1. Introduction to *Fiscal Accountability and Population Aging*

**Robert L. Clark, YoungWook Lee and
Andrew Mason**

Population aging and increased life expectancy at older ages are having significant economic and policy effects in all developed countries. Aging of national populations can substantially increase the cost of national retirement systems and health plans. Increased longevity places higher burdens on individuals and households to save more and work longer. Slower growth in the labor force and the preferences of older workers to delay retirement require firms to reconsider employment and compensation policies. A question of national importance is: how are governments and workers responding to the challenges posed by population aging? This volume focuses on the developing economic challenges confronting Korea and the United States in response to the aging of their populations. The following chapters examine the how public policies in these two countries are evolving in response to the demographic changes, the impact of aging on governmental expenditures, and changes in the labor force associated with aging.

During the past three decades, Korea has successfully maintained its public debt at a relatively low level which has left fiscal space for policy reforms even in the aftermath of the financial crisis. In recent years, a slowdown in the economic growth rate combined with the unexpected fiscal deficits poses concerns for the long-run fiscal sustainability in Korea. Indeed, there is a growing perception that the current fiscal framework, which emerged from favorable macroeconomic environments in the past, may no longer work effectively in maintaining fiscal soundness in a more decentralized and rapidly aging society. Several of the following chapters examine Korea's current fiscal framework, including fiscal institutions and government expenditures, and assess it from the perspective of the government's fiscal accountability. In 2016, the Department of Public Finance and Social Policy concluded that fiscal deficit in Korea has gradually widened from 1 percent of gross domestic product (GDP) in 2010 to 2.5 percent in 2015. An important policy concern is whether the continuing population aging will exacerbate the fiscal problems facing Korea.

In the United States, the federal government confronts similar problems associated with the funding of its primary retirement programs, Social Security and Medicare. Current projections indicate that as soon as 2033 not all promised Social Security benefits can be paid, while the cost of providing Medicare benefits continues to rise as a proportion of GDP. Several chapters examine whether the rising cost of retirement benefits that follows the aging of the population will limit the government's ability to fund other national priorities. State and local governments must deal with the rising cost and unfunded liabilities associated with pension and retiree health plans for these public employees. Some states face the prospects that their pension funds will be depleted in the next decade. In addition, many analysts worry that the rising annual cost of these plans will limit the ability of governments to fund public education infrastructure needs and to provide other public services.

Analyzing the public policies of Korea and the United States illustrates that two very different countries face similar challenges concerning the aging of their populations. Key factors to consider include funding pressures on retirement plans, how the aging of the labor force affects economic growth and productivity, and how governments, employers and individuals respond to these challenges. The chapters in this book provide evidence on the magnitude of the challenges in each country and possible policy changes that may occur in response to the rising cost of retirement benefits.

FISCAL POLICY AND PUBLIC DEBT IN KOREA

In Chapter 2, SungTae Kim concludes that Korea's fiscal soundness has gradually worsened in recent years and is expected to continue to do so in response to rapidly aging population. Research suggests that maintaining a debt to GDP ratio of between 50 and 70 percent would be desirable to prevent a future fiscal crisis. Based on simulations, Kim shows that to maintain this debt ratio, the annual fiscal deficit has to remain between 1 and 2 percent of GDP. He concludes that to sustain this level of debt, the tax burden in Korea must rise to 25 percent of GDP, and the level of discretionary spending must remain below 10 percent of GDP. The analysis in this chapter implies that increases in tax rates and significant restructuring of government expenditures are inevitable.

Despite well-managed fiscal soundness in Korea, concerns about fiscal sustainability are expanding as the government debt continues to increase and the population ages further. Population aging is expected to weaken growth potential and deteriorate fiscal soundness, implying that Korea's fiscal situation will decline and consequently that the country will be

unlikely to sustain the desirable financial stability. The estimate of the fiscal sustainability gap based on interest rate and output growth is forecast to gradually deteriorate, showing current fiscal soundness cannot be maintained.

