A GAI-PPI ISSUE BRIEF

Global Aging and the Outlook for Growth and Stability in the Developing World

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ABOUT THE GAI-PPI ISSUE BRIEF SERIES

The world stands on the threshold of a stunning demographic transformation. It is called global aging, and it promises to affect virtually every dimension of life, from the shape of the family to the shape of the geopolitical order. Trying to navigate the economic, investment, and retirement policy environment of the next few decades without understanding the impact of global aging is like setting sail without a map or a compass. The purpose of this issue brief series, which is produced in collaboration by the Global Aging Institute (GAI) and the Pacific Pension & Investment Institute (PPI), is to help policymakers and business leaders steer a surer course as they peer ahead into the future. Some of the issue briefs in the series focus specifically on retirement policy issues, especially in Asia, while others explore how demographic trends are reshaping the broader economic, social, and geopolitical environment in which governments, pension funds, and individuals and families must operate. GAI and PPI hope that the series will inform the debate over global aging and retirement security and help to push it in a constructive direction.

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Global Aging and the Outlook for Growth and Stability in the Developing World

When people think of disruptive forces, demography may not leap to mind as readily as technology, ideology, or climate change. Yet from the fall of the Roman and Mayan empires to the Black Death and the youth-driven revolutions of the twentieth century, demographic trends have often played a decisive role in precipitating the great upheavals of history. By the 2020s, an ominous new conjuncture of these trends may once again threaten widespread disruption. We're talking about global aging, which is likely to have a profound effect on economic growth, social and political stability, and the shape of the world order.

For most of the world's developed countries, the next few decades are set to be ones of rapid population aging and population decline.[1] The developed world is of course already aging, due to falling birthrates and rising life expectancy. But beginning in the 2020s, this aging will get an extra push as large postwar baby boom generations move fully into retirement. By 2050, the elderly share of the U.S. population, which was 12 percent as recently as 2000, will climb to 22 percent. In Western Europe the share will reach 30 percent and in Japan, which is ground zero for global aging, it will reach 36 percent.

Falling birthrates are not only transforming traditional population pyramids, leaving them top-heavy with elders, but are also ushering in a new era of population stagnation and decline. The working-age population has already begun to contract in several large developed countries, including Germany and Japan. By 2030, it will be stagnant or contracting in nearly all of them, the only major exception being the United States, which benefits from its relatively high birthrate and substantial net immigration. In a growing number of countries, total population will begin a gathering decline as well. Unless birthrates or immigration surge, Japan and some European countries are on track to lose nearly one-half of their total current population by the end of the century.

The aging of the developed world threatens to erode its economic and geopolitical stature. Rising pension and health-care care costs will put intense pressure on government budgets, potentially crowding out spending on other priorities, from education and the environment to national defense and foreign assistance. Economic performance may suffer as workforces gray and rates of savings and investment decline. With electorates increasingly dominated by older voters, the social and political mood may become more risk-averse and inward-looking. In terms of sheer demographic and economic size, the developed world will shrink dramatically relative to a faster-growing developing world.

[1] All demographic data in this issue brief come from *World Population Prospects: The 2015 Revision* (New York: UN Population Division, 2015). Projections refer to the UN's "medium variant." However, country groups are defined by the author and differ in some respects from UN definitions. For details, see the Note on Country Groups at the end of the issue brief.

The weakening of the developed world might be less worrisome if demographic trends were at the same time rendering the developing world more peaceful and stable. Some optimists argue that this will indeed be the case.[2] Like the developed world before it, the developing world is in the midst of the "demographic transition"—the shift from high fertility and high mortality to low fertility and low mortality that accompanies development and modernization. Although this shift will ultimately result in a graying population and a rising old-age dependency burden, it first opens up a window of opportunity for economic and social development. With population growth rates slowing, median ages rising, and youth bulges fading throughout most of the developing world, the optimists predict that the demographic weather will be increasingly sunny over the next few decades.

While the case for optimism has some merit, there are also major causes for concern. To begin with, the pace and timing of the demographic transition are highly uneven. In many of the poorest and least stable countries (especially in sub-Saharan Africa and the Greater Middle East) the demographic transition has stalled in its early stages, while in many of the most economically successful countries (especially in East Asia) the entire demographic shift from young and growing to old and stagnant or declining is occurring at a breathtaking pace—far more rapidly than it did in any of today's developed countries. The former will continue to be wracked by large youth bulges for decades to come, while the latter will have to cope with premature aging.

Moreover, even in those countries where population trends are favorable, the demographic transition merely creates an opportunity, and opportunities must be seized. Many emerging markets lack the institutional capacity to translate their favorable demographics into faster economic growth and greater social and political stability. Economists, sociologists, and historians who have studied the development process also agree that societies are buffeted by tremendous stresses as they move from the traditional to the modern.[3] Many of these stresses, from rapid urbanization to growing income inequality, become most acute midway through the demographic transition and the development process. While it may be true that development ultimately leads to greater stability, it is also true that journeys can be more dangerous than destinations. The risk of social and political upheaval could grow throughout the developing world—even as the developed world's capacity to deal with the potential threats diminishes.

