

ADB

Pension Systems in East and Southeast Asia

Promoting Fairness and Sustainability

Edited by Donghyun Park

Asian Development Bank





**Pension Systems
in East and Southeast Asia**
Promoting Fairness and Sustainability

Edited by Donghyun Park

Asian Development Bank

© 2012 Asian Development Bank

All rights reserved. Published in 2012.
Printed in the Philippines

ISBN 978-92-9092-760-0 (Print), 978-92-9092-761-7 (PDF),
Publication Stock No. BKK124839

Cataloging-In-Publication Data

Park, Donghyun (ed.)

Pension systems in East and Southeast Asia: Promoting fairness and sustainability.
Mandaluyong City, Philippines: Asian Development Bank, 2012.

1. Pension system. 2. East Asia. 3. Southeast Asia. I. Asian Development Bank.

The views expressed in this publication are those of the authors and do not necessarily reflect the views and policies of the Asian Development Bank (ADB), its Board of Governors, or the governments they represent.

ADB does not guarantee the accuracy of the data included in this publication and accepts no responsibility for any consequence of their use.

By making any designation of or reference to a particular territory or geographic area, or by using the term “country” in this document, ADB does not intend to make any judgments as to the legal or other status of any territory or area.

ADB encourages printing or copying information exclusively for personal and noncommercial use with proper acknowledgment of ADB. Users are restricted from reselling, redistributing, or creating derivative works for commercial purposes without the express, written consent of ADB.

Note:

In this publication, “\$” refers to US dollars unless otherwise stated.

6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel +63 2 632 4444
Fax +63 2 636 2444
www.adb.org

For orders, please contact:
Department of External Relations
Fax +63 2 636 2648
adbpub@adb.org

 Printed on recycled paper

Content

Tables and Figures	iv
Contributors	vi
Foreword	ix
Abbreviations	xi
Introduction <i>Donghyun Park and Gemma Estrada</i>	1
The People’s Republic of China <i>Stuart H. Leckie</i>	6
Indonesia <i>Yves Guérard</i>	21
The Republic of Korea <i>Seong Sook Kim</i>	38
Malaysia <i>Mukul G. Asher and Azad Singh Bali</i>	53
The Philippines <i>Ernesto Reyes</i>	66
Singapore <i>Mukul G. Asher and Azad Singh Bali</i>	85
Thailand <i>Orin D. Brustad</i>	99
Viet Nam <i>Thanh Long Giang</i>	116
Policy Options for Promoting Fairness and Sustainability in East and Southeast Asian Pension Systems <i>Donghyun Park</i>	129
References	138
Index	145

Tables and Figures

Tables

2.1	Pension Systems in the People's Republic of China	9
2.2	Civil and Public Service Employment Size and Wages	16
3.1	Population Aged 65 and Older, World and Selected Countries	22
3.2	Dependency Ratios in Indonesia in 2010	24
3.3	Distribution of the Population in the Labor Force in 2008, by Age Group (%)	25
3.4	Pension Coverage by Category of Worker (%)	25
3.5	Retirement Program Participants and Contributions as Percentage of Gross Domestic Product in 2009	29
3.6	Social Security Program Contributors, Dependents, and the Poor	32
4.1	Participants in Public Pension Systems as of December 2010	41
4.2	Number of Old-Age Pensioners and Average Pension Amounts by Birth Cohort and Gender as of the End of 2009	42
4.3	Pay-As-You-Go Rate for the National Pension System (%)	43
4.4	Ratio of Benefits to Cost by Level of Earnings for the National Plan	44
4.5	Contribution Rates to Attain Financial Goals in the First Scenario	50
4.6	Achieving the Financial Goals in the Second Scenario	50
4.7	Evaluation of the Scenarios for Long-Term Financial Goals	51
5.1	Selected Indicators of Aging in Malaysia	56
6.1	Philippine Public Debt as a Share of Gross Domestic Product (%), 1999/2000	67
6.2	Design Features of the Mandatory Defined-Benefit Programs	68
6.3	Replacement Rates for Various Wage Levels with 40 Years Credited Service	70
6.4	Social Security System and Government Social Insurance System Pensioner Data	72
6.5	Estimated Replacement Rates under Different Averaging Methods (%)	73

6.6	Coverage for a Private Sector Worker Entering the Labor Force at Age 20, and Retiring at 60, 65, and 70	76
6.7	Pension Spending and Real Gross Domestic Product Growth (%)	80
7.1	Composition of Singapore's Population in Selected Years	87
7.2	Projections for Population Aging in Singapore	88
8.1	Contribution Rate and Pension Benefits of the Old-Age Pension System	103
8.2	Percent of Old-Age Pension Contributors of Total Workforce, 2004–2079	104
9.1	Actual and Projected Macroeconomic Indicators	122
9.2	Net Pension Liabilities as a Percent of Gross Domestic Product in 2008	128

Figures

2.1	Age Structure in the People's Republic of China in 1990, 2000, and 2010	7
2.2	Gross Replacement Rates of Mean Earners	13
2.3	Expected Replacement Rate by Sector in 2011	14
2.4	A Comparison of Investment Returns and Inflation Rates in the People's Republic of China in 2011	15
6.1	Comparative Age Distribution of the Philippine Population in 2010 and 2050	75
6.2	Life Expectancies for Elderly Filipinos at Various Ages	75
6.3	Comparative Old-Age Dependency Ratios at Ages 60 and 65	77
6.4	Projected Age-sex Distribution of the Philippine Population in 2010 and 2050	78
6.5	Historical Data on Life Expectancy at Birth in the Philippines	79
8.1	Number of New Old-Age Pension Recipients, 2014–2079	105
8.2	Projected Dependency Ratio of the Old-Age Pension System, 2014–2079	106
9.1	Projected Pension Fund Balance, 2008–2049	125
9.2	Reform Scenarios for Preserving the Pension Fund Reserve, 2008–2049	126
9.3	Estimated Replacement Rates, Males vs. Females and Public vs. Private Sector	127

Contributors

Mukul G. ASHER, professor of public policy at the National University of Singapore, was educated in India and the United States. His research focuses on public finance and social security issues in Asia. He has published extensively in national and international journals and has authored or edited more than 10 books. He serves on the editorial boards or on the advisory boards of several journals including the *International Social Security Review*. He has been a consultant to several governments in Asia on tax policy and pension reform and to multilateral institutions including the Asian Development Bank (ADB), the World Bank, and the World Health Organization (WHO).

Azad Singh BALI is a PhD student at the Lee Kuan Yew School of Public Policy of the National University of Singapore. His research focuses on comparative health policy and pension reform in developing Asia.

Orin BRUSTAD is a pension lawyer in private practice with the firm of Miller, Canfield, Paddock and Stone in Detroit, Michigan in the United States. With more than 300 lawyers, Miller, Canfield is the largest law firm in Michigan and one of the leading American firms in its field. He is currently a senior counsel and has previously held the positions of senior principal and partner. He works primarily with public employers and has consulted on pension reform in Indonesia, Kazakhstan, Montenegro, and Thailand. From 2002 to 2006, he served as an advisor to Thailand's Ministry of Finance during its review of all private and public pension systems in the country. He holds BA and MA degrees from Yale and a JD degree from Harvard University.

Gemma ESTRADA is an economics officer at the Economics and Research Department of the ADB. She has been with ADB since 2001, initially as a local consultant for various research projects. Prior to ADB, she was head of the monitoring division at the Agricultural Credit Policy Council in the Philippines. At ADB she has been involved in various research studies on labor markets, structural change, economic integration, and financial development. She has also been actively involved in the annual publication of the *Asian Development Outlook*.

Yves GUÉRARD is an international expert in pensions and social security who has been a consultant for multilateral international institutions in a number of countries. From 1997 to 2010 he was secretary general of the International Actuarial Association. Until his retirement in 1999, he was a senior partner at Ernst & Young Management Consultants. He became a fellow of the Society of Actuaries in 1963 and of the Canadian Institute of Actuaries in 1965. He is also an honorary fellow of the Institute and Faculty of Actuaries in the United Kingdom and holds an honorary PhD in Business Administration from Laurentian University. He is a regular speaker at international conferences and currently serves as a member of the Panel of Senior Advisors to the auditor general of Canada.

Seong Sook KIM is currently head of the National Pension Research Institute at the National Pension Service in the Republic of Korea which she joined in April 1995. She has a doctorate in literature and majored in social welfare policy at Ewha Woman's University in the Republic of Korea. Her main area of research over the last 15 years has been the Korean national pension scheme. She has participated in several government committees on pension and income security programs and has played a leading role in the financial review of the system since it was introduced in 2003. She currently serves on four government committees.

Stuart H. LECKIE is a pension and investment advisor based in Hong Kong, China who also works in the People's Republic of China. He is the author of *Pension Funds in China* and *Investment Funds in China* and is the founding chairman of the Hong Kong Retirement Schemes Association. He also acts as trustee for a number of retirement schemes and is a member of the CFA Institute Advisory Council. He has served as chairman of Watson Wyatt in the Asia-Pacific region and of Asia-Pacific Fidelity Investments. He has advised the Chinese government on pension reform and the Hong Kong, China authorities on the establishment of the mandatory provident fund.

Thanh Long GIANG is currently vice director of the Institute of Public Policy and Management at the National Economics University and a research fellow at Indochina Research & Consulting, both in Ha Noi, Viet Nam. He obtained a PhD in Public Policy at the National Graduate Institute for Policy Studies in Japan. His research interests include social security pensions, economics of aging, and

micro-simulations of anti-poverty programs for older persons. His research findings have been and are scheduled to be published in several peer-reviewed journals. He is also a consultant for various ministries in Viet Nam as well as international organizations such as ADB, GTZ, HelpAge International, the International Labour Organization, the United Nations Development Programme, UNFPA, the World Bank, and WHO.

Donghyun PARK is currently principal economist at the Economics and Research Department of ADB which he joined in April 2007. Prior to ADB, he was a tenured associate professor of economics at Nanyang Technological University in Singapore. He has a PhD in economics from the University of California, Los Angeles, and his main research fields are international finance and trade. His research, which has been published extensively in journals and books, focuses on policies for Asia's long-term development including pension reform and sovereign wealth funds. He plays a leading role in the production of the *Asian Development Outlook*, the annual flagship publication of ADB.

Ernesto REYES earned a masteral degree in actuarial mathematics from the University of Michigan in the United States as a Government Service Insurance System (GSIS) scholar. He is a Fellow of the Actuarial Society of the Philippines. He began his actuarial career with the GSIS in 1970 and also provided technical assistance on various projects including crop insurance, land reform, and viability studies while on temporary assignment to other government agencies. In private practice he was chief actuary for two multinational life insurance companies until 2000. Now an independent consultant, his involvement with pension reform started with his tenure as deputy executive director of the Philippine Retirement Income Commission followed by work for the World Bank, United States Agency for International Development, and ADB on pension reform.

Foreword

Asia's stellar economic achievements in the past have benefitted from its favorable demographics as the region's large and youthful population helped to propel high and sustained growth; however, as a result of declining fertility and rising life expectancy, the region will have a much older population in the coming years. Future growth will therefore depend less on a favorable population structure than it did in the past.

Faced with a rapidly aging population, developing Asia must address two critical challenges: maintaining growth and providing adequate, affordable, sustainable income support for the elderly. This book deals with the second issue by examining the pension systems of eight developing Asian countries—the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. It builds upon the recently published *Pension Systems and Old-Age Income Support in East and Southeast Asia: Overview and Reform Directions* by making an in-depth study of two issues that are especially important in pension reform: fairness and sustainability. Despite their diverse income and development levels, the common concerns in the pension systems of these eight countries are inequity and potential unsustainability.

Both fairness and sustainability can help to build a strong national consensus for old-age income support. Achieving fairness in coverage, net benefits, and retirement age between the public and private and urban and rural sectors, as well as between current and future pensioners, is crucial for broadening support for robust pension systems. The systems also need to be sustainable to assure workers that the benefits promised at the end of their working lives are in fact delivered.

The country-specific analyses in this book suggest that much remains to be done to achieve fairness and sustainability in the current systems. In addition to country-specific measures, common, region-wide reforms are suggested. First, the urgency for addressing the challenges aging populations face must be recognized. Second,

delivering pension benefits must be emphasized. Third, the impact of rising longevity on the length of retirement must be managed. We hope that by raising awareness on these critical issues and the required reforms, this book may serve as an effective reference for strengthening pension systems across developing Asia.

Finally, I would like to acknowledge the invaluable contributions of all ADB staff and external experts who helped produce this highly informative and policy-relevant volume. In particular, let me thank Joseph E. Zveglich, Jr. for providing strategic support and guidance; Donghyun Park for originating, and successfully leading and coordinating the research project; Gemma Estrada for rendering able administrative and technical assistance; and the external experts—Mukul Asher, Azad Singh Bali, Orin Brustad, Yves Guérard, Seong Sook Kim, Stuart H. Leckie, Thanh Long Giang, and Ernesto Reyes—for their intellectual contributions and thorough analyses of the pension systems of the eight countries.

Changyong Rhee
Chief Economist, Asian Development Bank

Abbreviations

ADB	Asian Development Bank
CPF	Central Provident Fund
CPF LIFE	CPF Lifelong Income Scheme
CPFIS	Central Provident Fund Investment Scheme
CPI	consumer price index
DOS	Department of Statistics
EET	exempt-exempt-tax
EPF	Employees' Provident Fund
FIPF	financial institution pension funds
GDP	gross domestic product
GPF	Government Pension Fund
GSIS	Government Service Insurance System
GSO	General Statistics Office
ILO	International Labour Office
LFPR	labor force participation rate
LTAT	Armed Forces Fund
MOF	Ministry of Finance
MOHRSS	Ministry of Human Resources and Social Security
MOL	Ministry of Labor
MPF	mandatory provident fund
NEM	new economic model
NEP	new economic policy
NRA	new retirement age
NSF	national savings fund

NSO	National Statistical Office
NSSS/SJSN	National Social Security System
OAA	Old-Age Act
OAP	old-age pension/Old-Age Pension Fund
OECD	Organisation for Economic Co-operation and Development
PRC	People's Republic of China
PVDs	voluntary provident funds
RMF	Retirement Mutual Fund
SAT	State Administration of Taxation
SEC	Securities and Exchange Commission
SGIC	Singapore Government Investment Corporation
SOCSO	Social Security Organization
SSO	Social Security Office
SSS	Social Security System
UNDESA	United Nations Department of Economic and Social Affairs
UNFPA	United Nations Population Fund

Introduction

Donghyun Park* and Gemma Estrada**

In the past, developing Asia's youthful population contributed significantly to the region's rapid economic growth. The increase in the share of the working-age population, who tend to work and save more than the young or the elderly do, led to an increase in the labor force and in aggregate savings. Sound institutions and policies, such as flexible labor markets and heavy investments in education and human capital, enabled developing Asia to capture this demographic dividend; however, as a result of falling fertility and rising longevity, the region is currently in the midst of a far-reaching transition toward older populations that will fundamentally alter its future demographic landscape. A demographic dividend turns into a demographic tax as the relative share of the elderly in the population rises and the relative share of the working-age population falls. At a minimum, demographics will become a less significant source of growth in the future than they have been in the past.

Within the region-wide aging trend there is a considerable heterogeneity across subregions and countries. In particular, East and South-east Asia are at a more advanced stage of the demographic transition than South Asia. Even within East and Southeast Asia, countries such as the Philippines are still relatively young while others such as the Republic of Korea are aging rapidly.

Despite this diversity, the demographic transition is one of the biggest medium-term structural challenges facing Asia as a whole. The sluggish recovery of the advanced economies from the global

* Principal Economist, Economics and Research Department, Asian Development Bank (dpark@adb.org)

** Economics Officer, Macroeconomics and Finance Research Division, Economics and Research Department, Asian Development Bank (gestrada@adb.org)

financial crisis clouds Asia's economic prospects; and the region also faces a number of internal structural problems, in particular population aging which poses two major challenges for Asian policy makers: sustaining rapid economic growth in the face of less favorable demographic conditions; and providing affordable, adequate, sustainable old-age income support for a large and growing elderly population. In this book, we explore the second issue, specifically the pension systems that are the central component of old-age income support. For the most part, Asian countries do not yet have well-established pension systems capable of providing economic security for their growing elderly populations, and even the more mature pension systems in the region suffer from a wide array of structural shortcomings that must be addressed if they are to fulfill their central objectives.

While demographic change is the primary impetus for pension reform in Asia, there are a number of other factors that lend a sense of urgency to the task of building up sound and efficient pension systems. Foremost, informal, family-based old-age support mechanisms—adult children supporting their elderly parents—are breaking down as a result of extensive social and economic changes. For example, the nuclear family is replacing the extended family as the dominant living arrangement, and the share of the population living in rural areas is dwindling as a result of industrialization and urbanization. The effects of globalization on labor markets provide yet further impetus for strengthening Asian pension systems. Integration into the world economy, in particular global trade, has undoubtedly been a key ingredient of Asia's stunning economic success; nevertheless, globalization inevitably unleashes intense competition and inflicts extensive structural dislocations. Strong social protection systems, including pension systems, can mitigate the insecurity that globalization brings.

This book builds upon the recently published *Pension Systems and Old-Age Income Support in East and Southeast Asia: Overview and Reform Directions*¹ by taking a closer look at two issues that are especially important in pension reform: fairness and sustainability. Promoting fairness and equity in pension systems matters

¹ 2011. Donghyun Park, ed. London: Routledge.

and matters a great deal because it helps to build a robust national consensus for old-age income support. A pension is ultimately the promise of a future benefit in exchange for a current contribution. An effective pension system therefore requires the general public's confidence that the promise will be kept. A lack of fairness and sustainability undermines this public confidence and the national consensus required for building a strong pension system.

In this book, we explore fairness and sustainability in the pension systems of eight countries in East and Southeast Asia: the People's Republic of China (PRC), Indonesia, the Republic of Korea, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. The eight differ widely in terms of their income and development levels as well as in the history and maturity of their pension systems. The authors are highly respected pension experts with in-depth knowledge of their respective country's pension system and offer both a detailed analysis of the current system and suggestions for reform.

With respect to fairness, there is a great deal of disparity among these countries in terms of coverage, level of net benefits, and retirement age. For example, to attract personnel into the civil and the military service, their pension benefits are often more generous than those of the rest of the population. In some cases, beneficiaries contribute relatively little into these systems further enhancing their net benefits to the extent that they can pose a risk to fiscal sustainability. Another major disparity is between urban and rural areas since frequently, pension coverage is largely limited to urban areas. Intra-generational disparities also arise between the formal and informal employment sectors as Asia has a large number of workers in the latter who do not enjoy the protection of labor regulations or of social safety nets.

Disparity also affects sustainability which in turn can seriously undermine efforts to build a national consensus for pension reform. If fairness deals with intra-generational disparities, sustainability addresses inter-generational disparities. The two main types of pension systems are defined contribution and defined benefit. In the former, people's benefits tend to be closely linked with their contributions; the systems tend to be financially sustainable. In stark contrast, in defined-benefit schemes, that in practice tend to be pay-as-you-go systems whereby contributions from current workers pay for the benefits of current retirees, there is little or no

link between one's contributions and one's benefits. Many pay-as-you-go, defined-benefit pension schemes are therefore unsustainable in the long run; those in Asia are no exception. Without far-reaching reforms, the financial burdens of these schemes on future workers may become politically unacceptable. Fundamental reforms include raising retirement ages to reflect rapidly increasing longevity and raising contribution rates.

These disparities make building a national consensus for pension reform difficult because they dilute the general public's sense of ownership and thus weaken popular support for reforms. National consensus is critical because many Asian systems are still underdeveloped. Indeed, even in some middle-income countries like Indonesia and Thailand, recognizable national pension systems are still in an embryonic state. Even mature Asian pension systems with a long history need to undertake broad, deep reforms if they are to fulfill their central mandate of delivering economic security to a rapidly growing elderly population.

Unfortunately, there is only limited awareness of the huge social and financial challenges old-age income support entails, and most countries do not yet have a systematic strategy for coping with them. This lack of preparedness is perhaps understandable in light of the fact that until quite recently Asia was a young continent reaping the demographic dividend its young workers offered. Ironically, just a generation ago the primary demographic concern was too many young people, not too many old people. This led to drastic measures like the PRC's one-child policy. Just as Asia's economic landscape was transformed beyond all recognition in one generation due to exceptionally rapid growth, its demographic landscape is transforming due to a change in population age structure that is unprecedented both in its scale and speed.

Given the general lack of public awareness about the urgent need to prepare for rapid demographic changes, Asian governments should take the lead in building consensus for establishing sound, efficient pension systems, especially given the erosion of traditional, informal, family-based old-age support. This is especially true in countries at advanced stages of the demographic transition such as the Republic of Korea though even younger countries like the Philippines should start to lay the foundations for effective systems as policies implemented

today will heavily influence the capacity of those systems to deliver old-age economic security in the future. Building consensus will require educating the public about the challenges rapid demographic change presents and initiating and sustaining public debate about pension reform. Governments can form the debate by providing information, e.g., about the benefits of saving for retirement.

The concept of saving for old age is something of a novelty in Asia, so enlightening the public about the need to prepare for old age and encouraging them to participate in pension systems are of paramount importance for old-age income support. Voluntary participation and compliance will not, however, be forthcoming if there are significant discrepancies in fairness, i.e., in coverage, net benefits, and other key parameters. Likewise, a lack of sustainability will severely undermine public confidence that the system can fulfill its fundamental promise to deliver benefits in the future. Fairness and sustainability are thus indispensable for establishing the national consensus for old-age income support that in turn will serve as the foundation for a strategic national blueprint for coping with the challenge of providing for the growing number of elderly. We therefore hope that this book can contribute to meaningful pension reform across the region.

The People's Republic of China

Stuart H. Leckie*

Abstract

The working-age population in the People's Republic of China is destined to shrink after peaking in 2016 marking the end of its demographic dividend. Economic growth is set to slow, and low effective retirement ages, rapidly improving life expectancy, changing work patterns, fluctuating price inflation, expectations of improved living standards, and mediocre returns on pension investments will present serious challenges to the existing pension system. Urban enterprise workers, rural dwellers, and civil and public service employees have their own pension plans, but their different contribution rates and benefits do not exhibit fairness and may not be sustainable. The urban and civil and public service systems are mandatory while the rural scheme is voluntary. The retirement age is 60 years for men, 55 for white collar women in the urban pension system and civil and public service system, 50 for blue collar women in the urban system, and 60 for women in the rural program. Those ages were set when life expectancy was much lower. The urban enterprise system is a contributory, defined-contribution plan with individual accounts. The civil and public servant scheme is a defined-benefit plan wholly financed by the government, and the rural system is a defined-contribution plan with government and worker contributions going into individual accounts. Significant changes must be implemented to improve and rationalize the benefits of the different systems to develop a more efficient, robust, and balanced pension framework for the country. Suggestions for reform include converting the civil and public service system to an urban enterprise system, making the rural system compulsory, improving both the urban and the rural systems, resolving the pension positions of migrant workers, agreeing on a protocol for inter-provincial and international transfers of benefits, and integrating the rural and urban systems by the second half of this century.

* Chair, Stirling Finance Limited, Hong Kong, China
(stuart.leckie@stirlingfinance.com)

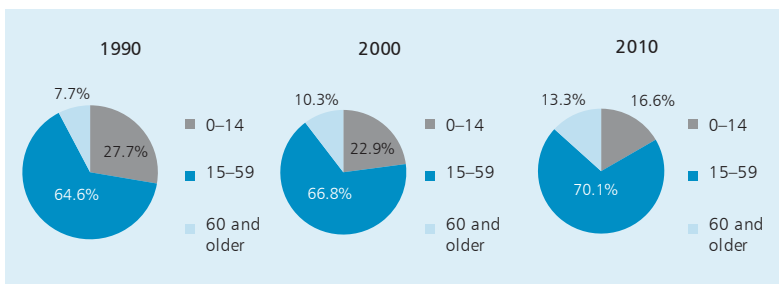
Overview

The People's Republic of China (PRC) is a very large, very complex, and very fast changing society with tremendous regional variations. The one-child policy became effective in the late 1970s and is estimated to have reduced potential population growth by as many as 300 million people over the last 30 years. This policy initially led to a lower youth-dependency ratio and to a higher ratio of working-age population, but as the relatively large working-age group grows older, aging will set in and the dependency ratio will deteriorate every year.

As the country's population reached 1.34 billion by end of 2010, the share of people aged 14 or younger dropped to only 16.6% of the entire population from 22.9% 10 years before (Figure 2.1). At the same time, the percentage of people aged 60 or older increased from 10.3% in 2000 to 13.3% in 2010—a total of 178 million people. The PRC now has more senior citizens than all European Union countries combined, and the number is expected to rise to 200 million by 2015. People in the age group 15–59 years account for 70.1% of the entire population. Though this was responsible for a 3.3% increase in the labor force over the last decade, the working-age population is destined to shrink after peaking in 2016 when the PRC will reach the end of its demographic dividend.

Further challenges include rapid urbanization and unequal economic development nationwide that have led to a geographical redistribution

Figure 2.1 Age Structure in the People's Republic of China in 1990, 2000, and 2010



Source: Stirling Finance research using 1990, 2000, and 2010 population census data.

of the population and to a surge in migrant workers that will certainly demand more attention and policy guidance from the government in the future. In the last decade, the number of urban residents increased by 13.5% to 49.7% of the population. Migrants have been arriving continuously from populous, less-developed western and central areas to the rich eastern coastal provinces bringing the number of residents there to almost 38% of the country's population, 2.4% more than a decade ago. In an unprecedented change, the average household size has decreased from 3.44 in 2000 to 3.10 in 2010, a 10% drop; while the number of households increased from 348 million to 402 million, a 16% increase (Government of the PRC 1990, 2000, 2010).

The current potential support ratio of the working-age population to the retired population stands at 6, but it will inexorably fall to 2 by the year 2040 as per the United Nations forecasts (United Nations Population Division 2010). With an estimated elderly population of 400 million by 2040, pension costs are going to expand exceedingly rapidly.

The Current System

The following are the three main systems for providing pensions in the PRC (details are in Table 2.1):

- the urban pension system consisting of five elements—minimum guarantee, social pool, individual account, voluntary enterprise annuity and other voluntary supplementary benefits, and family care—currently covering 180 million active urban enterprise workers and 50 million pensioners;
- the civil and public service pension system that has about 40 million participants; and
- the rural pension system with two major components—social pool and individual account—launched in 2008 to eventually provide pension benefits for all 674 million rural residents.

In general, pension arrangements in the PRC differ from those in western countries in the sense that most rich countries provide relatively high universal pension benefits to cover the entire population while in the PRC, citizens other than civil servants and public

Table 2.1 Pension Systems in the People's Republic of China

System Features	Urban Pension System	Civil and Public Service Pension System	Rural Pension System
Status	Mandatory: social pool/ individual account (IA) Voluntary: enterprise annuity (EA)/private pensions	Mandatory	Voluntary
Retirement age	60 (males) 55 (females, white collar) 50 (females, blue collar)	60 (males) 55 (females)	60 (for both males and females)
Types of plans	Social pool: unfunded IA and defined contribution (DC) EA and DC	defined benefit (DB)	Social pool: unfunded IA and DC
Contributions	Social pool: ~20% of salaries by employer IA: 8% of salary by employee	no self-contributions 100% financed by government budget	Social pool: 100% from government budget; IA Self: 100/200/300/ 400/500 yuan per year Government: 30+ yuan per year
Investments	IA: bank deposits and government bonds; 1-year bank deposit rate applies for money accumulated EA: ≤30% in equities/ equity products; ≤50% in bonds; ≥20% in cash and cash deposits	not applicable (n.a.)	IA: bank deposits and government bonds; 1-year bank deposit rate applies to money accumulated

continued on next page

Table 2.1 *continued*

System Features	Urban Pension System	Civil and Public Service Pension System	Rural Pension System
Benefits	<p>Social pool: monthly pension based on average local monthly wage, indexed individual wage and years of employment</p> <p>IA: monthly pension of 1/139 of IA balance at the time of retirement assuming at least 15 years of contributions otherwise lump sum payable</p> <p>EA/private pensions: lump sum or annuity benefit</p>	<p>Monthly pension equivalent to a certain percentage of final pay (composed of post wage and rank wage) based on years of service</p>	<p>Social pool: ≥ 55 yuan/month;</p> <p>IA: monthly pension of 1/139 of IA balance at the time of retirement age assuming at least 15 years of contributions, otherwise lump sum payable</p>
Replacement rate upon completion of 35 years of contributions	58%	90%	<p>$\sim 17\%$ (contributing 100 yuan/year);</p> <p>$\sim 30\%$ (contributing 500 yuan/year)</p>
Pension increases	Depending on real price movements and economic development	Depending on the adjustment to current working cohort's salaries	Depending on real price movements, rate of earnings increase and GDP growth rate
Extension to survivors	Remaining balance of IA at the time of death	n.a.	Remaining balance of IA at the time of death

Source: Stirling Finance research and Leckie (2011).

service employees have pension benefits that meet only basic post-retirement needs. Even so, the sustainability of the current pension arrangements remains a serious issue.

Contribution Rates

Substantial disparity exists among the three systems, and one key factor is the contribution rate. It is mandatory for all enterprise workers and for their employers to pay 8% and about 20% of an employee's monthly earnings as contributions to individual account and social pool pensions respectively, while civil servants and public employees do not need to contribute at all as their pensions are 100% financed by the government. The 20% (or more) monthly contribution may be less of an issue for state-owned enterprises or for large corporations; however, small or medium-sized companies often find it challenging to fulfill this obligation. The wage disparity among provinces and regions can be extremely wide even within the same pension system. It varies significantly by sector, type of organization, local minimum wage level, and local cost of living. Also, there are cap and floor contribution rates that limit contributions payable by high wage earners and benefits received by low wage earners.

Retirement Age

For both the urban enterprise system and the civil and public service systems, the retirement ages of 60 years for men, 55 for white collar women, and 50 for blue collar women were set a long time ago when life expectancy was much lower. Today, the average life expectancy is 71 years for men and 74 years for women nationally and is longer for urban residents. More importantly, this is life expectancy at birth, but the more relevant indicator for pension purposes is life expectancy at retirement age which is expected to be even longer.¹ For sustainability, the retirement ages for both men and women should be gradually raised. Not only would this decrease pension expenses, it would also increase contribution income and investment returns as well. The rural pension system is ahead of the urban and the civil and public service systems with respect to this important element as the pension age has been set at 60 for all rural residents irrespective of gender.

¹ There are no data available for life expectancy at retirement age in the PRC.

Men and women should in fact have the same retirement age in the urban system, and there should be reductions in pensions for early retirement and enhanced pensions for deferred retirement. The female retirement age should be gradually increased to 60 after which the normal retirement age for men and women should be extended to 65.

Replacement Rates

In terms of gross replacement rates,² the current average in the PRC for urban retirees is 77.9% which is greater than the Organisation for Economic Co-operation and Development (OECD) average of 57.3%, as illustrated in Figure 2.2.

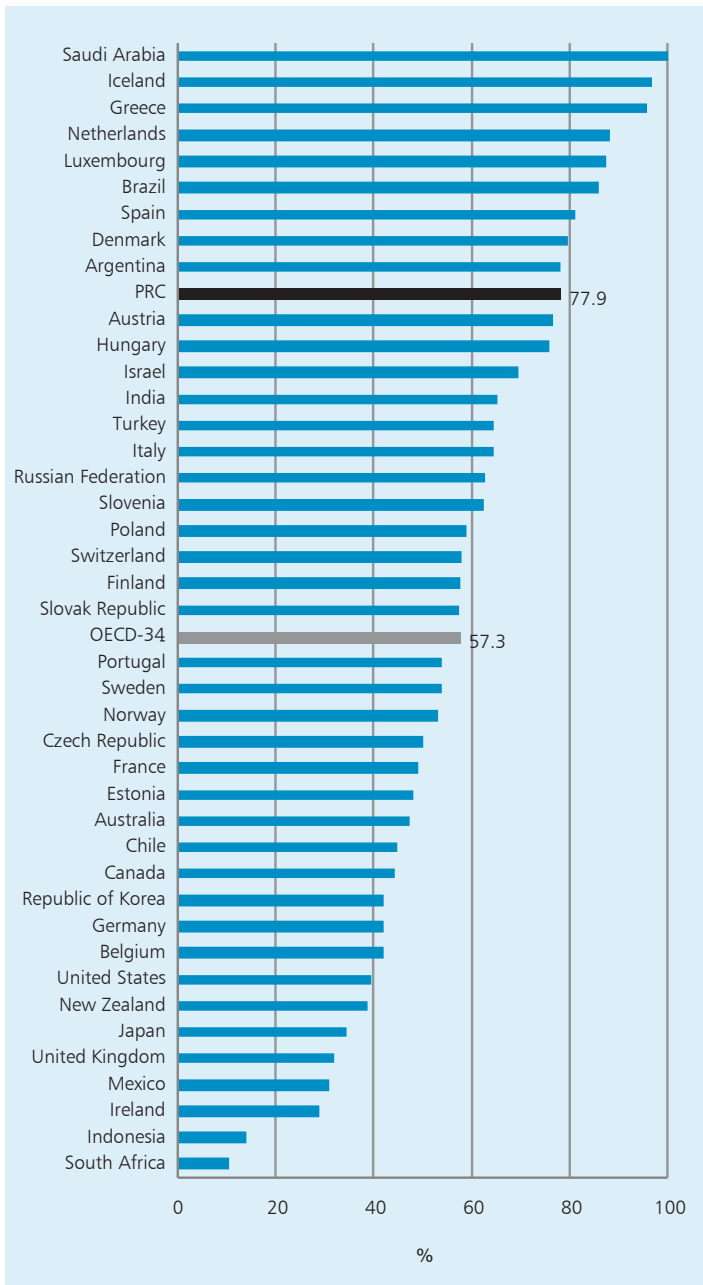
However, although the current replacement rate of 58% for urban enterprise workers, shown in Figure 2.3, is higher than the recommended 40%–50% set by the International Labour Organization for a worker with 35 years of service, the difference between the urban enterprise system and the civil and public service system averages 32%. In other words, even if enterprise workers and civil and public servants receive the same amount of final pay, civil and public servants will receive a monthly pension equivalent to 1.5 times the amount enterprise workers are entitled to. In addition, most enterprise workers receive much lower pay than civil and public service workers.