Simulation results are presented for fiscal adjustments needed to anchor debt-to-GDP ratio at 50 to 70 percent. If the fiscal adjustment is equally distributed between increased taxation and expenditure cuts, the tax burden ratio should rise from 18.4 percent in 2016 to about 23 percent, while discretionary expenditure should fall from 13.1 percent to about 9 percent of GDP in 2060. With the rapid population aging, a fast-growing mandatory spending share and a weakening revenue base, substantial fiscal reforms should be undertaken as soon as possible. On the expenditure side, expenditure restructuring of health, welfare, labor, education and general administration – accounting for about two-thirds of total expenditure – would be an essential part of fiscal reform. On the revenue side, revenue policy should give first priority to expanding the tax base and to reinforcing growth potential.

POLICIES TO SUSTAIN SOCIAL SECURITY IN THE UNITED STATES

The United States must confront similar financial changes to its overall federal budget and especially the sustainability of its retirement programs. Social Security is the primary national retirement program in the United States (US). For the past three decades, projections have shown that future funding problems demand new policies if this program is to be sustained for future retirees. Sylvester J. Schieber (Chapter 3) explores the underlying explanations for the underfunding of the US Social Security pension system that has persisted since the late 1980s, despite repeated calls for reform by the program's trustees and various advisory groups.

Both micro and macro estimates of the cost, shifting from older to younger generations because of the delay in financing reform, are provided in Chapter 3. The analysis shows that recent proposals, calling for balancing financing reform adjustments between benefits and revenues, would result in most of the cost being shifted to future generations of participants. Because reforms have been delayed and many current proposals call for greater welfare transfers in the program from high to low career earners, the case is made that the costs of reform should be imposed on the basis of participants' ability to pay rather than on the basis of the year in which they were born.

Recent proposals for reforming the system are consistent with the pattern policymakers have followed over the past quarter-century: most of

the costs of balancing system financing will be placed on our children and grandchildren. In addition, many proposals call for improving benefits for participants with lower lifetime earnings histories including those who have already retired. The delayed adjustment in the financing and the potential for increasing the welfare transfers suggest that the costs of Social Security financing reform should be equitably shared on the basis of the ability of participants to bear the costs of reform rather than on the basis of birth date. In the United States, the financial challenges facing Social Security have been known for decades. As yet, Congress has failed to act to address the underfunding of the system; however, over the next decade new legislation must be enacted to sustain this important program.

MANAGING PUBLIC FUNDS IN KOREA

In Chapter 4, Yongok Choi discusses institutional arrangements of the government funds system in Korea. How these various funds are managed can contribute to fiscal soundness. For efficient management of government funds, Choi proposes that Korea create a fund of funds by pooling the surplus money of business-oriented funds. This enables the board of directors of each fund to focus on the fulfillment of its own project, which is their primary responsibility. Also, efficiency gains in fund management can be expected arising from the economies of scale and reduction in liquidity risks, which will lead to lower costs of short-term financing.

Choi analyzes the problems of the government fund system in terms of fiscal accountability and then proposes policies to improve the management of these funds. He outlines the problems associated with the current government funds systems and identifies three primary areas of concern. First, accountability goals are not properly established. Second, accounting is undertaken on each fund separately, so there is no overall assessment of the total strength of the funds. Third, Choi notes that there are several cases where surplus funds are used as pocket money by government departments. As Choi's chapter shows, these problems can be alleviated and the efficiency of national finances can be improved through the consolidated management of surplus money from budget-type funds.

IMPACT OF POPULATION ON THE FEDERAL BUDGET IN THE UNITED STATES

Chapter 5 by Louise Sheiner documents that the United States is in the midst of a demographic transition and assesses the impact of population

changes on the federal budget. Ten years ago, the share of the population that was 65 or older was only 12.5 percent. Today, it is 15 percent, and in 20 years, the population share of this group is projected to reach 21 percent. These demographic changes have produced considerable concern about the US fiscal future. These demographic trends are important, since a large component of the budget of the federal government is allocated to old-age entitlement programs. In particular, the cost of Social Security, which provides public pensions, and Medicare, which provides health insurance to the aged, will rise as a share of GDP as the baby boom generation enters into retirement.

Demographic change is relatively easy to forecast, and economists have been studying and debating the budgetary pressures associated with aging for a long time now. But, in addition to the expected consequences of demographic change, it is possible that some other changes that we have been experiencing in the economy may also be linked to population aging. Specifically, low interest rates and lower productivity growth may directly affect fiscal challenges facing the government.