This issue brief explores the disruptive economic, social, and geopolitical shifts that are likely to arise from global demographic change over the next few decades, identifies some of the most significant risks, and draws a few critical lessons for policymakers and business leaders. It focuses on the outlook for the developing world, where the impact of global aging is both more complicated and less well understood.

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[2] See, most importantly, Richard P. Cincotta, Robert Engelman, and Daniele Anastasion, *The Security Demographic: Population and Civil Conflict after the Cold War* (Washington, DC: Population Action International, 2003); Elizabeth Leahy et al., *The Shape of Things to Come: Why Age Structure Matters to a Safer, More Equitable World* (Washington, DC: Population Action International, 2007); and Mark L. Haas, "A Geriatric Peace? The Future of U.S. Power in a World of Aging Populations," *International Security 32, no. 1* (Summer 2007).

[3] For a discussion of the literature, see Richard Jackson and Neil Howe, *The Graying of the Great Powers: Demography and Geopolitics in the 21st Century* (Washington, DC: CSIS, 2008), 142-150.

The Case for Optimism

While demographic change in the developing world was a highly disruptive force during much of the twentieth century, there is a school of thought which holds that it will become a constructive one in the twenty-first. The case for optimism is rooted in the dynamics of the demographic transition, which unfolds in a series of distinct phases, each of which has very different implications for growth and stability.

During he first phase of the transition, which got under way in the developing world in the early postwar decades, mortality rates fell, especially those for infants and children, while birthrates remained high. The result was a spectacular surge in population growth. From 1950 to 1975, the global population grew at an average annual rate of 2 percent, faster than it had ever grown at any time in recorded history. Economically, the demographic transition seemed to be pushing the developing world toward a Malthusian resource crisis—or at least so warned Paul Ehrlich and David Brower in their 1968 bestseller, *The Population Bomb*, and the Club of Rome in its 1972 report, *The Limits to Growth*.[4] Meanwhile, the large youth bulges that the transition spawned became a driving force behind social and political upheaval, from China's Cultural Revolution starting in the late 1960s to the Muslim world's radical Islamist movement starting in the late 1970s.

Just as fears about the "population bomb" were peaking, however, most of the developing world entered a new phase in the demographic transition. Beginning in the 1970s and 1980s, birthrates suddenly began to fall. (See table 1.) Indeed, they plummeted, putting a break on runaway population growth and shifting age structures steadily upwards. Fertility is now beneath the so-called 2.1 replacement level needed to maintain a stable population from one generation to the next throughout East Asia, the only exception being Mongolia, as well as throughout Eastern Europe, with no exceptions at all. It is near, at, or beneath replacement in all of Latin America's major economies. And it is falling like a stone in South Asia and much of the Greater Middle East.

TABLE 1

AS COUNTRIES MOVE THROUGH THE DEMOGRAPHIC TRANSITION, LIFE EXPECTANCY RISES AND FERTILITY RATES FALL

Total Fertility Rate and Life Expectancy at Birth, 1950-2015

	TOTAL FERTILITY RATE				LIFE EXPECTANCY AT BIRTH			
	1950-55	1970-75	1990-95	2010-15	1950-55	1970-75	1990-95	2010-15
East Asia	6.0	4.8	2.0	1.5	44	62	70	76
Eastern Europe	2.9	2.2	1.6	1.6	60	69	68	72
Greater Middle East	6.6	6.2	4.6	3.2	42	55	64	70
Latin America	5.9	5.0	3.0	2.2	52	62	69	75
South Asia	5.9	5.5	3.6	2.4	40	52	61	69
Sub-Saharan Africa	6.6	6.8	6.2	5.1	37	45	50	58

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

[4] Paul R. Ehrlich and David Brower, *The Population Bomb* (New York: Ballantine Books, 1968); and Donella H. Meadows et al., *The Limits to Growth* (New York: Universe Books, 1972).

TABLE 2

YOUTH BULGES ARE RECEDING IN MOST OF THE DEVELOPING WORLD

Youth Bulge (Aged 15-24), as a Percent of the Adult Population (Aged 15 & Over), 1975-2050

	1975	1990	2015	2030	2050
East Asia	33%	30%	16%	13%	11%
Eastern Europe	23%	18%	13%	14%	13%
Greater Middle East	33%	33%	27%	24%	19%
Latin America	33%	31%	23%	19%	15%
South Asia	33%	32%	25%	21%	17%
Sub-Saharan Africa	34%	35%	35%	33%	28%

Source: *World Population Prospects: The 2015 Revision*

The dramatic decline in birthrates has in turn triggered two demographic shifts that can have a positive impact on economic growth and social and political stability. The first shift is the decline of large youth bulges. Throughout history, people have observed that young men are responsible for most of the world's mayhem. Since the mid-1990s, a substantial body of research has confirmed that there is a close correlation between the size of a society's youth bulge, which is usually defined as the ratio of youth aged 15 to 24 to the entire adult population aged 15 and over, and the incidence of conflict and instability, especially civil unrest and state failure.[5] The good news is that youth bulges have peaked in most regions of the developing world, and are projected to decline steeply over the next few decades. (See table 2.) As the overall age structure of the population shifts upward, societies should not only become more stable, but also more focused on building institutions that facilitate the creation and protection of wealth.

