Global Aging and Retirement Security in Emerging Markets:

Reassessing the Role of Funded Pensions

Richard Jackson President Global Aging Institute

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Global Aging

The world stands on the threshold of a stunning demographic transformation called global aging.



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Source: World Population Prospects: The 2012 Revision (UN Population Division, 2013)

Two forces behind the demographic transformation: Falling fertility and rising life expectancy.

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	4.7	2.0	1.6	44.8	64.6	70.2	75.5
Eastern Europe	2.9	2.2	1.6	1.4	59.9	69.1	68.3	70.0
Greater Middle East	6.6	6.2	4.6	3.0	44.6	56.0	65.6	70.2
Latin America	5.9	5.1	3.0	2.2	52.1	61.4	69.2	74.8
South Asia	5.9	5.5	3.5	2.4	39.2	52.0	61.6	68.2
Sub-Saharan Africa	6.4	6.6	6.1	5.2	 36.8	44.6	50.0	58.0

Source: UN Population Division (2013)



Advantages of the Funded Model



Income Replacement

As societies age, funded pension systems will be able to deliver the same replacement rate at a lower contribution rate than PAYGO systems can—or, conversely, a higher replacement rate at the same contribution rate.

A rising old-age dependency ratio translates directly into a rising PAYGO cost rate.

Aged Dependency Ratio: Number of Elderly (Aged 65 & Over) per 100 Working-Age Adults (Aged 20-64) in 2010 and 2050



When workforces grow more slowly or contract, the rate of return advantage shifts to the funded model.

Average Annual Growth Rate in the Working-Age Population (Aged 20-64), by Decade, 1980s-2040s

	1980s	1990s	2000s	2010s	2020s	2030s	2040s
Brazil	2.9%	2.4%	2.0%	1.2%	0.5%	0.0%	-0.4%
Chile	2.6%	1.9%	1.7%	1.1%	0.1%	0.0%	-0.1%
China	2.9%	1.8%	1.6%	0.4%	-0.3%	-0.8%	-0.9%
India	2.6%	2.4%	2.2%	1.7%	1.2%	0.8%	0.3%
Indonesia	3.0%	2.6%	1.9%	1.6%	1.2%	0.4%	0.1%
Mexico	3.1%	3.1%	2.0%	1.8%	1.2%	0.4%	0.0%
Poland	0.6%	0.4%	0.8%	-0.6%	-0.9%	-0.7%	-1.8%
Russia	0.7%	0.1%	0.5%	-0.7%	-1.0%	-0.6%	-1.4%
S. Korea	2.9%	1.4%	0.8%	0.5%	-0.9%	-1.3%	-1.3%
Thailand	3.6%	2.1%	1.3%	0.3%	-0.6%	-1.2%	-1.3%

Source: UN Population Division (2013)



INDIA: Stylized Replacement Rate Projections

Personal Accounts Replacement Rates in 2050 versus Affordable PAYGO Replacement Rates, Assuming the Same 12.5 Percent Contribution Rate*

Real Wage Growth Rate

- When both the workforce and real wages are growing rapidly, PAYGO systems may outperform funded systems.
- In India, a PAYGO system would deliver higher replacement rates than a funded system under most real wage growth and rate of return assumptions.

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	FUNDED	5.0%	4.0%	30%	2.0%	1.0%
Real Rate of Return	3.0%	26%	31%	37%	44%	54%
	3.5%	29%	35%	42%	51%	63%
	4.0%	33%	40%	48%	59%	73%
	4.5%	38%	45%	55%	68%	84%
	5.0%	43%	52%	63%	78%	98%
	5.5%	49%	59%	72%	90%	114%
	6.0%	55%	68%	84%	105%	133%

*Personal accounts projections assume a 40-year career, retirement at age 65, and administrative fees equal to 0.5 percent of assets. PAYGO projections assume retirement at age 65 and price indexation of current benefits.