Population aging will put significant pressure on the federal budget in coming years, and policy changes are inevitable. With a permanently older population, and with health spending continuing to rise faster than GDP, it seems likely that overall government spending will have to be higher. But, given the size of the challenge, some combination of spending cuts and tax increases will likely be required. It is difficult to find policies to lighten the future burden. Increases in labor force participation can help, but without concomitant cuts in benefits they are not likely to make a large dent. How the United States addresses these population-driven fiscal challenges will determine the future economic well-being of retirees and the tax burdens of working Americans.

COST OF TAX EXPENDITURES AND THEIR IMPACT ON WORK INCENTIVES

YoungWook Lee examines the effect of tax expenditures for specific programs on the national budget of Korea in Chapter 6. Unlike the usual government spending programs, tax expenditures are often “hidden,” both because they are counted as revenue losses, not outlays, and because tax administrative data are barely accessible in Korea. In consequence, government programs involving tax expenditures are often left unmonitored and are administered in isolation from other social programs. This chapter shows that when considered jointly with the Basic Livelihood Security System, a major public assistance program in Korea, the Earned Income

Tax Credit (EITC) creates an extensive income range where after-tax total household income actually falls with higher wage earnings. To improve fiscal accountability of tax expenditure programs, Lee suggests that a board of social policy be installed to ensure a harmonized design of these programs, and that the government provide greater information, so that tax expenditures are disclosed for wider public scrutiny.

Lee believes that concern about tax expenditure may weaken fiscal accountability without systematic and comprehensive reviews of tax and direct expenditure programs. The chapter examines this concern by studying Korea's case of the Earned Income Tax Credit, a tax expenditure program to support the working poor. In Korea, the EITC, as a welfare program, has been continually expanding since its introduction in 2008, but has not been checked within the welfare system. This analysis focuses on the interconnections between the EITC and other transfer programs through direct expenditure from a perspective of an integrated welfare system.

These results suggest that while tax and direct expenditure programs are independently managed by different ministries and are not reviewed comprehensively, the current interconnections between tax and direct expenditure programs are not in line with their common policy goal to encourage recipients' employment and self-reliance. The comprehensive reviews covering both tax and direct expenditure programs are also absent in other fields as well as welfare. To improve fiscal accountability of tax expenditure, the overall effectiveness of tax and direct expenditures needs to be jointly evaluated, and it should be possible to link micro-level data on tax and direct expenditure programs with the same policy objectives.

UNDERFUNDING OF US STATE AND LOCAL RETIREMENT PLANS

Chapter 7, written by Andrew Biggs, begins by describing the movement away from traditional defined benefit (DB) pensions toward greater reliance on defined contribution (DC) plans. However, in the United States, one sector where DB plans remain dominant is the public sector. Nearly all employees at all levels of government are offered a traditional pension, and the majority of employees receive most or all of their retirement benefits from a DB plan. However, the cost and risk of DB pensions has become a pressing issue for US cities and states, where pension funding has suffered, despite rising contributions and increased risk-taking through plan investments. Rising costs have placed pressures on government budgets, squeezing out resources available for other budget priorities such as educa-

tion and healthcare. Biggs describes the structures, investment practices and funding health of US state and local pensions, while examining some of the policy issues pensions present to lawmakers, and certain reforms that have been considered.

In most states, pension funding ratios have fallen and unfunded liabilities have increased despite a near-tripling of government contributions since 2001. Moreover, public sector pensions have taken on increasing levels of investment risk as a means to counteract the decline in yields on safe investments. While for many years public pensions invested relatively conservatively, today nearly three-quarters of pension investments are in stocks or other risky assets. While this strategy has mitigated increases in required contributions that otherwise would have been substantially greater, rising risk-taking by public plans entails greater volatility of investment returns and required contributions in future years.

In states around the country, policymakers have considered reforms that would reduce the costs and risks of public employee pensions. Some proposed reforms are incremental and would retain the basic defined benefit structure while changing the way in which pension plans are funded or contributions paid. Biggs examines various reforms of state and local pensions in the United States and how these reforms would strengthen the funding states of at-risk plans.