The second, and economically more important, shift is the decline in society's dependency burden. To measure the size of this burden, demographers look at a country's "total dependency ratio"—that is, the ratio of children plus elderly to working-age adults. When the developing world's demographic transition first got under way, the explosive growth in the number of children pushed up the total dependency ratio and put downward pressure on living standards. But once fertility fell, the total dependency ratio began to decline, tending to buoy up living standards. (See table 3.) Another way to understand the dynamic is to look at the share of a country's population that is in the traditional working years. As dependency ratios have declined during the second phase of the demographic transition, the share of the population in the working years has risen, often dramatically. (See table 4.) In effect, the ratio of producers to consumers has gone up.

[5] See, among others, Daniel C. Esty et al., *State Failure Task Force Report: Phase II Findings* (McLean, VA: Science Applications International Corporation, 1998); Cincotta, Engelman, and Anastasion, *The Security Demographic: Population and Civil Conflict after the Cold War*; Henrik Urdal, "A Clash of Generations? Youth Bulges and Political Violence," *International Studies Quarterly* 50, no. 3 (2006); and Leahy et al., *The Shape of Things to Come: Why Age Structure Matters to a Safer, More Equitable World.*

TABLE 3

THE DEMOGRAPHIC DIVIDEND: FALLING DEPENDENCY BURDENS

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

	1975	1990	2015	2030	2050
East Asia	116	81	49	61	85
Eastern Europe	74	68	55	73	81
Greater Middle East	135	127	84	79	74
Latin America	128	106	73	68	75
South Asia	123	109	76	67	67
Sub-Saharan Africa	137	143	131	114	93

Source: *World Population Prospects: The 2015 Revision*

TABLE 4

THE DEMOGRAPHIC DIVIDEND: GROWING WORKING-AGE POPULATIONS

Working-Age Adults (Aged 20-64), as a Percent of the Total Population, 1975-2050

	1975	1990	2015	2030	2050
East Asia	46%	55%	67%	62%	54%
Eastern Europe	58%	59%	64%	58%	55%
Greater Middle East	43%	44%	54%	56%	57%
Latin America	44%	49%	58%	59%	57%
South Asia	45%	48%	57%	60%	60%
Sub-Saharan Africa	42%	41%	43%	47%	52%

Source: *World Population Prospects: The 2015 Revision*

Beyond this simple arithmetic, declining dependency burdens can also alter economic behavior in ways that further accelerate the pace of living-standard growth. Labor-force participation rates may increase, because fewer children free up adult time, and especially the time of women, for participation in the market economy. Over time, savings rates may increase as well as more of the working-age population ages into the high-saving middle years. Declining family size, together with rising life expectancy, also increases incentives to invest more in the "quality" of children, and thus of the future workforce. The overall dynamic is called the "demographic dividend," and it opens up a window of opportunity for economic and social development.

The dynamic is not merely theoretical. Development economists who have studied the demographic transition agree that it has given a powerful boost to economic growth in emerging East Asia, first underpinning the stunning rise of the Tigers, and then, more recently, of China. Since 1975, the total dependency ratio in emerging East Asia has fallen from 116 to 49, the largest drop of any region in the world. Meanwhile, the share of the population in the working years has risen from 46 to 67 percent. Several studies have concluded that the shift in the age structure of East Asia's population accounts for between one-quarter and two-fifths of the growth in the region's living standards since the mid-1970s.[6]

Much of the rest of the developing world, including Latin America, South Asia, and large parts of the Greater Middle East, has now entered this demographic sweet spot and will continue to traverse it over the next few decades. As it does, the hope is that a growing number of countries will follow East Asia's lead.

Causes for Concern

In recent years, this upbeat demographic narrative has underpinned predictions about the inevitable rise of the BRICs, as well as broader expectations about the growth of the global middle class. While there is indeed room for optimism about the future, there are also causes for concern. The demographic transition may ultimately push the developing world toward greater prosperity, stability, and peace, but it is highly unlikely that the progress will be linear. Indeed, demographic trends in the developing world may prove to be every bit as disruptive in this century as they were in the last.

To begin with, not all countries are progressing in tandem through the demographic transition. The transition has failed to gain traction in much of sub-Saharan Africa, where the fertility rate remains stuck at 5.1, twice the developing-world average. The average youth bulge is 35 percent, about what it has been since the 1970s, and is projected to remain at elevated levels for decades to come. The transition has also failed to gain traction in parts of the Greater Middle East, including such chronically unstable countries as Afghanistan, Iraq, Somalia, Sudan, and Yemen. In recent years, these countries have amply demonstrated the correlation between extreme youth and violence. If that correlation endures, chronic unrest and state failure could persist through at least the 2020s and 2030s. Here, the demographic window of opportunity for rapid economic and social development still lies well over the horizon—and may not materialize at all unless birthrates fall.

