "Saving in your AFORE was never so easy," the educational campaign launched in 2014 by CONSAR, the Mexican pension regulator, is particularly impressive.

As part of this effort, it will be crucial to educate the public about the benefits they can expect to receive from mandatory pension systems. In Malaysia, participants in the EPF often assume that replacement rates will be adequate because the system's 24 percent contribution rate is so high, whereas in reality the combination of low investment returns, preretirement withdrawals, and early retirement ages means that, for most workers, they will be quite modest. Brazil's and China's pay-as-you-go state pension systems have historically delivered very high replacement rates, but these are due to fall dramatically in the future, something of which many workers may be unaware. A similar dynamic is evident in some countries with mandatory personal accounts systems. The original architects of the Chilean personal accounts system, for instance,

32. For the Mexican survey, see CONSAR, *Encuesta 'Factores que promueven el ahorro voluntario entre los Méxicanos'* (Mexico City: CONSAR, February 2016); for the Indian survey, see Yu-Wei Hu and Fiona Stewart, "Pension Coverage and Informal Sector Workers: International Experiences," OECD Working Papers on Insurance and Private Pensions no. 31 (Paris: OECD, 2009).

promised much higher replacement rates than most workers are likely to receive under realistic rate of return assumptions. The result of all of this has been to minimize the perceived need for voluntary retirement savings. As a long overdue corrective, some countries are now requiring that workers receive annual statements that include projections of likely state pension benefits. In Mexico, these statements must also include estimates of how various voluntary retirement savings scenarios would affect total retirement income.

Workers' unrealistic expectations are not necessarily limited to state pension benefits. In a number of countries, notably India and Thailand, high expectations of family support continue to undermine any sense of urgency about preparing for retirement. Today's working generations need to understand that, in eras of rapid economic, social, and cultural change, relying on one's children to ensure a dignified old age may be every bit as risky as relying on government.

In Asia, the challenge is often to persuade people to save for the long term, while in Latin America it is to persuade people to save at all.

To be effective, the campaign will naturally need to be tailored to the cultural and institutional environment in each of the eight countries. It is not just that there is tremendous variety in the structure of their retirement systems. The strength of family support networks, the degree of familiarity with financial markets, and the level of trust in the financial services industry also differ tremendously across the eight countries—and between the two regions. In Asia, where household savings rates are generally high, the challenge is often to persuade people to save for the long term. In Latin America, where household savings rates are generally low, it is to persuade people to save at all.

THE CENTRAL ROLE OF EMPLOYER PENSIONS

In most developed countries, employer-sponsored pensions have proved to be the most effective and efficient way to extend coverage to the broad middle class. Yet in most of the eight emerging markets on which this report focuses, they are taking a backseat to personal pensions in government efforts to expand voluntary retirement savings.

Participation in Brazil's Closed Funds, which are predominantly employer sponsored, is no longer growing, and indeed benefits have exceeded contributions in recent years. Meanwhile, employer pensions play only a minor role in Brazil's Open Funds. Chile's new APVC system, though promisingly modeled on the U.S. 401(k) system, is struggling to take off, due in part to inadequate tax incentives. Mexico's occupational pension system is overburdened by regulation, and though a simpler APVC system similar to Chile's is under consideration, it has not been introduced. The outlook for employer pensions in Asia is only somewhat better. Many of Hong Kong's ORSO Schemes, like Brazil's Closed Funds and Mexico's occupational pensions, are legacy plans. India's employer-sponsored Superannuation Funds remain largely restricted to highly compensated employees at large firms, while the government's efforts have focused on expanding personal retirement savings through the NPS and PPF. Malaysia's PRS, though it provides for 401(k)-like employer plans, remains overwhelmingly retail. Only in China and Thailand do employer pensions play the dominant role in voluntary retirement savings. Yet as we have seen, their reach remains limited.