Notwithstanding the fact that the government has granted increases in the social pool pension system for enterprise workers 7 times in the past 6 years, there is still a large gap in actual amounts compared with the civil and public servant pension arrangements. Statistics show that enterprise workers received a monthly pension of 1,400 yuan on average in 2010 compared with 1,200 yuan in 2009. In a report dated 2 March 2011,³ 95% of the 95,300 respondents expressed concern over the lack of equity and fairness in the current pension system for urban workers.

² The gross replacement rate is defined as the average (pre-tax) gross pension payoff over the whole retirement period divided by gross pre-retirement earnings.

³ <http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1201&MainCatID=12&id=20110302000133>

Figure 2.2 Gross Replacement Rates of Mean Earners

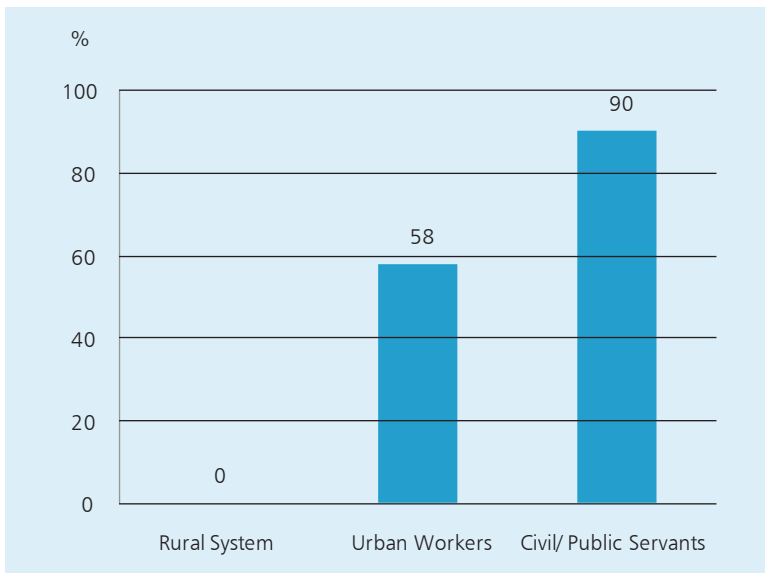


PRC = People's Republic of China.

Source: OECD (2011).

Under the new rural system, the monthly basic benefit of 55 yuan (\$8.50) literally can buy a pensioner only a pound of pork and is certainly not sufficient to meet any international standards for replacement rates. The government is fully aware that this amount must grow substantially in coming years to reach a satisfactory level.

Figure 2.3 Expected Replacement Rate by Sector in 2011



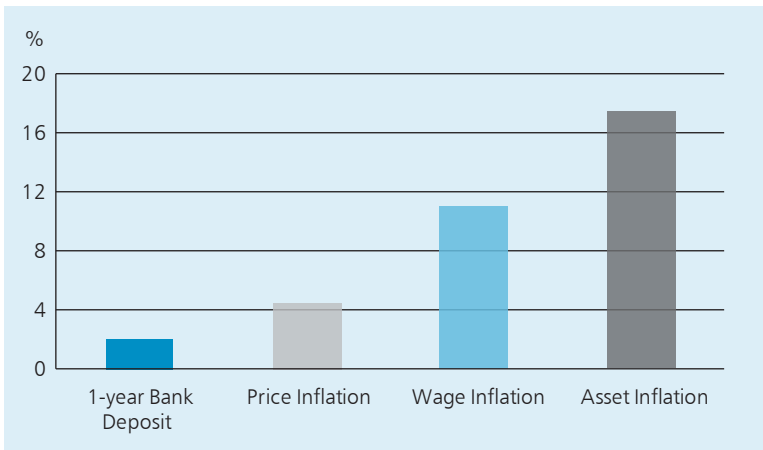
Source: Stirling Finance research.

Investments

The individual account aspect of the system relies on a meaningful accumulation of assets. So far, only enterprise annuity plans can invest part of their assets (up to 30%) in domestic equities. For individual account monies under both the urban enterprise system and the rural system, the current rules allow investments only in bank deposits or government bonds with returns linked to 1-year bank deposit rates. Such returns offer no protection against the surging inflation in the PRC: price inflation averaging 4%–5% annually; wage inflation averaging 10%–12% annually, and asset inflation at 15%–20% annually for residential property. The average return on investments for individual account assets in comparison has been as low as 2%

per annum. Quite simply, the target replacement rate for urban workers will be achieved only if long-term investment returns on individual accounts match the long-term rate of growth in earnings as illustrated in Figure 2.4.

Figure 2.4 A Comparison of Investment Returns and Inflation Rates in the People's Republic of China in 2011



Source: Stirling Finance research (2011).

Longevity

The longevity of the population has improved enormously; in fact, life expectancy in Beijing, Shanghai, Guangzhou, and Shenzhen is close to western levels though rural areas lag behind. The overall picture is further complicated by the large number of migrant workers employed in cities and the rapid increase in urbanization throughout the country. When determining the long-term sustainability of the social pool pension system, allowances must be made for continued increases in longevity.

Extension to Survivors

An issue that needs to be addressed concerns the demise of a worker or pensioner who has family obligations to parents, to a spouse, or to children. A more comprehensive approach to providing survivors' benefits is essential.

Legacy Pensions

The current urban enterprise pension system combines the pension obligations under the old state-owned enterprise pension system with those under the new system. This means that not only are many early retirees covered by the current system but also that all the legacy pensions will remain part of the pension debt for many years. Those who retired before 1997 made either no or minimal contributions, but they are fully entitled to pension benefits. Employees who joined the current pension system after 1997 have to make contributions for at least 15 years before they are eligible for benefits.

Aggregate Pension Burden

Table 2.2 shows that total employment in the civil and public service sector increased from 32.1 million in 1990 to 40 million in 2007. In the same period, the total wage bill increased from 68 billion yuan to over 1 trillion yuan, representing 4.1% of the country's gross domestic product (GDP). Pensions to civil and public servants are based on final salary; that clearly implies a very rapidly expanding government obligation in the future.

Table 2.2 Civil and Public Service Employment Size and Wages

	1990	1995	2000	2005	2007
Employment (millions)					
Public Service	23.0	25.3	26.9	27.1	28.7
Civil Service	9.1	10.1	10.6	10.7	11.3
Total	32.1	35.4	37.5	37.9	40.0
Wage bill annually (billion yuan)					
Public Service	48.8	139.4	259.1	507.9	741.7
Civil Service	19.2	55.9	106.4	223.5	325.1
Total	68.0	195.3	365.4	731.4	1,066.8
Civil and public employment relative to total employment (excluding rural workers) (%)					
Public Service	8.9	7.8	7.5	6.5	6.3
Civil Service	3.5	3.1	2.9	2.6	2.5
Total	12.4	10.9	10.4	9.0	8.8
Wage bill relative to GDP (%)					
Public Service	2.6	2.3	2.6	2.8	2.9
Civil Service	1.0	0.9	1.1	1.2	1.3
Total	3.6	3.2	3.7	4.0	4.1

Source: Hu and Herd (2009).

Coordination among Regulators

Pension systems in the PRC are under the joint oversight of five government agencies, namely the Ministry of Human Resources and Social Security (MOHRSS), responsible for the urban and rural systems; the Ministry of Finance (MOF), responsible for budgeting and subsidies; the State Administration of Taxation (SAT), responsible in some provinces for regulating and collecting payments for pension contributions and benefits; the Ministry of Civil Affairs, responsible for “*di bao*” (i.e., basic poverty alleviation) payments and civil service pension payments; and local authorities responsible for public service pensions.

The pension systems require first-class coordination among these government agencies; however, due to each regulator’s unique duties and responsibilities, conflicts of interest are inevitable. For instance, the MOF usually forecasts pension income and expenditures in the short to medium term, e.g., over the coming 5 years, for the country as a whole for national budget forecasts while the MOHRSS projects long-term trends over the next 50 years both for each province and nationally. Another example is that while MOHRSS wishes to encourage voluntary contributions from participants and their employers (if applicable) to enterprise annuity schemes, the SAT offers no tax incentives for those contributions to either employers or employees.

Coordination among the agencies, hence, needs to be further enhanced as their joint efforts are unquestionably vital for making policies, issuing guidelines and documents, and monitoring progress on implementation—all of which will have a direct impact on the strength and sustainability of the country’s pension arrangements. Policy guidelines should be straightforward and easy to implement for both employees and employers which will also help to improve the utilization of resources by the government. Policies should further encourage cooperation among these government agencies.

Involving the Private Sector

The rationale for private sector pension is to ease the burden on governments for supporting aging populations, yet if private funds are invested mainly in government bonds, pensions will be a claim on future taxpayers all the same. In the PRC, insurance companies, fund managers, commercial banks, and trust companies are involved in private sector pension subject to official approval from MOHRSS.

Enterprise annuity assets have been growing annually, and by the end of 2010, totaled 300 billion yuan (\$46 billion) and covered over 14 million employees. The private sector should use all its resources to enhance investment returns.

Quality of the Reporting System

It is vital that the authorities make comprehensive statistics available on a timely basis for the urban pension system, for supplementary benefits, and for the rural pension system. For the urban system, the total number of workers and pensioners is available, but other important information is kept confidential. For example, a key metric is the amount of assets in the individual accounts and how much is real money and how much is notional only. Reliable statistics are available for the enterprise annuity system but not for the supplementary retirement benefits provided through group insurance policies or self-administered arrangements. The number of counties that have introduced the new rural system voluntarily looks impressive, but the level of participation in each county may be more indicative of acceptance. Reasonably detailed information on investments is available for the national social security fund, but it is important to know whether or not all investments are valued at market value in order to properly measure investment returns.

Training Professionals

A basic requirement for any country to properly design, finance, and implement pension systems is to have a sufficiently large corps of competent professionals that includes accountants, actuaries, administrators, communication specialists, economists, investment professionals, lawyers, statisticians, system experts, and trainers. With a population of 1.34 billion, a minimum of 1.3 million of such professionals for the PRC would be necessary. In this respect, the PRC is manifestly deficient. A professional qualification scheme needs to be introduced that combines top-level academic study at universities with practical experience in both the public and private sectors.

Suggestions for Reform

Considering the paramount importance of equitable, sustainable pension systems in the PRC, we would like to propose a number of

improvements. The order of timing of structural reforms in all three sectors should be the following.

- Introduce rural pensions on a voluntary basis.
- Convert the public service system to an urban enterprise system.
- Convert the civil servant system to an urban enterprise system.
- Make the rural system compulsory.
- Improve the urban system.
- Improve the rural system.
- Resolve the pension positions of migrant workers.
- Agree on a protocol for inter-provincial and international transfers of benefits.
- Integrate the rural and urban systems.

Civil and Public Service Sector

Although the number of civil and public servants are not nearly as high as those in the other systems, there is a strong need for reform with the growing disparity between the systems. Arrangements should be brought into line with the urban system within the next 5 to 10 years without affecting pensions already in payment and protecting all accrued pension entitlements. This should be well received by the greater community as a positive step toward creating a more harmonious society. Civil and public servants will, however, certainly require guarantees and commitments from central or local governments to ease the transition.

Rural Sector

The gap between rural pension and the average urban worker's pension should be narrowed significantly over the next 40 years subject to the following measures in order of timing.

- Encourage voluntary participation.
- Give subsidies on a proportional basis, not flat amounts.
- Enhance returns on individual accounts.
- Grant pension increases aggressively.
- Increase pension amounts at retirement accordingly.
- Make the system compulsory.
- Formalize portability arrangements.
- Integrate the rural and urban pension systems.

Urban Sector

The urban pension system also needs to be improved with a final goal of integrating it with the rural system in the second half of the century. The measures recommended are the following:

- Raise the normal retirement age to 60 for both males and females.
- Ensure all individual accounts have real assets.
- Improve returns on individual account assets.
- Formalize portability arrangements.
- Define a protocol for pension increases.
- Educate and improve communication to all members and pensioners.

Two important elements are within the control of government, namely the pace of future salary increases and the rate of future pension increases. Careful consideration by policy makers should be given to both.

Indonesia

Yves Guérard*

Abstract

The current pension system comprises a program for civil servants; a separate, similar program for the armed forces; and private sector schemes, including employer pension funds, financial institution pension funds offered by banks and insurance companies and open to all workers, and the publicly sponsored Jamsostek Program that theoretically provides a lump-sum payment at age 55 or earlier when employment terminates. While 100% of civil servants and military personnel are covered, only 14% of private formal sector workers are covered, and there are great disparities in benefits. Unlike the private sector schemes, civil service pensions are based on final pay, indexed to wages, and financed on a pay-as-you-go basis. To eliminate coverage disparities in the formal sector and to provide the average level of protection enjoyed by the small fraction of the formal workforce that enjoys some protection, pension programs should be expanded by 271%. To cover both the formal and informal sectors, the pension programs should be expanded by 740%. In 2004, Indonesia adopted a law to address the disparities and reduce future dependency ratios. The proposed National Social Security System will include even those not economically active and the poor and underprivileged. If the law is implemented in conjunction with limited reforms to the 1969 civil service program, current disparities would be significantly reduced. Reporting should be expanded to provide meaningful indicators for participants, outcomes, and benefits; and an authority responsible for defining and implementing the retirement policy should be clearly identified and should have the power to coordinate and monitor outcomes.

* Actuary and Social Security Expert (yguerard@magma.ca)

Overview

Demographic aging is a well-known global phenomenon as in most countries fertility is declining, sometimes due to government policies, while longevity is increasing. Table 3.1 indicates that by 2030, the population in Indonesia aged 65 and older will be 30 million.

Table 3.1 Population Aged 65 and Older, World and Selected Countries

Economy	Population, 2030 (million)	Population 65+, 2030 (million)	Change in 65+, 2005–2030 (million)	65+, Share in Population (%), 2030
China, People's Republic of	1,458	238.4	138.00	16.4
India	1,508	133.1	78.80	8.8
Indonesia	280	30.0	17.50	10.7
Japan	118	38.2	11.00	32.4
United States	368	71.1	34.30	19.3
World	8,318	978.9	499.80	11.8

Source: World Economic Forum (2009).

Although at 10.7% the proportion of the elderly in Indonesia will be lower than the world average of 11.8%, it underestimates the actual burden since the retirement age is closer to 55 while in the other countries in Table 3.1 it is 60 and older. More importantly, the 30 million people aged 65 and older in 2030 is 240% of the 12.5 million people in that age group in 2005, thus over a 25-year period the burden will have more than doubled. Remedial initiatives need to be identified sooner rather than later.

The fundamental risk for a society, particularly for the nonproductive older segment, is that the expanding social security becomes a burden to the active, younger workers. Unfair allocations will generate more resistance in a context of scarcity, thus not only the amount but also the way the burden and the risks are redistributed would matter. Robert J. Shiller, better known as the author of *Irrational Exuberance*, commented on the risks.

The fixed schedules in the current systems mean that the retired people are promised a fixed income whatever happens to the fraction of the population that is retired or the income of the working people relative to the income that retired people once had. These systems do not share risks between generations. From a generational standpoint, they transfer the income risks of the retired people to the working people and their dependents who thereby bear magnified risks, the risks of both generations (Shiller 2003; pp. 169–170).

This is especially the case in Indonesia where pensions are based on final pay and indexed on the basis of wages; thus, pre-empting part of the growth for retirees and shielding them totally from any risk, including sharing the longevity risk.

The sustainability of the burden is a desirable outcome for the beneficiaries, workers, government, and civil society in general. A key determinant of the burden is the old-age dependency ratio, that can be expressed as the number of persons eligible for support over the number of active workers. This ratio is very sensitive to the retirement age since extending the active age group by 1 year has a double impact by both reducing the numerator and increasing the denominator. The other important factor in sustainability is the replacement rate, i.e., the proportion of the pre-retirement income that is payable to people eligible for old-age support.

From a financial sustainability perspective, what counts is the ratio of total pension payments to total salaries. Aggregate pension costs as a percentage of payroll can be obtained by multiplying the replacement rate for all beneficiaries by the dependency ratio:

$$\text{pension payouts as a \% of payroll} = \text{replacement rate} \times \text{dependency ratio}$$

Increasing the retirement age has an impact beyond social protection because it also increases the labor force, and thus the productive capacity of the economy. Using population census data for 2010 (Government of Indonesia 2011), the dependency ratios at different retirement ages are shown in Table 3.2. The dependency ratio would decline dramatically if the current average retirement age of 55 were increased to 70.

Table 3.2 Dependency Ratios in Indonesia in 2010

Age group	Population (million)	Dependency ratio from age 15 (%)	Average retirement age	Dependency ratio from age 18 (%)
Total	234.2			
0–15	62.5			
15–54	144.0	19.2	55	21.0
15–59	153.1	12.1	60	13.2
15–64	159.6	7.6	65	8.2
15–69	164.2	4.6	70	5.0

Source: Author's calculations.

Traditionally, the active population is measured from age 15, but education and training tend to delay entry into the labor market. Thus, the impact of excluding persons younger than age 18 from the labor force is also shown in Table 3.2.

The Current System

In Indonesia, the pension program for civil servants covers employees of central and local governments, including teachers and health professionals in public institutions but not employees of state-owned enterprises who are instead considered to be part of the formal private sector. There is a separate program for the armed forces that is similar to the civil service program.

Although the law regulating the status of voluntary private programs was adopted in 1992, the development of private schemes was limited because of the Asian financial crisis in 1997 and 1998, high termination indemnities under Labor Law 13, and competition from the publicly sponsored private sector Jamsostek Program. Jamsostek, although mandatory, did not achieve an adequate level of coverage for similar reasons. Low performance made the program unattractive, and weak enforcement imposed an administrative burden but generated little added value. Other private programs are employer pension funds covering employees of one employer or of a group of related employers and financial institution pension funds (FIPF) offered by banks and insurance companies and open to all workers. There can be an overlap in the participation data, but to simplify the analysis, it is assumed that there is no overlap, but this slightly overestimates coverage.

In order to combine statistics from different sources to obtain the distribution of the population in the labor force, we converted the information to percentages of the total current population (Table 3.3)

Table 3.3 Distribution of the Population in the Labor Force in 2008, by Age Group (%)

Classification	0–14	15–59	60+	All
Population	28.17	67.76	4.07	100.00
Active	0.53	40.88	3.71	45.12
Formal	0.05	15.84	0.63	16.52
Informal	0.48	25.04	3.08	28.59
Unemployed		4.95		4.95

Source: Author's calculations using data from Bureau of Statistics and National Development Planning Agency (2011).

Table 3.3 shows that the economically active population totals 50.07%. It is difficult to allocate the unemployed to either the formal or informal labor force. The informal sector represents 63% of the labor force,¹ which makes coverage a challenge. Economic activity continues well beyond age 60 in the informal sector whereas it ceases before age 60 for most people in the formal sector.

Current Disparities in Retirement Income

Table 3.4 provides a more detailed analysis of the working and retired population in terms of social protection. Note that the dependent

Table 3.4 Pension Coverage by Category of Worker (%)

Category	Active	Retirees	All
Civil servants	1.78	0.67	2.45
Spouses	1.22	0.69	1.91
Private	0.90	0.18	1.08
Spouses	0.62	0.04	0.66
Jamsostek	3.60	0.00	3.60
Total	8.11	1.58	9.70

Source: Author's calculations.

¹ 28.59 divided by the sum of 28.59 and 16.52, excluding the 4.95% which is neither formal nor informal.

spouses of contributors share in social protection measures provided to the head of the family.

At first glance it would seem that only 9.7% of the population benefits from some form of social protection leaving over 90% without protection in old age. Furthermore, the distribution of that 9.7% is very unequal as follows:

- Civil servants: 4.36% of the population covered at 100%;
- Formal private sector: 5.33% out of 12.16%,² i.e., 43.8%; and
- Informal sector: no predetermined retirement age; coverage is essentially 0%.³

This analysis, however, grossly overestimates income protection in old age for the following reasons.

- Jamsostek does not provide social protection in old age. Fewer than 10%⁴ of the participants receive benefits at retirement (PT Jamsostek 2008) and no meaningful protection is provided since the amounts payable are small and there is no annuitization.
- For spouses, the level of protection is limited since the amount of income payable to survivors is a percentage of the pension: 36% for civil servants and generally 60% in private sector programs. There is no spousal benefit from Jamsostek since the benefit is a lump sum payable at age 55 or earlier on terminating employment.

Coverage becomes 6.10% by eliminating Jamsostek which reduces formal sector coverage other than for civil servants to 1.74% of an eligible population of 12.16%, which is only 14.3% not 43.8%. For the formal and informal sectors combined, the figure is 6.10% out of 45.12%, which is only 13.5%.

² 16.52% (Table 3.3) minus 4.36% (civil servants).

³ The number of participants in FIPFs includes 429,312 individuals not sponsored by an employer; some of them could be self-employed accumulating retirement savings that are not locked in until retirement. There are also individuals who take out insurance policies or who contribute to mutual funds, but these are general savings not dedicated to retirement protection.

⁴ Only 8.27% of all payments are received at retirement age.

To eliminate coverage disparities in the formal sector and to provide the population with the same average level of protection enjoyed by the small fraction of the formal workforce, pension programs should be expanded by 271% (100%/36.9%). To cover both the formal and informal sectors, the expansion should be 740% (100%/13.5%).

The gap in coverage is an important and visible but incomplete measure of disparity because the level of protection offered by the different private programs varies, and may be higher or lower than the level guaranteed to civil servants. For private formal sector workers this disparity is, however, mitigated through entitlements to severance pay and long-service leave payable upon termination of employment, or at retirement. These benefits, stipulated by Article 167 of Labor Law 13 of 2003, are taxable and may represent up to 32 months of pay. Generally, these benefits are not pre-funded and thus may not be payable in full in cases of closure or bankruptcy. Since they are payable in a lump sum, they provide very limited protection in old age.

Disparities Other than Coverage

The objective is not necessarily to achieve equal levels of protection in terms of amount of monthly income as the level is influenced by other factors including the following:

- retirement age;
- survivors' benefits;
- disability coverage;
- indexation of pension income;
- longevity protection; and
- tax treatment.

Disparities in earning levels carry over into retirement, but they can be reduced by providing survivors' benefits or disability pensions. All programs should offer longevity protection, a risk that is very difficult to hedge on an individual basis. Post-retirement indexation is essential to maintain the purchasing power of the pension.

Retirement Age

The average for civil servants is 57 whereas it is generally 60 in private plans. Lump sums from the Jamsostek Program are payable at age 55 or when employment terminates. For civil servants, early retirement can be at age 50 with 20 years of participation, but retirement is not

mandatory before age 56. In private occupational plans, retirement savings are locked in until 10 years prior to the normal retirement age. In FIPFs, the savings are not fully locked in since an amount equal to all contributions, excluding interest accruals, can be withdrawn anytime unless otherwise stipulated.

Tax Treatment

Current disparities are exacerbated by tax preferences for pension income. The best practice is to exempt contributions deductible from taxable income when made and to exempt returns on assets from income tax but make all benefit payments taxable, summarized by the acronym EET. This approach is favored because it partly transforms the income tax into a consumption tax that promotes long-term savings. It makes sense also from a fiscal point of view since the tax deferral for individuals increases future taxes that the government will collect to meet the cost of services for the elderly, especially health services that tend to be in greater demand in the last years of life (Guérard 2011).⁵

In the case of Indonesia, the disparity has been exacerbated by the reduction in November 2009 of the maximum benefit tax from 25% to 5%. That reduces the fiscal base of current retirees but does not create an incentive for current workers to contribute since there is no assurance the 5% maximum will still apply when they retire.

Baseline Retirement Income Disparities

The civil service pension program appears to provide generous benefits as they accrue at the rate of 2.5% of final pay per year up to a maximum of 75%; however, pensionable pay is only a fraction of total pay, thus the replacement rate is well below 75%. It is estimated that total pay is roughly between 200% and 300% of pensionable pay, thus the real replacement rate is on the order of 25% to 37.5%. Furthermore, indexation is on the basis of wages not prices. Audited financial statements by the government of Indonesia report that pension payments for 2009 amounted to rupiahs (Rp)39.8 trillion, which is also the amount of contributions on a pay-as-you-go financing basis. This amount is, however, not representative of the normal level of contributions but reflects a temporary surge in retirement due to an anomalous demographic distribution reflecting a prior surge in hiring (National Civil Service Agency 2011).

⁵ Age-specific costs are about the average for the 30–44 cohort, less than 50% of the average for the 5–30 cohort, but over 200% of the average for ages 55 and older.

To compensate, an arbitrary adjustment was done to reduce the contributions by 25% as an approximation of the longer-term trend.

The Jamsostek Program is described as “old-age savings” but provides only a lump-sum payment which is the accumulation of joint contributions of 5.7% of wages that is payable at age 55 but more frequently at prior termination of employment. Even assuming, contrary to reality, that contributions will be accumulated until retirement and converted into a life pension, the result would only be about 14.1% (12.4% for females) of average contributory wages according to the Organisation for Economic Co-operation and Development (OECD) estimates (OECD/World Bank 2011). In 2009, the program reported 8,495,732 participants with total contribution of Rp9.28 trillion and assets of Rp60.3 trillion or Rp7 million per participant (about \$800).

Reports published by the Pension Funds Bureau of Bapepam-LK focus on the number of participants, assets, and funding levels. Coverage has increased by 5% over 2008 to reach 2,681,233 participants from 6,061 employers in 276 pension funds. Invested assets have reached Rp112.51 trillion. There is no information about contributions or benefits; however, by comparing 2009 assets with 2008 assets taking into account average returns on investments, it is possible to estimate the net inflow at about 4% of 2008 assets—about Rp3.6 trillion. Since the programs are still not mature, it is assumed that pay-outs were lower than contributions. Using an arbitrary assumption that the 2009 outflows were 50% of contributions yields an estimate of Rp7.2 trillion for new contributions in 2009 (Table 3.5).

Table 3.5 Retirement Program Participants and Contributions as Percentage of Gross Domestic Product in 2009

Scope of program	No. of Contributors	Contributions, Rp Trillion	% of GDP, 2009	Coverage, % of active	% of GDP, both sectors	% of GDP, formal only
Civil service	4,524,205	29.85	0.55	4.42	12.51	4.58
Private plans	2,057,101	7.20	0.13	2.01	6.64	2.43
Jamsostek	8,495,732	9.28	0.17	8.30	2.07	0.76
All 3 programs	15,077,038	46.33	0.86	14.73	5.83	2.13

Notes:

1. Active: 102,366,700

2. GDP: Rp 5,400 Trillion

Source: Author's calculations.

It should be emphasized again that the above calculations are based on approximations and estimates for illustrative purposes only; the inclusion of Jamsostek is on an “as if basis” assuming the use of the existing cash flow to enhance retirement income.

Table 3.5 shows very rough estimates of current flows of contributions to the three categories of programs covering different segments of the workforce and their dependents. The percentages of coverage are slightly different from those that reflected retirees and survivors separately in 2008. These are for 2009, the latest year available, and are based on contributors. The aggregate estimated contributions for the 15 million members of the labor force amount to Rp46 trillion or almost 0.9% of gross domestic product (GDP). The penultimate column shows what it would cost to extend each program to the entire labor force, and to extend the existing coverage to all. As percentage of GDP, contributions would increase from 0.9% to 5.8%, a jump of 544%.

The concept of retirement applies somewhat differently to the informal workforce, so the last column shows the percentage of contributions to GDP if the program were limited to the formal workforce. The increase is reduced to 2.13%, but that is still a jump of 137% which raises the issue of affordability.

The Size of Pension Disparities

The size of the disparities above should not be a surprise as numerous articles⁶ and academic analyses have been published on the disparities between the public and private pension programs around the world. The following extract from an OECD working paper published in May 2011 confirms that the challenge of reforming the civil service pension programs is global and part of a wider issue of fiscal sustainability (Ponds et al 2011).

In many countries the sustainability of fiscal policies is being questioned. A major driving force of this growing concern is age-related expenditure, such as health care and social security spending (public pensions). A sometimes overlooked reason for the sustainability problems, however, involves the pensions for government employees. In most countries there are separate pension plans for public sector employees. Traditionally, these specific arrangements are justified

⁶ See in particular *The Economist*. 2011. Special Report on Pensions. 9 April.

because they guarantee the security, integrity and independence of the employees and because they contribute to the attractiveness of a career in the civil service. General findings from research indicate that compared to pensions in the private sector, public sector pensions tend to offer more generous terms and feature lower funding levels (Palacios and Whitehouse 2006). Reforms have been undertaken in many countries. These reforms have been oriented at bringing remuneration practices in the public sector more in line with those found in the private sector.

These general findings closely match the situation in Indonesia where public servants' pensions are based on final pay, indexed to wages, and financed on a pay-as-you-go basis.

National Social Security Law 40 of 2004

Indonesia has already adopted the National Social Security Law 40 to remedy disparities and reduce future dependency ratios. Although it has not been implemented yet, it still represents government policy, and therefore its impact should be taken into account in assessing future disparities. The council that should coordinate the implementation of the National Social Security System (NSSS also known as SJSN, its Indonesian abbreviation) was appointed on 24 December 2008. The government's intent was clarified and reconfirmed in a draft white paper.⁷

Extending the Program to the Poor and Underprivileged

Although the program is contributory, it will include those who are not economically active since the government will pay the required contributions for the poor and underprivileged.⁸ This provision further reduces disparities in the availability of retirement income since government contributions are focused on the less economically active while active workers and their employers must share the costs of the program.

The Ministry of Health issued 76 million cards in 2008 under the Jamkesmas Health Program for the poor, but the actual number for

⁷ Published on the website of Bapepam-LK, a division of the Ministry of Finance, on 15 December 2009.

⁸ Article 1 of Law 40: "Contribution assistance is contributions paid by the Government for the poor and the underprivileged who shall be treated as social security system participants."

2009 was only 60 million or 26.3% of the population.⁹ Based on the population statistics previously cited, there are 1.35 dependents per working adult, so assuming the average applies to all families, there should be 2.35 cards per poor family.

The low estimate of coverage in the white paper is that 22.5% of workers in the informal sector, i.e., 14 million, would qualify as poor. If it is assumed for calculation purposes that there is a relatively lower proportion of workers qualifying as poor in the formal sector, say 7.5%, the estimated distribution is in Table 3.6.

Table 3.6: Social Security Program Contributors, Dependents, and the Poor

Contributors and their dependents	Distribution (%)	Note
Total	100.00	
Younger than 60	95.93	
Formal	14.70	92.5% of formal, younger than 60
Informal	19.77	77.5% of formal, younger than 60
Dependents	46.54	1.35 dependents per worker
Total contributors and dependents	81.02	
Requiring government assistance		
Poor less than 60	14.92	Not included above
Poor Retiree	2.48	Above 60 without pension
Total poor	17.40	Compares to 19% from Ministry of Health

Source: Author's calculations.

Health cards are issued to people older than 60 as well, for which 2.48% is added. This estimate of 17% means about 38.5 million

⁹ *Jakarta Post*. 2009. Rp5,125 trillion in health insurance set for more recipients. 2 December.

people and anticipates a decrease in the number of poor as GDP increases faster than the population.

How the contributions will be collected outside the formal sector is not yet clear. Even the formal sector represents a particular challenge in Indonesia since the workforce is fragmented into very small business units. The following statement summarizes the challenge: "Some 85% of all workers are in firms of fewer than 5 workers and 38% are in firms of only 1 worker. This raises serious concerns about obtaining employer contributions from these entities" (Rokx et al 2009). Obviously, the fact that no contributions have to be collected from the lower 25% of the informal sector and from other poor segments will facilitate achieving a high level of coverage thus eliminating almost all disparities in access.

Remaining Disparities in Social Protection

The recommendations in the white paper will more rapidly eliminate some of the remaining disparities in Law 40 by removing the requirement of 15 years of contributions to become eligible for a life pension and by adding a social pension recognizing past years of contributions to the Indonesian economy. Given that the optimistic target for implementation was 2012, a 15-year waiting period means that the first pensions will be payable in 2037. Combined with a normal retirement age of 60, it means that people born before 1977 would not qualify for a life pension from the NSSS but would receive lump sums equal to accumulated contributions. Thus, there is no real social protection in retirement. The implementation of Law 40 as interpreted by the white paper would gradually remove the more significant disparities while providing a basic pension at the level of 0.5% of salary per year of participation by (i) setting a target of 20% of average pay after 40 years of participation; (ii) changing the normal retirement age to 60 until 2037 then increasing it to 65 by 2047; (iii) providing life pensions for survivors, disability protection, and longevity protection; and (iv) indexing life pensions to the consumer price index.