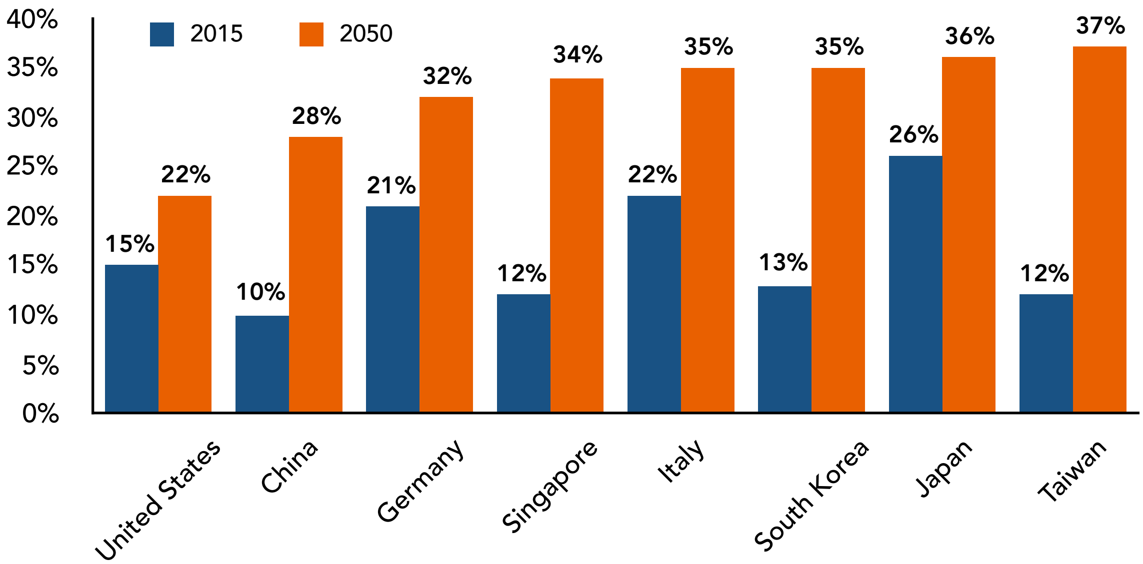
Meanwhile, the countries of emerging East Asia, where birthrates fell sooner and farther than anywhere else in the developing world except Eastern Europe, are already reaching a new tipping point where rapidly aging populations are beginning to lean against economic growth. The demographic transition, after all, has a third and final phase. Eventually, the growth in the number of elderly overtakes the decline in the number of children, dependency burdens once again rise, and the period of demographic dividend comes to an end. Within a few decades, China will be older than the United States and South Korea, Singapore, and Taiwan will be vying with Italy, Germany, and Japan for the title of oldest country on earth. (See figure 1.) As they enter the final stage of the demographic transition, these countries will encounter many of the same difficulties now confronting today's developed economies, from rising fiscal burdens to graying workforces and declining rates of savings and investment. Here, the demographic window of opportunity for rapid development is already closing.

[6] See, for example, David E. Bloom and Jeffrey Williamson, "Demographic Transitions and Economic Miracles in Emerging Asia," *World Bank Economic Review* 12, no. 3 (September 1998); David E. Bloom, David Canning, and Pia N. Malaney, "Demographic Change and Economic Growth in Asia," CID Working Paper no. 015 (Cambridge, MA: Center for International Development at Harvard University, May 1999); and Jeffrey Williamson, "Demographic Change, Economic Growth, and Inequality," in P*opulation Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*, eds. Nancy Birdsall, Allen C. Kelley, and Steven Sinding (New York: Oxford University Press, 2001).

FIGURE 1

WITHIN A FEW DECADES, CHINA WILL BE OLDER THAN THE UNITED STATES AND THE EAST ASIAN TIGERS WILL BE VYING FOR THE TITLE OF OLDEST COUNTRY ON EARTH

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



Source: *World Population Prospects: The 2015 Revision*

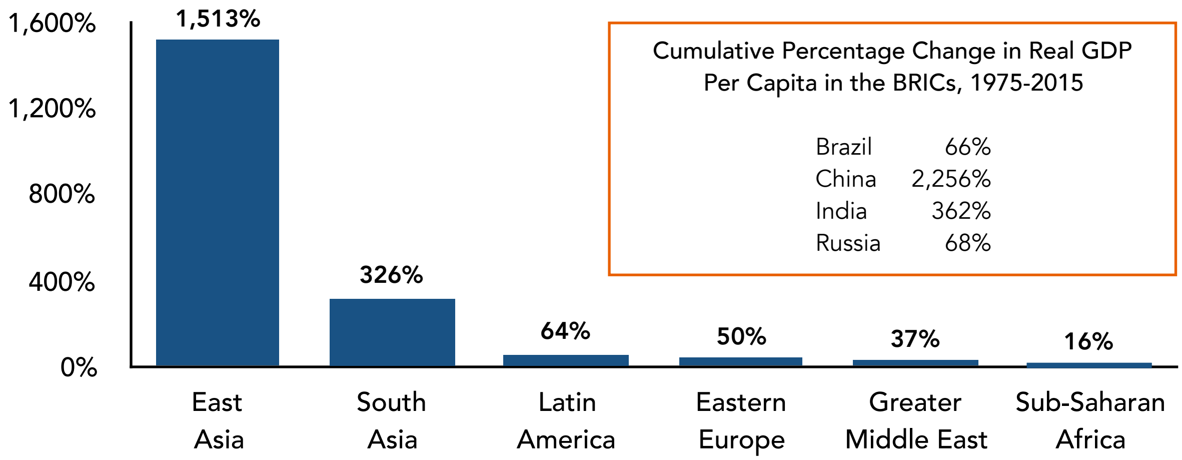
Nor is there any guarantee that those countries which now find themselves in the middle of the demographic transition will succeed in leveraging their demographic dividends. The reality is that favorable demographics only help to the extent that societies are capable of mobilizing economic resources and allocating them to productive activities. If demography were all that mattered, most emerging markets would have been growing as fast, or nearly as fast, over the past few decades as those in East Asia have. Although East Asia is leading the way through the demographic transition, total dependency ratios have also been falling and the working-age share of the population has been rising since the mid-1970s in every region of the developing world except sub-Saharan Africa. Yet no other region has managed to achieve sustained growth rates in living standards that even approach East Asia's. Since 1975, real GDP per capita in emerging East Asia has risen by a staggering 1,513 percent. In South Asia, it has risen by 326 percent, in Latin America by 64 percent, and in the Greater Middle East by 37 percent. (See figure 2.)