The scope for expanding occupational pension systems varies tremendously across the eight countries. They cannot be extended to the informal sector, which means that they could never become the dominant vehicle for retirement savings in a place like India, where formal-sector workers comprise only a small minority of the labor force. The scope for expanding them, moreover, depends not just on the size of the formal sector, but also on its structure. The employer pension model works better in economies dominated by medium and large employers than it does in ones dominated by small employers and microenterprises, which means that the scope for expanding occupational pension systems may also be quite limited in a place like Hong Kong, even though formal-sector employment comprises a much larger share of total employment than in any of the other countries.

Wherever possible, governments should prioritize the development of occupational pension systems.

Yet wherever possible, governments should prioritize the development of occupational pension systems. The surest way to expand coverage, of course, is to mandate it. The bad news is that many emerging markets, just like many developed countries, may find it politically difficult to take this step. The good news is that there are ways to expand coverage without a mandate. As we have seen, one proven way to do so is to require autoenrollment in existing employer pension plans. Another is to give them more favorable tax treatment than personal pensions, something that has helped to propel the expansion of the 401(k) system in the United States.

If emerging markets are to succeed at broadening and deepening participation in employer pension plans, they will need to adopt both of these strategies. Ideally, governments would also link the strategies to additional reforms aimed at enhancing the adequacy and equity of employer-sponsored pensions. Along with implementing autoenrollment, governments should establish minimum thresholds for employer contributions and matches and maximum thresholds for vesting periods. Enhanced tax preferences should also be linked to nondiscrimination tests that make eligibility for the preferences contingent on employers including rank and file workers in their plans. As things now stand, few of the eight countries require any of this.

Yet just as in so many other areas of voluntary pension policy, governments must be careful not to let the perfect become the enemy of the good. If nondiscrimination tests are too strict, they can become counterproductive. Chile, which imposes them in APVC plans, has already been compelled to lower its initial requirement of 30 percent worker participation to 15 percent. A reasonable compromise might be to set both tax preferences and minimum participation rates at relatively low levels, but to increase the generosity of tax preferences if employers achieve higher participation rates. As for contributions and matches, if the minimum thresholds are set too high employers may reduce wages to offset their extra labor costs, thus undermining rank and file support for the plan. Here a reasonable compromise might be to require a substantial minimum employer contribution, but to leave employer matches optional. Another reality that governments need to take into account is that employers often view pension plans as workforce management tools, and particularly value their potential for improving employee retention rates. So while a two-year vesting period might be optimal, perhaps five years is acceptable.

A NEW APPROACH TO RETIREMENT SECURITY IN THE INFORMAL SECTOR

Over the past decade or two, noncontributory social pensions have become the standard way to provide a backstop against destitution in old age for those workers who fail to contribute to the state pension system or who only contribute to it intermittently. From Rural Pensions in Brazil and Solidarity Pensions in Chile to Comprehensive Social Security Assistance in Hong Kong and the Old Age Allowance in

Voluntary pensions are a much better response to the problem of old-age insecurity in the informal sector than social pensions.

Thailand, all eight of the countries on which this report focuses now have a social pension of one kind or another. Yet over the past few years, a growing number of experts have concluded that voluntary pensions are a much better response to the problem of old-age insecurity in the informal sector than social pensions.[33] And a growing number of countries, especially in Asia, are actually designing and implementing special voluntary pension systems for informal-sector workers.

The reasons for the shift in thinking are compelling. While social pensions are a necessary near-term palliative, they leave a large share of the elderly dependent on government social assistance—and vulnerable to benefit cuts as societies age and fiscal pressures grow. They also encourage labor-market informality, the very condition that makes them necessary, thereby ensuring that the high level of elderly dependence on social assistance will continue indefinitely. Voluntary pensions do not have these drawbacks. Moreover, they can offer the same or greater retirement security at a much lower fiscal cost, even after government subsidies and matches, than social pensions will ultimately impose on government budgets. Quite simply, it is more economically efficient and socially progressive to subsidize retirement on the front end by helping workers to accumulate savings that will allow them to support themselves, than it is to subsidize retirement on the back end when workers arrive in old age destitute.