Disparities between Sectors and in Retirement Ages

Disparities between the public and private sectors as to the level of pension income will remain after implementing the NSSS. This can be considered a human resource policy issue for the government because the value of the pension is part of the remuneration.

The affordability of civil service remuneration and the part of the remuneration allocated to pensions is a policy choice.

The retirement age, on the other hand, is a wider policy issue because of its economic impact on labor policy, portability between sectors, and productivity of the economy. It will also be seen as an issue of fairness that the benefits and burden of increasing longevity are shared appropriately. Given sustained increases in longevity, it becomes obvious that a 30-year career is no longer appropriate. There is also an issue of efficiency as in a more sophisticated environment that requires longer periods of education and training, a short career does not provide a fair return on the investment and deprives the government and the taxpayers of the qualifications and experience of civil servants who can still serve with distinction.

Continuing increases in longevity will likely entail a new approach to the concept of retirement and the use of human resources. The current linear career model needs to be adapted. It may be that leisure time should be spread before and after retirement and that it would be a win-win solution, for example, to increase free time when it can make family life more enjoyable.

The white paper projects life expectancy for males and females combined from 18.4 years at age 60 in 2010 to the same 18.4 years at age 65 in 2050 due to reductions in mortality. This means that the average age at death will be 83.4 instead of 78.4, and the old-age dependency ratio will double from 12.9% for retirement at age 60 in 2010 to 25.8% in 2030. If, however, the retirement age is changed to 65 by 2030, the dependency ratio will be 16.4% an increase of only 27%.

The draft 2011 OECD report indicates that for Asian males the number of years of retirement is 18.3 versus 20.3 in non-OECD Asian countries; for females the numbers are 22.5 versus 25.6. Retirement ages for Asian males are on average 6 years lower than in OECD countries.

Aligning the retirement age for civil servants with that for the NSSF would make sense both politically and economically. It would also reduce the disparity in the value of benefits. A quick simulation shows that a reform of the design to a 2%/year formula generating an 80% pension payable after 40 years at age 65 would reduce the financial

burden of the current 2.5%/75% formula by 44% to 0.31%.¹⁰ That change would need to be implemented gradually as it entails extending career service from 30 years to 40 years. This would correct the imbalance between career and retirement durations.

On the basis of the current expected age at death of 78.4 and an average retirement age of 57, the retirement period would be 21.4 years, i.e., 71% of the working period, but as longevity increases to 83.4 according to expectations, the ratio would become 26.4/30 or 88%. Moving gradually to a retirement age of 65 and a career duration of 40 years would reduce the ratio to 18.4/40 or 46%.

For a comparison with the NSSS long-term projections, the revised estimate should be reduced to reflect the white paper assumption of faster growth of GDP compared with that of the wages on which pensions are based. This ratio of 141.3% reduces further the estimate for the civil service program to 0.22% of GDP. The harmonization of the civil service program with the NSSS results in an additional reduction of 25% since the 0.5% is an offset to the 2% annual credit, thus the net contribution becomes 0.16% of GDP for a program that is complementary to the NSSS.

The combination of introducing the NSSS and reforming the civil service program would have the following long-term impacts:

- At maturity, the NSSS would represent a burden of 3.4% of GDP, of which the 1% contributed by the government on behalf of the poor can be deemed social assistance.
- The contribution for the civil service program is reduced from 0.55% of GDP to 0.16% by changes in the formula and the retirement age, by GDP growth faster than wage growth, and by harmonization with NSSS.
- The net effect is to reduce considerably the disparities in pension expectations and limit the growth of the dependency ratio compared with the status quo.

¹⁰ Assuming returns compounded at 4%, a contribution of 1% per year accumulates to 56% after 30 years and to 95% after 40 years, that is 169.6%. On Gam83, the life annuity factor is 11,841 at 65, i.e., 88.8% of the factor at age 60 that is 13,334. 80 is 1.06667 times 75. Combining these factors generates a factor at 65 that is 55.8% of the factor at 60, the main cause of the reduction being the length of the accumulation period.

- The level of social protection in the informal sector jumps from 0% to 20% of average wages.
- The minimum level of social protection in the formal sector also increases from 0% to 20%, and additional benefits are generated by occupational programs.
- The additional level of social protection from the occupational complementary program for civil servants becomes 60% of pensionable wages (about 27% to 30% of total pay), and the retirement age is harmonized with the NSSS; the ratio of retirement years over working years is rebalanced from 71% to 46% despite an assumed 5-year increase in longevity.

Essentially, the NSS would build a floor of social protection for all citizens and propose achievable targets for occupational private programs. Nevertheless, further reductions in disparities need to be promoted by a comprehensive old-age policy.

Suggestions for Reform

Implement the NSSS as interpreted in the white paper and make limited reforms to the 1969 civil service program as bold first steps to increase fairness in sharing the benefits of increasing longevity by reducing the dependency ratio and disparities in access to social protection in retirement. Quantitative disparities will remain in pension incomes as they do in salaries and wages that reflect in part the choices made individually or collectively about apportioning income between years at work and years in retirement. These disparities could not be quantified accurately; the estimates presented are only illustrative of the magnitude and direction of changes.

A strong recommendation is that reporting be expanded beyond contributions and assets to provide meaningful indicators for participants, outcomes, and benefits. Because they are designed for financial institutions, current reports give very little information about the retirement income protection, that is the main purpose of the programs.

Better information and communications would allow all stakeholders to identify gaps and disparities in coverage, replacement rates, and

retirement income. Decision makers would benefit from more public education and input about the orientation of the national retirement policy in order to build expectations that can sustainably be met.

Good governance requires that the authority responsible for defining and implementing a retirement policy that is affordable, sustainable, and robust enough to adapt to demographic and life-style changes should be clearly identified and should have the power to coordinate and monitor outcomes.

Broad sustainability includes more than financial considerations as it rests on fairness and eliminating disparities. That objective implies the convergence and the rational integration of components, not necessarily one size fits all. It requires national leadership at the top level to coordinate a dynamic old-age policy. The wide impact on the economy and the need to balance the interests of a large but vulnerable segment of the population with other national objectives justify a high priority for the pension program reforms.

The Republic of Korea

Seong Sook Kim*

Abstract

The defined-benefit national pension scheme was introduced in the Republic of Korea 23 years ago and is compulsory for everyone in the workforce aged 18 to 59 residing in the country. The four goals were extensive coverage, adequate benefits, equitable sharing of costs among generations, and long-term financial stability. Theoretically, coverage is universal, but for various reasons, 70% of people older than 65 at present do not receive old-age pensions, and the long-term financial state of the system is unstable. Two reforms have improved stability and equity among generations by sacrificing some benefits, but these issues still need additional attention as the Republic of Korea is one of the most rapidly aging countries in East and Southeast Asia. According to the projections of the financial review committee in 2008, the pension dependency ratio will be 90.1% in 2050 which means that if the system continues as it is, future generations must bear a huge burden, and the scheme will not be sustainable. Four scenarios for achieving the long-term financial goals are described and evaluated. Coverage should be extended, and the average contribution period for the insured should be increased, but this will not be easy to achieve because the country's employment structure must first be improved.

* Head, National Pension Research Institute, National Pension Service, Republic of Korea (kimss@nps.or.kr)

Overview

As society ages, the role of public pension schemes is becoming more important for income security. Simply speaking, the more people who are eligible for public pensions, the better; but questions then arise about whether there are sufficient resources and about who should bear the burden in the short and long terms. The four goals of the public pension system in the Republic of Korea are extensive coverage, adequate benefits, equitable sharing of costs among generations, and long-term financial stability; but they conflict and influence one another, so it is difficult to attain them simultaneously. Compromise is therefore necessary.

It has been 23 years since the defined-benefit national pension scheme was introduced. It is compulsory for anyone in the workforce aged 18 to 59 residing in the country, and anyone in this age group without earnings may voluntarily pay contributions. The universal application of this scheme has been achieved in principle, but there are many people who do not make contributions because they have very little or no income. Excluding non-working individuals, mostly housewives, was stipulated for ease of administration. Persons who were older than 60 when the scheme was introduced were also exempt, and as a result, 70% of people older than 65 at present do not get any old-age pensions from social insurance pension schemes and could thus face poverty. Because of this, a tax-based, basic old-age pension was introduced in 2007, but though the coverage of this scheme is wide, the level of benefits is low so it does not contribute much to alleviating poverty among the elderly.

Benefit levels were considerably reduced for long-term financial stability as soon as the national scheme was introduced, which reduced the burden on future generations and improved inter-generational equity but made the benefits insufficient. The population will continue to age in the long term, so contribution rates will remain low compared with benefit levels. Accordingly, additional measures for long-term financial stability are undeniably needed, though they are not urgent. In the future, if contribution rates are increased to improve the financial status of the scheme, equity among generations could be a serious issue because future generations would pay more and receive less.

The Current System

Extending Coverage

The national plan was introduced in 1988, but it was not until 1999 when the scheme was applied to the total population aged 18 to 59. Old-age pensions were first paid to the 1933 birth cohort. Coverage is, however, limited as the nonworking population is excluded. This includes nonworking spouses (mostly housewives), students, and military personnel between the ages of 18 and 27. Women are the most disadvantaged of these groups. They may receive survivors' pensions after their spouses die, but the benefit levels are much lower.

Similarly, workers at small firms or temporary workers can barely pay their contributions because of their low earnings and insecure jobs. The average contribution period of low-income workers earning less than 1 million won a month is less than half that of those earning more than 3 million won (National Pension Service 2009). Thus, though the system appears to be universal, in fact discrimination according to gender and earning level exists. The national pension system is thus in reality a social insurance program that only those who work and have earnings may access.

According to a survey on types of employment by the National Statistical Office (NSO) in August 2008, of the total workforce between the ages 18 and 64—23,616,000 people—10,658,000 were regular workers and 1,505,000 were employers; the remaining 11,453,000 (48.5%) had difficulty accessing the pension scheme. That group was composed of 5,445,000 temporary workers, 4,530,000 self-employed persons, and 1,478,000 unpaid family workers (NSO 2008).

As of the end of December 2010, the eligible population covered by the national scheme was 58.9% of those aged 18 to 59 (Table 4.1). Contributors to public pension schemes comprised 43.3%, the sum of the percentages of contributors to the national pension scheme (39.0%) and to public occupational pension schemes (4.3%).

If the proportions of temporary workers and the self-employed decrease as the employment structure improves, and if the propor-

tion of women in the workforce increases, the proportion of the population that can access the national scheme and that of contributors will also increase. This will then increase both the proportion receiving old-age pensions and the benefit levels.

Table 4.1 Participants in Public Pension Systems as of December 2010

Total population aged 18–59: 32.6 million (100.0%)			
Nonparticipants in public pension systems: 12.0 million (36.8%)	Participants in public pension systems: 20.6 million (63.2%)		
	Participants in the national pension system: 19.2 million (58.9%)		Participants in public occupational pensions: 1.4 million (4.3%)
	Noncontributors: 6.5 million (19.9%)	Contributors: 12.7 million (39.0%)	

Note: The percentages were calculated against the total population aged 18–59. Contributors are the sum of 10,415,000 workplace-based insured persons plus 2,164,000 (8,674,000 total individually insured persons minus 5,100,000 exempted from paying contributions minus 1,410,000 who did not pay contributions that month) plus 90,000 voluntary contributors. Noncontributors equal 5,100,000 individually insured persons exempted from paying contributions plus 1,410,000 who did not pay contributions that month.

Sources: National Statistics Office Statistics on Residents Registered as Population Aged 18–59; National Pension Service (2010); Monthly Statistics, Government Employees Pension Service, <http://www.geps.or.kr>; and Korea Teachers Pension, <http://www.ktpf.or.kr>.

Adequacy of Benefits

A special old-age pension provided benefits to those who paid contributions for 5 years from the time the national scheme was introduced in 1988 until March 2009.¹ Accordingly, most early pensioners are special old-age pensioners, and their pensions are quite low. Birth cohorts from 1949 and after were not covered by that pension, and a minimum 10-year contribution period for an old-age pension was applied which sharply reduced the proportion of the 1949 birth cohort that received old-age pensions (Table 4.2).

¹ The minimum qualifying years for an old-age pension is 10, but the special old-age pension existed temporarily for those who were in their 50s when the scheme was introduced.

Table 4.2: Number of Old-Age Pensioners and Average Pension Amounts by Birth Cohort and Gender as of the End of 2009

Year of birth	Total			Men			Women			
	Number of pensioners	% of birth cohort	% of A value	Number of pensioners	% of birth cohort	% of A value	Number of pensioners	% of birth cohort	% of A value	
1933	22,619	10.2	7.5	14,537	16.8	8.3	8,082	6.0	35.7	6.2
1934	30,234	12.5	8.2	19,872	20.4	9.1	10,362	7.2	34.3	6.5
1935	42,197	16.0	8.5	27,181	25.0	9.6	15,016	9.7	35.6	6.6
1936	48,045	17.0	9.0	31,049	26.1	10.2	16,996	10.4	35.4	6.8
1937	51,863	17.4	9.7	33,927	26.6	11.1	17,936	10.5	34.6	7.1
1938	56,546	18.1	10.8	37,528	25.5	12.3	19,018	10.8	33.6	7.6
1939	92,651	28.3	10.8	61,886	42.7	12.4	30,765	16.8	33.2	7.6
1940	115,189	33.8	10.6	76,853	50.3	12.0	38,336	20.4	33.3	7.6
1941	137,813	38.0	11.2	93,939	57.0	12.7	43,874	22.0	31.8	8.0
1942	175,839	46.1	11.6	121,073	69.3	13.1	54,766	26.5	31.1	8.3
1943	148,425	39.5	12.1	102,291	59.2	13.7	46,134	22.8	31.1	8.6
1944	157,530	43.8	12.8	109,092	65.1	14.5	48,438	25.3	30.7	8.9
1945	151,655	42.3	14.0	105,819	61.8	15.9	45,836	24.5	30.2	9.7
1946	171,415	44.3	15.3	120,526	64.4	17.3	50,889	25.5	29.7	10.6
1947	217,161	50.5	16.3	152,392	72.8	18.4	64,769	29.4	29.8	11.3
1948	218,457	47.6	17.4	154,374	68.6	19.7	64,083	27.4	29.3	12.0
1949	168,194	36.1	20.0	125,594	54.5	22.0	42,600	18.0	25.3	14.1

Note: The A value is the 3-year average monthly earnings of national pension participants; the A value as of 2009 was 1,751,000 won. Source: National Pension Service (2009).

As the average contribution period increases, the average pension amount also increases, but the average pension amount is still so low that it is not sufficient to cover living expenses. The average amount for women pensioners is 60%–70% of that of men; lately the disparity has been increasing because the contribution period is shorter and the average earnings of women are less than those of men.

The statutory earnings replacement rate was 70% in the early years of the national pension, but it was reduced to 40% through two reforms. Accordingly, the benefit level for future pensioners is not expected to increase much despite increased contribution periods which will create disparity between early and future pensioners.

While the proportion of persons covered by the national pension plan is not small, it appears that most do not receive sufficient resources from their pensions because of their low participation rates and of reductions in benefit levels. Private income security systems and social assistance programs should therefore play a role in old-age income security.

Equity among Generations

Reducing benefit levels in the national plan considerably jeopardized the adequacy of payments, but it significantly lightened the burden on future generations. The contribution rate for the system has been set at 9% since its introduction, which will be higher than the pay-as-you-go rate until 2030. Afterwards, however, the pay-as-you-go rate is forecast to increase rapidly (Table 4.3).

Table 4.3 Pay-As-You-Go Rate for the National Pension System (%)

2010	2020	2030	2040	2050	2060	2070	2078
3.0	4.9	8.2	13.1	17.7	21.9	23.2	22.9

Source: Report of the Second National Pension Financial Review Committee (2008).

The ratio of benefits to cost of the national plan exceeds 1 for all income strata because the contribution rate is still low in comparison with the benefit level. This means that future generations must bear the costs that the present generations have generated (Table 4.4).

Table 4.4: Ratio of Benefits to Cost by Level of Earnings for the National Plan

Level of earnings	0.5A ¹	A ¹	1.5A ¹	Ceiling of earnings ²
Ratio of benefit to cost ³	2.7	1.8	1.5	1.4

Notes:

¹ A=1,814,477 won (the 3-year average earnings of the total insured population under the national plan as of the end of 2010).

² 3,680,000 won in 2010.

³ Economic variables (such as rate of earnings increase, rate of inflation, and rate of return on fund investments) in the Second National Pension Financial Review in 2008 were used. It is assumed that the insured participates in the scheme for 20 years starting in 2010 and receives a pension starting in 2030. The discount rate for the ratio of costs to benefits used the same return rate as the national pension fund investment assumed in the 2008 financial review.

Source: National Pension Research Institute.

Long-Term Financial Stability

Despite two reforms, the national scheme must be further stabilized because of the rapidly aging society and the low contribution rate to benefit level. Plans to raise the contribution rate have not been successful thus far. The insured respond more sensitively and negatively to contributions they must pay now than to the benefits they will receive in the future; however, it seems that this issue will be raised again in the third financial review in 2013. In 2008, the second review projected that the fund would be depleted in 2060.

Some people think this is quite sustainable while others argue that it is not sustainable in the long term and that the plan should be reformed again as soon as possible. The former view can be accepted because the current contribution rate is higher than the pay-as-you-go rate, but the latter view can also be supported because the fund will be exhausted in the long term and the present generation will pass on too much of the burden to future generations. Therefore, a consensus must first be reached on defining the long-term financial stability and long-term financial goals of the national plan before policies for financial stability are designed.

In the last two financial reforms, long-term financial goals were not considered, and reforms were made based on social acceptability.

The current financial status is the result. Some people advocate increasing the future funding ratio while others argue that it is dangerous to operate a fund of such an enormous size because it may negatively influence the economy. These issues should be reviewed before another reform for long-term financial stability is undertaken.

Suggestions for Reform

Prioritization of the Four Goals

The four goals of the national pension program—extensive coverage, adequate benefits, inter-generational equity, and long-term financial stability—are all important, but if the main function of the program is income security for citizens, priority should be given to extending pension rights to more people. Adequate benefits are also important, but they can be achieved by a variety of income security systems; when the national plan was reformed, this assumption seems to have been made.

As benefit levels were significantly reduced, it became necessary to provide one pension per person instead of one pension per household. In other words, if benefits per household unit are to be adequate, it is more important that more people get their own pension rights. Also, the insured must contribute longer in order to have larger pension amounts. To attain this, both policy measures and managerial efforts will be needed.

Equitable sharing of the pension burden among generations and long-term financial stability are goals that should be considered together because long-term financial stability can be achieved if future generations can bear the costs. If, however, the current generation makes fewer contributions, receives more benefits, and is more widely covered, more costs will be transferred to future generations. Therefore, the four goals must be harmonized through social consensus.

If the first priority of the national pension system is extending coverage, equity and long-term financial stability can be the second priority though the level of achievement should be considered in

the context of adequacy of benefits, the feasibility of financing both present and future generations, and the adequacy of accumulated funds among other factors.

Targets and Strategies for Extending Coverage and Improving Adequacy

A More Accessible Scheme

The national pension system covers residents aged 18 to 59; most of the workforce is included. If, however, insured workers declare that they are unemployed, even if they are actually working, the system has no means of verifying their claims, and they can be exempted from paying contributions. At the end of 2010, the population covered by public pension schemes was 20.6 million, which was similar to the workforce population aged 18 to 59; however, 6.8 million of the 19.2 million persons covered by the national scheme were either exempted from paying contributions or were delinquent. Additionally, 36.8% of the population in this age range is not part of the workforce and therefore does not contribute to the national plan.

According to the financial review of the national plan at the end of 2008, although abolishing the special old-age pension would reduce the rate of acquiring pensions for early 1950s birth cohorts, the rate would gradually be recovered by the birth cohorts of the 1960s and would exceed 70% for men though only 30% for women. A desirable target rate for the next 20 years would be at least 10% higher than that forecast currently. If this target is achieved, the proportion of old-age pensioners, survivor pensioners, and disability pensioners together under the national scheme will be nearly 60% of the total population aged 65 or older in 2030.

To increase the number of pensioners, permanent employment should be emphasized and the rate of women's participation in the workforce should be increased. While these measures cannot be achieved immediately, it will be helpful to pursue policies and management measures for better coverage. Possible management measures are to (i) increase voluntary participation, especially of housewives; (ii) increase supplementary payments for insurance contributions; (iii) establish stronger links between the insurance periods of the national scheme and other public pension schemes; (iv) educate the population about the benefits of pension plans; and (v) publicize available schemes.

Possible policies include (i) extending credit, (ii) partially subsidizing contributions for disadvantaged groups, and (iii) reducing the minimum qualifying years for old-age pensions. Recently, voluntary contributions to the national pension system have been increasing which could be because of growing awareness of the need for old-age pensions and greater trust in the scheme. Further improvements will require greater efforts to improve access.

Adequate Benefits

The adequacy of benefits can be assessed by the replacement rate. The target should be 30% of average earnings in real terms as of 2030 because the average replacement rate at present is under 20% though the rate stipulated is 40%. Additional income for pensioners can be derived from working, from private pensions, or from savings and investments.

As shown in Table 4.2, the average pension payment gradually increases because the average contribution period of the insured increases as the system matures, but many of the current recipients joined the scheme when the replacement rate was 70%. The rate will continually decrease and reach 40% by 2028, so even if the average contribution period is lengthened, the average payment to future pensioners will not increase much. To increase the amount, it is necessary to increase the years of contribution and the average earnings of participants. If, on the other hand, priority is given to extending the scheme, the average earnings of the insured population may decrease when low-paid workers are included. Pension payments from the national scheme are influenced by the average earnings of the total population insured and by their individual life-time average earnings. If those averages do not increase, future pension payments cannot increase much. The goal of extending the scheme may therefore conflict with the goal of providing adequate benefits.

Equity among Generations and Long-Term Financial Stability

The Present Situation

When the national pension was introduced, it was to be financed by “the modified funding method” in the early stages then by the pay-as-you-go method as the scheme matured (Min 1986). The modified funding method means adopting a lower premium than

the general average premium necessary for full funding (Nam et al. 1990).² This was, however, only the suggestion of the designers and has not been officially decided. At the time, the major interests were in setting up the system and providing adequate benefits. The relatively high contribution rate set during the initial period may well have been designed to boost economic development through capital accumulation.

The long-term sustainability of the scheme was a big issue among financiers as soon as it was introduced. Although it has been reformed twice in 20 years, there was no discussion on long-term financial goals or on future financing methods. There was instead only a consensus that Korean society is rapidly aging so the national pension should be sustainable in the long run with better inter-generational equity. In 2013 when the third financial review is done, it is expected that there will be suggestions regarding the long-term financial goals of the scheme and measures for providing long-term financial stability.

Long-Term Financial Goals

If long-term financial stability is debated in the third financial review, priority should be placed on the establishing adequate, valid, long-term financial goals considering the following factors (International Labour Organization 2000):

- target or benchmark benefit levels (either absolute amounts or in terms of replacement rates);
- degree of actuarial equity among generations;
- desired level of reserves; and
- desired contribution (or tax) rate.

The benefit levels, contribution rates, and financing methods of public pension schemes are determined by complex social and political circumstances. The concept of actuarial equity among generations can be arbitrary, and the financing methods and levels of reserves are

² The modified funding method was defined as the method imposing lower rates than the general average premium due to the restriction of cost bearing capacity in reality, and then the shortfall is transferred to the future generations. It was said that by this method, a considerable amount of funds would be accumulated in the early stages but would be changed to the pay-as-you-go method in the long run because of increasing fund shortages.

different in each pension scheme. The financing methods and financial goals of public pension schemes can be influenced and changed by internal and external factors and can also influence those factors.

To decide the long-term financial goal for the national scheme in the Republic of Korea, the following factors should be considered: (i) adequacy of benefits, (ii) acceptable contribution rates in the short and long terms, (iii) reasonable size of reserves, (iv) adequate rate of benefit expenditure to gross domestic product (GDP), and (v) desire of people to change the scheme. The following are two possible scenarios for long-term goals.

Financial Goal 1a: Double the ratio of assets to expenditures in the last year of the financial projection.

Financial Goal 1b: There is no current-year deficit in the last year of the financial projection.

First scenario. The present scheme is maintained as it is, but the contribution rate increases to about 15%.³ The level of reserves is a dependent variable. The target year for achieving the financial goals is 2078, just as in the second financial review.

Financial Goal 2a: The contribution rate is fixed at 9%, and the level of benefits corresponds to it.

Financial Goal 2b: The contribution rate is pegged to a benefit level of 40%.

Second scenario. The system is changed to a defined-contribution scheme. Contribution rates and benefit levels are equivalent.

Discussion. In the first scenario, if the contribution rate is assumed to increase by 0.48% every year from 2020 to 2029, the rate necessary to achieve financial goal 1a is 13.8%; the rate necessary to achieve financial goal 1b, on the other hand, is 15.8% with a 0.68% increase in the

³ Because there was a provisional consensus in the committee of the first financial review, the ceiling for the contribution rate is set at 15% here.

contribution rate annually during the same time period. In goal 1a, the ratio of assets to expenditures in 2078 appears to be 8.7:1 (Table 4.5).

Table 4.5 Contribution Rates to Attain Financial Goals in the First Scenario

		Financial Goal 1a	Financial Goal 1b
		Double the ratio of assets to expenditures in the last year of the financial projection	No current year deficit in the last year of the financial projection
Contribution rates	2020–2029	0.48% annual increase	0.68% annual increase
	After 2030	13.8%	15.8%
		Deficit in 2060	

Note: The same assumptions of population and economic variables in the second financial review are used.

Source: Kim and Shin (2010).

In the second scenario, if the system is changed to a defined-contribution scheme, the benefit levels equivalent to a contribution rate of 9% will be between 19.0% and 22.2% according to discount rate assumptions, and the contribution rates equivalent to a replacement rate of 40% will be between 16.3% and 19.0% according to discount rate assumptions. The insured represented are assumed to enter the scheme in 2010 and to make the average earnings of the total population insured. They have a 40-year contribution period and receive benefits for 21 years (Table 4.6).

Table 4.6 Achieving the Financial Goals in the Second Scenario

Discount Rate Assumption	Financial Goal 2a	Financial Goal 2b
Earnings increase rate	22.2% (earnings replacement rate)	16.3% (contribution rate)
Interest rate	19.0%	19.0%
Fund investment return rate	21.9%	16.4%

Note: The same assumptions for population and economic variables in the second financial review are used.

Source: Kim and Shin (2010).

Evaluation. If the above four financial goals are evaluated in terms of (i) level of contributions, (ii) adequacy of benefits, (iii) adequacy of reserves, (iv) benefit expenditure to GDP, (v) financial stability, and (vi) social acceptability, financial goal 1a appears to be the most acceptable and feasible overall (Table 4.7).

Table 4.7 Evaluation of the Scenarios for Long-Term Financial Goals

Indicator	Evaluation
(i) Level of contributions	The contribution rates of goals 1a and 2b seem too high.
(ii) Adequacy of benefits	The benefits of goal 2-1 seem too low.
(iii) Adequacy of reserves	Reserves will be too large in goals 1a and 2b.
(iv) Benefit expenditure to GDP	The rate in goals 1a, 1b and 2b is forecast to be 7% in 2078; that of goal 2a will be half the forecast percentage. Neither is too high.
(v) Financial stability	Goal 1a < goal 1b < goals 2a and 2b
(vi) Social acceptability	Goal 1a is considered to be the most acceptable.
Overall feasibility	Goal 1a seems to be most acceptable and feasible of the four.

Source: Author's calculations.

While financial goal 1a seems to be the most acceptable, the contribution rate necessary to maintain it will change whenever a financial review is conducted. Therefore, even if there is social support for this proposal, it will be necessary to create a system to warn in advance when and how additional reforms should be pursued to maintain the goal.

Conclusions

Although the national pension system was developed with astonishing speed, coverage is still considered to be unsatisfactory, and its long-term financial state is unstable. These two issues seem to be the most urgent; the former may be the most important issue because the system exists to provide income security. Considerable benefit reductions have already necessitated one pension per person instead of one pension per household. Two reforms have improved long-term

financial stability and equity among generations by sacrificing some benefits, but these issues are still regarded as unresolved and need additional attention as the Republic of Korea is one of the most rapidly aging countries in East and Southeast Asia. According to the long-term financial projections by the financial review committee in 2008, the pension dependency ratio will be 90.1% in 2050 which means that if the system continues as it is, future generations must bear a huge burden and the scheme will not be sustainable.

The coverage of the scheme should be extended, and the average contribution period for the insured should be increased, but this is not easily achieved because the employment structure must first be improved. Nonetheless, efforts should be made in terms of policy and management and by the insured themselves.

Malaysia

Mukul G. Asher* and Azad Singh Bali**

Abstract

The current pension system comprises several schemes with different designs targeted at specific groups. Private sector workers have a defined-contribution, mandatory savings plan administered by the Employees' Provident Fund (EPF) that covers about half the labor force but is inadequate and inequitable. Median balances of less than 2 years of per capita income in 2009 will not finance retirement when life expectancy at age 60 in 2005 was 17 years for men and 20 years for women. In addition, there are no provisions for longevity and inflation risks or for survivors' benefits all of which challenge sustainability. In contrast, civil servants have a defined-benefit, non-contributory plan that pays benefits for life and adjusts them periodically, and military personnel have a mandatory defined-contribution savings plan with the government as co-contributor; both include survivors' benefits and together cover about 13% of the labor force. The disparities in benefits among the schemes and the uneven taxing of retirement financing programs are unfair. In addition, social assistance is very restricted and benefits are below the poverty line, and foreign workers (currently 20% of the labor force) are excluded from the EPF and have limited access to public services. To improve fairness and sustainability of the pension system, policy makers should address longevity, inflation, and survivors' benefits in the EPF; minimize the differences between the civil servant scheme and the EPF; establish a more liberal social pension with better benefits; and tax providers of pension products fairly. Malaysia needs an integrated pension system that takes trends in longevity into account as the population aged 65 and older is expected to triple from 4.8% in 2010 to 15% by 2050.

* Professor of Public Policy, Lee Kuan Yew School of Public Policy, National University of Singapore (sppasher@nus.edu.sg)

** PhD student, Lee Kuan Yew School of Public Policy, National University of Singapore (bali@nus.edu.sg)

Overview

Malaysia is an outward oriented, globally integrated upper-middle income country¹ with a relatively favorable land to population ratio.² The country has been governed by the coalition *Barisan Nasional* (National Front) comprising the three major ethnic groups—Malay, Chinese, and Indian—for several decades. In 1970, Malaysia initiated a strong affirmative action program under its new economic policy (NEP) to improve the economic status of Malays designated sons of the soil (*bumiputra*), and to substantially increase their share in national income and wealth. The NEP has been controversial. It was, however, applied relatively less rigidly than was feared. It formally ended in 1990, but several of its features, including affirmative action, have continued in most parts of the country.

Malaysia aims to meet challenges from high- and low-income countries and become a developed economy by 2020. The plan is to raise per capita gross domestic product (GDP) from \$7,158 in 2009 to \$15,000 by 2020. To achieve developed-country status, Malaysia introduced the new economic model (NEM) in March 2010 which envisages a shift toward productivity-driven growth instead of resource-driven growth, greater reliance on domestic demand, flexible labor markets, and further relaxing the strong affirmative action programs initiated in 1970 under the NEP.

The fairness and sustainability of the pension system have become important public policy issues for a number of reasons. First, the greater reliance on domestic demand envisaged by the NEM and prevailing high income inequalities³ will require a modern pension system that emphasizes fairness and sustainability. Policy makers

¹ Malaysia's international trade per capita in 2009 was \$13,725, substantially higher than its per capita gross domestic product (GDP) of \$7,158 (World Trade Organization 2010).

² Malaysia's physical area is approximately 127,000 square miles while its population in 2009 was 27.5 million.

³ Malaysia's Gini coefficient increased from 0.38 in 2004 to 0.46 in 2009, an increase of 22% in 5 years. The share of income held by the top 20% of the income distribution was 8 times that held by the lowest 20%, and the share of income held by the top 10% was 10 times that held by the lowest 10% in 2004. These respective shares increased to 10 and 17 times, respectively, by 2009 (World Bank 2010).

recognize that such a pension scheme will need to be part of a broader social protection system (Aziz 2010).

Second, demographic trends in Malaysia are toward population aging but there is still time to institute policies to address the challenges it brings. Projections indicate that the number of individuals aged 65 and older will exceed those younger than 15 years in 2065. The number of people aged 65 and older increased from 0.49 million in 1980 (3.6% of the total population) to 1.36 million in 2010 (4.8%) and is projected to increase to 3.89 million by 2030 (10.3%). Estimates from the United Nations suggest that it will increase to 12.7% by 2040 and 15.0% by 2050. In every decade since 1970, the growth rate of the elderly population has exceeded the growth rate of the total population.

A major contributor to rapid aging in Malaysia is increased life expectancy. Between 1970 and 2005, life expectancy at birth increased by 10 years for both males and females (Department of Statistics [DOS] 2010). In 2005, life expectancy at age 60, the relevant age for pension analysis, was 17 additional years for male, and 20 for females (United Nations Department of Economic and Social Affairs [UNDESA] 2010). The number of elderly females has exceeded that of males since 1980, and the differential is expected to widen (DOS 2010).