East Asia's emerging markets have succeeded so spectacularly because they got everything, or nearly everything, right. They all benefited from sound macroeconomic management, pro-growth business and labor-market regulation, and, to varying degrees, good governance and the rule of law. Crucially, governments pursued export-led growth strategies that facilitated the movement of unskilled labor from the unproductive rural sector into basic manufacturing. At the same time, they made or encouraged the private sector to make massive investments in infrastructure, R&D, and, above all, human capital that allowed their economies to gradually move up the global value-added scale. When its demographic transition got under way in the 1950s and 1960s, South Korea was still a predominantly agrarian society of peasant

FIGURE 2

NO OTHER REGION OF THE DEVELOPING WORLD HAS ACHIEVED SUSTAINED GROWTH RATES IN LIVING STANDARDS THAT EVEN APPROACH EAST ASIA'S

Cumulative Percentage Change in Real GDP Per Capita (in 2011 PPP Dollars), 1975-2015



Source: World Development Indicators Database; Maddison Project Database; and *World Population Prospects: The 2015 Revision*

farmers. Today, it is a high-income country with the highest secondary school and university graduation rates in the OECD. Quite simply, many of the conditions that explain East Asia's success do not yet exist in large parts of the developing world.

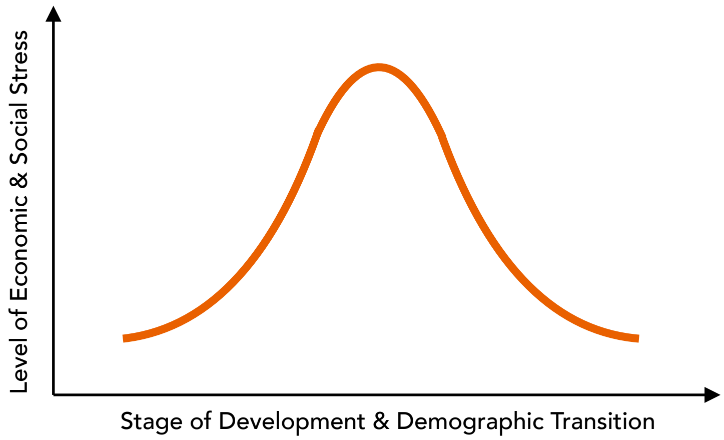
When these conditions are absent, the demographic dividend can become a demographic liability. Unless there are sufficient employment opportunities for the surging number of working-age adults, unemployment will rise as countries move through the demographic transition—and along with it, popular resentment and unrest will grow. In parts of the Greater Middle East, the failure to create jobs has helped to trigger social revolution and played a role in fomenting religious extremism. In parts of Latin America, it has led to massive outmigration.

Along with leveraging their demographic dividends, emerging markets face another hurdle as they move through the demographic transition: managing the stresses of development. As countries are integrated into the global marketplace and the global culture, traditional economic and social structures are overturned and traditional value systems are challenged. Meanwhile, along with the economic benefits of rising living standards, development also brings the social costs of rapid urbanization, growing income inequality, and environmental degradation. When plotted against stage of development and demographic transition, many of these stresses exhibit a hump-shaped or "inverted-U" pattern, meaning that they become most acute midway through the demographic transition and the development process. (See figure 3.)

FIGURE 3

SOCIETIES ARE BUFFETED BY TREMENDOUS STRESSES AS THEY MOVE FROM THE TRADITIONAL TO THE MODERN

Stylized Representation of the "Development Hump"



Source: Author's illustration

Ironically, the countries that are undergoing the most rapid demographic transitions and the most rapid development may be the most at risk of social and political crisis or even chaotic collapse. After all, the more rapid the pace of demographic and economic change is, the less time political systems, social institutions, and cultural attitudes have to adapt. It is no accident that the Chinese government's renewed authoritarianism coincides with mounting popular discontent over the rural-urban income gap, the inadequate social safety net, and the deteriorating environment. Nor is it an accident that many other emerging markets, from Iran and Turkey to Venezuela and Vietnam, find the China model attractive. Neo-authoritarian regimes like China's have a twofold appeal to some developing countries. One appeal is their reputation for promoting economic growth (the upside of development) better than democracies. The other appeal is as a means of staving off the social and political upheaval that can be triggered by rapid demographic, economic, and cultural change (the downside).