Extending voluntary retirement savings to the informal sector entails enormous challenges.

Admittedly, extending voluntary retirement savings to the informal sector entails enormous challenges. To begin with, there is the matter of how contributions are to be collected. It cannot be done by employers, since, even when workers have them, they are unlikely to have a payroll department. Nor can it be done by the tax authorities, since, almost by definition, informal-sector workers do not pay taxes. One solution is to use what are sometimes called "points of presence." In India, for instance, informal-sector workers can make voluntary contributions to the NPS at local banks and post offices. In Mexico, self-employed workers, who are not required to make mandatory contributions to SAR, can make voluntary contributions to it at 7-Eleven stores and Telecomm-Telégrafos branches. In other countries, notably Bangladesh, the infrastructure of microfinance is being harnessed to collect voluntary pension contributions.

Then there is the matter of economic incentives, which for two reasons may need to be more generous, at least relative to participants' incomes, than those granted to formal-sector workers. The first reason is that voluntary pension systems for informal-sector workers have to compete with noncontributory social pensions, which promise them benefits at no cost. The second is that informal-sector workers are typically more liquidity constrained than formal-sector workers, which means that, even without the competition from social pensions, they might require greater incentives to save. All of the new informal-sector voluntary pension systems being put in place in Asia thus subsidize workers' retirement accounts, and some subsidize them heavily.

33. See, among others, Hu and Stewart, "Pension Coverage and Informal Sector Workers: International Experiences"; Richard Hinz et al., eds., *Matching Contributions for Pensions: A Review of International Experience*; and World Bank, *Live Long and Prosper: Aging in East Asia and Pacific*.

In Thailand's National Savings Fund, government matching contributions, which vary with the age of participants, range from 50 percent for workers aged 15 to 30 to 100 percent for workers aged 50 and over. In India's NPS, informal-sector workers receive a 50 percent government match for their first five years of contributions. The informal-sector voluntary pension systems in some countries, including India and Thailand, also have minimum rate of return guarantees. Although such guarantees are not global best practice, they certainly provide an additional psychological incentive to save.

Like economic incentives, flexibility may be even more important to informal-sector workers than it is to formal-sector ones. This is especially true when it comes to contribution requirements. As a rule, informal-sector workers cannot contribute as much of their income to voluntary pension systems. Nor can they afford to be locked into making regular contributions, given the episodic nature of their employment and the fact that they have no social insurance coverage to protect them against adverse contingencies, such as unemployment or a family health crisis. All of the new informal-sector voluntary pension systems thus allow for considerable flexibility in contribution levels. In China, for instance, participants in the National Rural Pension Scheme can choose among five contribution levels, while those in the Urban Resident Pension Scheme can choose among ten. To one extent or another, all of the new systems also allow preretirement withdrawals, which are crucial for workers who not only have no social insurance coverage, but typically have little or no precautionary savings.

Several hundred million rural and migrant workers have already joined China's new voluntary pension systems for the informal sector.

The movement to extend voluntary retirement savings to the informal sector is too new to gauge its success in most countries. In China, however, the verdict is in. It has been barely five years since China launched its two new informal-sector voluntary pension systems, and already several hundred million rural and migrant workers have joined—an astonishing accomplishment that the World Bank calls "unprecedented in global experience."[34] Part of China's success is attributable to the subsidies that the government directs at the systems. But part is also attributable to a unique arrangement called "family binding." So long as workers are contributing, their aged parents immediately qualify for a flat pension benefit paid for by the government. For years prior to the introduction of the new pension systems, China had tried and failed to extend mandatory coverage under its pay-as-you-go state pension system to the informal sector. Its success at extending coverage through voluntary savings-based pension systems shows that the problem of retirement insecurity in the informal sector need not be intractable. ▶