Between 2010 and 2050, the percentage of persons older than 80 will more than triple, and the ratio of working-age persons to the elderly will decline from 13.6 in 2010 to 4.3 in 2050, a drop of more than two thirds (Table 5.1). As the current pension system does not have adequate arrangements for managing longevity and inflation risks or survivors' benefits, sustainability and fairness need to be addressed.

Third, Malaysia's economic growth has necessitated substantial reliance on foreign workers. According to official estimates, in 2009 Malaysia had about 1.18 million of them which represented nearly 9.8% of the total labor force. More than half were from neighboring Indonesia (Sani 2010).⁴ Foreign workers are not required

⁴ Malaysia introduced an annual levy on foreign workers in 1992 that varies by sectors with construction and manufacturing attracting much higher levies than plantations and domestic workers. In 2009, this ranged from 360 to 1,800 Malaysian ringgit. The levy is not applicable to foreign professionals.

Table 5.1 Selected Indicators of Aging in Malaysia

Year	Total Fertility Rate	Population Aged 65+		Population aged 80+		Dependency Ratio (%)			Working-age/Elderly (%)
		(thousand)	(%)	(thousand)	(%)	(Total)	(Child)	(Old-age)	
2000	3.0	894	3.8	113	3.8	59	53	6	16.5
2010	2.7	1,355	4.8	158	4.8	54	47	7	13.6
2020	2.5	2,342	7.1	285	7.1	50	39	11	9.4
2030	2.2	3,838	10.3	517	10.3	52	37	16	6.4
2050	2.0	6,532	15.0	1,463	15.0	54	30	23	4.3

Source: UNDESA (2010).

to contribute to the national Employees' Provident Fund (EPF),⁵ but they are, however, included under the workman's compensation scheme of the Social Security Organization (SOCSO).

Malaysia's total labor force in 2009 was 11.32 million with a labor force participation rate (LFPR) of 62.9%. The LFPR for males was 78.4% and for females was 46.4%. The relatively low LFPR for females suggests that as a group they are unlikely to accumulate sufficient retirement savings from their labor incomes. The LFPR for women aged 60 to 64 was 36.7% in 2008 compared with 62.6% for the total labor force. This is significant because the elderly are increasingly female and their life expectancy continues to rise, but they will have inadequate resources in retirement given current pension arrangements. Increasing resources for them is essential.

Fourth, Malaysia has relied primarily on a single-tier retirement financing system involving mandatory savings administered by the EPF. With increasing longevity, relying on savings from income during the working years to finance retirement that in some cases may exceed the length of time spent in the labor force has become increasingly untenable for a significant proportion of the population.

Fifth, the expectations of policy makers in Malaysia have been that longer working lives will significantly contribute to retirement income security even while relying primarily on mandatory savings, but age-specific LFPRs do not support this assumption. Malaysia's LFPR of 62.9% in 2009 was higher than Japan's (60%) and the Republic of Korea's (61%) and lower than Canada's (67%) and Singapore's (65%), but the LFPR of people aged 60 to 64 declined from 51% in 1975 to 44% in 1990 to 37% in 2008 (Ong and Hamid 2010). This pattern holds true for those aged 65 to 69.

The Current System

Malaysia's pension system does not have a unified structure that is applicable to both public and private sector workers; instead, there

⁵ There was a brief period during the 1997–1998 Asian financial crisis when an attempt was made to require foreign workers to contribute to the EPF.

are several schemes with different designs, each targeted at specific groups. There is some overlap but it is not a well-integrated system as the schemes operate essentially independently of each other. The scheme for private sector workers relies on mandatory savings.

Employees' Provident Fund

The EPF is among the oldest national provident funds globally. It is a defined-contribution, mandatory plan for employees and employers based on a prescribed rate of contributions accumulated as savings in a personal account. Employers with even one employee are required to contribute. From 1952 to 1975, the standard contribution rate was 10% of wages (5 % each from the employer and the employee) with no ceiling. In a series of steps, it reached 23% (12% from the employer and 11% from the employee) in January 1996. Since then, it has fluctuated within a narrow range. Though there is limited flexibility for withdrawing the balance in instalments, withdrawals are typically lump sums, so longevity, inflation, and survivors' benefits are not adequately addressed. Total EPF membership at the end of 2009 was 12.37 million, of which 5.8 million (46.1% of the total and 49.9% of the labor force) were actual contributors (EPF 2009). The number of employers covered was approaching 0.5 million in 2009.

Gross contributions are channelled into two accounts: 70% goes into account I and 30% goes into account II. Account I is for retirement and can be withdrawn only when a member reaches 55 years though prior to that members can use part of it to invest in approved securities. Savings in account II can be used for housing, tertiary education, and health needs and can be withdrawn at age 50. Neither of these ages coincides with the retirement age in 2011 of 60.

Due to the country's robust GDP, employment and wage growth, and to moderately high investment returns, EPF balances have grown rapidly from 9.1 billion Malaysian ringgit (RM) (17.1% of GDP) in 1980 to RM180.8 billion in 2000 (57.9% of GDP) to RM375.5 billion in 2009 (47.5% of GDP) (EPF various years). A recent report estimates EPF balances at RM463.0 billion (\$153 billion) which made it the fifth largest sovereign pension fund in the world as of October 2011.⁶

⁶ Chua, H.B. 2011. Malaysia: EPF's omnipresence. *Asia Macro Weekly*. 25 November.

Our estimates⁷ suggest that annual real returns averaged 3.3% per year from 1961 to 2009. The real rate of return fluctuated between 2.6% from 1961 to 1980 and 4.42% from 1980 to 1996. From 1999 to 2009, the real rate of return was 2.8% which is lower than the average return for 1961 to 2009. Expectations are that it will be increasingly challenging to generate higher real returns unless investment management policies become more diversified and sophisticated. The EPF already owns around 46% of outstanding Malaysian Government Securities and holds equities worth 19% of the Kuala Lumpur Composite Index.⁸ It is thus already a predominant player in Malaysia's domestic financial and capital markets.

Civil Service Pension Scheme

Civil servants have a defined-benefit pension scheme financed fully from the government budget without any contributions from beneficiaries. In 2008, there were 1.24 million civil servants equivalent to 11% of the labor force and 4% of the total population (Ong and Hamid 2010). The total number of civil service pensioners was 0.53 million in 2008, about 42% of the total employed and 4.5% of the labor force, and pension costs were RM8.4 billion or 1.1% of GDP that year. If the same pension benefits had been provided to the rest of the labor force in 2008, total pension costs would have been 26.7% of GDP⁹ and 96% of total government expenditures.¹⁰

The retirement age for civil servants is 58 which is clearly too low for current life expectancy at 60. The demographic profile and life expectancy of civil servants may differ from population averages; this will need to be considered in assessing the financial and fiscal sustainability of the scheme.

A minimum of 10 years of service is required to be eligible for a pension. Benefits vary between 20% and 60% of the last basic pay

⁷ Based on data from EPF (various years).

⁸ See footnote 6.

⁹ Civil servants accounted for 4.5% of the total labor force in 2008, and their pension costs were 1.2% of GDP; applying this ratio to the entire labor force yields 26.7% of GDP.

¹⁰ Total government expenditure was RM196.02 billion, or 27.3% of GDP (Ministry of Finance 2010, Bank Negara 2009).

(which excludes allowances), depending on the length of service. There are provisions for survivors and for those who are injured or die during service. Benefits are not indexed to prices but are changed periodically when salaries are revised. As most civil servants are Malays, this system is of particular relevance to them.

The Armed Forces Fund

The Armed Forces Fund (LTAT) was established in August 1972 by an act of Parliament. It is mandatory for all military personnel who are not commissioned officers. It also serves as a voluntary savings scheme for all military personnel. It is a defined-contribution scheme at a rate of 10% of monthly salary from employees and 15% from the government as employer. It has disability and survivors' benefits while the beneficiary is on active service. The age for full withdrawal is 50. Compulsory non-pensionable contributors receive their retirement benefit as a lump sum (inclusive of government contributions and annual dividends) at age 50. Those who are entitled to pensions receive a lump sum at age 50 (inclusive of their contributions and annual dividends only), while the government's co-contribution of 15% is transferred to a retirement fund for payment as a monthly pension. There is also a provision for using funds to purchase housing once during service.

While membership details are not available, in 2009 the LTAT received member contributions of RM615.8 million and processed withdrawals of RM608.6 million. The fund's total assets declined from RM10.95 billion in 2007 to RM7.34 billion at the end of 2009. Contributions are invested in financial services, medium-sized and heavy industries, and real estate. Members annually receive an administratively determined nominal dividend which was 15% in 2009.

Social Security Organization

Unlike the EPF, the Employees Social Security Act of 1969 is based on social insurance principles. It operates the Employment Injury Insurance Scheme and the Pension Scheme for Invalids. The former provides medical, disability, death, and rehabilitation benefits for workers injured on the job while the latter provides coverage for people who become invalids or who die due to any cause. SOCSO

also provides a pension for spouses on the death of actively employed beneficiaries younger than 55.

SOCSCO covers workers earning less than RM3,000 a month and is financed by contributions from both employees and employers. Once employees are covered, they continue to be covered even if their salaries exceed RM3,000. The rate of contribution for the injury scheme is 1% from the employer and 0.5% from the employee. Membership in SOCSCO has been increasing since its inception in 1975, and in 2009, it reached 5.3 million active members (48% of the labor force).

Social Pensions

Malaysia's Department of Social Welfare provides a monthly pension of RM300 to people older than 60 who are destitute, infirm, and have no next of kin. In 2009, there were fewer than 40,000 recipients who received only RM1,900 a year—much less than the legislated amount and lower than the poverty line of RM720 per month that year (Othman 2010). The narrowly defined eligibility restricts coverage; urban areas have better access to benefits (Ong and Hamid 2010).

Suggestions for Reform

Fairness

The broader fairness issues concern the different pension arrangements for those in the public and private sectors; the absence of social insurance principles in managing longevity, inflation, and survivors' benefits during retirement; and the extremely limited public assistance to destitute, infirm elderly. The nearly exclusive reliance on a mandatory saving system based on wages will perpetuate inequalities in retirement unless social risk pooling is introduced. Inequalities may in fact even grow as the current arrangements provide very limited opportunities for retirees to participate in Malaysia's economic growth as the country progresses to higher income levels.

Different Pension Provisions

The differences in the designs of the pension schemes for private sector workers and for military and civil service personnel have significant implications for fairness. At the end of 2009, the EPF controlled assets of RM375 billion and paid a dividend of 5.7% to members while the LTAT controlled assets of RM7.52 billion and paid a dividend of 15%.

EPF beneficiaries receive a lump sum at the final withdrawal age of 55. Annuitization is not required though this option can be chosen voluntarily. The annuity markets in Malaysia, however, are not well developed due to limitations in matching long-term assets and liabilities, particularly as longevity is expected to increase. EPF members therefore are required to use their savings to finance retirement for increasingly longer periods. This arrangement does not address longevity, inflation, or survivors' benefits. Pensions to civil servants, on the other hand, are paid for life, benefits are adjusted periodically, and there are benefits for survivors.

Taxes

Taxes on pension schemes in Malaysia are complex and raise many fairness issues. Employees can deduct up to RM6,000 annually from their incomes for contributions to provident funds and to life insurance premiums combined. This limits implicit subsidies which vary positively with the marginal income tax rates, ranging from 1% to 26% in 2010. When tax-advantaged EPF contributions are withdrawn in a relatively short period, the effectiveness of subsidies for retirement savings diminishes. In any case, the number of income taxpayers is relatively small in relation to the size of the labor force.¹¹

In addition, there is considerable variation in taxes on providers of pension-like products. For example, under Section 150 of the Income Tax Act of 1967, approved funded occupational schemes are not taxed subject to investment restrictions, but approved insurance schemes are treated differently. The life insurance fund is taxed at 8% and is subject to charges under the risk-based capital framework

¹¹ In 2010, 21.3% of the total labor force paid taxes on wage income. There were 6.4 million registered taxpayers, but, only 2.4 million of them paid taxes. (<http://thestar.com.my/news/story.asp?sec=nation&file=/2010/5/1/nation/6173469>)

(Othman 2010). This creates an uneven playing field for providers and needs to be addressed.

Proposed Tax on Goods and Services

Taxing services could burden the elderly because if international experience holds true, it is likely to increase the cost of living on a one-time basis by the differential between current sales tax rates and the proposed tax (Ebrill et al. 2001, Bird and Gendron 2007). As relatively lower income individuals are likely to hold larger shares of their financial wealth in the EPF, they may be disproportionately affected. The real value of social pensions in Malaysia could erode unless the level of benefits is adjusted.

Sustainability

Financial sustainability in pension systems usually refers to matching long-term assets with liabilities. If projected liabilities are greater than projected assets, the only feasible options are reducing benefits, increasing contributions, improving returns on investments, obtaining funds from taxpayers on a long-term basis, or various combinations of all four. Financial sustainability must, however, be distinguished from economic and social sustainability. Economic sustainability is the capacity of the economy to finance projected liabilities without sacrificing economic growth or other priorities. In this context, the most important macroeconomic variable is the long-term trend in economic growth as in the absence of growth, sharing available resources between the young and the elderly could become contentious and potentially affect social stability.

In defined-contribution systems such as the EPF and the LTAT, the contributions become the liabilities. Therefore, unlike the defined-benefit civil service scheme, matching assets with liabilities is not relevant. Sustainability in defined-contribution systems instead must address adequacy of payments and of coverage as with rising incomes and expectations, the population may require more to provide security in retirement.

Coverage

The EPF currently covers around half the labor force, nearly all of whom are citizens. This is a significant increase from 35% in 1986 (Asher 1994). The civil service and armed forces plans combined cover about 13%. While there is likely to be minor overlapping between

EPF and civil servants, there is substantial overlapping between EPF and SOCSO. There are some occupational schemes, including in state enterprises and state financial institutions such as Bank Negara, but membership is small. This leaves about 15% to 18% of the citizen labor force (20% is foreign) not formally covered by any pension scheme though some may invest in the financial and capital markets to finance retirement.

Adequacy

Civil servants and the armed forces are likely to fare better in terms of adequacy than private sector workers. The average savings of EPF members is only 1.2 times per capita income. Of the active members, 87% of the men and 90% of the women had balances of less than RM100,000 in 2009 while 2.3% of men and 1% of women had balances above RM300,000. The total savings were unequally distributed. Of members with balances of less than RM100,000, 73.2% were less than RM50,000 and constituted less than a quarter of total savings. In contrast, 11.8% of active contributors accounted for 53.2% of total savings in 2009 (EPF 2009). This reflects large wage disparities and leads low wage earners to withdraw sums prior to retirement.

In a simulation study by the Organisation for Economic Co-operation and Development (OECD), net replacement rates for the EPF, assuming no pre-retirement withdrawals, were estimated at 34.9% for the median male earner and 31.1% for the median female earner (OECD/World Bank 2011). This falls far short of the international benchmark of 66% from all income sources. The actual replacement rate is even lower due to high numbers of pre-retirement withdrawals that were not included in the OECD estimates.

EPF pay-outs are therefore not adequate for most of its members. Median balances of less than 2 years of per capita income in 2009 will not finance retirement when life expectancy at age 60 in 2005 was 17 years for men and 20 years for women. In fact, it is estimated that about 70% of retirees exhaust their EPF pay-outs within 10 years (Othman 2010). Again, the EPF is not designed to address longevity, inflation, or survivors' benefits, but there are no other complementary schemes like social pensions to help sustain even modest replacement rates for the elderly in Malaysia.

Given the currently very restrictive nature of social pensions, poor people not covered by any pension scheme are likely to have grossly inadequate retirement incomes. Broadening the eligibility for receiving social pensions and increasing the monthly payment could improve adequacy for the low-income elderly. Othman (2010) estimates that if all poor senior citizens were paid RM720 per month—the official poverty line—the gross budgetary cost will be RM1.6 billion, equivalent to 0.23% of 2009 GDP. The number of beneficiaries was estimated at 185,200, 14% of those were older than 65 in 2010. If a similar benefit were provided to all elderly, the total cost would be RM11.7 billion or 1.7% of GDP. This appears to be fiscally feasible. The key constraint will be to devise cost-efficient delivery mechanisms. As the relative incidence of poverty is higher among the *bumiputra*,¹² expanding social assistance would especially benefit them.

Conclusions

If Malaysia is to become a developed economy by 2020, reforming the current pension system to improve fairness and sustainability should be accorded high priority. This is recognized by policy makers, but specific reform measures need to be articulated. The country needs an integrated pension system that includes publicly financed social pensions and better management of longevity, inflation, and survivors' benefits, particularly for private sector workers under the EPF. The differential treatment accorded public and private sector workers also needs to be addressed. This will require reforming the noncontributory civil service pensions. Trends in longevity, morbidity, and mortality must be taken into account in designing future pension systems.

These reforms will make Malaysia's pension system consistent with the aims of the NEM and will facilitate its emergence as a high-income, developed country. Malaysia has both the fiscal and institutional capacity to enhance the fairness and sustainability of the pension system. Public policy dialogue could be useful in developing the consensus necessary for effective reforms.

¹² In 2007, the overall incidence of poverty in Malaysia was 3.6% while for the *bumiputra* community it was 5.1% (National Economic Advisory Council 2010).

The Philippines

Ernesto Reyes*

Abstract

The Philippine pension system is primarily a defined-benefit scheme. The Social Security System (SSS) is mandatory for private sector workers, the Government Service Insurance System (GSIS) is mandatory for public sector workers, and the Armed Forces of the Philippines Retirement Service Benefit System is required for the military. Together, they cover about 79% of the labor force and 28% of the population aged 60 and older. The GSIS program generally offers better benefits than the SSS as reflected in the gap between their replacement rates, but in both the rates are much higher than the best practice targets of 40% to 50% which make the programs unsustainable as the population ages. Removing the wage ceiling for GSIS members in 2003 exacerbated the gap, and short-term salary averaging is another source of perverse redistribution. The large discrepancy between the contribution rate of the GSIS (21%) and the SSS (10.4%) reflects the significant imbalance between contributions and benefits in the SSS. This accounts for its shorter fund life (2031) compared to that of the GSIS (2055). In addition, both programs are administered and amended by GSIS members which could result in bias. The significant disparities between the SSS and GSIS test the fairness and sustainability of the entire system for present and future retirees. To preserve the pension system, the government should consider raising the retirement age, increasing contributions, combining the two programs, gradually shifting to a defined-contribution system, and expanding the economy although the current population growth rate of 2%, one of the highest in Asia, will make sustained economic growth a challenge.

* Independent Consultant, Actuary and Fellow of the Actuarial Society of the Philippines (reyesernie@yahoo.com)

Overview

The defined-benefit system—the major component of the four-tiered Philippine pension system¹—includes programs administered by the Social Security System (SSS) for private sector workers, the Government Service Insurance System (GSIS) for public sector workers, and the Armed Forces of the Philippines Retirement Service Benefit System for the military. Together they cover about 79% of the labor force and 28% of the population aged 60 and older.

Defined-benefit systems are sensitive to demographic changes. With its median age of 22.5 years, the Philippine population may not be aging as rapidly as populations in other Asian countries, but the population growth rate of 2% will exert pressure on the government to increase its implicit public debt (Holzmann et al. 2000).² Estimates for 1999/2000 showed that implicit public debt as a percentage of gross domestic product (GDP) for the Philippines was much higher than its explicit debt while spending for pensions was only 1% of GDP that year (Table 6.1).

Table 6.1 Philippine Public Debt as a Share of Gross Domestic Product (%), 1999/2000

Public debt	Pension spending	Implicit public debt by discount rate		
		2%	4%	5%
71	1	185	107	81

Source: Carmichael and Palacios (2003).

The mandatory defined-benefit programs in the Philippines were created by separate laws and are administered by separate, government-run pension institutions. This has caused differences in

¹ The four tiers or pillars are (1) the social assistance pillar, (2) the mandatory defined-benefit pillar, (3) the mandatory defined-contribution pillar, and (4) the voluntary/supplementary pillar. The SSS, GSIS and the armed forces plan belong to the defined-benefit pillar.

² Implicit public debt is the present value of the payment stream that the pension scheme will have to pay current participants and their survivors for the contributions made up to the current date, provided the rules of the scheme stay the same.

both design and implementation that have raised concerns about fairness and sustainability. The existing small and less-developed defined-contribution programs are not as affected as contributions and benefits are linked.

Some of the design features of the private sector SSS and public sector GSIS programs that are relevant to these concerns are enumerated in Table 6.2. They could also apply to the military program.

Table 6.2 Design Features of the Mandatory Defined-Benefit Programs

	Private sector (SSS)	Public sector (GSIS)
Optional retirement age	60	60
Mandatory retirement age	65	65
Benefit formula		
Flat benefit	P300	Not applicable
Accumulation factor	2%(AMSC)	2.5%(AMC+P700)
Benefit limits	40% of AMSC	90% AMC Maximum
Salary averaging method	5-year average	3-year average
Contribution rates	10.40%	21.0%
Employer	7.07%	12.0%
Employee	3.33%	9.0%
Ceilings on salary credits	P15,000 ³	No ceiling
Minimum service requirements	10 years	15 years
Minimum salary eligibility	P1,000/month	Minimum wage
Coverage of survivors	Available	Available
Compliance rate	31%	Higher but data not available
Coverage (labor force aged 15–59)	75% of labor force	4% of labor force
Coverage (elderly aged 60+)	23%	1%
Sustainability	2031	2055
Portability	Limited	Limited
Investment in member loans	Maximum 10%	Minimum 40%

AMC = average monthly compensation in Philippine pesos; AMSC = average monthly salary credit.

Sources: Actuarial Society of the Philippines; Author's compilation.

³ Average exchange rates for US\$1: 2007, P46.1484; 2008, P44.4746; 2009, P47.6372. Bureau of Labor and Employment Statistics, Current Labor Statistics.

Awareness of these discrepancies and of their implications will hopefully lead to steps to improve the sustainability and equity of the pension system.

The Current System

Fairness

Pension programs involve transfers of resources between various classes of workers and pensioners, both within and across generations. The way these transfers are implemented and are influenced by demographic and economic factors have an impact on their acceptability and sustainability. The significant disparities in the Philippine pension system challenge both its equity and sustainability, and the effects of these disparities will spill over into the future as new generations of members⁴ flow through the system.

Inter-generational equity refers to how the burden on the older generation is passed on to the younger generation. One point of view is that if the old benefit at the expense of the young, it may merely be because different ages have different needs. As every cohort ages, it is subject to both benefits and taxes; thus there will be inter-generational equity as long as the allocation of public resources is not changed over their life course (Carmichael and Palacios 2003). The following standards for inter-generational equity were considered (Rydell 2005):

- allocating social spending at any given moment between younger and older people;
- just treatment for successive cohorts, e.g., ensuring that tomorrow's retirees get pensions equivalent to current pensions;
- sharing costs of the welfare system equally among cohorts; and
- just returns for contributions made during a lifetime.

Benefit Formulas Are Not Harmonized

The GSIS program generally offers better benefits than the SSS as reflected in the gap between their replacement rates (Table 6.3).

⁴ Refers to both covered active workers and pensioners.

Table 6.3 Replacement Rates for Various Wage Levels with 40 Years Credited Service

Monthly wage levels (P)	1,993	3,986	7,972 (Average)	15,944	23,916
As % of average wage	25.00	50.00	100.00	200.00	300.00
SSS replacement rate (%)					
Actual	120.42	79.34	78.07	72.89	48.59
Covered	120.42	79.34	78.07	77.48	77.48
Relative	30.11	39.67	78.07	145.78	145.78
GSIS replacement rate (%)					
Actual	NA	88.20	88.20	88.20	59.01
Covered	NA	88.20	88.20	88.20	88.20
Relative	NA	44.10	88.20	176.40	177.02
GSIS replacement rate (%)					
Actual	NA	88.20	88.20	88.20	88.20
Covered	NA	88.20	88.20	88.20	88.20
Relative	NA	44.10	88.20	176.40	264.60

Notes: Actual = ratio to actual final salary at retirement; covered = ratio to salary covered by the ceiling; relative = ratio to nationwide average salary; NA = not applicable for GSIS as wages are assumed to start from minimum wage of approximately P4,000/month.

Source: Author's model for estimating pension benefits based on Organisation for Economic Co-operation and Development assumptions for the Philippines.

Achieving the redistribution objective is very evident in the case of the SSS. The greater the weight given to the flat benefit component compared to the earnings accumulation component, the greater the degree of redistribution. The SSS benefit formula implements this through the Philippine peso (P)300 flat benefit. For the GSIS, incorporating P700 in the accumulation component did not have the same effect. In some countries, the flat component is related to the nationwide average wage which is self-adjusting.

Lifting the monthly salary ceiling in the GSIS plan in 2003 from the original P16,000 also resulted in an abrupt increase in the replacement rate of its high earners relative to the nationwide average. Private sector workers could resent funding the generous pensions of their public sector counterparts with their taxes.

Replacement Rates are High

The replacement rates shown in Table 6.3 are much higher than the best practice target rates of around 40% to 50% for the average worker. For the GSIS, the replacement rates relative to the nationwide average shoot up even for wage levels exceeding the original ceiling of P16,000. These high replacement rates make the programs unsustainable as the population ages and are also not in line with the pension system's key objectives, e.g., ameliorating old-age poverty, and constraints, e.g., the need to ensure long-term fiscal sustainability.

The ceiling on monthly salary credits remained at P15,000 for SSS but it has been the actual salary for GSIS since 2003. Thus private sector workers' benefits are limited compared with those of their GSIS counterparts in the high-wage brackets who also benefit from additional government contributions. In addition, lifting the ceiling did not change conditions for the low-wage earners in the public sector (less than P16,000) but instead benefited only a few high-wage earners. This resulted in perverse redistribution, a concern raised in an opinion column by a former vice-president of the GSIS.

We see today a GSIS pension program that allows a great disparity in the pensions of the rich who can afford the luxury of a Mercedes Benz, a BMW, condominium units, and travels abroad from a month's social pension when the poor rank and file employee could not even buy his decent three meals a day much less the medicines that he needs from his measly monthly pension.⁵

⁵ *Philippine Star*. 2011. GSIS: The Need to Reform. 7 April.

Table 6.4 shows the aggregate effect of the discrepancy between the P15,000 ceiling of the SSS and the absence of a ceiling in the GSIS after 2003. Since 2000, the GSIS has increased its monthly pension benefit by as much as 84% (GSIS 2008).

Equity demands that workers in the same class receive the same pension benefit package in both the public and private sectors. The benefits have to be based on very basic requirements to ensure the sustainability of the pension fund while satisfying the social requirements of the majority who are in need.

Table 6.4 Social Security System and Government Social Insurance System Pensioner Data

Year	SSS: Pensioners and Average Pension			GSIS Average Pension	
	Male	Female	Total Number	Average Monthly Pension (P)	Average Monthly Pension (P)
2007	534,806	714,385	1,249,191	2,962	7,200
2008	572,246	757,977	1,330,223	3,109	7,800
2009	610,872	803,201	1,414,073	3,080	n.a.

n.a. = data not available.

Source: Author's calculations using data from Actuarial Department of SSS and from GSIS Annual Reports.

Salary Averaging for Computing Benefits is Short Term

The salary basis used for benefit computations is either the 3-year average or the 5-year average as opposed to the lifetime average used in other countries. Under the Armed Forces program, the basis is the final salary of the next higher rank at retirement. This short-term salary averaging is another source of perverse redistribution. Wage increases in the last few years of employment are generally steeper for high-income groups and could be abused through increases in salaries or promotions near retirement age. These abrupt increases in pension benefits have not been sufficiently funded from past contributions. Smoothing them out over the working lifetime of the employee will minimize this discrepancy. The effect of the shift from the current 5-year to lifetime averaging on the SSS program is illustrated in Table 6.5.

Using lifetime averaging, the replacement rate for the average worker drops from 78.1% of covered wage to 52.6%, which is closer to the best practice target replacement rate of around 40% to 50%. The lifetime averaging method is also more equitable as it is aligned with the source of contributions—the actual salaries received at each point in the member’s working lifetime.

Table 6.5 Estimated Replacement Rates under Different Averaging Methods (%)

I. SSS pensions computed on 5-year average salary prior to retirement						
Salary as % of nationwide average	25.00	50.00	100.00	125.00	200.00	300.00
Actual	120.42	79.34	78.07	77.82	72.89	48.59
Covered	120.42	79.34	78.07	77.82	77.48	77.48
II. SSS pensions computed on lifetime average salary						
Salary as % of nationwide average	25.00	50.00	100.00	125.00	200.00	300.00
Actual	120.42	60.21	52.61	52.36	48.94	32.63
Covered	120.42	60.21	52.61	52.36	52.02	52.02

Source: Author’s projection model.

Compliance Rates are Low

With the already high benefit-to-contribution ratio of the SSS, greater increases in contribution rates would be required to sustain the pension program if no improvement is made on the current compliance rate of 31%. The uneven burden for maintaining the benefit-contribution balance in the fund will be carried by the contributing members only.

Social Assistance and Social Insurance Overlap

Under the contributory program, the SSS covers workers earning at least P1,000/month (P12,000 per annum), but the annual poverty threshold in the Philippines in 2006 was P15,057. Workers earning P1,000/month could receive pensions of P1,200/month for 10 years of service or P2,400/month for 20 years of service which is more than their salaries while actively working. This segment falls below both the poverty line and the minimum wage threshold and may properly be

offloaded to the social assistance program and financed from general revenues. The responsibility for this segment is everyone's concern and should not be shouldered solely by private sector workers.

Contribution Rates are Different

The large discrepancy between the contribution rate of the GSIS (21%) and the SSS (10.4%) reflects the significant imbalance between contributions and benefits in the SSS. This accounts for its shorter fund life (2031) compared to that of the GSIS (2055). The longer this imbalance continues, the greater the burden to be passed on to future generations of contributors as greater increases in contribution rates will be required to catch up with ever growing pension payments.

Administration is Public Sector for Both

Both the public sector and private sector programs are administered by separate government-run pension institutions; however, the administrators of these institutions, as well as the legislators who created and amend the programs, are covered by the public sector program. This could result in preferential treatment for the GSIS that could be eliminated if the programs were combined.

Sustainability

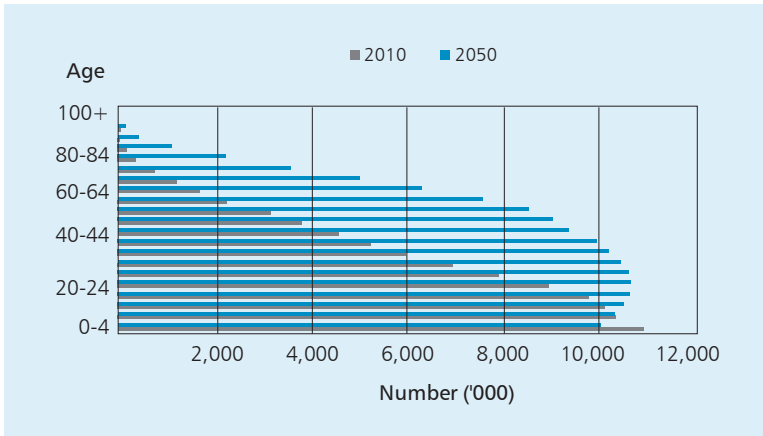
The aging of the population has a major impact on the sustainability of pension plans. The demographic characteristics of the Philippines are therefore an important part of any discussion on sustainability. The dependency ratio—the ratio of the elderly (age 60 and older) to the active labor force (ages 15–59)—is used to illustrate the effect of demographics on the Philippine pension system.

Retirement Ages are Low

Decreases in fertility rates combined with increases in life expectancy will age the Philippine population. Figure 6.1 shows the projected shift in the age distribution to higher ages that will increase the burden on the current labor force for supporting the aged. If this trend continues, the top heavy structure may eventually result in the collapse of the system.

The current programs allow early retirement at age 60 and mandatory retirement at age 65 with 10 years of service under the SSS and 15 years under the GSIS. When workers opt for early retirement, the effects are two-fold: fewer contributions to the fund and longer pay-out periods. The pay-out period is further extended

Figure 6.1: Comparative Age Distribution of the Philippine Population in 2010 and 2050

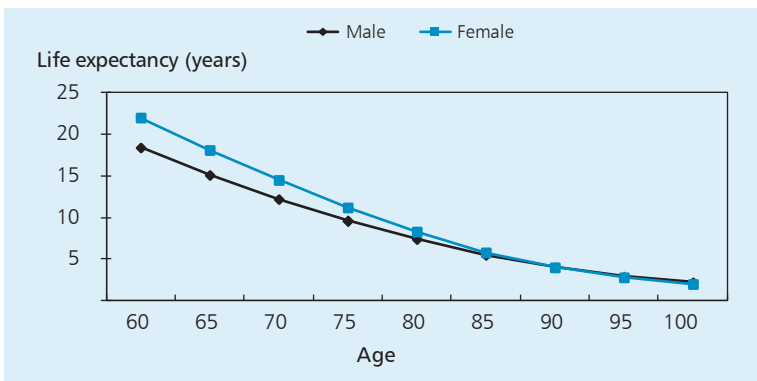


Source: United Nations Population Division (2010).

with survivor’s benefits for male retirees as females have longer life expectancies (Figure 6.2).

Raising the retirement age is an option for improving the sustainability of the program by reducing the current imbalance between contributions and benefits. The effects of changing the retirement age from 60 to 65 and to 70 under the SSS are simulated for males and females in Table 6.6.