There is another challenge that most emerging markets will ultimately face—namely, coping with the rapid aging of their populations when the demographic transition enters its final phase. The developing world's age waves will be arriving in societies that in most cases are not only less affluent than those in the developed world, but that have not yet put in place the full social protections of a modern welfare state. In most emerging markets, only a fraction of the workforce is earning a benefit under any type of pension system, either public or private. From China and India to Brazil and Mexico, the majority of the elderly still depend heavily on the extended family for economic support. Yet traditional family support networks are already under stress as countries urbanize and modernize, and will soon come under intense new demographic pressure as family size declines. An aging crisis of potentially immense dimensions looms in the future of many emerging markets if they fail to construct adequate old-age safety nets.

Demographic Storms

Global aging is in many ways a benign development. No one wants to see life expectancy fall, and many of us would agree that higher birthrates, and hence faster population growth, would create its own set of problems. Yet global aging is also a development that will pose serious economic and geopolitical risks in decades to come.

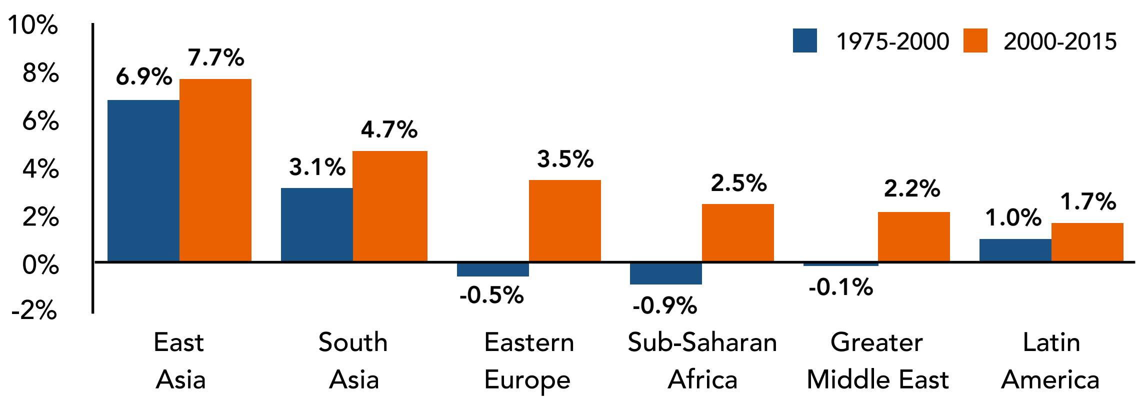
To the extent that policymakers and business leaders consider demographic risks at all in their long-term planning, they tend to focus on the familiar one of large youth bulges and state failure in low-income countries. As we have seen, this risk is not going to disappear any time soon. Lingering youth bulges could continue to foster instability and blight development prospects in much of sub-Saharan Africa and parts of the Greater Middle East through at least the 2020s and 2030s. Yet it is the less familiar risks faced by middle-income countries that are midway through the demographic transition and the development process that may prove the most serious. State failure in a country like Somalia or Yemen is a humanitarian tragedy. State failure in a populous and economically important middle-income country would be a geopolitical catastrophe. The consolidation of neo-authoritarian regimes, which often gain legitimacy by promising to prevent just such an outcome, may be less dramatic but is no less disruptive to the rules-based world order.

There is no way to know which of the demographic storms that are now brewing in the developing world will intensify and become destructive. Many of today's emerging markets, and perhaps most of them, will manage to navigate their demographic transitions and move up and over the so-called development hump without experiencing a major social and political crisis, much less a chaotic collapse. It is certainly encouraging that economic performance in most of the developing world has improved markedly over the past 15 years. (See figure 4.) A record number of countries have experienced

FIGURE 4

ECONOMIC PERFORMANCE IN MOST OF THE DEVELOPING WORLD HAS IMPROVED MARKEDLY OVER THE PAST 15 YEARS

Average Annual Growth Rate in Real GDP Per Capita (in 2011 PPP Dollars), by Period, 1975-2015



Source: World Development Indicators Database; Maddison Project Database; and *World Population Prospects: The 2015 Revision* at least modest growth in real per capita income, and a significant number have experienced rapid growth. From Latin America to South Asia, many emerging markets which were riven by social unrest and political strife a generation ago have now become stable democracies.