34. World Bank, *Live Long and Prosper: Aging in East Asia and Pacific*, 151.

Conclusion

A retirement crisis of immense proportions looms in the future of many of today's emerging markets. Retirement insecurity has of course always been endemic among informal-sector workers. What is new is that it is now growing among formal-sector workers as well. As birthrates decline and life expectancy rises, emerging markets with pay-as-you-go state pension systems are being compelled to make dramatic reductions in the generosity of future retirement provision that threaten to undermine the living standards of middle-class retirees. While emerging markets with funded state pension systems are better insulated from the impact of population aging, as currently designed these systems will also fail to generate adequate replacement rates. Meanwhile, rapid development and rapid demographic change are putting increasing pressure on alternative sources of retirement income, and especially the extended family. Without reform, a large share of the workforce in most emerging markets will reach old age over the next few decades without adequate pensions, personal savings, or children to support them.

This report has argued that the success of emerging markets at ensuring retirement security will increasingly depend on their success at building robust voluntary pension systems. Although the eight Asian and Latin American countries on which the report has focused have all made a promising start, all still have a long way to go.

Governments will need to broaden and deepen voluntary pension systems that now serve just a privileged minority of the labor force.

To shore up the retirement income prospects of formal-sector workers, governments will need to broaden and deepen voluntary pension systems that now serve just a privileged minority of the labor force. As we have seen, this will require leveraging the lessons of behavioral economics in order to overcome workers' inertia and myopia. It will require new government subsidies to encourage the participation of lower- and middle-income workers. It will require allowing considerable flexibility in everything from eligibility rules to withdrawal rules. It will require easing the investment restrictions that often prevent fund managers from earning the highest risk-adjusted return for participants. Finally, it will require educating the public about the critical importance of voluntary retirement savings. Along the way, governments should prioritize the development of occupational pension systems. Although personal pensions are important, the experience of the developed countries teaches that employer pensions are usually the most effective and efficient way to extend coverage to the broad middle class.

At the same time, governments will need to build entirely new voluntary pension systems tailored to the needs of informal-sector workers, who currently enjoy little or no retirement security at all. Social pensions, the current backstop against destitution in old age, may be a social necessity. But they leave a growing number of the elderly dependent on government social assistance to keep them out of abject poverty, a risky proposition in rapidly aging societies where economic growth will be slowing and fiscal burdens will be rising in decades to come. Voluntary retirement savings, as many Asian countries are showing, provides a more economically and socially sustainable alternative.

While all of this will come at a significant fiscal cost, that cost will be far less than the cost of inaction. Policymakers in emerging markets face a choice. They can invest in building robust voluntary pension systems that will shore up the incomes of tomorrow's retirees, take pressure off government budgets, and reduce income inequality. Or they can stand by as the gathering retirement crisis unfolds. If they fail to act, economic insecurity will grow, social tensions will mount, and, in the end, governments will be compelled to accede to the demands of aging electorates for massive new spending on retirement benefits. The widespread popular discontent with the inadequacy of state retirement provision that is now being voiced in emerging markets from Chile to Hong Kong may be merely a harbinger of what is to come.

The broad contours of a workable reform strategy are clear.

For too long, policymakers in emerging markets have focused on trying to expand the coverage of mandatory pension systems, usually unsuccessfully, while promoting voluntary pensions has been almost an afterthought. It is time to recognize that, in societies where the reach of mandatory pension systems is so limited and populations are aging so rapidly, voluntary pensions are an essential component of retirement security. The broad contours of a workable reform strategy are clear. What remains uncertain is whether governments will have the wisdom and foresight to implement it. ▶

