Asian Productivity Organization

Population Aging and Productivity in Asian Countries

Report of the APO Research on Aging Society. (09-RP-37-GE-RES-B)

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FOREWORD

The economies of the Asian Productivity Organization (APO) members are diverse, comprising industrialized economies such as Japan and the Republic of Korea, as well as emerging ones such as India and Indonesia. One of the pressing issues facing the more developed APO economies is that of an aging population, which affects productivity and economic policy formulation.

The APO initiated the Research on Aging Society project in September 2009 to investigate, articulate, and present demographic trends of aging societies in the APO countries where this trend is most prevalent. To meet this objective, the APO assembled a team of researchers from the Republic of China, Japan, the Republic of Korea, Singapore, and the United States of America to evaluate how increasing life expectancy rates paired with historically low fertility replacement rates influence all participating countries. The group focused particularly on examining policy initiatives to improve access to older workers, and studied stereotypes and attitudes that hinder the employment of the elderly.

As productivity is the key focus of this research, it took into account supply and demand factors, policy recommendations, and best practices of all countries facing similar trends with rapidly aging workforces due to population aging, advances in health care, the aging baby boom populations, and declining fertility rates.

In addition, the group discussed generational trends and how older and younger workers with different skill sets, educational levels, and training can work to continue to promote a sense of mutual respect. Although retirement age and policies, such as mandatory vs. non-mandatory retirement requirements, vary among countries, the group focused on workers nearing retirement as well as those working later in their lives, while considering gender differences and types of work performed.

It is the hope of APO that this research will catalyze new initiatives that will further enhance the human and economic capital of the APO members.

Ryuichiro Yamazaki
Secretary-General
Tokyo
July 2011

CHAPTER 1.

POPULATION AGING AND PRODUCTIVITY IN ASIAN COUNTRIES: A SYNOPSIS

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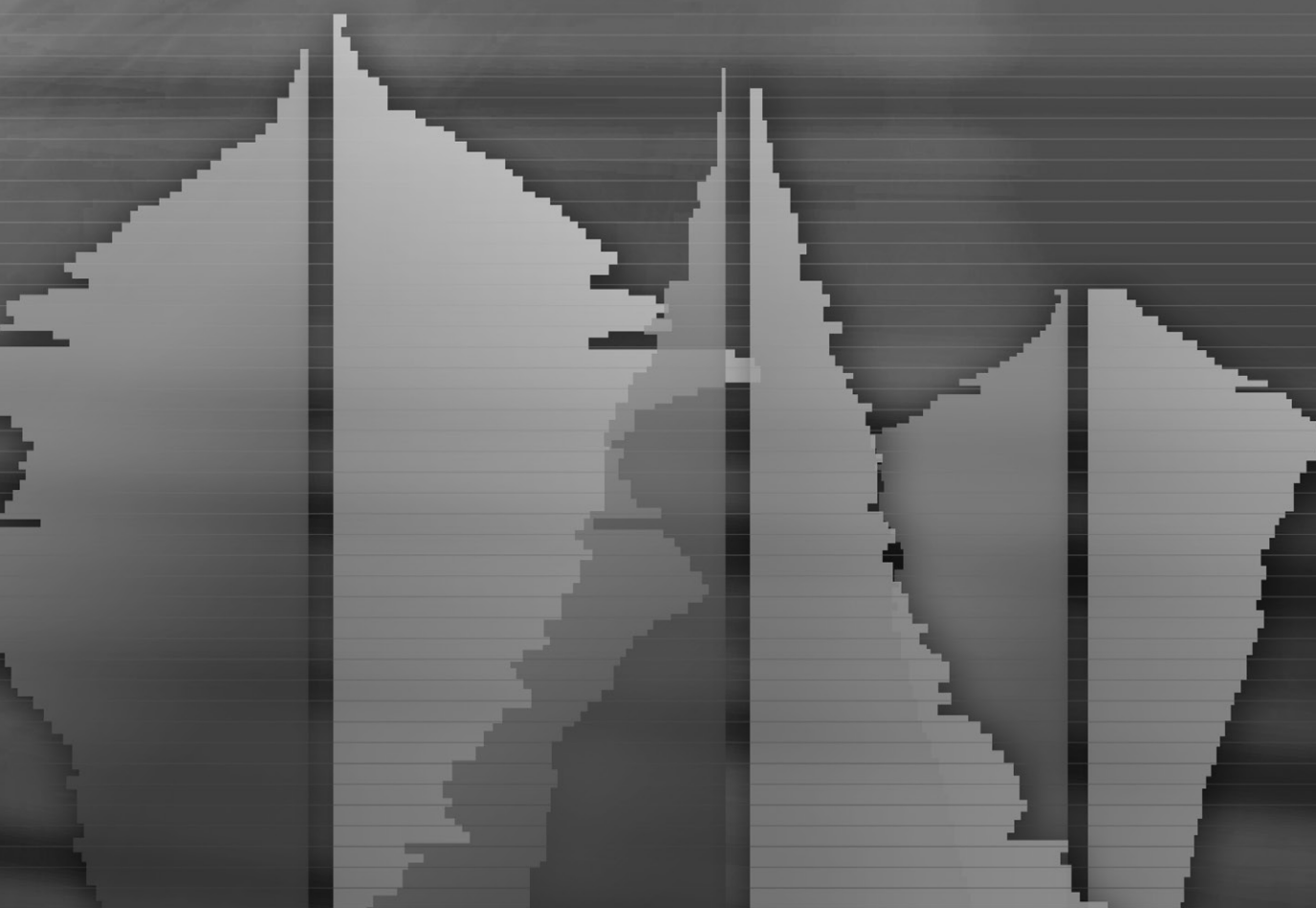