IMPACT OF 2015 REFORMS ON COST OF PENSIONS IN KOREA

Chapter 8 by Dohyung Kim, Taesuk Lee and Yongok Choi explores the historical origin of fiscal rules and examines the effects of such policies on fiscal outcomes in the European Union and Organisation for Economic Co-operation and Development (OECD) countries in order to contribute to the debate on reforming fiscal frameworks in Korea. The authors highlight that the fiscal rules introduced in the European countries during the 1990s are designed to maintain the currency union without fiscal integration by preventing an excessive budget deficit of local governments (namely, the European Union member states) and hence, may not be pertinent to Korea's institutional environment. Rather, the authors suggest that the statutory "pay-as-you-go" system adopted in the United States may help to enhance the fiscal accountability of policymakers and constrain a potential rise in mandatory government spending due to the aging population in Korea.

Using an actuarial model of the Government Employees Pension System (GEPS), the authors quantify the fiscal impacts of the 2015 GEPS

reform in Korea, which gradually raised the contribution rate as well as the pensionable age, while reducing the accrual rate for benefits. Projections indicate that the 2015 reform will substantially decrease the deficits (by 40.5 percent) over the next 70 years, but the overall fiscal burden due to the GEPS, which includes subsidies for closing the deficits, retirement allowances and government's matching contributions, will remain substantial over the same projection period. The analysis in Chapter 8, focusing on the marginal impact of individual measures in the reform package, reveals that about a third of the reduced pre-reform deficits (hence government subsidies) are simply replaced by the increased government matching contributions after the reform, leaving the annual fiscal burden sizeable even after the reform, which amounts to about 0.85 percent of the gross domestic product over the next 70 years.

POLICIES TO SUSTAIN THE US MEDICARE SYSTEM

In Chapter 9, Marilyn Moon describes the debate in the United States concerning the future of Medicare and shows how the discussion focuses on the question of whether we as a society can “afford” to continue funding this program at current levels. The chapter examines objective measures to assess the burdens of financing Medicare on both taxpayers and beneficiaries and suggests how to apply these measures to the debate regarding affordability. Although much of the discussion about reducing Medicare is to ease burdens on younger taxpayers, it is important to recognize that beneficiaries also contribute to the costs of the program; and to an extent not often appreciated. A second popular measure of Medicare's burdens has centered on comparing what various cohorts of Americans will have paid into the Medicare program over their working lives with what they can expect to draw out of the program. This is a useful measure only under the assumption that we expect each generation to pay for itself; a consideration explicitly rejected at Medicare's passage.

The discussion of affordability needs to recognize the context surrounding Medicare. As social insurance, Medicare differs from private insurance in important ways, principally by assuming that access is determined not on the basis of ability to pay but on the basis of membership in a particular defined group. Social insurance explicitly assumes that some groups, usually those with low incomes or with special needs such as health conditions, receive subsidies that give them access to benefits. In addition, Medicare was explicitly created as a “pay-as-you-go” system in which younger individuals pay taxes (both payroll and income taxes) that fund the current needs of beneficiaries, primarily those aged 65 and over. Finally, the debate

about Medicare's future is also part of a larger debate about the size and scope of the federal budget.

Moon asks whether the burdens of future Medicare benefits place too high a burden when examined on a current accounts basis. Her findings indicated that burdens on both future taxpayers and beneficiaries will rise. But, the claim that reforms are necessary because Medicare is simply unaffordable is overstated. The magnitude of those burdens on taxpayers is less than often argued, and the impression that beneficiaries themselves are not paying much toward the costs of their own care is incorrect. A more balanced discussion is needed to determine how future burdens should be shared.

GOVERNMENT FINANCIAL SUPPORT FOR SMALL AND MEDIUM-SIZED ENTERPRISES

In Chapter 10, Chang Gyun Park explores the reasons for lack of effectiveness and efficiency in government financial support to small and medium-sized enterprises (SMEs) and suggest solutions to enhance the accountability of policymakers. He notes that the policy scheme providing financial support to SMEs in Korea has an extremely complicated structure, where no single government agency has the full responsibility to report integrated information. Also, unclear policy objectives make performance evaluation almost impossible based on which funds can be allocated. To enhance accountability in governmental financial support to SMEs, he proposes to create a public holding company with the responsibility to distribute funds based on performance evaluations, which ultimately depend on clearly specified policy objectives.