Figure 6.2: Life Expectancies for Elderly Filipinos at Various Ages



Source: Global Health Comparison Index.

Table 6.6 Coverage for a Private Sector Worker Entering the Labor Force at Age 20, and Retiring at 60, 65, and 70

I. Case A: Retirement at age 60 with 40 years of service						
	Male: life expectancy =18.4			Female: life expectancy =22.0		
Wage class	50%	100%	200%	50%	100%	200%
Benefits/ contribution	1.71	1.69	1.67	1.94	1.91	1.90
PV benefits/actual wage	10.27	10.11	9.44	11.63	11.44	10.68
PV benefits/ covered wage	10.27	10.11	10.03	11.63	11.44	11.35
II. Case B: Retirement at age 65 with 45 years of service						
	Male: life expectancy =15.1			Female: life expectancy =18.1		
Wage class	50%	100%	200%	50%	100%	200%
Benefits/ contribution	1.48	1.46	1.45	1.69	1.67	1.65
PV benefits/actual wage	8.87	8.73	8.15	10.15	9.99	9.33
PV benefits/ covered wage	8.87	8.73	8.67	10.15	9.99	9.91
III. Case B: Retirement at age 70 with 50 years of service						
	Male: life expectancy =12.2			Female: life expectancy =14.5		
Wage class	50%	100%	200%	50%	100%	200%
Benefits/ contribution	1.25	1.23	1.22	1.44	1.41	1.40
PV benefits/actual wage	7.51	7.39	6.90	8.60	8.46	7.90
PV benefits/ covered wage	7.51	7.39	7.33	8.60	8.46	8.40

PV = present value

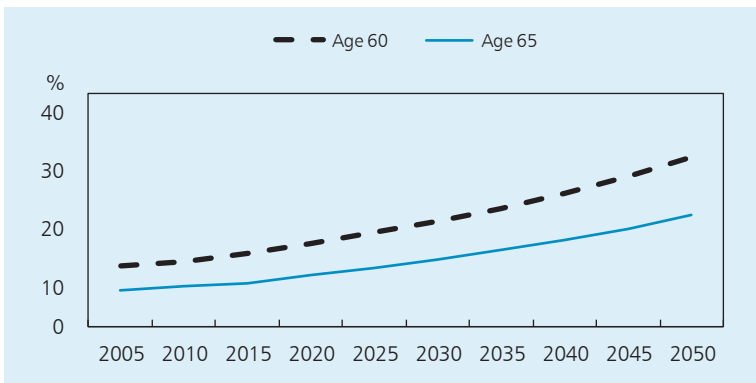
Source: Author's projection model.

Note that workers retiring earlier get higher returns on their contributions compared with those who defer retirement, so it may be more equitable to factor in an actuarial adjustment factor for early retirement.

Changes in dependency ratios under the following assumptions are plotted in Figure 6.3 based on the United Nations Population Division's projections for the Philippines from 2010 to 2050:

- Retirement age 60: workers 15–59 support the elderly aged 60 and older
- Retirement age 65: workers 15–64 support the elderly aged 65 and older

Figure 6.3 Comparative Old-Age Dependency Ratios at Ages 60 and 65



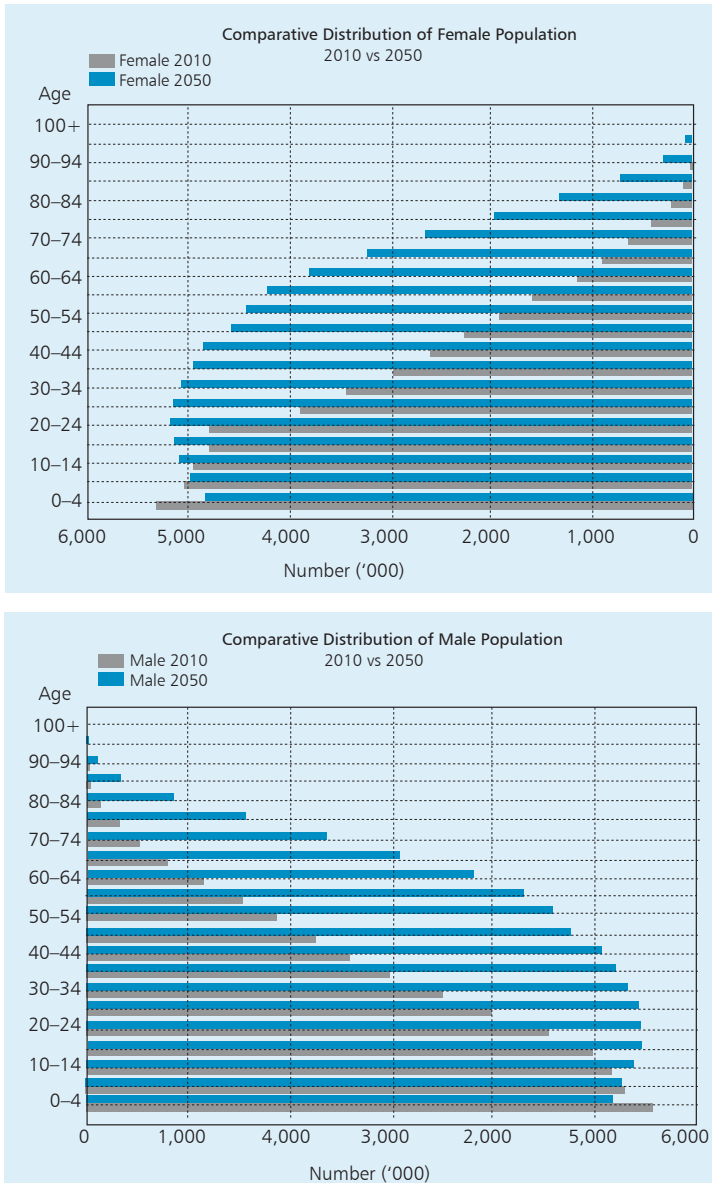
Source: United Nations Population Division (2010).

As shown in Table 6.6, the benefit-to-contribution ratio decreases with increases in retirement age. Figure 6.3 additionally shows that the dependency ratio is reduced if everybody retires at age 65 rather than at age 60. Implementing the change in 2010 would have reduced the dependency ratio from 11% to 7% and in 2050 would reduce it from 29% to 19%. The burden on the working-age group would thus have been reduced by 36% in 2010 and by 34% in 2050 compared to what it would have been if the retirement age were still 60.

Gender Considerations

The trend in the age-sex distribution of the Philippine population projected to 2050 (Figure 6.4) also shows the increasing number of elderly females who will outlive their male counterparts.

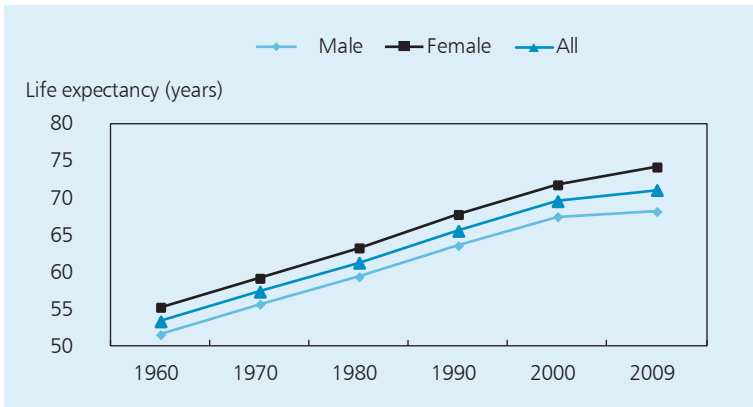
Figure 6.4 Projected Age-sex Distribution of the Philippine Population in 2010 and 2050



Source: United Nations Population Division (2010).

The longer life expectancies of females in 2009 shown in Figure 6.2 are expected to increase in line with the historical trend in Figure 6.5.

Figure 6.5: Historical Data on Life Expectancy at Birth in the Philippines



Source: Global Health Comparison Index.

Effects of Population Aging and the Economy on the Pension System

The sustainability of a pension system depends on balancing contributions with benefit payments. The following formula relates the effect of the dependency ratio and the other pension parameters influenced by the economy (e.g., GDP, inflation rate, and labor productivity) to the required contribution under a pay-as-you-go system. While it may not apply to the partially-funded defined-benefit programs in the Philippines unless the reserves run out, it illustrates the importance of developing a strong economy to mitigate the effects of aging on pension programs.

$$C = \text{required contribution rate} = \frac{(P_{\text{ave}} \times NP_{60+})}{(W_{\text{ave}} \times NC_{15-59})} = B \times D$$

where

P_{ave} = average monthly pension

W_{ave} = average monthly wage

NP_{60+} = number of current pensioners aged 60 and older

NC_{15-59} = number of current workers/contributors aged 15–59

$B = P_{\text{ave}} / W_{\text{ave}}$

$D = \text{dependency ratio} = NP_{60+} / NC_{15-59}$

It is noted that:

- The ratios change each year with changes in demographics, economic conditions, and reforms implemented. Given the

increasing dependency ratios in (D), economic and reform measures that result in greater increases in average wages and smaller increases in average pensions will reduce (B) and assist in maintaining an acceptable required contribution rate.

- b) A pension system with pay-as-you-go financing will result in each successive generation obtaining lower rates of return on their contributions to the scheme.

Projections by Standard & Poor's indicate that economic improvements alone may not be able to stabilize pension spending as a percentage of GDP without corresponding reforms in place. Under its base scenario of no change in current arrangements, the pension spending of selected Asian countries as a percentage of GDP from 2010 to 2050 is shown in Table 6.7.

Table 6.7 Pension Spending and Real Gross Domestic Product Growth (%)

Country	Pension Spending as a Percentage of GDP			Real GDP Growth		
	2010 ^e	2050 ^f	Change 2010 ^e –2050 ^f	2010 ^e	2050 ^f	Average 2010 ^e –2050 ^f
PRC	2.2	2.6	0.4	9.8	2.4	4.4
Indonesia	0.9	2.1	1.2	6.0	4.4	4.9
Republic of Korea	0.6	4.4	3.8	5.0	5.0	2.0
Malaysia	2.9	5.6	2.7	6.0	3.0	4.1
Philippines	1.1	2.0	0.9	3.7	4.8	5.1

e = estimate; f = projected; PRC = People's Republic of China.

Source: Standard & Poor's (2010).

The government can deal with future imbalances in pension programs through structural reforms aimed at increasing economic growth and raising employment levels for older workers and through substantial reforms to the social assistance program that go well beyond current initiatives.

Suggestions for Reform

Reduce Benefits

This could be done by modifying the benefit formula to achieve replacement rates of 40% to 50% and could include the following measures:

- Change the weighting of the flat and accumulation components to increase redistributive effects.
- Shift to lifetime averaging.
- Reintroduce a ceiling in the public sector program.
- Include actuarial adjustments for early retirement to preserve equity.

Constraints

- a) There may be legal impediments to reducing vested benefits, but modifying future benefits can be done while recognizing credits earned in the past.
- b) If pension benefits decrease, supplementary programs will be needed for those with extra resources to save. Alternative savings plans have to be developed and regulated to protect workers who may outlive their reduced benefits.
- c) The shift to lifetime averaging would require a complete salary history for workers which may not be available in the database of the two pension institutions. Gradual increases in the number of years used for averaging may be more manageable as the databases are populated.

Raise the Retirement Age

Senate Bill No. 2797 increasing the mandatory retirement age for government workers from 65 to 70⁶ has been recently filed in congress. For consistency, a corresponding bill applying to the private sector program should also be filed.

⁶ *Philippine Daily Inquirer*. 5 July 2011.

Constraints

The country must be prepared to deal with the resulting increase in the labor force. Uncertainty about the continuing deployment of Filipino workers overseas due to global economic developments adds to this concern as there are not enough job opportunities at home.

Increase Contributions

This will reduce the gap between contributions and benefits, especially at the SSS, and will minimize the necessity to impose large increases on later generations of workers. Modifying benefits to cover only basic requirements will help to keep the contribution rates at acceptable levels while extending the sustainability of the programs.

Constraints

- a) Initiatives to increase contributions always face stiff resistance, especially in a democratic country like the Philippines with a well-organized labor force. The last 1% increase in SSS contributions, which was not enough, was passed entirely to employers. The chair of the SSS has already announced a plan to increase the 10.4% contribution to 11% with the 0.6 percentage points shared equally by the employer and worker. Monthly salary credits will also be increased to P20,000.⁷
- b) Private sector employers have limited ability to absorb higher contributions as they could raise the cost of doing business and reduce competitiveness. This is not the case for government with its power to tax. The high cost of doing business could cause private businesses to relocate and could increase the informal economy.

Combine the Social Security System and the Government Service Insurance System

This will remove the current inequities between the two programs, and any savings for the government could be channeled to social assistance programs. This could also involve offloading non-pension

⁷ *Manila Bulletin*. 20 April 2011.

related activities such as the non-life insurance operations of the GSIS or the social assistance coverage of the SSS.

Constraints

- a) There may be a natural bias toward keeping the two programs separate and maintaining the superiority of the GSIS. The gap is quite wide; it will take some time to narrow it.
- b) Legislation is required, and the more extensive the change in the law, the longer it takes to amend it.
- c) Adjustments in operating systems are needed to fully integrate the two programs.

Shift to a Defined-Contribution System

The defined-contribution, fully-funded element of the Philippine pension system is quite small. The trend worldwide is, however, toward larger defined-contribution programs as they are the more equitable and sustainable option.

Improve the Economy

The government could provide an economic, investment, and regulatory environment that promotes the growth and sustainability of the pension programs equitably and helps to mitigate the effects of population aging. A regulator could be created to oversee the entire system and correct the disparities that challenge its fairness and sustainability.

Constraints

- a) With the growing urgency to address the financial implications of population aging and to raise employment levels and increase economic growth, structural reforms on the current pension system would have a more immediate impact on promoting fairness and sustainability.
- b) It will take greater sustained economic growth to alleviate poverty given the population growth rate of 2%, one of the highest in Asia. Slow economic growth, uncertainties over domestic and overseas employment, and lack of political will to advance reforms in the pension system could slow down initiatives to correct existing disparities.

- c) Initiatives to promote equity and sustainability will affect benefits currently enjoyed by workers. Reductions in benefits may not be unfair, however, if applied consistently to all classes of members. As expressed by Philip Coogan, the issue is: "Nobody seriously disputes that employees should keep the pension rights they have accrued so far, although they may receive the benefits later; the battle is over whether employees should be allowed to keep accruing the same perks in the future" (Coogan 2011).

Singapore

Mukul G. Asher* and Azad Singh Bali**

Abstract

Singapore's single-tier, defined-contribution pension system is administered by the Central Provident Fund (CPF) which has nearly universal coverage. In 2010, however, the average balance per member was Singapore \$57,000 which was approximately equivalent to the per capita income. This will not finance the 2 decades of retirement expected as the population ages in the next 20 years. Concerns about fairness arise from tax treatment, different designs for different groups of workers, the lack of social risk pooling, and the absence of pension arrangements for foreign workers. Broad directions for promoting fairness and sustainability are fairly clear: (i) using more social insurance principles and social risk pooling instruments such as social pensions; (ii) reforming the investment policies of the CPF by bringing them more in line with the military's SAVER Plan; and (iii) improving the design of the CPF to promote fairness. The government has both the financial and administrative capacity to do this but has instead placed disproportionate importance on achieving high economic growth while not taking sufficient account of the negative implications on social protection. In the 2011 general election, nearly 40% of the electorate voted for opposition candidates. This could be interpreted as an urgent need for a more balanced approach to economic growth and social protection.

* Professor of Public Policy, Lee Kuan Yew School of Public Policy, National University of Singapore (sppasher@nus.edu.sg)

** PhD Student, Lee Kuan Yew School of Public Policy, National University of Singapore (bali@nus.edu.sg)

Overview

The city-state of Singapore has evolved from a lower-middle income country to a high-income country in just 4 decades. Its business location strategy has benefited from global trade, technologies, investments, and human resource flows. The main elements of its strategy are (i) keeping wage goods (including housing) affordable for the average worker; (ii) constantly upgrading infrastructure and human resources; (iii) maintaining low transaction costs and minimizing red tape; (iv) focusing on taking advantage of new opportunities and meeting possible economic challenges from neighbors and competitors; (v) maximizing labor market flexibility; (vi) managing the economy essentially as a corporation; (vii) maintaining tight political control with the promise of continuous improvements in living standards; (viii) accepting inequalities and relative poverty;¹ and (ix) using socio-economic-political information as a strategic resource and not as a public good.

The economic success of Singapore's growth strategy is indicated by the increase in its gross domestic product (GDP) from \$43.2 billion in 1991 to \$92.7 billion in 2000, and to \$182.2 billion in 2009; and by the increase in per capita income from \$13,800 in 1991 to \$36,537 in 2009 (World Bank 2010). Singapore's real GDP growth, however, has moderated from an average of 7.6% per annum in the 1990s to 4.9% per annum from 2000 to 2009. Much of this growth was due to increases in inputs such as labor and capital with average annual labor productivity declining from 3.4% to 1.1% in that period (Vu and Monetary Authority of Singapore 2010). The official goal is to increase annual labor productivity to 2% or 3%. This target will not be easy to achieve as considerable organizational changes and policy reforms will be needed.

Singapore's economic success notwithstanding, several factors contribute to the need for policy makers to assign greater weight to

¹ Based on 2009 Central Provident Fund (CPF) data, Mukhopadhaya and Venaik (2010) estimated Singapore's Gini coefficient at 0.49. Since their estimates are based only on wage income derived from CPF data, the value of income-Gini will be higher, as capital income disproportionately accrues to higher income groups.

the fairness and sustainability of the current pension arrangements. First, one of the consequences of Singapore's growth strategy has been the growing number of noncitizens from 14% of the population in 1990 to 26% in 2000 and to 36% in 2009. Foreign workers (including professionals) constituted approximately 35% of the total labor force in 2009.² The growth rate of citizens has been a fraction of the growth rate of noncitizens (Table 7.1). Such a trend is difficult to sustain in any country over the long term.

Table 7.1 Composition of Singapore's Population in Selected Years

	1990			2000			2009		
	No. (million)	Share of total	Growth Rate	No. (million)	Share of total	Growth Rate	No. (million)	Share of total	Growth Rate
Population	3.05	100.0	2.3	4.02	100.0	2.8	4.99	100.0	3.1
Citizens	2.62	86.1	1.7	2.97	74.0	1.3	3.20	64.2	1.1
Permanent Residents	0.12	3.7	2.3	0.30	7.2	9.9	0.53	10.7	11.5
Nonresidents ^a	0.31	10.2	9.0	0.75	18.8	9.3	1.25	25.1	2.8

^a Not citizens or permanent residents.

Source: Department of Statistics (2010).

Second, the population is expected to age rapidly in the next 2 decades. According to the United Nations projections, the number of people aged 65 and older in Singapore will increase from about 0.46 million in 2010 to 1.40 million in 2030, an increase of 207% (United Nations Department of Economic and Social Affairs [UNDESA] 2010). Life expectancy at age 65 is currently 17.4 years for men and 20.8 years for women (Department of Statistics [DOS] 2009) and is also expected to rise. The ratio of working-age persons to the elderly will decline from 8.2 in 2010 to 2.7 in 2030 and further to 1.7 in 2050. The median age of the resident population in 2009 was 36.9 years; this is expected to increase to 53.7 by 2050 (DOS 2009; UNDESA 2010) (Table 7.2).

² The resident labor force (permanent residents and citizens) was only 65.1 % of the total in 2009 (Department of Statistics 2010).

Table 7.2 Projections for Population Aging in Singapore

Year	Population Aged 65+		Population Aged 80+		Dependency Ratio (%)			Working-Age/Elderly
	(thousand)	(%)	(thousand)	(%)	(Total)	(Child)	(Old-age)	(%)
2000	289	7.4	52	1.3	40	30	10	9.6
2010	458	9.0	90	1.8	36	24	12	8.2
2020	858	15.3	160	2.9	41	19	22	4.6
2030	1,394	23.3	297	5.0	61	23	37	2.7
2050	1,943	31.8	790	12.9	81	24	58	1.7

Source: UNDESA (2010).

Third, Singapore has relied primarily on a single-tier retirement financing system called the Central Provident Fund (CPF) that involves mandatory savings administered by a national agency. With increasing longevity, relying on savings during the working years to finance retirement, which in some cases may exceed the time spent in the labor force, has become increasingly untenable for a significant proportion of the population. Chia and Tsui (2011) have argued that converting housing assets into retirement income could be an important way to finance old age in Singapore. As CPF is the primary mortgage financing instrument, it would have an important role in such conversions. They recognize, however, that it will not be easily managed given the difficulties in determining prices and the market-maker and guarantor required for the process.

Fourth, the expectations of policy makers in Singapore have been that longer working lives will significantly contribute to retirement income security while still primarily relying on mandatory savings, but the age-specific labor force participation rate (LFPR) for males and females in Singapore does not support that expectation. Singapore's total LFPR of 65% in 2009 was higher than Japan's (60%) and the Republic of Korea's (61%) and lower than Canada's (67%), but the LFPR of the age group 60–64 that year was 51% which compares unfavorably with Japan (55%) and the Republic of Korea (56%). Furthermore, the rate declined to 43% for the age group 65–69 and to 25% for the 70–74 cohort in 2009 (DOS 2010). This was particularly true for women as only 1 out of every 6 in the 65–69 cohort was in the labor force. Since the mean life expectancy at age 65 for women was 21.5 years in 2009, it does not appear that working will be a major instrument for ensuring their financial security in old age.

The Current System

Singapore's single-tier pension system is a defined-contribution scheme administered by the CPF; it has become a key social, political, and economic institution. It was set up under the British colonial government in 1955 and is quite complex due to its multiple roles. It is, for example, the primary mortgage financing institution in the country.

Although the CPF does not include any elements of social risk-pooling, there is a system of social assistance for the indigent. In 2009, there were 2,930 cases of public assistance totaling Singapore (S)\$14 million, an average of S\$4,800 per household per year or less than 10% of 2009 per capita income. Public assistance is deliberately kept to a minimum. Cash relief is distributed on a per household basis and varies from S\$200 to a maximum of S\$570 per month (Ministry of Culture, Youth and Sport 2006). In fiscal year 2007, however, the average household monthly income was S\$7,440 (<http://www.singstat.gov.sg/stats/themes/people/hes.pdf>). The government encourages semi-official welfare organizations to assist the indigent.

As of 31 March 2011, the total membership in the CPF was 3.35 million. Given that 35% of Singapore's labor force is nonresident (i.e., citizen nor permanent resident), the coverage of the CPF may be regarded as nearly universal. The total balance in the fund was S\$192 billion or 63.4% of 2010 GDP. The average balance per member was S\$57,000 which was approximately equivalent to per capita income. This is inadequate as an average member will require financing for at least 2 decades of retirement.

Current contribution rates to the CPF vary with age and are subject to a wage ceiling. The proportion of the contributions allocated to a member's various accounts also varies by age. It is noteworthy that the rates decline with age; and so does the share explicitly allocated to retirement, which suggests that policy makers have assigned a low priority to accumulating cash for retirement relying instead on accumulating assets, particularly housing. CPF contributions, income, and withdrawals are tax free.

In 2010, CPF contributions from employers ranged from 5.5% to 15% and from 5% to 20% for employees, i.e., from 10.5% to 35% of

total wages. There was no increase in the wage ceiling of S\$4,500 per month; if it remains fixed over the long term, it will decrease in real terms which in turn will have an adverse impact on the replacement rate. The government proposed increasing the ceiling to S\$5,000 per month starting in September 2011.

CPF contributions are channelled into three accounts: 67% goes into the ordinary account, which can be used for housing and investments; 19% goes into the Medisave account which can be used for hospitalization and catastrophic health insurance; and the remaining 14% goes into the special account, which can be used for retirement and other purposes. Interest is paid on the special and Medisave accounts pegged at the 12-month average yield on a 10-year Singapore Government Security plus 1%.

The asset side of the CPF balance sheet comprises nonmarketable government securities with interest determined *ex post* as the rate credited to CPF members (Asher and Nandy 2009). The proceeds from the securities are widely believed to be invested by the Singapore Government Investment Corporation (SGIC), but statutory provisions do not allow the operations or investment performance of SGIC (or of Temasek, another government holding company) to be disclosed.

From 1987 to 2008, the real, annual rates of return to CPF members on their balances estimated by the authors from annual report data averaged only 1.2%, which was substantially lower than the real, annual GDP growth rate of 8.3% and the growth rate in wages of 5.2%. If rates of wage increases are higher than rates of return on balances, the replacement rate is adversely affected because it reflects the ratio of retirement income to pre-retirement income.

Prior to 1986, eligible civil servants were covered under a pension scheme³ financed by the government. In 1973, they were given the option of transferring to the CPF, but relatively few chose to do so. The transfer in 1986 was successful as the prior scheme was discontinued for most civil servants though a few were allowed to continue. Most civil servants employed after 1986 are therefore covered by the

³ The fund is governed by The Pension Fund Act (Cap. 224A, 1996 Revised Edition) and is administered by the Ministry of Finance.

CPF.⁴ Non-pensionable civil servants have the same contribution rates and wage ceilings as citizens and permanent residents employed in the private sector. Pensionable civil servants, however, have lower contribution rates and a higher wage ceiling of S\$6,000. The total number of pensionable civil servants, including political appointees, is unavailable. However, their number is relatively small because during the 1986 reform, pension benefits were granted to civil servants in only a few key services like the administrative service⁵ and to selected political appointees. These appointees could draw both salary and pension at age 55 and a minimum of 8 years of service. The pensions have, however, been frozen at 1994 salary levels.

On reaching retirement, pensionable civil servants can choose among the following options: (i) full pension calculated at $1/600 \times$ annual pensionable salary \times completed months of service; (ii) a lump-sum payment based on full annual pension \times 14.2; or (iii) a combination of a lump-sum payment and a reduced pension for 12.5 years after which the monthly pension is restored to the full amount. The Pension Fund Act stipulates that the maximum replacement rate is not to exceed two-thirds of the highest pensionable emoluments paid to a civil servant. Under option (i), after 30 years of service the pension would be 60%; the two-thirds maximum is attained after 33 $\frac{1}{3}$ years of service. Thus, pensionable civil servants have more options than other members of the CPF, even though they contribute to the CPF under a separate schedule.

In response to concerns expressed about the salaries and pension arrangements for political appointees in the 2011 general election, the government appointed a committee that submitted the report *"Salaries for a Capable and Committed Government"* on 30 December 2011.⁶ They recommended that the current pension for political office holders be discontinued as of 21 May 2011.⁷ Those currently eligible would receive pensions that had accrued only up to 20 May

⁴ The Pension Act stipulates that no civil servant employed after 1 April 1986 will be covered by the Pension Act, except officers who are appointed to such schemes of service designated by the President.

⁵ As of 31 December 2010, out of 76,000 civil servants, there were 228 officers in the administrative service (0.3%) (Public Service Division 2011).

⁶ http://www.psd.gov.sg/WhitePaper_WhitePaper

⁷ The committee was in favor of covering political appointees under the CPF system.

2011. The pension would be paid when the appointee steps down or retires from office. Thus, an appointee cannot benefit from a salary and a pension at the same time.⁸ The committee also recommended that the bonus paid to political appointees should no longer be based on GDP performance but on a broader matrix that includes real median income growth, the unemployment rate, and the real growth rate of the lowest 20% income group, in addition to the growth rate of real GDP.

Members of the Armed Forces are under a defined-contribution scheme called the SAVER Plan initiated in 1998. They have three options to invest their accumulated balances: (i) the stable plan, which is 50% cash and 50% bonds; (ii) the balanced plan, which is 10% cash, 50% bonds, and 40% equities; and (iii) the dynamic plan, which is 10% cash, 20% bonds, and 70% equities. The default option is the balanced plan.

Fairness

The broader issues concern the lack of social insurance principles in managing longevity, inflation, and survivors' benefits during retirement and the extremely limited nature of public assistance to the elderly. The nearly exclusive reliance on a wage/employment-based mandatory savings pension system will perpetuate wage inequalities in retirement unless social risk pooling and redistribution measures are introduced. Singapore has not implemented any such measures.

As noted previously, Singapore's social assistance program is extremely limited in both coverage and level of benefits. Occasionally, the government has shared a small portion of budget surpluses with its citizens, including the elderly, but this is not a substitute for a well-designed social assistance or social pension scheme with near-universal coverage and adequate benefits for the elderly.

Requiring the current work force to almost fully finance its retirement even as it lays the foundation for future growth that will benefit future generations mitigates social solidarity and social principles. International experience with pension (and healthcare) systems suggests that at least a moderate degree of social solidarity is essential

⁸ Xuanwei, T. 2012. No More Pensions. *Today*. 5 January.

for managing conflicts within and between generations. Singapore's current pension system also does not permit the elderly to participate in economic growth as savings to finance retirement are based on past earnings. The design, administration, and governance of the system also raise specific fairness issues.

Different Pension Designs for Different Groups

The different designs of the CPF and the Armed Forces pension scheme raise questions about fairness. As for the CPF, the funds managed by its board are invested differently than the funds managed under the Armed Forces SAVER Plan. As of 31 March 2011, CPF member balances were invested in non-marketable government securities probably by SGIC as the government has been running fiscal surpluses if the International Monetary Fund definition is adopted (Asher and Nandy 2009). Interest is determined administratively. Since the SGIC is not required to reveal the contents of its investment portfolio or its performance, CPF members are unaware of the actual returns obtained on their balances.

In sharp contrast to this centralized, non-transparent investment strategy at the CPF, the Central Provident Fund Investment Scheme (CPFIS) provides all CPF members older than 18 who have not filed for bankruptcy and have more than S\$20,000 in their ordinary accounts and/or S\$40,000 in their special accounts considerable choice of asset managers and of products; however, for relatively unsophisticated provident and pension fund managers, too many choices are not always conducive to sound investment decisions. Chia and Tsui (2011) estimate that from 2004 to 2009, nearly 50% of those who participated in the CPFIS incurred losses; nearly 33% had returns less than the CPF guaranteed 2.5%, and only 20% realized returns greater than 2.5%.

The nontransparent investment policies of the CPF and the overabundance of choices of fund managers and products in the CPFIS contrast sharply with the policies of the SAVER Plan. As noted, it provides three portfolio options with different risk profiles, and investments are managed under the supervision of the Armed Forces Council by professional fund managers on a collective basis. SAVER members do not have the option of structuring their investment portfolios. The design and governance of the SAVER Plan merit serious consideration by the CPF board.

Taxes

As CPF contributions from employees are tax exempt, the rate of subsidy varies with the marginal rate of income tax. Individual income tax rates in fiscal year 2009 ranged from 3.5% to 20%, and the total number of taxpayers was 33.8% of the labor force. Since the labor force includes many high-income expatriates, the share of income taxpayers among citizens and permanent residents is likely to be lower. The implicit tax subsidy therefore is regressive with the vast majority of CPF members not benefiting from income tax deductions.

In addition, the implicit tax on CPF wealth falls disproportionately on the lower-income group. The SGIC has publicly announced that it earned annual returns (in Singapore dollars) of 4.5% in 2008, but CPF returns were 1.2%. The difference could be construed as a recurrent annual tax on CPF wealth.⁹ The estimated tax was S\$4.98 billion $[(4.5 - 1.2) \times \text{S\$}151 \text{ billion in member balances in 2008}]$, 69% of net CPF contributions during 2008 or 92% of the net tax assessed on residents in 2008. The tax is both large and regressive as relatively lower income households are likely to have larger proportions of their wealth in CPF accounts. In estimating Singapore's household tax burden, this implicit tax should be included.

Pay-Outs

In 2009, the CPF Lifelong Income Scheme (CPF LIFE) was introduced for pay-outs. Chia and Tsui (2011) describe the design of CPF LIFE as follows:

When a CPF member joins CPF LIFE, a portion of his cash savings in the retirement account (RA) is used to pay for the premium for a deferred life annuity at a stipulated drawdown age. The remaining RA is allocated to a spend-down account, with phased withdrawal starting from age 65 to the drawdown age of the annuity. The withdrawal amount is managed in a way to ensure that the payment will last until the deferred annuity date. This amount withdrawn from the managed spend-down account, together with the life annuity, provides monthly payouts till the member dies (p. 3).

⁹ This argument, however, ignores the benefits accruing to members from a guaranteed nominal return on their CPF balances of 2.5%. The evidence seems to suggest that the cost to suppliers for providing such guarantees is not trivial (Lachance and Mitchell 2003). Thus, the crude estimates overstate the extent of implicit tax on CPF wealth.

.....

This suggests that members have some options about the starting point of the annuity and that CPF LIFE is thus a deferred annuity managed by the CPF and paid for by members. Its design raises at least two issues on fairness. First, the premiums charged for the annuity are based on age and gender, with women paying higher effective premiums than men as they as a group live longer. Thus, the premium is structured according to private, not social insurance methods.¹⁰ This is particularly disadvantageous to women who as a group have lower CPF balances than men but who need income support for a longer period.

Second, the annuity benefit is specified in nominal terms. This implies that real benefits will decline at the rate of inflation. CPF LIFE thus does not increase the resources available for retirement. Instead, as members pay the premiums, it reduces those resources though the benefits are lifelong.

In addition, pensionable civil servants and some political appointees have defined-benefit pensions even though they are nominally under the CPF defined-contribution plan, and their payouts are more generous than those of other workers. The government has indicated that it will accept the recommendations on pensions for political appointees contained in the report, *“Salaries for a Capable and Committed Government.”*¹¹ This will address fairness as far as political appointees are concerned but it will still leave certain categories of civil servants with different pension arrangements.