POPULATION AGING AS A GLOBAL ISSUE

Population aging is emerging as a global issue, and Asia, whose population was very young only a few decades ago, has now become part of the issue. More developed countries like Republic of China (ROC), Singapore, and Republic of Korea (ROK) are currently in the stage of aging societies, according to the United Nations (UN) definition, and are expected to become aged societies before 2020, while Japan has already become a hyper-aged society, where the proportion of the old-aged (age 65 and over) is over 20% in 2006.

Does population aging matter? If it does, then why and how does an aging population matter for the economy and society? And how does population aging affect productivity at the micro- and the macro-level? In this chapter I review theoretical debates on the topic and discuss related methodological issues as a synopsis to the country reports included in this volume. Country reports were commissioned from experts in Japan, ROK, Singapore, and ROC, who will describe and discuss country-specific trends and characteristics in population aging and their implications for productivity change in their respective countries. As this international collaborative research project was initiated and sponsored by the Asian Productivity Organization (APO), the impact of population aging on productivity and its implication for economic growth and social well-being will be the main focus of discussion in this volume.

TWO DIMENSIONS OF POPULATION AGING

The current demographic mega-trend of population aging is driven by two main forces. One is increasing life expectancy, and the other is declining fertility. These two forces, it is observed, exert different effects on economic productivity and growth and have different policy implications (OECD, 1998a).

An increase in life expectancy affects the relative share of young and old individuals in the labor force. It does not imply that the absolute number of young individuals declines, and in fact an increase in life expectancy could amount to an increase in labor supply. So it is a positive factor for economic growth although it is a negative factor for social security systems.

On the other hand, a rapid decline in fertility rates lowers not only the relative share of young individuals, but in some countries also the absolute number. So it could be a negative factor for economic growth. And, if productivity declines with age, a decline in quality-adjusted labor supply could result. It is critically connected with productivity changes over the life cycle, especially in the older stages of working life.

Population aging is an outcome of the two demographic forces proceeding at the same time. The net impact of an aging population on the economy is thus subject to empirical observation and evaluation. The (relative) strength of the two forces could be different between countries. In some countries (i.e., Japan, ROK, ROC, and Singapore), decline in fertility is very rapid and more pronounced than in other countries (i.e., the United States). Depending on the relative strength of the two forces, a working policy mix might have to be differently formulated.