As the era of rapid growth led by large-scale conglomerates started to show the signs of gradually coming to a halt in late 2000s, interest in SMEs was increasing as an alternative engine for growth and employment in Korea. On the other hand, a lot of SMEs confront difficulties in securing the credit that is essential to growth, due to various frictions in the financial market such as information asymmetry and institutional misalignment. Many countries have taken measures to help bridge the financing gap that SMEs experience in the financial market. However, many critics argue that financial support by the government resulted in major inefficiency in allocation of credit resources. It is not difficult to identify SMEs that benefited from credit guarantee programs for a very long period of time. Responding to the criticism, policymakers have constantly adjusted the policy framework to eliminate the faulty incentive structure embedded in government programs, and to improve policy performance. Yet, several

important problems still remain unsolved. For instance, the size of government programs to help SMEs is too large compared with that of other countries, without clear evidence of the effectiveness and efficiency of the programs.

SME financial policy in Korea has a long history. The first serious attempt by the government to provide financial resources to SMEs dates back to the early 1960s. Many commentators seem to agree that the policy has been playing a significant role in promoting the development of the SME sector. It is also true that a serious criticism has been raised pointing out problems such as repeated provision of scarce financial resources to small groups of SMEs, and provision of financial support to SMEs in better shape in terms of financial stability. In addition, some analysts argue that the size of financial support to SMEs has been increased without due regard to demand conditions, to replace the market allocation mechanism rather than to complement it.

PUBLIC INVESTMENT MANAGEMENT AND ECONOMIC GROWTH

In Chapter 11, Kang-soo Kim and Weh-Sol Moon examine the relationship between the public investment management system (PIM) and economic growth. They find that the strength of PIM was a significant factor for past economic growth. Furthermore, this study shows that efficient PIM was essential for the establishment of high-quality infrastructure, which has a positive effect on productivity. The discussion notes that good PIM can enhance fiscal soundness by managing risks and uncertainties in public investment, because successful PIM involves identification, analysis, mitigation and management of budget deficits as a result in public investment. Returns of the public investment will depend on the effectiveness of management of the public investment. The authors report that their examination of the relationship between the PIM system and economic growth shows that the strength of PIM was a significant factor for economic growth.

The analysis finds that there is a need for further improvement of the appraisal (*ex ante* evaluation) of public investments. In the preliminary feasibility study, which is a representative *ex ante* evaluation in Korea, the proportion of qualitative analysis consisting of policy analysis and regional balanced development analysis is gradually increasing in the evaluation of the comprehensive feasibility on the infrastructure. The authors believe that there is also a need for reliable and subjective appraisal evaluation methods that can eliminate inefficient projects that are signifi-

cantly less cost-effective. Finally, they argue that it is also necessary to seek a governance reform that can positively exclude the political influence on the appraisal of the public investment.

THE ROLE OF POPULATION AGING IN GOVERNMENT BUDGETS AND ECONOMIC GROWTH

The research studies presented in this volume provide important new evidence on the impact of population on government budgets, the financing of specific retirement programs and economic growth in both Korea and the United States. The direct impact of an aging population on the cost of providing pensions and healthcare is clear: a larger proportion of the population that is over age 65 means that more individuals are receiving retirement benefits and there are fewer workers to finance higher annual costs.

This higher burden to finance retirement benefits may result in fewer resources available for other national priorities such as education and infrastructure. Difficult choices must be made. The following chapters consider various options concerning smaller benefits per retiree or higher tax rates on workers. In part, this trade-off will determine how the cost of population aging is shared across generations. These policy issues are facing Korea, the United States, and virtually all developed countries.

It is also important to consider policy in a broader context that includes other public policies, welfare programs and general tax policies. In addition, methods of stimulating economic growth to increase national resources, management of government trust funds and policies that influence labor force participation of the young and old play important roles in sharing the costs of an aging population. The analyses and research in this volume should be useful to policy analysts as they struggle to develop appropriate responses to these difficult challenges.