Foreign Workers

Singapore has been able to sustain its economic growth by relying on foreign workers (Table 7.1), so their retirement income needs merit discussion. In 1980, the government introduced a levy on unskilled and semi-skilled foreign workers; it does not apply to foreign skilled professionals. The levy varies across sectors, skill levels, nationalities, and the number of local residents employed per foreign worker. Its economic function is not to regulate the supply of foreign workers as its size and composition are set administratively, so it is not a pricing

¹⁰ This is also the case for the health insurance scheme—Medishield—administered by the CPF (Asher and Nandy 2009). Since market failure is inherent in healthcare, social insurance principles are particularly desirable in healthcare markets.

¹¹ See footnote 8.

mechanism though it is likely to have some impact on the relative demand for foreign labor compared with local labor. If, for example, the foreign labor supply is set at a high level, that increases the overall supply of unskilled and semi-skilled labor which may depress the wages of Singaporeans in that particular labor market. It may also have an impact on the willingness of employers to invest in capital equipment and in improving human resources.

While disaggregated data on the number of foreign workers is unavailable, as of 31 December 2010, there were 201,000 foreign domestic workers. The budget does not provide separate revenue data on the levy on foreign workers; it is instead combined with airport passenger service charges under the category "Other Taxes."¹² In 2010, the revenue from Other Taxes was \$2.24 billion, and estimates suggest that it will be \$3.3 billion in 2011 (Ministry of Finance 2011). A substantial proportion can reasonably be assumed to be from the levy on foreign workers. It is also a reasonable assumption that much of the economic burden of the levy is on the workers themselves as they have little market power; they therefore contribute significantly to fiscal revenues in Singapore. Foreign workers are not, however, members of the CPF, they are not eligible for social and community benefits, and they do not receive the healthcare subsidies and health benefits that residents do.

Sustainability

It is important to distinguish between financial and economic sustainability in pension systems. Financial sustainability refers to matching assets with liabilities. If expected liabilities are greater than projected assets of provident or pension funds, the feasible options are reducing benefit levels, increasing the contribution rate or contribution base, improving returns from investments, reducing administrative costs, or a combination of these. Another option is for the government to finance the actuarial deficits of provident and pension funds. This however, does not bode well for the long-term sustainability of the pension system. Economic sustainability, on the other hand, is the capacity of the economy to finance projected liabilities without sacrificing current and future economic growth or

¹² <http://www.iras.gov.sg/irasHome/page03a.aspx?id=5676>

other spending priorities. Thus, to ensure economic sustainability, policy makers must focus on sustaining long-term economic growth. Without economic growth, sharing resources between the young and the old, and among the elderly could become contentious.

In Singapore's defined-contribution system, the accumulations become the liabilities; therefore, matching assets and liabilities is not relevant. Instead, sustainability is tied to adequacy. As coverage in Singapore is nearly universal, extending it is not an issue, so adequacy must address the lack of instruments to mitigate longevity and inflation risks and to provide for survivors.

Conventionally, the adequacy of retirement financing is measured by the combined replacement rates in all tiers. This rate may be defined as the value of an annuity during retirement as a percentage of pre-retirement income. The replacement rate at retirement will not be sustained unless the annuity is indexed to inflation and is provided for life. There is also a need for survivors' benefits to address gender imbalances during retirement. As women on average live longer than men, the older elderly will be disproportionately female. As women as a group have lower lifetime incomes, a mechanism to increase their resources is essential.

Singapore's pension system does not address inflation nor does it have a mechanism to address survivors' benefits. CPF LIFE addresses longevity in a limited way, but the costs are borne by individuals through commercial-style insurance. The absence of noncontributory social pensions financed from general government revenues has an adverse impact on adequacy and therefore on sustainability. This suggests that while in a narrow financial sense Singapore's pension system may be regarded as sustainable, it is not when assessed against the more relevant criteria for adequacy. These concerns will become even more acute as the population ages in the next 2 decades (see Table 7.2 above).

Suggestions for Reform

The broad directions for promoting fairness and sustainability in Singapore's pension system are fairly clear: (i) using more social

insurance principles and social risk pooling instruments such as social pensions; (ii) reforming the investment policies of the CPF by bringing them more in line with the SAVER Plan; and (iii) improving the design of the CPF to promote fairness. As the defined-benefit system is currently available only to those receiving government pensions, these reforms would not constitute a fundamental departure from current practices. These changes will meet the needs of a high-income, rapidly aging economy and will bring the system into greater conformity with those of similar economies globally.

The constraints on promoting fairness and sustainability are not financial nor are they due to a lack of institutional or organizational capacity. They instead arise because of the disproportionate importance given to achieving high economic growth while not taking sufficient account of its negative implications on social protection. In the 2011 general election, nearly 40% of the electorate voted for opposition candidates. This could be interpreted as an urgent need for a more balanced approach to economic growth and social protection. The key decisions in promoting fairness and sustainability in the pension system will therefore be political and will require reducing the nearly exclusive reliance on mandatory savings in the CPF, increasing the very limited scope of social assistance and pension programs, reducing the reliance on implicit taxes on CPF wealth, and reducing the gross mismatch between the revenue generated by foreign workers and the social benefits available to them.

Thailand

Orin D. Brustad*

Abstract

The pension system has numerous inequities that have been recognized for many years and have been studied by many experts. These include much higher replacement rates in the government system (70%); a greater proportion of pensions financed from the national budget and generous tax breaks; generally low coverage in the private, formal sector (27%) with quite low replacement rates (an average of 30% after 30 years and 15% after 180 months); and poor coverage and modest benefits for the informal sector. Since 1999, the Old-Age Pension Fund (OAP) has been the cornerstone of the private sector system, but it pays no benefits in the informal sector and appears to be unsustainable due to inadequate funding and deteriorating demographics. The first pensions will be paid in 2014, but estimates show that the fund will be depleted in 30 years. Currently, 14% of private sector workers contribute to voluntary provident funds financed through employee contributions of 2% to 15% of salary that must be matched by employers. Information on age distributions and compensation categories is not available, so it is not possible to project eventual replacement rates. Suggestions for reform include establishing a mandatory national savings fund, strengthening the OAP, and creating an open national provident fund to provide annuity-based pensions at age 60 to all private sector employees who do not have provident fund coverage and to all workers in the informal economy. Before the recent national elections, the labor and finance ministries introduced competing programs to promote voluntary savings in the informal sector, and the Social Security Office introduced legislation to increase OAP benefits from 15% to 20% after 15 years of contributions. It is not clear that these interim measures will have a significant impact on the fairness and sustainability of the system.

* Pension lawyer with Miller, Canfield, Paddock and Stone, Detroit, Michigan, USA (brustad@millercanfield.com).

Overview

Numerous recent studies have concluded that the Thai pension system provides inadequate benefits for all workers other than those in government or military employment and that major reforms are needed to assure the financial sustainability of the system as well as equity among different sectors and among generations (Aspalter 2009, Pfau and Atisophon 2008, International Labour Office [ILO] 2009, Paitoonpong et al. 2010, Lloyd-Sherlock and Schröder-Butterfill 2008). However, competing reform philosophies (and also, perhaps, an interest in maintaining the status quo) have delayed major reforms, and the government has opted instead for interim measures that do not contribute to the objective of establishing a coherent national pension system.

The current system has numerous inequities that include the following:

- much higher replacement rates for workers in the government and military sectors, with a greater proportion of their pensions financed by the national government;
- generally low coverage of workers in the formal private sector with quite low replacement rates; and
- poor coverage and modest benefits for the informal sector.

Prime Minister Abhisit Vejjajiva acknowledged the inequities in the Thai pension system stating on 15 April 2009 that, "Old age social pension is not a populist policy, but rather a basic human right that everyone deserves. Social pensions promote income security in old age and the government is committed to ensure access to basic social pensions for all."¹ In the past 2 years, the government has created or improved several programs to make the system more equitable, and the recent electoral victory of the Pheu Thai party headed by Yingluck Shinawatra is seen as a victory for the long-marginalized rural poor increasing the likelihood that the new

¹ *Help Age International*. 15 April 2009. "Thai PM Guarantees Older People's Right to Social Pension." (available at <http://www.globalaging.org/pension/world/social/Thai.htm>)

government will continue or expand such programs.² Despite recognizing the need for reform, there remains a risk that simply meeting the expectations of those who benefit from the status quo (e.g., government and military employees who can retire at age 55 with a 70% replacement rate) will be so costly as to impede the government's financial ability or its will to undertake substantial reforms.

While recent changes by the outgoing government may begin to address the inadequacies experienced by workers in the non-government sectors, the costs of those changes would likely be borne directly or indirectly by employers and employees who face a variety of other economic pressures. (*Directly* refers to costs that arise out of employment while *indirectly* refers to costs borne by the government but paid by employers and employees as taxes.)

The widespread inadequacy of pension benefits will become more critical as Thailand's population ages in the relatively near future.

- Thailand's old-age dependency ratio (aged 60 and older/working age population, 15–59 increased from 11.7% in 1994 to 14.4% in 2002 and to 16.0% in 2007.³
- Thailand's potential support ratio (i.e., workers who support at least one elderly person) decreased from 9.3 in 1994 to 6.3 in 2007.
- The percentage of Thailand's elderly population is expected to increase gradually and to exceed 20% in 2023 while the potential support ratio will drop to 2.52 in 2030.
- Thai society is also facing a fertility decline, so in the future there will be some families without any children to provide financial, health, or mental health support.
- Between 1994 and 2002, the proportion of the elderly living alone increased from 3.6% to 6.3%, and in 2007 it increased to 7.7%.
- Among all Thai elderly, 31.3% do not have savings or financial assets, and 34.1% have an annual income of less than 20,000 baht. The 2007 poverty line in Thailand was 1,443 baht per capita per month or 17,316 baht per year.

² Mydans, S. and T. Fuller. 2011. In a Landslide, Thais Pick Party of Exiled Leader. *New York Times*. 4 July. http://www.nytimes.com/2011/07/04/world/asia/04thailand.html?_r=1&nl=todaysheadlines&emc=tha2

³ Estimates based on data from CEIC Data Company (accessed 18 May 2012).

- The main income source for 52.3% of the elderly in 2007 was financial support from their children, followed by income from working (28.9%), financial support from their spouses (6.1%), pensions or savings (4.4%), and income from savings or property (2.9%).
- Among employed persons, 39% do not save, 26% balance their earnings and expenditures, 9% need to borrow in order to make ends meet, and 3% have the capability to save but do not do so (Suwanrada 2009).

The Current System

The statutory law of Thailand provides for a variety of retirement programs that fall into two categories:

- the formal sector for people working for an employer and receiving an agreed wage and various social protections such as severance and unemployment benefits; and
- the informal sector for the self-employed, small family businesses, microenterprises, or casual workers with no employer-employee relationship and subject to tax based on net income which is usually too low to qualify.

Current programs in the formal sector are the Old-Age Pension Fund (OAP), the Government Pension Fund (GPF), voluntary provident funds (PVDs), and the Retirement Mutual Fund (RMF).

Current and proposed programs in the informal sector are the Old-Age Act (OAA) 500 Baht Program; Article 40 of the Social Security Act; the RMF, though not extensively used by informal workers; and a proposed national savings fund (NSF). The number of persons employed in 2007 was 36.9 million, of which 62.7% were in the informal sector.

This chapter focuses primarily on the OAP, GPF, and PVDs because these are the largest programs and have been in operation long enough to analyze their effectiveness.

The Old-Age Pension Fund

The OAP is the cornerstone of the current pension system for the private sector. Also referred to as social security, it is a mandatory,

contributory, defined-benefit social insurance system for all formal sector workers at businesses that employ one or more employees. It was introduced in 1999 and will commence paying pensions in 2014. The features of OAP are outlined in Table 8.1.

Table 8.1 Contribution Rate and Pension Benefits of the Old-Age Pension System

Contribution rate	3% each from employers and workers. ^a During the current “temporary” crisis, the 3% contributions have been capped at a maximum of 450 baht per month (i.e., 6% or 900 baht considering both employer and employee contributions).
Old-age pension eligibility	Age 55 and a minimum of 180 months (15 years) of contributions and termination of employment. Those with fewer than 180 months receive only a refund of contributions with interest.
Old-age pension benefit formula	The annuity is equal to 15% of 5-year final average pay after 15 years of contributions and 1% for each additional year of contributions (recently increased to 20% and 1.5%, respectively).
Minimum pension	The ministerial regulation relating to the Social Security Act of 1990 states that the pension amount must not be less than a certain minimum prescribed by SSO based on a consideration of the national economic situation at the time of payment (Kanjana-phoomin 2004, p. 9).
Pension indexing	There is no automatic adjustment of pensions following retirement.
Wage cap	15,000 baht. Contributions and benefits are based on pay up to the wage cap. This limit has been in place without change since the system began in 1999.

^a According to a recent report, the Social Security Office (SSO) is considering an increase in the employees’ contribution rate to 5% and an increase in the retirement age from 55 to 62 or 63, with the objective of improving the system’s long-term financial viability. (Kitjakosol 2010).

Source: Author’s compilation from various sources.

The OAP was designed to provide a replacement rate of approximately 30% of the average wage over the last 5 years for a person who contributed for at least 30 years. Those contributing for the minimum period of 180 months would receive a replacement rate of about 15 %.

In 2009, the OAP had about 9.8 million active contributors comprising approximately 14.5% of the overall population and 26.5% of the working population. Prior to 2004, there was a trend among Thai workers to leave the formal sector for the informal sector starting at about age 30; however, given the decrease in the size of the agricultural sector and the increasing urbanization of the population, this trend seems unlikely to be the future pattern, so projections on the sustainability of the OAP are based on the assumption that workers in the formal sector will remain there as they age. This will lead to the gradual aging of the contributing workforce and an increase in its percentage of total employment over time until it eventually reaches a maximum of 35% in 2079 as shown in Table 8.2.

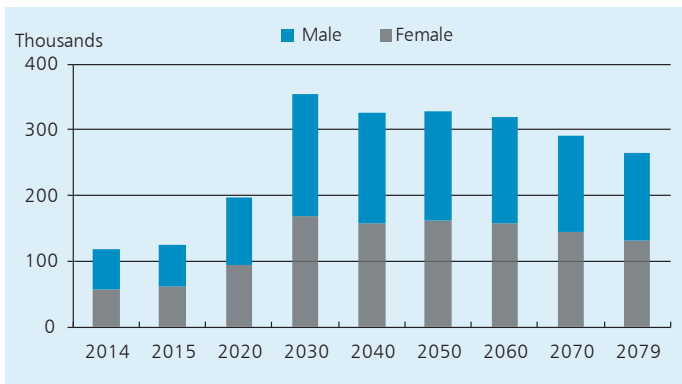
Table 8.2 Percent of Old-Age Pension Contributors of Total Workforce, 2004–2079

Year	Percent in Formal Employment
2004	23.6
2006	24.7
2010	27.0
2020	32.0
2030	34.6
2040	34.7
2050	34.6
2060	35.0
2070	34.5
2079	34.7

Source: Asian Development Bank (2006).

A key factor in predicting sustainability is the dependency ratio. Currently, only 9.2% of males and 8.4% of females between the ages of 50 and 54 are contributors to the OAP. If this were to remain static, the number of pensioners would be quite small. As the older formal sector workforce increases as a percentage of the total, however, that percentage will grow to 42.7% by 2030 (Asian Development Bank [ADB] 2006).

Figure 8.1 Number of New Old-Age Pension Recipients, 2014–2079

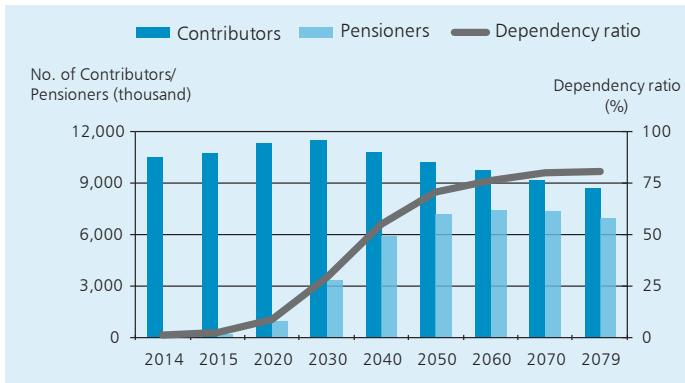


Source: Asian Development Bank (2006).

Figure 8.1 shows that the number of new old-age pensioners will accelerate dramatically between 2015 and 2030 and then will remain at a very high level for another 30 years. Beginning in 2034, those retiring will have 35 (or more) years of contributions, which means that not only will the number of pensioners increase but the average size of those pensions will also increase. This “double hit” has a further negative consequence on the finances of the OAP system.

Figure 8.2 shows the projected pension system dependency ratio, i.e., the ratio of pensioners to contributors.

Figure 8.2 Projected Dependency Ratio of the Old-Age Pension System, 2014–2079



Source: Asian Development Bank (2006).

The number of pensioners is low compared to the number of contributors in 2014, but then rises rapidly. In 2020, there are only 8.8 pensioners for every 100 contributors, but by the end of the projection in 2079 there are 80.2 pensioners for every 100 contributors—a dependency ratio greater than 80%. Between 2020 and 2079, the dependency ratio will thus increase by 911% which means the cost of the system will increase by a factor of 9 if no changes are made.

The Social Security Office (SSO) of the Ministry of Labor (MOL) is apparently aware of the deteriorating financial condition of the OAP but has nonetheless recently both decreased contributions (recognizing the burden of even a 6% contribution in a difficult economic environment) and increased future benefits (recognizing the inadequate level of benefits provided by the statutory system). In June 2011, *The Bangkok Post* reported the following.⁴

The Social Security Office's retirement pension fund will run out of money in the next 30 years unless steps are taken to seriously revamp the scheme, a Thailand Development Research Institute academic has warned. Worawan Charnduaywit said that the first batch of contributors to the pension fund will begin to receive their payments

⁴ Charoensuthipan, P. 2011. Fledgling pension fund will run out in 30 years. *Bangkok Post*. 11 June.

in 2014. However, from then on, money will be flowing out of the fund so quickly that within the next 30 years the fund will eventually end up in the red. ... This will adversely affect younger contributors because by the time they reach retirement age and are eligible to receive the benefit, there will be no money left in the fund for them, Ms Worawan said. ... SSO secretary-general Pan Wanapinit said the office is considering measures to deal with the situation.

This prognosis concurred with what pension specialists had concluded for several years: The OAP displays a number of structural weaknesses which call sustainability into question and cast doubt upon its capacity to offer future pensioners anything like a 30% replacement rate (Lloyd-Sherlock and Schröder-Butterfill 2008. p. 15).

Because it is not yet paying pensions, the OAP currently has a surplus; however, the World Bank calculates that a total contribution rate of 13% would be required to meet future pension promises notwithstanding the temporary reduction to 3% (World Bank 2000). In addition, the following issues must be addressed.

- Investments are heavily regulated and concentrated in low-risk, low-return portfolios which may further reduce the capacity to meet future liabilities.
- Evading contributions is widespread at between 25% and 40% of the workforce (World Bank 2000).
- Fixing the replacement rate on the last 5 years of earnings creates an incentive to pay workers disproportionately high salaries in this period and lower amounts in the preceding years.
- Even when the longest-participating members have accumulated 30 years of service, benefits for many low-paid workers will be less than the projected poverty level, and benefits for other workers will be below international norms. Thus, the OAP will fail to meet its primary goal of preventing poverty among elderly formal sector workers in retirement.

The Government Pension Fund⁵

Prior to 1997, government employees received a defined-benefit pension upon retirement based on the last month's pay and number of years worked that was financed from the national budget. The GPF is still a budget-financed, defined-benefit plan but it also has a defined-contribution account. It was established on 27 March 1997 as a result of the Government Pension Fund Act B.E. 2539 of September 1996. The GPF is currently Thailand's largest institutional investor serving more than 1 million members. Twelve categories of employees are covered including civil, judicial and university officials, teachers, police officers, and military officers.⁶

Employees hired after 27 March 1997 are required to participate in the GPF. Government employees working prior to its inception were required to choose between remaining in the pre-1997 scheme or participating in a combination of a defined-benefit component based on a modified formula using compensation averaged over the final 60 months of government service and capped at 70% of average compensation plus accumulations in the GPF.

The defined-benefit component requires 25 years of service and can be paid either as an annuity or as a lump sum. Currently, GPF member accounts may be withdrawn in one lump sum only on termination of membership, which occurs upon retirement, or termination of government service, or at age 60, or at death. The law does not provide for portability or annuity payments from a member's GPF defined-contribution account.

Under the GPF, government employees and the government each contribute 3% of monthly wages. Upon retirement, GPF members receive a traditional pension (under the revised, less generous formula) together with a lump-sum retirement allowance based on three to five of the following components of the defined-contribution account according to the employee's situation:

⁵ This information was compiled from English translations of the Government Pension Fund Act B.E. 2539 (1996) and the GPF website, with Professor Suwanrada's helpful analysis and data in the article, "Poverty and Financial Security of the Elderly in Thailand," *Ageing International*. 2009. 33:1-2. http://tgri.thainhf.org/document/edoc/edoc_790.pdf

⁶ GPF website <http://www.gpf.or.th/Eng/ourmember.asp>

- a) the employee's 3% contributions;
- b) the government's 3% employer contributions;
- c) 2% of monthly income contributed by the government in addition to (b) for those who choose to receive their pensions as annuities;
- d) a lump-sum endowment fund (incentive scheme for persons employed prior to 27 March 1997 and who chose to participate in the GPF program; and
- e) investment returns.

As of September 2008, there were 1,186,691 GPF members, slightly more than 3% of the workforce. According to its 2008 annual report, the GPF had assets of 391,717 million baht, an increase over 2007 of 16,166 million baht or 4%.

GPF members receive generous tax treatment as contributions of up to 300,000 baht per year are tax deductible, and the returns on contributions accumulated are fully tax exempt. Sums withdrawn after age 50 are also tax free; however, members are not allowed to contribute more than the mandatory 3% of monthly wages. Additionally, the GPF offers housing loans from both the member's and the employer's contribution accounts, as well as life insurance benefits.

Before 1997, the replacement rate was around 70% of the last salary (Kanjaphoomin 2004. p. 11), and while the replacement rate under the new system is unclear at this point, it is expected to be comparable. In addition, those receiving pensions are also eligible to receive survivors' benefits and noncontributory medical benefits until death.

Voluntary Provident Funds

The PVD system was established in Thailand through the Provident Fund Act, B.E., 1987. Under the act, the Securities and Exchange Commission (SEC) has the responsibility for registering and monitoring provident (defined-contribution) funds established by private sector employers for the benefit of their employees. PVDs are managed by registered management companies selected by fund committees typically comprising selected or assigned employer and employee members. Both the committees and management companies are monitored by the SEC.

An employer's decision to establish a provident fund is generally voluntary although companies listed on the Thai Stock Exchange are required to maintain them. A provident fund is financed through employer and employee contributions. Under the law, the employee's contribution rate must be between 2% and 15% of salary; however, because employers have an obligation to contribute an amount at least equal to the employee's contribution, many employers have been reluctant to raise employees' contributions to the fund above the 3% level.

In 1987, 514 employers had registered provident funds with approximately 83,000 employee members. By 2007, the number of registered employers increased to 8,187 with 2,000,000 members, and at the end of September 2009 there were 9,307 employers and 1,976,000 employees.

As of the end of the third quarter of 2009, the net-asset value of provident funds was 5.1 billion baht, and approximately 77.1% was invested in bonds and debt instruments, while investments in bank deposits and equities stood at 11.1% and 8.8%, respectively. (In that quarter, the proportion of investment in equities grew by 16.9% due to increases in the market index.) Approximately 14.4% of formal sector (nongovernment) workers have provident fund accounts. Current information on their distribution by age and compensation categories is not available, so it is not possible to project the replacement rates that will eventually result.

Retirement Mutual Funds

RMFs are offered by mutual fund management companies that are required to provide investors with funds of varying risk profiles either as equity, fixed income, or mixed funds. RMFs are tax-privileged; however, favorable tax treatment is subject to certain conditions. Individuals have to continuously buy RMF units until the age of 55, unless they do not have any income in a given year. In addition, savings must amount to at least 3% of income or 5,000 baht, whichever is lower. The amount invested may not exceed 15% of annual income up to a limit of 300,000 baht when combined with any other pension savings (e.g., PVDs and GPF).

RMFs cover those employees not covered by PVDs, those who wish to make additional contributions to supplement their PVDs, and those who are not currently covered by any formal pension scheme. They also enable tax-favored savings by the self-employed or by those who wish to make additional savings over and above what is provided in a government provident fund. At the end of 2006, there were 66 RMFs with combined assets of about 20 billion baht.

Old-Age Allowance

The OAA provides financial assistance (capped at 500 baht per person per month) to informal sector workers classified as “unprivileged elderly,” i.e., someone at least 60 years of age whose income does not meet expenses or who is unable to work. Identifying clients and defining payments are delegated to local authorities. Those with adequate resources may use their own funds to supplement the 500 baht up to 1,000 baht per month.

In fiscal year 2009, the number of recipients was approximately 2.3 million with 0.5 million elderly receiving allowances financed by local authorities. The outgoing government had committed to raising the minimum to 600 baht and increasing it with age to a maximum of 1,000 baht for people older than 90.

Article 40

The Social Security Act allows workers in the informal sector who are not eligible for OAP or GPF to participate in OAP’s death, maternity, disability, and retirement programs on a voluntary basis under one of two options: (1) 100 baht (70 baht, worker + 30 baht, government) for disability, sickness, and death benefits; or (2) 150 baht, (100 baht, worker + 50 baht, government) for the above benefits plus old-age savings.

With government cost-sharing and aggressive marketing, there has been a significant increase in enrollment. About 500,000 have joined so far and most have selected option 2, which is payable as a lump sum at age 60 and which competes with the NSF for retirement savings.

National Savings Fund

This is a new, nationwide fund to cover 24 million workers who lack formal, long-term retirement savings. The voluntary program is aimed primarily at low-income workers; participants set their monthly contributions from 100 to 1,100 baht. Eligible members are Thai citizens younger than 60 who are not covered by the existing social security fund or a PVD. The government contributes to each account according to the holder's age. Members aged 20–30 receive monthly contributions of 50 baht, those aged 30–50 receive 80 baht and those older than 50 receive 100 baht.

NSF benefits must be taken as an annuity (or as periodic withdrawals for those with small account balances); lump sums are not permitted. The program has little liquidity as members can access their savings prior to retirement only by cancelling their membership and forfeiting all government contributions.

Suggestions for Reform

Existing Expectations

Even under the GPF, most pensions for government employees will continue to be paid from the national budget; thus, politics will be a key factor in determining its sustainability, and people with the most to lose or gain will be involved in making those decisions. Additionally, the decision makers *may* have legally protected rights to their already accrued pension benefits.⁷

Unequal benefit payments and disparities in employee shares of costs point to a need to reduce pension accruals or to increase worker costs in the public sector while devoting public resources to nongovernment workers in both the formal and informal sectors. Substantial practical and political difficulties can be anticipated as

⁷ See P. Tonguthai and M.H. Khan. 1986. Social Security for the Thai People. *ASEAN Economic Bulletin* v.3. no. 1 p. 145. July. Available <http://www.jstor.org/stable/25770098?origin=JSTOR-pdf>

indicated in a 2008 study that characterized recent Thai pension reforms as “unsustainable and unjust” (Lloyd-Sherlock and Schröder-Butterfill 2008, pp. 15–16).

Recent Proposals

Recent (2006–2008) efforts at reform include the mandatory provident fund (MPF) and International Labour Office proposals.

Mandatory Provident Fund Proposal

In 2007, the Ministry of Finance (MOF) proposed a legislation to introduce an MPF to make retirement income more adequate for nongovernment workers in the formal sector, but the government crisis shortly after the submission of the draft report resulted in delays. The MPF was initially controversial and continues to be notwithstanding a widespread consensus that the Thai pension system needs fundamental reform. In August 2008 after consultations with relevant agencies, the National Graduate Institute for Policy Studies considered whether the MPF would suitably address the system’s problems and forecast that workers with a 40-year career could expect only a median replacement rate of about 13% to 14% of their final 5 years of income, that most of their pension benefits would likely continue to come from the already unsustainable OAP, and that further reforms would be needed to provide suitable pensions.

The 2009 International Labour Office Proposal

In early 2009, the MOF requested social security experts from the ILO to review the MPF proposal. The findings and recommendations were contained in a report entitled “*Pension Reform in a Time of Crisis*” (ILO 2009). Given its established preference for “solidarity” systems, the ILO criticized both the necessity for and the efficacy of the proposal. Bearing in mind that the date of their report coincided with the worldwide financial crises, the ILO maintained that increased reliance on individual accounts subject to declines in market value would lead to insufficient retirement assets when they were needed. Further, the ILO maintained that Thailand’s existing PVDs would provide a sufficient supplement to OAP benefits. According to the report, simply strengthening the OAP would provide an adequate response to the current crisis (market value declines) and would alleviate old-age poverty.

The Politics of Reform

Retirement reform was a major issue in the recent national election.⁸ During the campaign, the labor and finance ministries introduced seemingly competing programs to promote voluntary savings in the informal sector. The SSO also introduced a legislation to increase OAP benefits from 15% to 20% after 15 years of service, with additional accruals for service beyond 15 years increased from 1% to 1.5% per year (Wiener 2011). It is not clear that these reforms will have a significant impact on the inequities and sustainability of the system, although the political focus on improving the situation of the elderly poor in the informal sector acknowledges the urgency of that problem for the national government. Heretofore, this problem was primarily addressed at the local level.

Author's Observations

Formal sector. Thailand should establish the following key priorities for gradually reforming the system.

- Increase OAP benefits to improve replacement rates for lower-paid workers.
- Increase retirement ages in recognition of longer life expectancy.
- Introduce a mandatory provident fund to assure that all formal sector workers save for retirement.
- Permit workers who are able to do so voluntarily contribute to provident funds.
- Modify the current tax regime under which contributions, earnings or benefit payments are not taxed so that the pension system is not a means for the well-paid to escape taxation.
- When economic conditions permit, increase OAP contribution levels so that future national budget priorities are not distorted by the government paying benefits that are supposed to be funded through worker and employer contributions.

⁸ *Bangkok Post*. 2011. Tax, Pension Issues for Incoming Government. 29 June. <http://www.bdo-thaitax.com/bdo/in-the-news/3255>

Regardless of the option selected for increasing benefits, additional changes to the system for formal workers should be made to improve the overall design and stabilize its long-term financial outlook. These include (i) establishing an independent pension regulator to coordinate the various schemes on a long-term basis considering both social protection issues and macro-economic issues, and (ii) improving pension portability when workers change jobs, particularly between the government and the formal private sector.

Informal sector. In the past, benefits for elderly informal sector workers have been largely a matter of inter-generational care within families and support under the “500 baht” program administered locally. Prior to the NSF legislation, Thailand did not have a meaningful program for informal workers (funded or unfunded). As noted earlier, governmental relief for the elderly poor (particularly at the national level) would be delivered primarily in cash, but incomes in the informal sector are largely unreported and many workers do not earn enough to pay income tax in any event. It is inherently more difficult to design a “replacement income” pension system without an earnings history.

Concluding Comments

Pension reform is a long-term undertaking whose ultimate success will be evaluated in hindsight after the system has been subjected to numerous political, economic, and demographic factors that were unpredictable when reform was undertaken. The literature on pension reform in Thailand and elsewhere is voluminous; however, few high-level government policy makers fully comprehend the choices among available reform options, and justifying policy choices to advocacy groups or to other organized constituencies is very difficult.

Possibly the new Thai government with a clear mandate will make it possible for the incoming Prime Minister to appoint ministers who are more likely to seek common ground than has historically been the case; however, after a long period of competition, the staff of the ministries of health and labor may find it difficult to compromise.

Viet Nam

Thanh Long Giang*

Abstract

The contributory pension system in Viet Nam has been in operation since the late 1950s, but until 1995, it covered only employees in the state sector. Since 1995, it has been expanded to cover workers in the private sector and designed as a pay-as-you-go, defined-benefit scheme. While mandatory for most workers, it is open to all citizens of working age (15 and older) who are not included in the mandatory scheme. As of 2010, the mandatory scheme covered about 9.3 million people (20% of the country's labor force) while the voluntary scheme covered only 62,000 persons. State sector workers account for 80% of active contributors. Using an actuarial framework and other relevant techniques, the long-term financial sustainability of the pension scheme was quantified, and financial fairness among generations was assessed. The estimates show that the large current surplus will become a large deficit in about 3 decades and that the scheme is unfair within and among generations. Increasing contribution rates and/or increasing normal retirement ages will significantly improve the financial balance. In the longer term, however, with unprecedented changes in the age structure of the population moving toward a rapidly aging society, the current contributory pension scheme should be changed to a system of individual accounts with a notional defined-contribution system as a transitional step.

* Vice-Director, Institute of Public Policy and Management (IPPM), National Economics University in Ha Noi, Viet Nam, and senior research associate, Institute of Social and Medical Studies (ISMS), Viet Nam (giang.long@ippm.edu.vn)

Overview

As a result of declining fertility and mortality rates and increasing life expectancy, aging has become the most observable demographic phenomenon in both the developed and the high-performing developing economies in recent years. Population aging requires large public expenditures on the elderly for pensions and healthcare that in turn have significant impacts on government budgets, social protection funds, and eventually long-term fiscal sustainability. For a scheme with a pay-as-you-go financing mechanism and pre-defined benefits, a rapidly aging population will be a potential threat to financial stability and inter-generational fairness due to a shrinking labor force and the resulting large imbalance between the number of contributors and the number of beneficiaries (Hagemann and Nicoletti 1989, Feldstein 1998, Kunieda 2002).