What we know about the demographic transition and the development process, however, suggests that most emerging markets, even the very largest, face significant risks. Russia is on the cusp of what is likely to be the fastest and most extended population implosion of any great power since the plague-ridden Middle Ages. Unless reversed, it will progressively weaken the country's already fragile economy. India's demographics are relatively favorable. But despite its large English-speaking middle class and world-class high-tech and outsourcing sectors, it must cope with large deficits in infrastructure and human capital, as well as deep ethnic and religious divisions. China, which may be the first country to grow old before it grows rich, has been "peacefully rising." But its massive age wave and huge gender imbalance threaten to act as multipliers on the economic and social stresses arising from rapid development. By the 2020s, demographic trends, which up to now have helped to propel China's rise, could be weakening the twin pillars of the current regime's legitimacy: rapidly rising living standards and social stability.

Wise Policy Choices

The good news is that we are by no means helpless in the face of global aging. Although the risks arising from global demographic change cannot be eliminated, they can be mitigated through wise policy choices.

For most of today's emerging markets, there are two critical policy challenges, the first of which is to boost income and wealth while they are still young and growing. In meeting this challenge, the experience of East Asia offers some important lessons. Indeed, there appears to have been only one successful development model in modern times—that first pursued by Japan, then by the East Asian Tigers, and, most recently, by China. There are four key elements in the model. The first is sound macroeconomic management, without which any long-term development strategy is doomed to failure. The second is an export-led growth strategy based, at least initially, on low-end manufacturing, which allows countries to shift unskilled labor into the growth sectors of the economy. The third is massive investment in human capital, and especially quality secondary education, which allows countries to gradually move up the global value-added scale. The fourth is good governance and the rule of law, which gives businesses, families, and individuals the confidence to save and invest in their own future and their nation's future.

The second challenge is to prepare for the age waves looming over the horizon. (See table 5.) Most experts agree that the first crucial step is to put in place a tax-financed, noncontributory "social pension" that serves as a floor of protection against destitution in old age. Above this floor of protection, emerging markets would be well advised to rely on funded pension systems.[7] At the macro level, funded pensions

[7] On the necessity of social pensions in developing countries, see 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: The World Bank, 2009); and Robert Holzmann and Richard Hinz, *Old-Age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform* (Washington, DC: The World Bank, 2005); on the advantages of funded pension systems, see Richard Jackson and Keisuke Nakashima, *Global Aging and Retirement Security in Emerging Markets: Reassessing the Role of Funded Pensions* (Washington, DC: GAI, 2015).

TABLE 5

EMERGING MARKETS MUST PREPARE FOR THE AGE WAVES LOOMING OVER THE HORIZON

Elderly (Aged 65 & Over), as a Percent of the Total Population, 1975-2050

	1975	1990	2015	2030	2050
East Asia	4%	5%	10%	17%	28%
Eastern Europe	9%	11%	15%	20%	23%
Greater Middle East	4%	4%	5%	7%	12%
Latin America	4%	5%	8%	12%	20%
South Asia	4%	4%	6%	9%	14%
Sub-Saharan Africa	3%	3%	3%	3%	5%

Source: *World Population Prospects: The 2015 Revision*

can help to broaden and deepen capital markets, a critical component of the overall development agenda. They can also take pressure off government budgets, which will be under growing stress from retirement and health-care costs, while helping to maintain adequate rates of savings and investment, a crucial priority for aging societies. Meanwhile, at the micro level, funded pension systems can generate higher rates of return than pay-as-you-go systems can, and hence can offer higher replacement rates at any given contribution rate. While countries with pay-as-you-go pension systems will face a zero-sum trade-off between raising taxes and cutting benefits as their populations age, countries with funded pension systems can escape the tyranny of their own demography.

At the same time, governments around the world need to recognize that global aging is a global challenge requiring global solutions. As the term global aging correctly implies, nearly every country in the world is projected to experience at least some shift toward slower population growth and an older age structure. This does not mean, however, that the world is converging demographically. Most of today's youngest countries are projected to experience the least aging, while most of today's oldest countries are projected to experience the most aging. As a result, the world will see an increasing divergence, or "spread," of demographic outcomes over the next few decades. This in turn means that globalization will have an even more critical role to play in ensuring economic prosperity than it does today. Open global capital markets can match savers in aging and slowly growing countries with investment opportunities in younger and faster-growing ones. Open global labor markets can similarly match workers with job opportunities, whether through outsourcing or immigration.

The danger is that aging societies with stagnant or contracting domestic markets will be tempted to roll back globalization. With the size of domestic markets fixed or shrinking in many developed countries, businesses and unions may lobby for anticompetitive changes in the economy. We may see growing cartel behavior to protect market share and more restrictive rules on hiring and firing to protect jobs. We may also see increasing pressure on governments to block foreign competition. Historically, eras of stagnant population and market growth—think of the 1930s—have been characterized by rising tariff barriers, autarky, corporatism, and other anticompetitive policies that tend to shut the door on free trade. If history repeats itself, the world will be both a poorer and a less stable place.

Reducing the risks arising from global demographic change will also require the developed world to make new strategic investments in the developing world. Traditionally, development policy has focused on helping the world's poorest countries overcome the obstacles to growth and stability created by young and rapidly growing populations. In the future, it will need to refocus on helping middle-income countries that are midway through the demographic transition and the development process leverage their demographic dividends, manage the stresses of development, and prepare for their age waves.