DOES POPULATION AGING MATTER?

The answer should be either “Yes” or “No,” but “It depends” is also a valid response to this particular question. Depending on the response adopted, perspectives on the aging population issue diverge into three categories: pessimistic, optimistic, and non-deterministic.

The pessimistic view tends to emphasize the negative impact of an aging

population on the labor market (i.e., shrinking labor force and declining productivity) and the economy (increasing social security expenditures), while the optimistic view points to self-adjustment mechanisms in the economy concerned (e.g., increasing investment in human capital and labor-saving technologies). The non-deterministic view, on the other hand, suggests that the outcome could be either positive or negative depending on how economy and society respond to population aging process. While the majority of scholars hold a pessimistic view, quite a few scholars advance an optimistic view, pointing out the oversimplified pessimism ingrained in the pessimistic views so far advanced (see Gee, 2000). As such, on the effect of population aging on economic growth, there still is more debate than consensus among researchers.

DEFINITION OF THE OLD-AGED

But who are the old-aged anyway? The definition of the old-aged in population statistics also varies country by country. Some countries define age 55 and over as "old-aged," while many others define age 65 and over as "old-aged." Sometimes different definitions are used in population statistics (often 65+) and labor statistics (often 55+). So authors need to properly inform readers in order to avoid any possible confusion regarding the issue.

POPULATION DECREASE: SIZE OR RATE?

Also needing to be considered in discussing population aging and economic growth nexus is the dimension of labor force decrease. That is, population aging could proceed without resulting in a significant decrease in the absolute size of the labor force. The ROK population, for example, is projected to enter the "aged society" stage by around 2020, while the country's population and labor force are expected to still be growing then. The same is true for ROC. Even more critical is the (decreasing) rate of labor force growth where economic growth, in particular, is concerned. Ceteris paribus, slower labor force growth would result in a slowdown in GDP growth.

Population growth, on the other hand, is an outcome of two critical population dynamics: fertility and mortality. Population projections are based mainly on reasonable assumptions about those two variables, although fertility is much more variable then mortality. Fertility variants assumed for population projections are usually set at high, medium, or low levels. Because the medium variant is mostly adopted for international comparisons, country-specific reports on the trends and prospects for population aging should be anchored to the medium variant. In most cases national statistics offices (or population bureaus) release their own independent version of population projections, while the UN's population division has long been issuing integrated population projections for member countries. So country-specific trends and prospects should be presented and discussed, wherever possible, with a clear reference to the data source.

WHY AND HOW DOES POPULATION AGING MATTER?

According to the pessimistic view (Bloom, Canning, and Sevilla, 2001; Borsch-Supan, 2003; OECD, 1998a; World Bank, 1994), population aging driven by low fertility and longer life expectancy has negative effects on economic growth through a set of interrelated mechanisms:

a) decreasing labor input due to low population growth and aging;
b) decreasing rates of savings and capital accumulation due to increasing dependency ratios and the social cost of long-term care[1];
c) decreasing investment in the human capital of the young generation due to increasing

social welfare costs[2];

d) lower level of innovation and renovation and/or dynamics.

The basic concern is that—with fewer workers and more individuals in retirement (i.e., "baby-boomers")—there will be too few people producing the goods and services that the entire population will want to be consuming. The assessment of this development ranges from "crisis" to "much ado about nothing," and some analysts have gone so far as to argue that we can expect material living standards to rise, not fall (Scarth, 2007). These assessments, however, are all based on theoretical assumptions—that is, assumptions about future developments in economies and societies with aging populations. As such, they should be subject to empirical verification through time and history.

POPULATION AND ECONOMIC GROWTH MODEL

In the classic production function (Solow, 1956; Swan, 1956), capital (K), labor (L), and total factor productivity (A) are the main components. And each and every factor matters for economic growth. Population aging could affect not only labor input (L) but also capital deepening (K) and total factor productivity (A) on the societal level. An interesting research question arises here: which factor is most important to mitigate the impact of population aging? The answer to this question should be subject to empirical research, and the result will vary between countries and their production regimes. Cross-country comparisons will be very informative for us to evaluate each country's policy alternatives and measures such as investments in higher education, research and development (R&D), and job training system reform.