In addition to Viet Nam's impressive economic growth since *Doi moi* (renovation), the successful family planning program has also substantially contributed to demographic changes in terms of age structure in that the number of persons aged 60 and older has increased both in absolute number and as a percentage of the total population. In fact, over the past 3 decades, the elderly have increased at the highest rate of any population group (UNFPA 2011). Population projections by the General Statistics Office (GSO) of Viet Nam show that the country will enter an "aging phase" starting in 2017 and then an "aged phase" in the following 2 decades (GSO 2011).¹ The time needed for Viet Nam to make the transition from aging to aged will be only 20 years in comparison to 26 years for Japan and 22 years for Thailand—the two countries that have always been considered to be the most rapidly aging in the region.² Such a demographic transition requires a comprehensive social protection system, including a contributory pension scheme that is financially sound and generationally fair.

¹ Respectively, when the elderly population (aged 60 and older) as a percentage of the total population increases from 10% to 20% (or from 7% to 14% when the elderly are defined as persons aged 65 and older).

² In this comparison, the time needed for the transition is the time it takes the population aged 65 and older to grow from 7% of the total population to 14%.

Several studies have been done on the impacts of demographic aging on the long-term pension fund balance in Viet Nam. In 1998, the International Labour Office (ILO) did one of the first actuarial valuations of the social security system and found that the pension fund will be depleted in 2035 but did not discuss inter-generational fairness (ILO 1998). Giang (2004 and 2006) provided estimates of pension liabilities for different cohorts of contributors and pensioners using the ILO actuarial framework. Following the passage of the Social Insurance Law in 2007 that included a number of changes in important indicators like contribution rates and retirement wages, some studies discussed whether the new design would be able to help sustain financing (Giang and Pfau 2009, Gian et al. 2010).

Given the recent changes in pension regulations and in the age structure of the population, the financial sustainability and generational fairness of the contributory pension scheme in Viet Nam were analyzed using an actuarial framework and other simulation techniques. Various options for reforms to deal with these issues in the long term are then discussed.

The Current System

The contributory pension system in Viet Nam has been in operation since the late 1950s, but until 1995, it covered only employees in the state sector. Since 1995, it has been expanded to cover workers in the private sector and designed as a pay-as-you-go, defined-benefit scheme. The scheme is mandatory for (i) laborers working on contracts of indefinite duration or contracts valid for 3 months or more; (ii) state officials and employees; (iii) laborers working for state defense and public security agencies; (iv) commissioned and non-commissioned officers in the military and police force; and (v) laborers who joined the mandatory social insurance plan before working abroad for a definite duration. In addition, the pension scheme is voluntary to all citizens of working age (15 and older) who are not included in the mandatory scheme. As of 2010, the mandatory scheme covered about 9.3 million people (20% of the country's labor force) while the voluntary scheme covered only 62,000 persons. State sector workers account for 80% of active contributors.

Contributions to the pension scheme are from both employers and employees. The current total contribution rate is 18% (12% from employers and 6% from employees). As indicated in the 2007 Social Insurance Law, the total contribution rate starting in 2014 will be 22% (14% from employers and 8% from employees). Regulations on contributions are different for workers whose wages are stipulated by the state from those who have contract-based wages: the former's contributions are computed using the minimum wage while the latter's contributions are computed using the wages indicated in the labor contract.

Retirement benefits are normally paid to males aged 60 and females aged 55 with at least 20 years of contributions. Benefits are calculated by multiplying base earnings by a service factor that varies by gender and economic sector (public or private). For instance, base earnings are determined by the average monthly salary during the last 10 years for workers whose wages have been stipulated by the state; but for workers whose wages are contract based, the based earnings are determined by the average monthly salary for the entire working life. The service factor is 3% for each year in the first 15 years and thereafter 2% each year for males and 3% each year for females, but the total benefit rate (or replacement rate) cannot exceed 75%. Those with replacement rates of more than 75% receive a lump-sum payment for the excess. Benefits are reduced by 1 percentage point for each year of early retirement. It is not possible to defer pensions until after the normal retirement age, but it is possible to continue working and receive a pension. Benefits are adjusted based on the consumer price index (CPI), but the levels are decided by the government. Both contributions and pension benefits are tax exempt for corporations and individuals.

Investment income is one source of financing for the scheme. Article 97 of the 2007 Social Insurance Law indicates that pension fund investments can include (i) government bonds, state treasury bills, and bonds of state-owned commercial banks; (ii) lending to state commercial banks; (iii) state economic projects; and (iv) other investments prescribed by the government. All investments and their returns are tax exempt. So far, pension fund investments have been domestic with heavy lending to commercial banks and purchases of government bonds; there have been no international investments. This portfolio has yielded a lower rate of return than the average market rate (Giang and Pfau 2009, Rama 2010).

Analysis

Data

The following data were used in the simulation models:

- general macroeconomic indicators such as gross domestic product (GDP), growth rate, and inflation rate;
- current and projected population disaggregated by age and gender;
- current and projected labor force and employment disaggregated by age, gender, and economic sector; and
- contributions and pension benefits.

The year 2008 was used as the base year. For the macroeconomic data, the GSO time-series database in the *Statistical Yearbook* was used. For the current and projected population, the population projections for Viet Nam by GSO (2011) from 2009 to 2049 were used and these were also the basis for deriving estimates of the labor force and employment. Data on the contributory pension scheme was derived from the annual reports of the Viet Nam Social Security Agency which contain aggregated data on the number of contributors and pensioners by age, gender, and economic sector. The Viet Nam Household Living Standards Survey in 2008 was the source of disaggregated data on employment, pension contributions, and benefits by age and gender.

Methodology and Assumptions

There were two steps to generate estimates and simulation models. First, a standard actuarial framework was used to estimate the long-term financial balance of the pension scheme to compare expected benefits for contributors in terms of gender and economic sector. Second, one of the most important financial indicators for any pay-as-you-go pension scheme, i.e., implicit pension liabilities for different cohorts of contributors and pensioners, was estimated.

As stated earlier, the simulation procedures for the long-term financial estimates were based on the actuarial framework proposed by ILO for Viet Nam in 1998. A detailed explanation can be found in Giang (2004). The simulations include population, labor market, macroeconomic indicators, and pension scheme factors.

Projections for the Vietnamese population were taken from the GSO (2011) with medium-fertility assumptions, with a total fertility rate constantly decreasing over time and reaching 1.85 children per woman by 2049. These projections are disaggregated by age and gender.

From the projected population, the projected working-age (15–59) population by age and gender was derived. Using the total number of employed persons as a percent of the working-age population and their respective labor force participation rates, the total employed population was estimated based on the projected working-age population by age and gender. The projected unemployed population was therefore calculated as a residual of the projected working-age population and projected total employment.

Annual GDP growth rates are based on estimates of the short-term economic projections in the national economic strategy. For the long term, the GDP growth rate is generally established as an exogenous variable. The short-term and long-term assumptions on GDP growth are linked by the interpolation technique. Nominal GDP was calculated by multiplying real GDP by the GDP deflator for each year. The GDP deflator in the past was measured by dividing nominal GDP by real GDP. The future evolution of the GDP deflator is usually based on assumptions of future inflation rates.

Inflation is indicated by the annual average CPI. Assumptions about future inflation rates are essential for making actuarial projections of pensions if the pensions are periodically adjusted to reflect price increases in the economy, i.e., if they are indexed to inflation. Inflation projections are based on estimates in the national economic strategy. In the actuarial assessment, inflation is also an exogenous input in the economic model.

In status-quo projections, wage projections were based on government policy, i.e., statutory wage indexation. Therefore, wages were projected by using historical adjustments of statutory wages. In the short term, they can be adjusted based on the most recent developments in wage levels. In the medium and long term, however, due to the nature of the actuarial method, the real wage growth rate was usually assumed to merge with the rate of growth in labor productivity which is measured by subtracting the growth rate of total employment from the real GDP growth rate.

The total remuneration for employees was calculated by multiplying the average wage by the number of employees. Regarding the pension scheme, total insurable earnings were measured by multiplying average insurable earnings by the number of active contributors. The average wage for pensions was obtained by following the adjustments of insurable earnings.

Interest rates were projected by using the historical rates in the reports of the central bank. Regarding the reserves of the pension scheme, average rates of return depend on past investments and on interest rates in the financial market. Table 9.1 presents the most important macroeconomic indicators for the simulation models.

Table 9.1 Actual and Projected Macroeconomic Indicators

Indicators	2008	2009	2019	2029	2039	2049
Real GDP growth (%)	6	7	5	5	4	4
Inflation (%)	23	10	10	5	5	5
Real wage growth (%)	n.a.	15	10	5	4	4
Real rate of return on reserves (%)	7	7	5	5	4	4

n.a. = data not available.

Source: Author's calculations.

Regarding the pension liabilities of various cohorts in the pay-as-you-go, defined-benefit pension scheme started in 1995, the liabilities of post-1995 pensioners and contributors only were estimated (see Giang and Pfau [2009] for a detailed explanation of the historical development of the pension scheme in Viet Nam). To do this, the estimation methods of Franco, Marino, and Zotteri (2004) using a closed-group approach were applied. The reason for that choice is that the open-group approach would require population projections for more than 100 years which are not available in GSO (2011) modeling. Basically, the simulations for pension liabilities using the closed-group approach focus on liabilities of current pensioners and current contributors. Disability and survivor pensions and different rules for males and females were not considered instead, these were treated as one group.

Pension liabilities of current pensioners. Suppose that in 2008, N_j is the number of pensioners of age j , each of whom receives B_j as their average pension and that their survivorship probability is S_j . Pension liabilities for these people in 2008 may then be expressed by the equation:

$$P_j^{(2008)} = N_j S_j B_j \tag{1}$$

If these people are assumed to live until D years of age, which is the maximum age of the population, then their pension liabilities during $(D-j)$ years will be:

$$P_j = B_j \sum_{i=2008}^{2008+D-j} N_j S_{j,i} = N_j B_j \sum_{i=2008}^{2008+D-j} S_{j,i} \tag{2}$$

where $S_{j,i}$ is the probability that the person aged j will be alive in year i .

Moreover, by assuming that p is the constant growth rate of a pension, that \bar{j} is the minimum age of pensioners, and that r is the discount rate, the present value of pension liabilities to these people in 2008 is calculated as follows:

$$PVP_j(2008) = \sum_{j=\bar{j}}^D N_j B_j \sum_{i=2008}^{2008+D-j} S_{j,i} \left(\frac{1+p}{1+r} \right)^{i-2008} \tag{3}$$

Net pension liabilities of current contributors. These estimates are more complicated than those just outlined since both accrued contributions and benefits up to the year 2008 and future contributions and benefits from 2008 onwards have to be considered. Several other variables are required: N_j^c is the number of active contributors of age j in 2008; B_j^c is the average pension paid at retirement to the contributors of age j in 2008 measured as contributions already paid (in other words, accrued-to-date contributions); $Q_{j,i}$ is the probability of receiving a pension at year i for active contributors

of age j in 2008; $S_{j,i}^c$ is the probability of being alive in year i for a contributor of age j in 2008; PF_j^c is the average pension paid at retirement to contributors of age j in 2008 measured on the basis of future contributions; C is the contribution rate according to labor income in the year i for the contributor of age j in 2008 (i.e., $FI_{j,i}$); and $R_{j,i}$ is the probability of being employed in year i for contributors of age j in 2008. The total present value of pension liabilities for current contributors is then calculated as follows:

$$PVC_j(2008) = PVC_{j1}(2008) + PVC_{j2}(2008) = \quad (4)$$

$$= \sum_{j=j}^D N_j^c \left[B_j^c \sum_{i=2008}^{2008+D-j} Q_{j,i} S_{j,i}^c \left(\frac{1+p}{1+r} \right)^{i-2008} \right] + \sum_{j=j}^D N_j^c \left[PF_j^c \sum_{i=2008}^{2008+D-j} Q_{j,i} S_{j,i}^c \left(\frac{1+p}{1+r} \right)^{i-2008} - C \sum_{i=2008}^{2008+D-j} R_{j,i} FI_{j,i} \left(\frac{1+p}{1+r} \right)^{i-2008} \right]$$

where $PVC_j(2008)$ is the present value of net pension liabilities for current contributors. This calculation includes the present value of accrued-to-date liabilities (i.e., $PVC_{j1}(2008)$) and the present value of future liabilities in respect of future contributions (i.e., $PVC_{j2}(2008)$).

For each generation, the present value of (net) pension liabilities may be taken to represent its generational account. A positive value for this account indicates that the generation receives transfers from others and vice versa. In Viet Nam, we may expect that current pensioners will have positive accounts since they are pure beneficiaries; the question of whether current contributors will have positive or negative accounts is less certain since the answer depends heavily upon projections of future contributions and benefits. To reach inter-generational equity, any proposed policies need to focus carefully on these accounts.

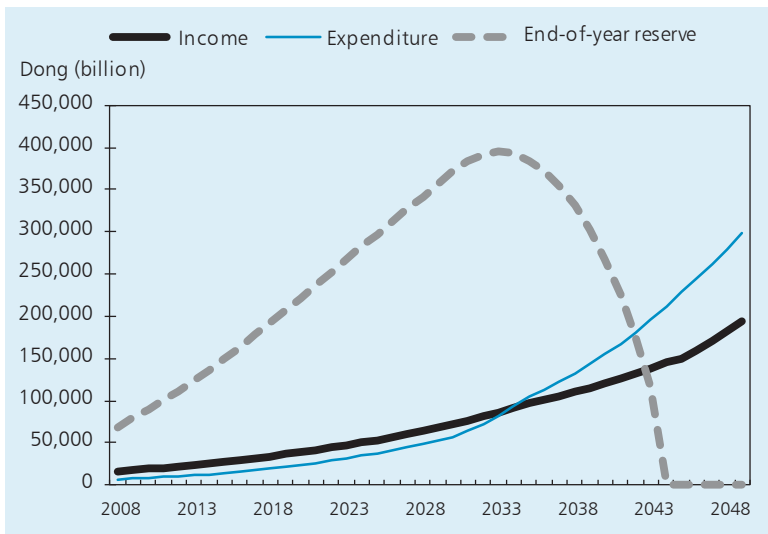
To estimate these liabilities, a discount rate of 5% with sensitivity estimates of ± 1 percentage point was assumed.

Findings and Policy Discussion

Figure 9.1 presents baseline estimates of the pension fund balance from 2008 to 2049. It shows that in the next 2 decades, total income will always be higher than total expenditures, so the fund will have a

surplus. That surplus will, however, be used up by 2034 when total income equals total expenditures. A large reserve will accumulate during the surplus period, but starting in 2034 it will have to finance persistent deficits. The pension fund will be totally depleted in 2044. Demographic changes toward aging will have a substantial effect on the number of contributors (decreasing due to declining fertility rates) and on the number of beneficiaries (increasing due to aging and longer life expectancy for both males and females).

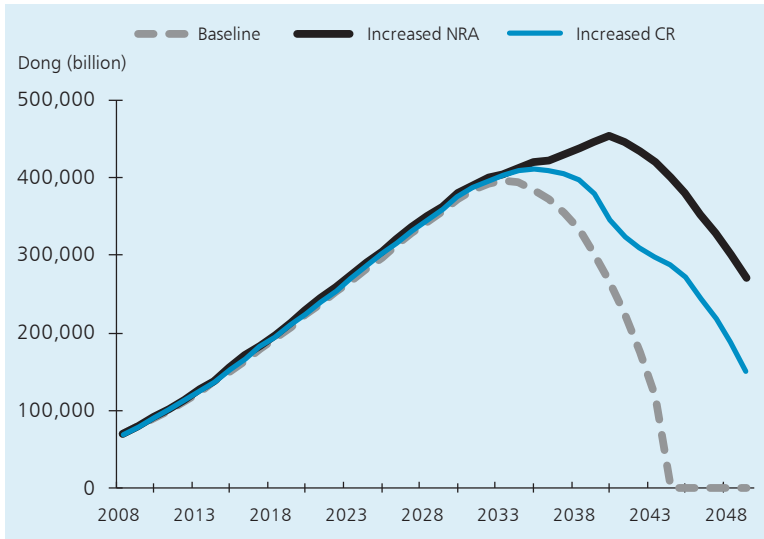
Figure 9.1 Projected Pension Fund Balance, 2008–2049



Source: Author's calculations.

Figure 9.2 presents two reform scenarios. The first is to gradually increase the normal retirement age for females from 55 to 60 by 2025. The second is to increase the contribution rate by 1 percentage point every 3 years from the current 16% to 20%. The results show that in comparison with the baseline scenario (the status-quo scenario), the pension fund reserve will be more robust, especially when the retirement age for females is increased; nevertheless, both scenarios indicate that the reserves will decrease from 2040 onwards.

Figure 9.2 Reform Scenarios for Preserving the Pension Fund Reserve, 2008–2049



CR = contribution rate; NRA = new retirement age for women.

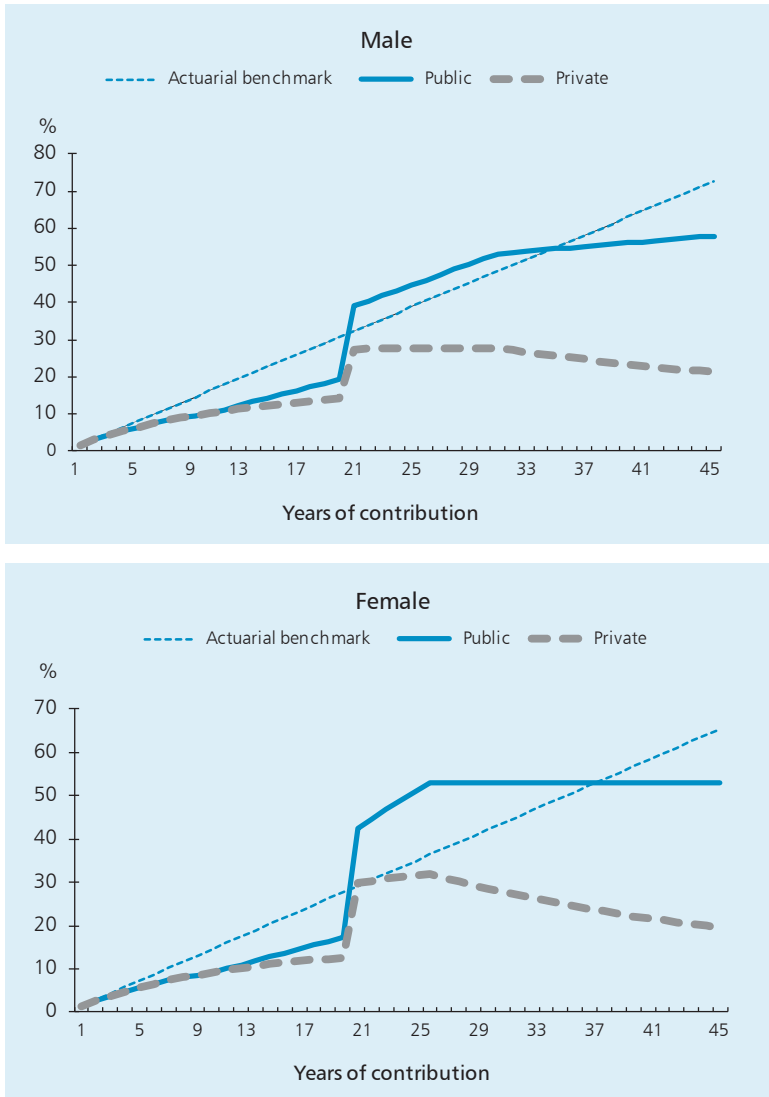
Source: Author's estimates.

Regarding intra-generational fairness, Figure 9.3 shows the simulation results for male and female laborers working in the public and private sectors assuming they have the same characteristics. Due to different benefit formulas for males and females, using the same assumptions, the results indicate that females seem to have better benefits than males when measured as a percentage of final working year's wages.

Figure 9.3 also implies that public sector workers have much better benefits than private sector workers since the expected replacement rates for the former are higher than both the actuarial benchmark and expected rates for the latter. Another interesting finding is that in the private sector, the benefit curves for males and females spike and then decline after 29 years and 26 years of contributions, respectively. Thus, all private sector workers might expect to get fewer additional benefits for each additional year of contribution after these periods. In other words, to reach the highest possible benefit levels, the best choice for private sector male workers is to contribute for fewer than 29 years and for private sector female workers to contribute for fewer than 26 years.

Another critical issue is inter-generational fairness which can be expressed by the amount of net pension liabilities. Using the design

Figure 9.3 Estimated Replacement Rates, Males vs. Females and Public vs. Private Sector



Source: Revised from Castel and Rama (2005) with current assumptions.

of the current contributory pension scheme, Table 9.2 presents the simulation results for net pension liabilities of both current pensioners and contributors using the closed-group approach.

Table 9.2 Net Pension Liabilities as a Percent of Gross Domestic Product in 2008

Category	Discount rate		
	4%	5%	6%
Pensioners	10.3	9.5	7.7
Contributors	21.6	18.4	16.7
Total	31.9	27.9	24.4

Source: Author's calculations.

It is not surprising that the inter-generational accounts of current pensioners are positive since they are pure beneficiaries of the pension scheme. Maintaining positive accounts for current contributors will, however, be a challenge for policy makers because that means that current contributors can expect to receive more than they contribute. In other words, current and future nonparticipating workers will be losers if the government finances these liabilities via higher taxes. In general, without systematic reforms, the current pension scheme in Viet Nam may face a crisis in the future with regard to sustainability and fairness.

Suggestions for Reform

As discussed in Giang (2011), Viet Nam should transform the current pension system to a system of individual accounts while simultaneously building a social assistance scheme for low-income persons. A notional defined-contribution plan should be considered as a transitional step to avoid making implicit pension liabilities explicit. Giang (2010) shows that while moving the pension scheme in this direction will help to improve the fund balance, it will not be a panacea for the long term.

With its current status as a low middle-income country, Viet Nam also needs to deal with long-term income security for a large number of low-income persons. A voluntary pension scheme and cash transfer programs should be considered as supplementary social protection pillars. There is also a need to pay special attention to people living in rural and mountainous areas.

Policy Options for Promoting Fairness and Sustainability in East and Southeast Asian Pension Systems

Donghyun Park*

The country-specific analyses of the eight developing Asian countries covered in this study—the People’s Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam—suggest that their pension systems have a long way to go in terms of achieving fairness and sustainability. The eight encompass a wide range of income and social development levels and also vary a great deal with respect to the current state of their old-age income support systems and their main structural problems, their political and economic environments, and the age structures of their populations. Nevertheless, the analyses are clear that the pension systems of all eight suffer from a lack of sustainability and from serious inequities. Throughout East and Southeast Asia, some groups enjoy more privileged access to pension systems than others, e.g., urban residents relative to rural residents. Lack of long-term financial sustainability is another common regional problem, especially for pay-as-you-go, defined-benefit schemes. Because fairness and sustainability are the two central pillars of a robust national consensus for pension reform, their absence presents a huge barrier to achieving it.

* Principal Economist, Economics and Research Department, Asian Development Bank (dpark@adb.org)

Country-Specific Policy Options

Due to the diverse conditions in the eight countries, it can be expected that policy options for promoting fairness and sustainability in their pension systems will differ substantially. Below is a summary of the most salient of those options by country.

The People's Republic of China

- Reform the pension systems of both civil servants and public service employees so that their pension arrangements are brought into line with the urban system. Since pensions for public and civil servants are currently fully financed by the government and indexed to inflation, a rapid increase in pay-outs implies a significant government obligation in the future. Also the favorable treatment accorded to public and civil servants is quite inequitable and engenders distrust in the system.
- Pay more attention to unsatisfactory investment returns. The stringent investment restrictions in the pension sector result in returns that lag far behind the usual rate of inflation which means that the actual replacement rates of individual accounts in the state system will fall significantly short of planned levels. The private sector should fully utilize its skills to enhance investment returns while awaiting further relaxation of investment rules.
- Integrate the rural and urban systems in the second half of the century. While the urban pension system has been developing for decades, the rural system was established only in 2009; thus, the two systems are currently not comparable at all in terms of their maturity, coverage, or benefits. To engender fairness and sustainability, the gap between rural and urban benefits must narrow significantly over the next 40 years in preparation for integration.

Indonesia

- Fully implement Law 40 on establishing the National Social Security System. Establish a timetable for implementation or revision to remove the uncertainty that is slowing down progress. To enhance credibility, separate the proposed health

program from the other programs covered by the law since its short-term nature means it can be implemented rapidly and will quickly expand coverage to groups currently excluded.

- Increase the retirement age for civil servants without reducing their pensions to demonstrate a commitment to fairness and to stimulate pension reform in state-owned enterprises and other large employers.
- Direct the Office of the Vice-President or a suitable top-level alternative to analyze all current data and make the information available to all stakeholders. The objective is to provoke a wide-ranging debate in industry and civil society in order to reach a robust consensus on the key elements of a national old-age policy. The focus should first be on the minimum level of social protection needed in terms of age and on fair and affordable benefits.
- Implement a program that covers the entire population. There is no real national social protection program in Indonesia and thus, no coverage for the two-thirds of the labor force in the informal sector. Law 40 has had no discernible effect since its passage in 2004. Credibility requires concrete steps; the one program that can produce visible results quickly is health.

The Republic of Korea

- Alleviate the poverty of the current elderly population. Due to rapid aging and the late introduction of the national pension scheme, many of the current elderly did not prepare for old age and do not receive pension benefits while support in the form of private transfers from children is dwindling. According to the Organisation for Economic Co-operation and Development (OECD), the Republic of Korea has the highest elderly poverty rate among member countries. As the national pension scheme matures, however, its development should not be impeded by poverty relief for the current elderly which makes the task rather difficult.
- Extend the coverage of the national pension scheme. Currently it is a social insurance program for the workforce, so people outside—mostly housewives and workers in the informal sector—are not properly covered. Credit for social contributions should be offered to increase qualifying years

and to facilitate voluntary affiliation; increasing the benefits that surviving spouses receive should also be considered.

- Improve the long-term financial stability and inter-generational equity of the national scheme. The long-term financial goals should first of all be agreed by national consensus before measures are enacted to attain them. The scheme has been reformed twice in the past 20 years, so although another reform may not be urgent, as the scheme matures it will be more difficult to implement. Measures to make the scheme more stable financially in the long term are needed now.

Malaysia

- Make the provisions of the three pension schemes more equitable. Currently, contribution rates and pay-out options vary widely. Workers covered by the contributory, defined-contribution Employees' Provident Fund (EPF) receive a lump sum at age 55 that does not address risks of longevity, inflation, or survivors' benefits. The Armed Forces plan is also a defined-contribution scheme but it provides disability and survivors' benefits and pays higher annual dividends than the EPF. In contrast, civil servants are covered by a noncontributory, defined-benefit plan that addresses longevity, inflation, and survivors' benefits.
- Extend the coverage of the EPF. Currently, 35% to 38% of the labor force is not covered by formal employer-based pension schemes; 20% are foreign workers. Malaysia should consider entering into totalization agreements with the countries that supply its foreign labor to bring them under the social security system and thereby improve coverage.
- Increase the replacement rate of the EPF. The rate estimated by the OECD in 2010 was 35% for a median male earner and 31.1% for a median female earner, both far below the recommended replacement rate of 66% from all income sources during retirement. A targeted social pension scheme should be seriously considered. Preliminary calculations suggest that the cost of providing benefits equal to 33% of 2009 per capita income to all poor senior citizens would be 0.23% of 2009 GDP. If similar benefits were offered to all senior citizens, the cost would be equivalent to 1.7% of GDP. This appears to be within the capacity of the country and merits consideration.

A social pension scheme could improve equity and address some of the concerns about adequacy in the current pension system.

The Philippines

- Establish an independent umbrella regulator or overseer to harmonize the overall pension system and steer the various components consistently toward established goals. The mandatory pension programs were created by different laws, they are administered independently by separate government-run institutions, and they are supervised by different regulatory bodies. This causes disparities that raise issues of equity and sustainability. The regulator can review actions of policy makers/institutional regulators and enforce changes if they challenge the equity and sustainability of the pension system.
- Align the two mandatory defined-benefit programs—the Government Service Insurance System (GSIS) and the Social Security System (SSS)—by first re-establishing the ceiling on GSIS salary credits with the ultimate objective of integrating the two systems. Resulting government savings could be channeled to social assistance programs.
- Enlarge and consolidate existing defined-contribution programs and improve the investment climate to provide alternatives for people who have additional funds to invest for retirement. The GSIS and SSS currently have high replacement rates that need to be revised to meet their stated objectives of providing a benefit sufficient to meet basic needs and to ensure the long-term sustainability of the programs.

Singapore

- Eliminate the regressive implicit tax on Central Provident Fund (CPF) wealth by moving toward a market-determined interest rate and away from the current administratively determined rate. As the vast majority of CPF members do not benefit from the income tax deduction, this implicit tax subsidy is also regressive and should be eliminated.
- Improve assistance for the indigent. The current system is minimal and rigorously means-tested. To improve overall equity, a zero-pillar social pension scheme funded from the

government budget should be established. Given the relatively small population size and administrative capabilities of the CPF, the scheme would be relatively inexpensive; Singapore appears to have the fiscal capacity to finance it.

- Introduce social insurance principles in the CPF Lifelong Income Scheme and Medishield. For example, women currently pay a higher effective premium than men as they as a group live longer, but on average they have lower CPF balances which reduces the amount available for retirement. Because of the market failures associated with healthcare, social insurance is inherently desirable. It will also ease the overall equity and efficiency of Singapore's pension system.

Thailand

- Phase-out the exempt-exempt-exempt tax regime except possibly on smaller benefits for the elderly poor. The new tax revenues could be used to provide benefits to the informal sector. Taxing pension wealth or retirement income would be relatively efficient since it either originates with the government or has been tracked by the government and would be a "redistribution tool" that would not add directly to the expenses of active laborers.
- Establish a national pension regulator to eliminate or reduce inconsistent pension policies among various ministries and agencies.
- Increase retirement ages except possibly for those who have already accumulated long service or who work in physically challenging occupations.

Viet Nam

- Revise benefits to achieve more intra-generational equity. The current formulas have disparities with regard to gender and economic sector given similar records of contributions and working conditions.
- Improve the sustainability of the current contributory, pay-as-you-go defined-benefit system. Contribution rates and normal retirement ages play important roles in improving long-term sustainability. Current contribution rates are relatively high, so continuous increases will not be wise. As life expectancy at 60

for both males and females is improving, higher retirement ages should be considered.

- Transform the current scheme to a system of individual accounts with a notional defined-contribution system as a transitional step. With an aged population in 3 decades, the current pension scheme will not be financially sustainable and will accumulate liabilities that in turn will negatively affect inter-generational equity. The proposed system will help to promote intra-generational equity by closely linking contributions and benefits and will also help to reduce inter-generational disparities by decreasing pension liabilities and making the fund more sustainable. The notional defined-contribution plan should not, however, be considered a panacea for financial sustainability and generational equity.

Priorities for the Region

While priorities for promoting fairness and sustainability in pension systems vary with the conditions in each country, the analyses yielded a number of common reform themes applicable to the entire region. Three in particular stand out.

Recognize the Urgency for Addressing the Challenges Aging Populations Pose

It must be recognized that this is a major national issue that must be addressed now at the highest levels of government. There should be a clear mandate for developing an integrated set of policies to coordinate and synchronize initiatives on retirement, labor markets, budgets, and financial and capital market opportunities for pension and provident funds. This responsibility could be assigned to a minister/director who could consider forming a national authority to make recommendations for reform, monitor the results, and enforce policies designed to meet the aging challenge. Specifically, such an agency could address the following.

- a) The pension systems are currently fragmented and provide significantly different benefit levels with varying degrees of certainty to different groups, which challenges both fairness and

- sustainability. The authority could act as a coordinating body from an objective perspective and could thus improve communication among different provident and pension organizations.
- b) A focal point in each country is needed to address total resource costs, the financing mix, and other issues that should be discussed on a national level. The absence of such a focal authority has led to a lack of awareness on aging issues and a low priority for them on the political agendas of most Asian countries.
 - c) The proposed authority could narrow the gap between best practices and the actual practices of pension and provident fund organizations by encouraging the development of professional expertise in the sector.
 - d) By providing objective oversight, the authority could counteract the tendencies of organized groups to pursue their interests at the expense of fairness and sustainability and could advocate for broadly shared growth.

Put Greater Emphasis on Delivering Pension Benefits

It is of paramount importance to ensure that benefit promises remain credible over time. These promises are of a long-term nature, so the design and management of pension plans and provident funds, the quality of their actuarial projections for long-term assets and liabilities, and their transparency and accountability are crucial. Transitional arrangements, including costs, need consideration as well and will require innovative designs of schemes, products, and delivery systems. There is considerable scope for such innovations, particularly in low- and middle-income Asian countries where employment in the informal sector is high. Policies must ensure not only the accumulation of sufficient pension wealth but also its effective conversion into sustainable financial security throughout retirement.