Technical Note on Data and Sources

With a few exceptions noted in the report, all demographic data, both historical and projected, come from *World Population Prospects: The 2015 Revision* (New York: UN Population Division, 2015). Projections refer to the "medium variant," the UN's most commonly cited population scenario. Data on the economy and labor force come from standard sources, including the World Bank's World Development Indicators, available at http://data.worldbank.org/data-catalog/world-development-indicators; the International Labor Organization's ILOSTAT Database, available at http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm; and the IMF's World Economic Outlook Database, available at https://www.imf.org/external/pubs/ft/weo/2016/01/weodata/index.aspx. Data on educational attainment data come from the Wittgenstein Centre for Demography and Global Human Capital's Data Explorer, Version 1.2, available at http://www.oeaw.ac.at/fileadmin/subsites/Institute/VID/dataexplorer/index.html.

For best practices in voluntary pension systems, the report relies heavily on the analysis and recommendations of the OECD's Working Party on Private Pensions and, to a lesser extent, the World Bank. The most useful studies include: *The OECD Roadmap for the Good Design of Defined Contribution Pension Plans* (Paris: OECD, 2012); OECD, "Design and Delivery of Defined Contribution (DC) Pension Schemes: Policy Challenges and Recommendations" (report presented at the Cass Business School Conference on Defined Contribution Pensions: Guarantees and Risk Sharing, London, March 5, 2013); Pablo Antolín, Stéphanie Payet, and Juan Yermo, "Coverage of Private Pension Systems: Evidence and Policy Options," OECD Working Papers on Finance, Insurance, and Private Pensions no. 20 (Paris: OECD, 2012); and Robert Holzmann, "Global Pension Systems and Their Reform: Worldwide Drivers, Trends, and Challenges," Social Protection and Labor Discussion Paper no. 1213 (Washington, DC: World Bank, May 2012).

Most basic information about and data on voluntary pension systems in the emerging markets on which the report focuses come from the pension regulatory agencies and/or pension industry associations in each country and are available on their websites. For **Brazil**, the relevant agencies and associations are the National Superintendency of Complementary Retirement Plans or PREVIC (http://www.previc.gov.br/); the Superintendency of Private

Insurance or SUSEP (http://www.susep.gov.br/); the Brazilian Association of Closed Retirement Funds or ABRAPP (http://www.abrapp.org.br/); and the National Private Pension and Life Association or FenaPrevi (http://www.cnseg.org.br/fenaprevi/). For **Chile**, they are the Superintendency of Pensions (http://www.safp.cl/) and the Chilean Association of Pension Fund Administrators or AFP Chile (http://www.aafp.cl/). For **China**, they are the Ministry of Human Resources and Social Security or MOHRSS (http://english.gov.cn/state_council/2014/09/09/content_281474986284102.htm). For **Hong Kong**, they are the Mandatory Provident Fund Schemes Authority or MPFA (http://www.mpfa.org.hk/eng/mpfa/) and the Hong Kong Retirement Schemes Association or HKRSA (http://www.hkrsa.org.hk/). For **India**, they are the Employees' Provident Fund Organization or EPFO (http://www.epfindia.com/site_en/); the Pension Fund Regulatory and Development Authority or PFRDA (http://pfrda.org.in/); and the National Pension System Trust or NPS Trust (http://npstrust.org.in/index.php). For **Malaysia**, they are the Employees Provident Fund or EPF (http://www.kwsp.gov.my/portal/en/); the Private Pension Administrator or PPA (http://www.ppa.my/); and the Federation of Investment Managers Malaysia or FIMM (https://www.fimm.com.my/). For **Mexico**, they are the National Commission on Retirement Savings or CONSAR (https://www.gob.mx/consar/) and the Mexican Retirement Funds Association or AMAFORE (http://www.amafore.org/). For **Thailand**, they are the Government Pension Fund or GPF (https://www.gpf.or.th/eng2012/) and the Thai Provident Fund or ThaiPVD (http://www.thaipvd.com/index_en.php). Much basic data and information are also available from the International Association of Pension Fund Supervisory Organizations or AIOS (http://www.aiosfp.org) and the International Federation of Pension Fund Administrators or FIAP (http://www.fiapinternacional.org/).