QUANTITY VS. QUALITY OF THE LABOR FORCE

An immediate factor mediating the process of population aging and economic outcome is the labor force—in particular, a smaller and older labor force. It is now well recognized that in most advanced economies with aging populations the economic output must be achieved by a smaller and older labor force in the future.

But what is missing in these general perspectives is the quality of the labor force as a critical variable. It could be that improving the quality (productivity) of the labor force (through better education and job training of the succeeding cohorts) more than compensates for the decreasing quantity of the labor force in one way or another. That is to say that the impact of population aging on economic growth can be discussed in a balanced manner only when both sides of labor input—quantity and quality—are properly considered (Borsch-Supan, 2003; Skirbekk, 2004) (see Figure 1-1).

Moreover, if labor force decrease due to population aging will be an unavoidable fate in the future, then policy efforts should be focused more on improving the quality than on improving the quantity of the labor force. In fact Cutler and others (1990), in a cross-national study using panel data, came to the conclusion that decreasing labor force growth results in increasing labor productivity.

DEFINITION OF PRODUCTIVITY

Productivity can be defined and measured at the aggregate (economy-wide), firm, or individual level, and these are different concepts. Thus our discussions on the issue of productivity and aging population could be more productive when we proceed with a clear concept of productivity at the start.

Labor productivity is the amount of goods and services that a laborer produces in a given amount of time. Labor productivity can be measured for a firm, a process, or

a country. The OECD (2002) defines it as "the ratio of a volume measure of output to a volume measure of input." Volume measures of output are normally gross domestic product (GDP) or gross value added (GVA), expressed at constant prices i.e. adjusted for inflation. The three most commonly used measures of input are: hours worked; workforce jobs; and number of people in employment. Measured labor productivity will vary as a function of both other input factors and the efficiency with which the factors of production are used (total factor productivity).

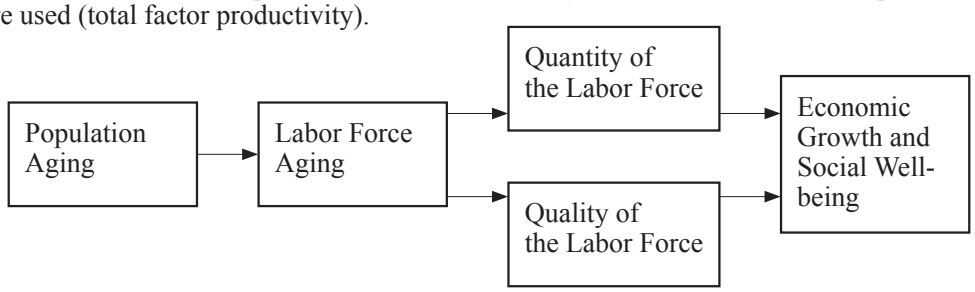

Figure 1-1. The Impact Path of Population Aging on Economic Growth

As such, improving the productivity of the labor force through increased investment in human capital and technology emerges as a leading policy alternative to the possible negative impact of population aging on economic growth and social development. Accordingly policy talks tend to revolve around the question: "How can we effectively improve the productivity of the current and future labor force?" APO members could learn and benefit from the policy programs and experiences of other advanced countries.

It should also be noted that the decreasing size of the labor force could also be compensated for by increasing labor force participation of the old-aged. To that extent, patterns of retirement and labor force participation by the old-aged in each country are also an important policy issue. One successful way of coping with future labor shortages due to population aging will be increasing and extending the labor force participation of the old-aged by reforming pension systems and retirement policies. Past experience of many European countries tells us that labor force participation of the old-aged as well as of married women is responsive to policy interventions and initiatives (Auer and Fortuny, 2000; OECD, 1998a).