Manage the Impact of Increased Longevity on Length of Retirement

In most Asian countries, the proportion of life spent in retirement mandated by pension rules has increased significantly due to relatively inflexible young retirement ages. But this has yet to be recognized and has created unequal treatment for those not covered by formal plans. Inequality could also occur if workers currently not

covered are covered by special schemes while the ages for pension eligibility remain at current levels. As the population ages, labor market policies must adapt to turn increased longevity into increased productivity in a structural rather than a palliative manner. This will require major rethinking and communicating with and educating all stakeholders.

Final Observations

This book examined fairness and sustainability, two specific dimensions of pension systems that are especially relevant for building a strong national consensus and a viable national blueprint for delivering affordable, adequate, sustainable old-age income support for the large and growing elderly populations of East and Southeast Asia. Making pension systems more equitable and sustainable is a necessary but not sufficient condition for overall pension reform since there are many other dimensions of the systems, and pensions are only one part of old-age income support. Nevertheless, promoting fairness and sustainability will go a long way toward establishing sound and efficient old-age income support in the region in the context of rapid demographic change and declining family-based support.

References

- Actuarial Society of the Philippines. 2011. *Study Notes on Social Insurance*. <http://www.actuary.org.ph/frontpage/downloads.asp>
- Asher, M. G. 1994. *Social Security in Malaysia and Singapore: Practices, Issues and Reform Directions*. Kuala Lumpur: Institute for Strategic and International Studies.
- Asher, M. G. and A. Nandy. 2009. Managing prolonged low fertility: the case of Singapore. *Journal of Asian Public Policy*. 2:1. pp. 4–16.
- Asian Development Bank. 2006. *Draft Report: Thailand Pension System Design Project*. Consultant's report. Manila (TA-4011).
- Aspalter, A. C. 2009. Pension coverage and demographic ageing: Securing the future for old age in the Asia and Pacific region: Short-term and historical challenges. Background paper for the Regional Social Security Forum for Asia and the Pacific. Manila. 23 October. <http://www.issa.int/aiss/Resources/Conference-Reports/Pension-coverage-and-demographic-ageing>
- Aziz, A. A. 2010. Labour Safety Net under the New Economic Model. Background paper for the International Social Security Seminar. Kuala Lumpur. 13–14 July.
- Bangkok Post*. 2011. Tax, Pension Issues for Incoming Government. 29 June. <http://www.bdo-thaitax.com/bdo/in-the-news/3255>
- Bird, R.M. and P.P. Gendron. 2007. *The VAT in Developing and Transitional Countries*. New York: Cambridge University Press.
- Carmichael, J. and R. Palacios. 2003. A Framework for Public Pension Fund Management. Background paper for the Second Public Pension Fund Management Conference of the World Bank. Washington, DC. 5–7 May.
- Castel, P. and M. Rama. 2005. Comments on the New Social Insurance Law. Ha Noi: World Bank. Unpublished.
- Charoensuthipan, P. 2011. Fledgling pension fund will run out in 30 years. *Bangkok Post*. 11 June.
- Chia, N-C and A. Tsui. 2011. Structuring the Payout Phase in a Defined Contribution Scheme in a High Income Country: The Experience of Singapore. Background paper for the Economic Research Institute for ASEAN and East Asia (ERIA) Working

- Group Second Workshop on Social Protection in East Asia: Current State and Challenges. Singapore. 5–6 March.
- Chua, H.B. 2011. Malaysia: EPF's omnipresence. *Asia Macro Weekly*. 25 November.
- Coogan, P. 2011. Special Report on Pensions. *The Economist*. 7 April.
- Ebrill, L. et al. 2001. *The Modern VAT*. Washington, DC: International Monetary Fund. <http://www.imf.org/external/pubs/nft/2001/VAT/index.htm>
- Feldstein, M. 1998. Financing our Old Age. A New Era of Social Security. *The Public Interest*. No. 130. Winter. National Bureau of Economic Research. <http://www.nber.org/feldstein/pi1998w.html>
- Franco, D., M. R. Marino, and S. Zotteri. 2004. Pension Expenditure Projections, Pension Liabilities, and European Union Fiscal Rules. Background paper for the International Workshop on the Balance Sheet of Social Security Pensions. Tokyo. 1–2 November.
- Gian, T. C., P. Castel, and T. L. Giang. 2010. A Social Insurance Forecast and Simulation Model for Viet Nam. Report No.1, World Bank-ILSSA Joint Research Project. Ha Noi: Ministry of Labor, Invalids and Social Affairs. Unpublished.
- Giang, T. L. 2004. The Pension Scheme in Viet Nam: Current Status and Challenges in an Aging Society. *Viet Nam Development Forum Discussion Paper*. No. 2 (E).
- . 2006. Pension Liabilities and Generational Relations: The Case of Viet Nam. *Working Paper 106*. Oxford: Oxford Institute of Population Ageing.
- . 2010. Transforming the Pension Scheme in Viet Nam from Pay-as-You-Go to Notional Defined Contribution. Report No. 3, World Bank-ILSSA Joint Research Project. Ha Noi: Ministry of Labor, Invalids and Social Affairs. Unpublished.
- . 2011. Viet Nam: Pension Systems Overview and Reform Directions. In D. Park, ed. *Pension Systems and Old-Age Income Support in East and Southeast Asia: Overview and Reform Directions*. London: Routledge.
- Giang, T. L. and W. D. Pfau. 2009. Demographic Changes and the Long-term Pension Finances in Viet Nam: A Stochastic Actuarial Assessment. *Journal of Population Ageing*. 1(2). pp. 125–151.
- Global Health Comparison Index. <http://www.worldlifeexpectancy.com/global-healthcomparison-index-philippines>
- Government of the People's Republic of China. 1990. *Fourth National Population Census*. Beijing.

- . 2000. *Fifth National Population Census*. Beijing.
- . 2010. *Sixth National Population Census*. Beijing.
- Government of Indonesia. 2011. *The 2010 Indonesia Population Census*. Jakarta.
- . BPS–Statistics Indonesia. 2011. http://dds.bps.go.id/eng/tab_sub/view.php?tabel=1&daftar=1&id_subyek=06¬ab=3
- . BPS–Statistics Indonesia. 2011. <http://dds.bps.go.id/eng/getfile.php?news=713>
- . National Civil Service Agency. 2011. <http://www.bkn.go.id/en/profil/unit-kerja/inka/direktorat-pengolahan-data/profil-statistik-pns/distribusi-pns-berdasarkan-kelompok-umur-dan-jenis-kelamin-1-oktober-2011.html>
- . National Development Planning Agency. 2011. http://kawasan.bappenas.go.id/index.php?option=com_content&view=article&id=113:proyeksi-penduduk-indonesia-2005-2025&catid=46:arsip-berita
- Government of the Republic of Korea. Committee for the Second National Pension Financial Review. 2008. *The Long-Term Financial Projection of National Pension and Measures for the Improvement of National Pension*. November. Seoul.
- . Government Employees Pension Service. *Monthly Statistics*. <http://www.geps.or.kr>
- . Korea Teachers Pension. http://www.ktpf.or.kr:8088/hp/n_english/about/about_02.jsp
- . National Statistical Office. 2010. *Registered Residents Statistics*. Seoul.
- Government of Malaysia. Bank Negara. 2009. *Annual Report*. Kuala Lumpur.
- . Department of Statistics. 2010. *Social Statistics Bulletin*. Putrajaya.
- . Employees' Provident Fund. 2009 and various years. *Annual Report*. Kuala Lumpur.
- . Ministry of Finance. 2010. *Malaysian Economy First Quarter*. Kuala Lumpur.
- . National Economic Advisory Council. 2010. *A New Economic Model for Malaysia*. Putrajaya. <http://www.neac.gov.my>
- Government of Singapore. Department of Statistics. 2009 and 2010. *Yearbook of Statistics for Singapore*. Singapore.
- . Ministry of Community Development, Youth and Sports. 2006. *Annual Report*. Singapore.
- . Ministry of Finance. 2011. *Budget Statement*. <http://www.singaporebudget.gov.sg/>

- . Public Service Division. 2011. [http://www.psd.gov.sg/PublicService/ SingaporePublicService/](http://www.psd.gov.sg/PublicService/SingaporePublicService/)
- . Public Service Division. 2012. *White Paper: Salaries for a Capable and Committed government*. [http:// www.psd.gov.sg/WhitePaper_WhitePaper](http://www.psd.gov.sg/WhitePaper_WhitePaper)
- Government of Thailand. Government Pension Fund. 2008. Annual Report. www.gpf.or.th/download/annual/annual2008_eng.pdf
- Government of Viet Nam. General Statistics Office. 2008. Viet Nam Household Living Standard Survey. Ha Noi.
- . General Statistics Office. 2011. *Population Projections for Viet Nam, 2009–2049*. Ha Noi: Statistical Publishing House.
- Government Service Insurance System of the Philippines. 2008. *Annual Report*. Manila.
- Guérard, Y. 2011. Actuarial Baseline for Implementing Universal Health Coverage in Indonesia. Jakarta: World Bank.
- Hagemann, R., and G. Nicolleti. 1989. Aging Populations: Economic Effects and Implications for Public Finance. *OECD Economics Department Working Papers*. No. 61. Paris: OECD.
- Help Age International. 2009. Thai PM Guarantees Older People's Right to Social Pension. <http://www.globalaging.org/pension/world/social/Thai.htm>
- Holzmann, R., R. Palacios and A. Zviniene. 2000. On the Economics and Scope of Implicit Pension Debt: An International Perspective. Background Paper for the 2001 Allied Social Science Associations meeting. New Orleans. 5–7 January.
- Hu, Y. and R. Herd. 2009. *Reforming Civil Service and Public Service Unit Pensions in China*.¹ Paris: OECD.
- International Labour Office. 1998. Viet Nam: Report to the Government on Social Protection Development and Training-Actuarial Valuation of the Viet Nam Social Security Scheme. VIE24V3.598. Ha Noi: ILO.
- . East Asia Subregional Office, Social Security Department. 2009. *Thailand. Pension reform in times of crisis*. <http://www.socialsecurityextension.org/gimi/gess/ RessShowRessource.do?ressourceId=16965>
- International Labour Organization. 2000. *Social Security Pensions*. Geneva.
- Jakarta Post. 2009. Rp5,125 trillion in health insurance set for more recipients. 2 December.

¹ ADB recognizes this member by the name People's Republic of China.

- Kanjanaphoomin, N. 2004. Pension Fund, Provident Fund and Social Security System in Thailand. Background paper for the International Conference on Pensions in Asia: Incentives, Compliance and Their Role in Retirement. Tokyo. 23–24 February.
- Kim, S. S. and S. H. Shin. 2010. Financing Method and Long-Term Financial Goals of the National Pension. Seoul: National Pension Research Institute of the Republic of Korea.
- Kitjakosol, J. 2010. SSO mulls raising age for pensions to avoid fund running out of cash by 2047. *The Nation*. 24 January.
- Kunieda, S. 2002. Japanese Pension Reform: Can We Get Out of Inter-generational Exploitation? In *Pension Reforms in Asian Countries: Proceedings of the International Symposium*. Japan: Hitotsubashi University.
- Lachance, M-E and O. S. Mitchell. 2003. Guaranteeing Individual Accounts. *The American Economic Review*. 93(2). pp. 257–260.
- Leckie, S. 2011. The People’s Republic of China: pension system overview and reform directions. In D.Park, ed. *Pension Systems and Old-Age Income Support in East and Southeast Asia*. London: Routledge.
- Lloyd-Sherlock, E. and E. Schröder-Butterfill. 2008. Social Security Pension Reforms in Thailand and Indonesia: Unsustainable and Unjust. DEV Working Paper Series. No. 03. Norwich: School of Development Studies, University of East Anglia
- Min, J-S et al. 1986. The Basic Design of the National Pension Scheme and Analysis of Its Social and Economic Effects. Seoul: Korea Development Institute.
- Mukhopadhyaya, P. and S. Venaik. 2010. Poverty in Plenty: Old age income security. Unpublished.
- Mydans, S. and T. Fuller. 2011. In a Landslide, Thais Pick Party of Exiled Leader. *New York Times*. 4 July. http://www.nytimes.com/2011/07/04/world/asia/04thailand.html?_r=1&nl=todaysheadlines&emc=tha2
- Nam, S-W, J-S Min, and C-S Jan. 1990. *Tasks for Policies and Direction for Financial Stability for the National Pension System*. Seoul: Korea Development Institute.
- National Pension Service of the Republic of Korea. 2009 and 2010. Internal statistics.
- . National Pension Research Institute. 2010. Internal data.

- Ong, F.S. and T.A. Hamid. 2010. Social Protection in Malaysia: Current State and Challenges. Background paper for the Economic Research Institute for ASEAN and East Asia (ERIA) Project on Social Protection.
- Organisation for Economic Co-operation and Development (OECD). 2011. *Pensions at a Glance 2011: Retirement-Income Systems in OECD and G20 Countries*. <http://www.oecd.org/els/social/pensions/PAG>
- OECD/World Bank. 2011. *Pensions at a Glance: Asia/Pacific*. Paris: OECD Publishing. http://www.oecd.org/document/27/0,3746,en_2649_34757_49427099_1_1_1_1,00.html
- Othman, S. H. 2010. Malaysia's Pension System from a Multi-Pillar Perspective. Background paper for the International Social Security Seminar. Kuala Lumpur. 13–14 July.
- Paitoonpong, D.S., A. Chawla, and N. Akkarakul. 2010. Social Protection in Thailand—Current State and Challenges. In Asher, M.K. et al. eds. *Social Protection in East Asia—Current State and Challenges*. ERIA Research Project Report No. 9. http://www.eria.org/pdf/research/y2009/no9/All%20Pages_No.9.pdf
- Pfau, W. D. and V. Atisophon. 2008. The Impact of the National Pension Fund on the Suitability of Elderly Pensions in Thailand. *Asian Economic Journal*. 23(1). pp. 41–63. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1259569
- Philippine Star*. 2011. GSIS: The Need to Reform. 7 April.
- Ponds, E. et al. 2011. Funding in Public Sector Pension Plans: International Evidence. *OECD Working Papers on Finance, Insurance and Private Pensions*. No. 8. Paris: OECD.
- PT Jamsostek. 2008. *Annual Report: Serving with Care*. Jakarta. <http://www.jamsostek.co.id>
- Rama, M. 2010. "Viet Nam Social Security: Reserve Fund Management." Background paper for the conference "Social Insurance in Viet Nam: Implementation Status and Policy Challenges." Ha Noi. 18–19 March.
- Rokx, C. et al. 2009. *Health Financing in Indonesia. A Reform Road Map*. Washington, DC: World Bank. <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/INDONESIAEXTN/0,,contentMDK:22191812~menuPK:224605~pagePK:2865066~piPK:2865079~theSitePK:226309,00.html>

- Rydell, I. 2005. *Equity, Justice, Interdependence; Intergenerational Transfers and the Aging Population*. Institute for Future Studies. <http://www.framtidsstudier.se/wp-content/uploads/2011/01/20051201134827filM52PM23TL7s8cRxdz95J.pdf>
- Sani, A. H. A. 2010. Foreign Worker Levy Hike in 2011. *The Malaysian Insider*. July 27.
- Shiller, R. J. 2003. *The New Financial order – Risk in the 21st Century*. Princeton, NJ: Princeton University Press.
- Social Security System of the Philippines. Actuarial Department. 2010. Data sent at the request of the author. April.
- Standard & Poor's. 2010. *Global Aging, an Irreversible Truth*. *Global Credit Portal*. www.apapr.ro/images/stories/materiale/.../2010/2010%2031%20attach.pdf
- Suwanrada, W. 2009. Poverty and Financial Security of the Elderly in Thailand. *Ageing International*. 33:1-4. pp. 50–61. http://tgri.thainhf.org/document/edoc/edoc_790.pdf
- The Economist*. 2011. Special Report on Pensions. 9 April.
- United Nations Department of Economic and Social Affairs. (UNDESA). 2010. World Population Prospects, the 2010 Revision. <http://esa.un.org/unpp>
- United Nations Population Division. 2010. World Population Prospects, the 2008 Revision. <http://esa.un.org>
- United Nations Population Fund (UNFPA) Viet Nam. 2011. *The Aging Population in Viet Nam: Current Status, Prognosis, and Possible Policy Responses*. Ha Noi: UNFPA Viet Nam.
- Vu, K. and Monetary Authority of Singapore. 2010. Sources of Singapore's Economic Growth 1990–2009. *Macroeconomic Review*. Volume IX Issue 1 April. Singapore.
- Wiener, M. 2011. Thai Pension Programs. <http://cis.ier.hit-u.ac.jp/Japanese/society/conference1106/wiener.pdf>
- World Bank. 2000. Pension systems in East Asia and the Pacific. Annex B11: Country profile for Thailand. Washington, DC.
- . 2010. *World Development Indicators*. CD Rom.
- World Economic Forum. 2009. *Transforming pensions and health care in a rapidly ageing world: scenarios to 2030*. http://www3.weforum.org/docs/WEF_Scenario_PensionsAndHealth2030_Report_2010.pdf
- World Trade Organization. 2010. *World Trade Profile: Malaysia*. <http://stat.wto.org/CountryProfile/WSDBCountryPFView.aspx?Language=E&Country=MY>
- Xuanwei, T. 2012. No More Pensions. *Today*. 5 January.

Index

A

- Actuarial Society of the Philippines 66
- age structure 4, 7, 116–118
- annuity: in the People's Republic of China (PRC) 8–10, 14, 17–18; in Indonesia 35; in Malaysia 62; in Singapore 94–95, 97; in Thailand 103, 108, 112
- Asher, Mukul G. *vi*, *x* 53, 63, 85, 90, 93, 95
- Asian Development Bank (ADB) *vi*, *x*, 1, 104–106
- Aspalter, A. C. 100
- Aziz, A. A. 55

B

- Bali, A.S. *vi*, *x*, 53, 85
- Bird, R.M. 63
- Brustad, Orin *vi*, *x*, 99
- bumiputra* 54, 65

C

- Carmichael, J. 67, 69
- Castel, P. 127
- Central Provident Fund 85–86, 88, 133
- Central Provident Fund Investment Scheme 93
- Chia, N-C 88, 93–94
- China, People's Republic of: demographics 7; demographic dividend 6, 7; dependency ratio 7; *di bao* payments 17;

- family care 8; inflation 6, 14, 15; life expectancy 6, 11, 15; migrant workers 6, 8, 15, 19; one-child policy 7; retirement age 6, 9, 10, 11, 12, 20; urbanization 7
- Chinese pension systems: civil and public service system 6, 8–12; contribution rates 6, 11; defined-benefit plans 6, 9; defined-contribution plans 6; fairness 6, 12; integrating the urban and rural systems 6, 20; longevity 15; private sector involvement 17–18; Ministry of Human Resources and Social Security 17; replacement rates 10, 12–15; reform suggestions 18–20; rural pension system 8–11, 18; State Administration of Taxation (SAT) 17; survivors' benefits 15; sustainability 11, 15, 17; urban pension system 6, 8–10, 18–20; voluntary programs 8–9
- contribution rates: in general 4; in PRC 6, 11; in Republic of Korea 38, 47–50; in the Philippines 68, 73–74, 82; in Singapore 89, 91; in Viet Nam 116, 118
- Coogan, P. 84
- coverage: in general *ix*, 3, 5; in Indonesia 21, 24–27, 29–30, 32–33, 36; in Republic of Korea 38–40, 45–46, 51; in Malaysia 60–61, 63; in the Philippines 68, 76, 83; in Singapore 85, 89, 92, 97; in Thailand 99–100

Central Provident Fund (CPF) 85, 88–91, 93–98, 133–134
 CPF Lifelong Income Scheme (CPF LIFE) 94–95, 97

D

Defined-benefit pension plans: in Asia 3–4, 129; in PRC 6, 9; in Republic of Korea 38–39; in Malaysia 53, 59, 63; in the Philippines 66–68, 79; in Singapore 95, 98; in Thailand 103, 108; in Viet Nam 116, 118, 122

defined-contribution pension plans: in PRC 6; in Republic of Korea 49–50; in Malaysia 53, 58, 60, 63; in the Philippines 66–68, 83; in Singapore 85, 89, 92, 95, 97; in Thailand 108–109; in Viet Nam 128

demographic dividend: in general 1, 4; in PRC 6, 7

demographic transition: in general 1, 4, 137; in Malaysia 55, 59; in the Philippines 74; in Viet Nam 117–118, 125

dependency ratio 7, 21, 23–24, 31, 34–36, 38, 52, 56, 74, 76–77, 79–80, 88, 101, 105–106

E

Ebrill, L. et al. 63

EET 28

Employees' Provident Fund (EPF) 53, 57–60, 62–65, 132

Estrada, Gemma B. *vi*, *x*, 1

F

Fairness: in Asian pensions systems in general *ix*, 2–3, 5, 129, 130–131, 135–137; in the PRC system 6, 12; in the Indonesian

system 34, 36–37; in the Korean system 40–44; in the Malaysian system 53–55, 61–62, 65; in the Philippine system 66, 68–69, 83; in the Singaporean system 85, 87, 92–93, 95, 97–98; in the Thai system 99; in the Vietnamese system 116–118, 126–128

family-based old-age support 2, 4, 137

Feldstein, M. 116

fertility: in general *ix*, 1, 22; in Malaysia 56; in the Philippines 65; in Thailand 101; in Viet Nam 117, 121, 125

financial sustainability 23, 63, 96, 100, 116, 118, 130

financial institution pension funds (FIPF) 21, 24, 26, 28

foreign workers 53, 55, 57, 64, 85, 87, 95–96, 98, 132

Franco, D. 122

G

Gendron, P. P. 63

Gian, T. C. 118

Giang, Thanh Long *vii*, *x*, 116, 118–120, 122, 128

Global Health Comparison Index 75, 79

Government Pension Fund 102, 108

Government Service Insurance System of the Philippines (GSIS) *viii*, 66–72, 74, 83, 133

Guérard, Yves *vii*, *x*, 21, 28

H

Hagemann, R. 116

Hamid, T.A. 57, 59, 61

Herd, R. 16

Holzmann, R. 67

Hu, Y. 16

I

- individual account 8–9, 11, 14–15, 20
- Indonesia: demographics 22–24; dependency ratio 21, 23–24, 31, 34–36; life expectancy 34; National Social Security System (NSSS) 21, 31, 130; retirement age 22–24, 26–28, 33–36;
- Indonesian pension systems: civil/public service program 21, 24, 28–29, 35–36; coverage 21, 24–27, 29–30, 32–33, 36; fairness 34, 36–37; financial institution pension funds (FIPF) 21, 24, 26, 28; formal sector 21, 25–27, 32–33, 36; informal sector 21, 25–27, 32–33, 36, 131; *Jamsostek* Program 21, 24–27, 29–30; longevity 22–23, 27, 33–36; replacement rate 23, 28; reform suggestions 36–37; survivors' benefits 27; sustainability 23, 30, 37
- inflation and inflation risk: in PRC 6, 14–15; in Republic of Korea 44; in Malaysia 53, 55, 58, 61–62, 64–65; in the Philippines 79; in Singapore 92, 95, 97; in Viet Nam 120–122
- informal sector 3, 21, 25–27, 30, 32–33, 82, 99–100, 102, 104, 111–112, 114–115, 131, 134, 136
- International Labour Office 100, 113, 118

J

- Jamsostek* Program 21, 24–27, 29–30
- Jan, C-S 48

K

- Kanjanaphoomin, N. 103, 109
- Kim, Seong Sook *vii*, *x*, 38, 50
- Korea, Republic of: dependency ratio 38; family care 40; inflation risk 44; support ratio 38; temporary workers 40
- Korean pension systems: contribution rates 39, 48–51; coverage 38–40, 45–46, 51; fairness 39–44; defined-benefit plans 38–39; defined-contribution plans 49–50; formal sector 39–40; informal sector 132; longevity 38; replacement rate 43, 46, 50; reform suggestions 45–52; sustainability 48; voluntary program 41, 46–47
- Kunieda, S. 117

L

- labor force participation rate 57, 88
- Lachance, M-E 94
- Law 40 31, 33, 130–131
- Leckie, Stuart *vii*, *x*, 10
- life expectancy: in Asia generally *ix*; in PRC 6, 11, 15; in Indonesia 34; in Malaysia 53, 55, 57, 59, 64; in the Philippines 74–76, 79; in Singapore 87–88; in Thailand 114; in Viet Nam 125
- life expectancy at birth 11, 55, 79
- life expectancy at retirement age 11, 55
- Lloyd-Sherlock, E. 100, 107, 113
- longevity and longevity risk *x*, 1, 4, 15, 22–23, 34–35, 53, 55, 57–58, 61–62, 64–65, 88, 92, 97, 132, 136–137
- lump sum 10, 26–27, 60, 62, 108, 111–112, 132
- lump-sum payment/endowment 10, 21, 29, 91, 109, 119

M

- Malaysia: demographics;
 dependency ratio 52, 56;
 family care 55–57; inflation 53,
 55, 58, 61; life expectancy 53,
 55, 57, 59, 64; foreign workers
 53, 55, 57, 64, 132; retirement
 age 58–59;
- Malaysian pension systems: Armed
 Forces Fund (LTAT) 60, 62–63;
 civil/public service program
 59; coverage 60–61, 63;
 defined-benefit plans 53, 59,
 63; defined-contribution plans
 53, 58, 60, 63; Employees’
 Provident Fund (EPF) 53, 57–59,
 62–65, 132; fairness 53–55,
 61–62, 65; longevity 53,
 55, 57–58, 61–62, 64–65;
 replacement rate 64; reform
 suggestions 61–65; Social
 Security Organization (SOSCO)
 57, 60–61, 64; survivors’
 benefits 53, 55, 58, 60–62,
 64–65; sustainability 53–55, 59,
 63, 65
- mandatory provident fund (MPF)
 113
- mandatory savings 53, 57–58, 88,
 92, 98
- Marino, M.R. 122
- Medisave 90
- Min, J-S 47–48
- Mitchell, O. S. 94
- Monetary Authority of Singapore 86
- Mukhopadhyaya, P. 86

N

- Nam, S-W. 48
- Nandy, A. 90, 93, 95
- national consensus *ix*, 3–5, 129,
 132, 137
- National Pension Service of the
 Republic of Korea 41–42

- national savings fund (NSF) 101,
 110–111, 115
- National Social Security System
 (NSSS) 31, 33–36
- new economic model 54
- new economic policy 54
- Nicolleti, G. 116

O

- Old-Age Act 500 Baht Program
 (OAA) 102, 111
- old-age dependency ratio 23, 34,
 101
- Old-age Pension Fund (OAP) 39,
 41, 46, 99, 102–107, 111,
 113–114
- Ong, F.S. 57, 59, 61
- Organisation for Economic
 Co-operation and Development
 (OECD) 12–13, 29–30, 34, 64,
 131–132
- Othman, S. H. 61, 63–65

P

- Paitoonpong, D.S. 100
- Palacios, R. 31, 67, 69
- Park, Donghyun (editor) *x*, 1–2, 129
- participation rate 43, 57, 88, 121
- pay-as-you-go pension systems;
 in Asia generally 3, 129; in
 Indonesia 21, 31; in Republic
 of Korea 43, 47–48; in the
 Philippines 79–80; in Viet Nam
 116–118, 120
- pension reform: in Asia generally
 2–6, 129, 137; in PRC 19–21;
 in Indonesia 36–37; in Republic
 of Korea 45–52; in Malaysia
 61–65; in the Philippines 81–84;
 in Singapore 97–98; in Thailand
 112–115; in Viet Nam 128
- Pfau, Wade D. 100, 118–119, 122
- Philippines, the: demographics
 74–79; dependency ratio 74,

- 76–77, 79–80; inflation 79; life expectancy 74–76, 79; retirement age 66, 68, 72, 75–77, 81
- Philippine pension system:
 government program (GSIS) 66–72, 74, 83, 133; contribution rates 68, 73–74, 82; coverage 68, 76, 83; defined-benefit plans 66–68, 79; defined-contribution plans 66–68, 83; fairness 66, 68–69, 83; formal/private sector (SSS) 67–74, 82–83, 133; informal sector 82; replacement rate 71, 73; reform suggestions 81–84; survivors' benefits 75; sustainability 66, 68–69, 72, 74–75, 79, 82–84; voluntary programs 67
- Ponds, E. et al. 30
- population aging: in general 2, in Malaysia 55; in the Philippines 79, 83; in Singapore 88; in Viet Nam 117
- poverty alleviation *viii*, 17, 83, 113, 131
- poverty among the elderly 39, 71, 107, 113, 131
- poverty line 53, 61, 65, 73, 101
- R**
- Rama, M. 119, 127
- real rate of return 59, 122
- replacement rates: in PRC 10, 12, 14–15; in Indonesia 23, 28; in Republic of Korea 43, 46, 50; in Malaysia 64; in the Philippines 71, 73; in Singapore 89–91, 97; in Thailand 100–101, 104, 107, 109–110, 113; in Viet Nam 118
- retirement age: in general *ix*, 3; in PRC 6, 9–12, 20; in Indonesia 22–24, 26–28, 33–36; in Malaysia 59–60; in the Philippines 66–68, 72, 74–75, 77, 81; in Thailand 103, 107; in Viet Nam 119, 125, 126
- Retirement Mutual Fund 102, 110
- Reyes, Ernesto *viii*, *x*, 66
- Rokx, C. 33
- Rydell, I. 69
- S**
- salary averaging 66, 68, 72
- SAVER Plan 85, 92–93, 98
- Sani, A. H. A. 55
- Schröder-Butterfill, E. 100, 107, 113
- Shiller, R. J. 22–23
- Shin, S.H. 50
- Singapore: demographics 87–88; dependency ratio 88; inflation 92, 95, 97; life expectancy 87–88; foreign workers 85, 87, 95–96, 98; retirement age 88, 90
- Singaporean pension systems:
 civil/public service program 90–91; contribution rates 89, 91; coverage 85, 89, 92, 97; defined-benefit plans 95, 98; defined-contribution plan (CPF) 85, 88–91, 93–98, 133–134; fairness 85, 87, 92–93, 95, 97–98; foreign workers 85, 87, 95–96, 98; informal sector 82; longevity 88, 92, 97; replacement rate 90–91, 97; reform suggestions 97–98; survivors' benefits 92, 97; sustainability 85, 87, 96–98
- single-tier retirement financing system 57, 88
- social insurance principles 60–61, 85, 92, 95, 97, 134
- social risk pooling 61, 85, 92, 98
- Social Security Organization (SOCISO) 57, 60–61, 64
- Social Security System of the Philippines (SSS) 66–75, 82–84, 133
- Standard & Poor's 80
- support ratio 8, 101
- survivors' benefits 27, 53, 55, 58, 60–62, 64–65, 75, 92, 97, 109, 132

sustainability: of Asian pension systems generally *ix*, 2–3, 5, 129, 135–137; in PRC 11, 15, 17; in Indonesia 23, 30, 37; in Republic of Korea 48; in Malaysia 53–55, 59, 63, 65; in the Philippines 66, 68–69, 72, 74–75, 79, 82–84; in Singapore 80–87, 96–98; in Thailand 98–99, 104–105, 107, 112, 114; in Viet Nam 116–118, 128

Suwanrada, W. 102, 108

T

tax treatment 27–28, 85, 109–110

Thailand: demographics 99; dependency ratio 101, 105–106; life expectancy 114; retirement age 103, 107; urbanization 104

Thai pension system: coverage 99–100; defined-benefit plans 103, 108; defined-contribution plans 108–109; fairness 99; formal sector 99, 102–105, 107, 110, 113–114; informal sector 99–100, 102, 104, 111, 114–115, 134; replacement rate 100–101, 104, 107, 109–110, 113–114; reform suggestions 112–115; survivors' benefits 109; sustainability 99–100, 104–105, 107, 112, 114; voluntary programs (PVD, RMF) 102, 109–113

Tsui, A. 88, 93–94

U

United Nations Department of Economic and Social Affairs (UNDESA) 55–56, 87–88

United Nations Population Division 8, 75, 77–78

United Nations Population Fund (UNFPA) 117

urbanization: in Asia generally 2; in PRC 8, 15; in Thailand 104

V

Venaik, S. 86

Viet Nam: demographics 116–118; *doi moi* 117; inflation 120–122; life expectancy 125; retirement age 119, 125–126

Vietnamese pension system: civil/public service program 116, 118–119; contribution rates 116, 118; defined-benefit plans 116, 118, 122; defined-contribution plans 128; fairness 116–118, 126, 128; replacement rate 118; reform suggestions 128; sustainability 116–118, 128; voluntary programs 116, 118, 128

voluntary programs 17, 19, 41, 46–47, 60, 67, 112, 116, 118, 128, 132

voluntary provident funds (PVD) 99, 102, 109–113

Vu, K. 86

W

World Bank *vi*, *viii*, 29, 54, 64, 86, 109

World Economic Forum 22

World Trade Organization 54

Z

Zotteri, S. 122

Zvinieni, A. 67

Pension Systems in East and Southeast Asia

Promoting Fairness and Sustainability

Population aging poses two major challenges for Asian policy makers: (i) sustaining rapid economic growth in the face of less favorable demographic conditions; and (ii) providing affordable, adequate, sustainable old-age income support for a large and growing elderly population. This book explores the second issue by examining the pension systems of eight countries in East and Southeast Asia: the People's Republic of China, Indonesia, the Republic of Korea, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. It also puts forward both country-specific and region-wide reforms to address two critical areas of pension reform, namely, fairness and sustainability.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org