68%

63%

58%

74%

Source: GAI calculations

80%

PAYGO

Income Replacement

CHILE: Stylized Replacement Rate Projections

Personal Accounts Replacement Rates in 2050 versus Affordable PAYGO Replacement Rates, Assuming the Same 12.5 Percent Contribution Rate*

FUNDED 3.0% 1.0% 2.5% 2.0% 1.5% 3.0% 26% 29% 32% 35% 39% Return 3.5% 30% 34% 37% 41% 46% 4.0% 35% 39% 43% 48% 54% ę 4.5% 41% 46% 51% 63% 57% **Real Rate** 5.0% 48% 53% 60% 67% 75% 5.5% 56% 62% 70% 78% 88% 6.0% 65% 73% 82% 92% 105%

Real Wage Growth Rate

*Personal accounts projections assume a 40-year career, retirement at age 65, and administrative fees equal to 0.5 percent of assets. PAYGO projections assume retirement at age 65 and price indexation of current benefits.

32%

30%

28%

33%

Source: GAI calculations

35%

PAYGO

As populations age and wage growth slows, funded systems gain a decisive advantage.

In Chile, a funded system would deliver higher replacement rates than a PAYGO system under almost any reasonable set of real wage growth and rate of return assumptions.



Income Replacement

SOUTH KOREA: Stylized Replacement Rate Projections

Personal Accounts Replacement Rates in 2050 versus Affordable PAYGO Replacement Rates, Assuming the Same 12.5 Percent Contribution Rate*

- In the most rapidly aging countries, where workforces are actually contracting, the advantage of funded systems becomes overwhelming.
- In South Korea, there is no reasonable scenario in which a funded system would fail to deliver higher replacement rates than a PAYGO system.

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	FUNDED	3.0%	2.5%	2.0%	1.5%	1.0%	
urn	3.0%	25%	28%	30%	34%	37%	
	3.5%	29%	32%	36%	40%	44%	
Ret	4.0%	34%	38%	42%	46%	52%	
Real Rate of	4.5%	40%	44%	49%	55%	61%	
	5.0%	46%	52%	58%	65%	73%	
	5.5%	54%	61%	68%	76%	86%	
	6.0%	64%	71%	80%	90%	102%	
	PAYGO	21%	20%	19%	18%	17%	

*Personal accounts projections assume a 40-year career, retirement at age 65, and administrative fees equal to 0.5 percent of assets. PAYGO projections assume retirement at age 65 and price indexation of current benefits.

Source: GAI calculations

Real Wage Growth Rate

CHILE and SOUTH KOREA: Stylized PAYGO Contribution Rate Projections

PAYGO Contribution Rates Required in Chile and South Korea to Deliver the Same Replacement Rate as a 12.5 Percent Personal Accounts Contribution Rate, 2015-2050*



*Personal accounts projections assume real wage growth of 2.0 percent, a real rate of return of 4.5 percent, a 40-year career, retirement at age 65, and administrative fees equal to 0.5 percent of assets. PAYGO projections assume 2.0 percent real wage growth, retirement at age 65, and price indexation of current benefits.

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Source: GAI calculations

Poverty Protection

- Whether its contributory pension system is funded or PAYGO, emerging markets with large informal sectors need a noncontributory social pension.
- The overall retirement system in countries with personal accounts systems can be made as progressive as desired.

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Low coverage is explained by the size of a country's informal sector, not its type of pension system.

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



*The informal sector is defined as informal employment as a share of total non-agricultural employment. Source: Donghyun Park, ed., *Pension Systems and Old-Age Income Support in East and Southeast Asia* (ADB, 2012), 114 and 129; *World Social Protection Report 2014/15* (ILO, 2014), 270; AIOS Statistical Bulletin (2012); *Is Informal Normal?* (OECD, 2009), 34-35; Friedrich Schneider, "The Shadow Economy and Work in the Shadow," IZA Discussion Paper no. 6423 (Institute for the Study of Labor, March 2012), 55; Melisa R. Serrano, ed., *Between Flexibility and Security* (ASEAN Services Employees Trade Unions Council, 2014), 60 and 108; and national government pension authorities and statistical offices

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Market Risk vs. Political Risk

Many aging developed countries have greatly reduced the future generosity of their PAYGO pension systems.