But there is a danger here as well. Government budgets in the developed world will be under intense pressure from rising old-age benefit costs. Graying electorates may also be more risk-averse and less willing to make investments with long-term payoffs, whether domestic or foreign. We know that extremely youthful societies are in some ways dysfunctional—prone to violence, instability, and state failure. Extremely aged societies may also prove to be dysfunctional in some ways as well, favoring consumption over investment, the old over the young, and the past over the future. If the developed countries turn inward and fail to constructively engage with the developing world, the risks to growth and stability will rise. They will also lose the opportunity to help steer at-risk countries away from neo-authoritarianism and toward liberal democracy.

While we live in an era of many challenges, few are as certain as global aging and few are as likely to have as profound and enduring an impact on the size of government budgets, the prospects for economic and living standard-growth, and the shape of the world order. Yet demography is not destiny. If global aging ushers in widespread disruption, it will be because leaders lacked the foresight to meet the challenge.

Note on Country Groups

The country groups used in this issue brief differ somewhat from the developmental and regional groupings commonly used by the United Nations. The "developed world," which is more narrowly defined, comprises the members of the European Union (except Bulgaria, Croatia, Cyprus, Greece, and Romania), plus Australia, Canada, Iceland, Japan, New Zealand, Norway, Switzerland, and the United States. It thus excludes some countries, mainly in East Asia, the Persian Gulf, and the Caribbean, which may be high-income, but whose economies are in some respects not yet fully developed. The "developing world" encompasses emerging markets as well as so-called frontier markets, and is divided into six regions: East Asia, Eastern Europe, the Greater Middle East, Latin America, South Asia, and sub-Saharan Africa. For the countries included in each region, see the list on the following page.

DEVELOPING WORLD COUNTRY GROUPS

EAST ASIA

China	Macao SAR	Mongolia	Singapore
Hong Kong SAR	North Korea	South Korea	Taiwan

EASTERN EUROPE

Albania	Croatia	Montenegro	Serbia
Belarus	Cyprus	Moldova	Macedonia
Bosnia and Herzegovina	Georgia	Romania	Ukraine
Bulgaria	Greece	Russian Federation	

GREATER MIDDLE EAST

Afghanistan	Israel	Oman	Tunisia
Algeria	Jordan	Pakistan	Turkey
Armenia	Kazakhstan	Palestine	Turkmenistan
Azerbaijan	Kuwait	Qatar	United Arab Emirates
Bahrain	Kyrgyzstan	Saudi Arabia	Uzbekistan
Djibouti	Lebanon	Somalia	Western Sahara
Egypt	Libya	Sudan	Yemen
Iran	Mauritania	Syria	
Iraq	Morocco	Tajikistan	

LATIN AMERICA

Argentina	Cuba	Haiti	Peru
Belize	Dominican Republic	Honduras	Puerto Rico
Bolivia	Ecuador	Jamaica	Suriname
Brazil	El Salvador	Mexico	Uruguay
Chile	French Guiana	Nicaragua	Rest of Caribbean
Colombia	Guatemala	Panama	
Costa Rica	Guyana	Paraguay	

SOUTH ASIA

Bangladesh	Indonesia	Micronesia	Sri Lanka
Bhutan	Laos	Myanmar	Thailand
Brunei Darussalam	Malaysia	Nepal	Timor-Leste
Cambodia	Maldives	Philippines	
India	Melanesia	Polynesia	

SUB-SAHARAN AFRICA

Angola	DR Congo	Madagascar	Senegal
Benin	Equatorial Guinea	Malawi	Seychelles
Botswana	Eritrea	Mali	Sierra Leone
Burkina Faso	Ethiopia	Mauritius	South Africa
Burundi	Gabon	Mayotte	South Sudan
Cameroon	Gambia	Mozambique	Swaziland
Cape Verde	Ghana	Namibia	Togo
Central African Republic	Guinea	Niger	Uganda
Chad	Guinea-Bissau	Nigeria	Tanzania
Comoros	Kenya	Réunion	Zambia
Congo	Lesotho	Rwanda	Zimbabwe
Côte d'Ivoire	Liberia	Sao Tome and Principe	

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.

The Global Aging Institute was founded in 2014 and is headquartered in Alexandria, Virginia. Although GAI is 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 15 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, 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, visit www.GlobalAgingInstitute.org.

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The Pacific Pension & Investment Institute (PPI) is a global organization with individual and institutional members from leading pension funds, sovereign wealth funds, endowments, foundations, and commercial asset management firms, as well as members who are independent investment experts. With more than $12 trillion (USD) in assets under management, our membership represents a powerful force in the global economy. Their investment decisions affect the prosperity and security of hundreds of millions of beneficiaries and stakeholders today and for future generations.

PPI has held educational programs for over two decades that inform the investment decisions of the world's major institutional investors as they relate to Asia, the Pacific Rim, and the world. These forums, exclusively for members, are conducted in a collegial, trusted, and marketing-free environment, which allows in-depth and off-the-record dialogue. This tradition of thought leadership and candid conversation are coveted aspects of the PPI experience. The high quality of PPI programs can be attributed to world-class content, expert speakers, and the high caliber international membership who attend.

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