In preparing the report, GAI naturally reviewed the scholarly literature on pensions and voluntary retirement savings in emerging markets. Among the broader studies, the following were particularly useful: Rodrigo Acuña, "Resumen y principales conclusiones," (summary of the FIAP-AMAFORE roundtable on Voluntary Savings in the Future of Pensions, Mexico City, January 28, 2016); FIAP, "The Importance of Voluntary Pension Saving: Key Factors for Its Development and Some Positive Experiences," Pension Notes no. 7 (Santiago: FIAP, September 2015); Federico Rubli Kaiser, "Retos y mejores praticás internacionales en la promoción del ahorro voluntario," Documentos de Trabajo no. 2 (Mexico City: CONSAR, September 2016); Eduardo Fuentes et al., eds., *Pension Reforms in Latin America: Balance and Challenges Ahead* (Madrid: BBVA, 2010); Richard Hinz et al., eds., *Matching Contributions for Pensions: A Review of International Experience* (Washington, DC: World Bank, 2013); Richard Hinz, "Voluntary Retirement Savings: Motivations, Incentives, and Design," in *Pensions for the Future: Developing Individually Funded Programs*, ed. FIAP (Santiago: FIAP, 2009); Yu-Wei Hu and Fiona Stewart, "Pension Coverage and Informal Sector Workers: International Experiences," OECD Working Papers on Insurance and Private Pensions no. 31 (Paris: OECD, 2009); Augusto Iglesias, "Voluntary Pension Saving," in *Developing the Potential of the Individually Funded Pension Systems*, ed. FIAP (Santiago: FIAP, 2010); Donghyun Park, ed., *Pension Systems in East and Southeast Asia: Promoting Fairness and Sustainability* (Manila: Asian Development Bank, 2012); PrimAmérica Consultores, *Voluntary Pension Savings in Individually Funded Systems of FIAP Member Countries* (Santiago: FIAP, December 2010); and World Bank, *Live Long and Prosper: Aging in East Asia and Pacific* (Washington, DC: World Bank, 2016).

In addition, GAI also consulted many more specialized studies on voluntary pension systems in each of the eight emerging markets on which the report focuses. For **Brazil**, they included ABRAPP, *The Brazilian Pension System* (São Paulo:

ABRAPP, April 2014) and Alfredo Cuevas and Izabela Karpowicz, "The Urgent Case for Pension Reform in Brazil," *Diálogo a Fondo*, December 1, 2016. For **Chile**, they included Solange Berstein et al., eds., *Chile 2008: A Second-Generation Pension Reform* (Santiago: Superintendency of Pensions, October 2009); Luis Felipe Céspedes and Alberto Etchegaray, *Análisis y propuesta en torno al ahorro previsional colectivo en Chile* (manuscript dated April 2012); Eduardo Fuentes, "Creating Incentives for Voluntary Contributions to Pension Funds by Independent Workers: An Informal Evaluation Based on the Case of Chile," BBVA Working Papers no. 1012 (Santiago: BBVA, 2010); and OECD, *Chile: Review of the Private Pensions System* (Paris: OECD, October 2011). For **China**, they included Mark C. Dorfman et al., *China's Pension System: A Vision* (Washington, DC: World Bank, 2013); Stewart H. Leckie, "The People's Republic of China: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia: Overview and Reform Directions*, ed. Donghyun Park (Manila: Asian Development Bank, 2011); Andrea Vilela, "Pension Coverage in China and the Expansion of the New Rural Social Pension," Pension Watch Briefings no. 11 (London: HelpAge International, 2013); and Dong Yufang and Hao Yong, "The Performance Evaluation of China's Enterprise Annuity Investment Operations," *International Journal of Business and Social Science* 5, no. 6 (May 2014). For **Hong Kong**, they included Ernst & Young, *The Evolving MPF System: An Objective Assessment* (Hong Kong: Ernst & Young, May 2012) and Commission on Poverty, *Retirement Protection: Forging Ahead* (Hong Kong: Commission on Poverty, December 2015). For **India**, they included Dhirendra Swarup, "India's Pension Reform Initiative," in *Equitable and Sustainable Pensions: Challenges and Experience*, ed. Benedict Clements, Frank Eich, and Sanjeev Gupta (Washington, DC: IMF, 2014) and Alpana Vats, "Extending Pension Coverage to the Informal Sector in India," *Pension Bulletin* 5, no. 4 (New Delhi: PFRDA, April-May 2016). For **Malaysia**, they included Mukul G. Asher, "Malaysia: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia*, ed. Park and Robert Holzmann, "Old-Age Financial Protection in Malaysia: Challenges and Options," IZA Policy Paper no. 96 (Bonn: Institute for the Study of Labor, January 2015). For **Mexico**, they included Javier Alonso, Carmen Hoyo, and David Tuesta, "A Model for the Pension System in Mexico: Diagnosis and Recommendations," BBVA Working Paper no. 14/08 (Mexico City: BBVA, February 2014); Andrew Fertig, Jaclyn Lefkowitz, and Alissa Fishbane, *Using Behavioral Science to Increase Retirement Savings: A New Look at Voluntary Pension Contributions in Mexico* (New York: Ideas42, October 2015); Mercer, *Propuesta de ahorro previsional voluntario para México* (Mexico City: Mercer, October 2012); and *OECD Reviews of Pension Systems: Mexico 2015* (Paris: OECD, 2015). For **Thailand**, they included Orin D. Brustad, "Thailand: Pension System Overview and Reform Directions," in *Pension Systems and Old-Age Income Support in East and Southeast Asia*, ed. Park.

Besides scholarly studies, the report benefited from the review of many conference presentations by regulators, industry experts, and academics. Among the most helpful were the presentations on Brazil, Chile, and Mexico at the January 28, 2016 FIAP-AMAFORE roundtable in Mexico City on Voluntary Savings in the Future of Pensions, available at http://www.amafore.org/encuentro-internacional-fiap-amafore/.

Although pension systems are subject to frequent reform and revision, GAI has taken care to ensure that the report is as up to date as possible. In this regard, two sources were particularly helpful: FIAP's "Progress of the Pension Systems" series, a bimonthly summary of pension reform developments available at http://www.fiapinternacional.org/en/publications/marcha-de-los-sistemas-de-pensiones/; and the U.S. Social Security

Administration's "International Update" series, a similar monthly summary available at https://www.ssa.gov/policy/docs/progdesc/intl_update/.

With the same goal in mind, GAI also consulted a number of standard pension system overviews, including *Pensions at a Glance: Asia/Pacific 2013* (Paris: OECD, 2013); *Pensions at a Glance: Latin America and the Caribbean* (Paris: OECD/IDB/World Bank, 2014); *Pensions at a Glance 2015: OECD and G20 Indicators* (Paris: OECD, 2015); *Social Security Programs throughout the World: Asia and the Pacific, 2014* (Washington, DC: U.S. Social Security Administration, 2015); *Social Security Programs throughout the World: The Americas, 2015* (Washington, DC: U.S. Social Security Administration, 2016); and *World Social Protection Report 2014/15* (Geneva: ILO, 2014). ▶