- Unlike market risk in funded systems, there is no proven strategy for minimizing political risk in PAYGO systems.
- Political risk grows steadily as populations age and the cost of PAYGO benefits rises.

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Aging Institute Cumulative Percentage Reduction in Current-Law PAYGO Pension Benefits to the Elderly (Aged 60 & Over) Relative to "Current-Deal" Benefits,* from 2010 to 2040



*The projections of "current-deal" benefits assume that retirement ages and replacement rates remain unchanged in the future.

Source: Richard Jackson, Lessons from Abroad for the U.S. Entitlement Debate (CSIS, 2013)

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The Broader Economy

- While emerging markets are still young, funded pension systems can help them advance the development agenda by broadening and deepening capital markets.
- As emerging markets age, funded systems, depending on how they are structured and financed, may also help to take pressure off public budget and maintain adequate rates of savings and investment.

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Pension assets are growing rapidly as a share of GDP in countries with personal accounts systems.

Assets of Personal Accounts Systems, as a Percent of GDP, 1981-2014



Source: Historical Statistics on Mandatory Savings (International Federation of Pension Fund Administrators, December 2014)

Design Challenges for Personal Accounts Systems



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Low contribution rates mean inadequate benefits.



*The projections assume real wage growth of 2.0 percent, a real rate of return of 4.5 percent, a 40-year career, administrative fees equal to 0.5 percent of assets, retirement at age 65, and life expectancy at retirement of 23 years. Source: GAI calculations

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Private vs. Public Management

Privately managed systems outperform publicly managed ones.

- While the advantages of public and private responsibility for plan administration and recordkeeping are at least debatable, there is no question that privately managed pension funds outperform publicly managed ones.
- Public management of pension fund assets also invites government interference in financial markets and creates ambiguity about who owns the assets—workers or government.

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Average Annual Real Rate of Return on Assets under Management



*Estimated based on nominal rate of return data. Source: FIAP Historical Statistics (December 2014); *Latin American Economic Outlook 2008* (OECD, 2007), 88; and national government pension authorities

Administrative Fees

Higher returns may justify higher administrative fees.

Since administrative fees reduce ultimate account balances and replacement rates, minimizing them has understandably become a focus of reform.

- Policymakers, however, should not lose sight of the fact that what ultimately determines pension system adequacy is the net return earned by participants, and this also depends on investment performance.
- Experience shows that the higher total return typically earned by privately managed systems usually more than offsets their higher administrative fees.

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Aging Institute Percent Reduction in Potential Personal Accounts Balance at Retirement, by Level of Administrative Fees*



Source: GAI calculations

Percent Increase in Potential Personal Accounts Balance at Retirement, by Real Rate of Return, Compared with the Potential Balance Assuming a 4.5 Percent Real Rate of Return*



*The projections assume a 12.5 percent contribution rate, real wage growth of 2.0 percent, a 40-year career, and administrative fees equal to 0.5 percent of assets. Source: GAI calculations

Portfolio Restrictions

Most personal accounts systems are diversifying their portfolios.

- Over time, personal accounts systems should move toward a "prudent man" investment rule.
- Asset allocation rules that overload portfolios with government debt or restrict foreign investment undermine the fundamental purpose of any pension system, which is obtaining the highest risk-adjusted return for participants.
- As emerging markets age, global diversification of portfolios will become even more important.

Assets by Investment Class in Selected Countries with Personal Accounts Systems

	Government Debt		Financial Institution Debt		Other Domestic Debt [†]		Foreign Investment	
	2000	2012	2000	2012	2000	2012	2000	2012
Chile	36%	22%	35%	17%	18%	25%	11%	36%
Colom- bia*	49%	44%	17%	6%	28%	36%	7%	15%
Mexico	93%	58%	2%	2%	5%	26%	0%	14%
Peru	9%	17%	34%	12%	50%	44%	7%	28%

*Data for Columbia refer to 2004. †Includes a small category of unclassified assets. Source: AIOS Statistical Bulletin (various years)



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