Abbreviations

ABRAPP	Brazilian Association of Closed Retirement Funds	*(Brazil)*
AFORE	Retirement Fund Administrator	*(Mexico)*
AFP	Pension Fund Administrator	*(Chile)*
AMAFORE	Mexican Retirement Funds Association	*(Mexico)*
APV	Voluntary Retirement Savings	*(Chile & Mexico)*
APVC	Group Voluntary Retirement Savings	*(Chile)*
ASEAN	Association of Southeast Asian Nations	
BBVA	Banco Bilbao Vizcaya Argentaria	
CONSAR	National Commission on Retirement Savings	*(Mexico)*
CSIS	Center for Strategic and International Studies	
EA System	Enterprise Annuity System	*(China)*
EBRI	Employee Benefit Research Institute	
EPF	Employees Provident Fund	*(Malaysia & India)*
EPS	Employees Pension System	*(India)*
EU	European Union	
FenaPrevi	National Private Pension and Life Association	*(Brazil)*
FIAP	International Association of Pension Fund Administrators	
GAI	Global Aging Institute	
IDB	Inter-American Development Bank	
ILO	International Labor Organization	
IMF	International Monetary Fund	
IRA	Individual Retirement Account	*(US)*
MOHRSS	Ministry of Human Resources and Social Security	*(China)*
MPF	Mandatory Provident Fund	*(Hong Kong)*
MPFA	Mandatory Provident Fund Schemes Authority	*(Hong Kong)*
NEST	National Employment Savings Trust	*(UK)*
NPS	National (or New) Pension System	*(India)*
NPS Trust	National Pension System Trust	*(India)*
OECD	Organization for Economic Co-operation and Development	
ORSO Schemes	Occupational Retirement Schemes Ordinance Schemes	*(Hong Kong)*
PFRDA	Pension Fund Regulatory and Development Authority	*(India)*
PPA	Private Pension Administrator	*(Malaysia)*
PPF	Public Provident Fund	*(India)*
PRS	Private Retirement System	*(Malaysia)*
RGPS	General Social Security Regime	*(Brazil)*
RPPS	Social Security Regime for Public Servants	*(Brazil)*
SAR	Retirement Savings System	*(Mexico)*
UN	United Nations	

About the Author

RICHARD JACKSON is the founder and president of the Global Aging Institute (GAI), a nonprofit research and educational organization dedicated to improving understanding of the economic, social, and geopolitical challenges created by demographic change, and especially population aging, in the United States and around the world. He is also a senior associate at the Center for Strategic and International Studies (CSIS) and a senior advisor to the Concord Coalition. Richard is the author or co-author of numerous policy studies, including *Global Aging and Retirement Security in Emerging Markets: Reassessing the Role of Funded Pensions* (2015); *From Challenge to Opportunity: Wave 2 of the East Asia Retirement Survey* (2015); *Lessons from Abroad for the U.S. Entitlement Debate* (2014); *The Global Aging Preparedness Index, Second Edition* (2013); and *The Graying of the Great Powers: Demography and Geopolitics in the 21st Century* (2008). Richard regularly speaks on demographic issues and is widely quoted in the media. He holds a Ph.D. in history from Yale University and lives in Alexandria, Virginia, with his wife Perrine and their three children, Benjamin, Brian, and Penelope.

About the Global Aging Institute

The Global Aging Institute (GAI) is a nonprofit research and educational organization dedicated to improving our understanding of global aging, to informing policymakers and the public about the challenges it poses, and to encouraging timely and constructive policy responses. GAI's agenda is broad, encompassing everything from retirement security to national security, and its horizons are global, extending to aging societies worldwide.

GAI was founded in 2014 and is headquartered in Alexandria, Virginia. Although GAI is relatively new, its mission is not. Before launching the institute, Richard Jackson, GAI's president, directed a research program on global aging at the Center for Strategic and International Studies which, over a span of nearly fifteen years, produced a large body of cutting-edge research and analysis that played a leading role in shaping the debate over what promises to be one of the defining challenges of the twenty-first century. GAI's Board of Directors is chaired by Thomas S. Terry, who is CEO of the Terry Group, president of the International Actuarial Association, and past president of the American Academy of Actuaries. To learn more about the Global Aging Institute, please visit its website at **www.GlobalAgingInstitute.org**.

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