CRITICAL VARIABLES AND ASSUMPTIONS

From the conditions and opportunities laid out so far for sustainable growth in aging societies an important point emerges: in assessing and projecting the impact of population aging on economic growth multiple factors should be taken into account. That is, depending on (a) how future fertility changes are assumed, (b) how labor force participation and retirement patterns are presumed, (c) how labor quality changes are predicted, and (d) how total factor productivity is estimated, the projection result could be widely different. But in many cases past studies and reports tend to make assumptions or to be unclear about these points, with which any fruitful debate on the issue of population aging and economic growth should better be concerned.

Fertility

If labor quantity is important in talks about the impact of population aging, then future fertility assumptions are critical. But, as mentioned above, writers need to be explicit about the source of fertility assumptions, whether they are based on UN (population division) or an individual country's projections. The two sources are sometimes

significantly different. The critical variable for the different versions of the population projections is future fertility rates. As these are notoriously hard to predict (Bongaarts, 1998), there can be significant variations in the future fertility rates assumed across projections by the same agency and between projecting agencies.

For example, the UN Population Division (UNPD) issued its 19th Revised World Population Projections in 2004. The Korea National Statistics Office (KNSO) issued its Revised Population Projections in 2005; these are a revised version of the original 2001 Population Projections based on the 2000 Census. The motive of the 2005 revision by KNSO was to reflect the radical drop in fertility rate after 2000 in the new population projection. The revised projection in 2005 assumes TFR at 1.19 for 2005, 1.28 for 2030, and 1.30 for 2050. The target total fertility rate (TFR) for 2050 is adjusted down by 0.10 from the 2001 projection. On the other hand, in the UN projection a much more optimistic picture is drawn by assuming a gradually increasing TFR, from 1.21 in 2005 to 1.56 in 2030 and finally to 1.77 in 2050. The final TFR, 1.77, assumed in the UN projection is a slightly downward adjustment from the rate of 1.80 assumed for the currently below-replacement TFR countries, which takes into account the exceptionally low TFR observed in recent years in the ROK. But still the difference between 1.30 (KNSO) and 1.77 (UN) is a significantly large one for TFR projections.

Labor Force Participation

If labor shortage is more important than labor quantity in talks about the impact of population aging, then, on the supply side, the labor force participation of older workers is a critical variable. Obviously more active participation of older workers could compensate for the negative size effect of population aging on economic growth. In fact, as far as the labor force is concerned, population aging should be an issue not only for the old-aged but also for other age groups in the population, because the demand for and supply of older workers may affect those of other age groups in a unit labor market. As such, theoretical or policy papers addressing the issue could be better organized by including a section that discusses how and to what extent policies encouraging the labor force participation and employment of the old-aged would affect those of other age groups in the labor market.

Labor Productivity

On the other hand, if labor quality is most important, then productivity changes due to population aging are critical. Investment in human capital and job skills should be discussed as an important policy variable. One of the fundamental countermeasures against the adverse effects of aging populations and shrinking labor forces will be improving the productivity of the labor force. Upgrading labor productivity is in fact recommended as an effective alternative to solve the problems of labor shortages and stagnant economic growth. This point is particularly relevant for an economy in which labor input was one of the most important source of fast economic growth in the past, like the ROK (Kim, D. S., 2004). It is also observed that to mitigate the negative impact of population aging on economic growth, upgrading the quality of input (i.e., productivity) is more effective than increasing the quantity of factor input (i.e., workers or labor force) (Skirbekk, 2004).

POPULATION AGING AND PRODUCTIVITY CHANGES

Will population aging decrease or increase productivity? The impact of population aging on productivity is conceived and discussed at both the micro- and the macro-level. At the micro-level, the central issue is how aging affects labor productivity, while at the macro-level, how population aging affects aggregate productivity is the main concern. An aging population could affect economic output not only through changes in labor productivity but also through total factor productivity, which hinges more on the social organization of

production and innovation.

In the view of many economists, an aging population leads to negative consequences in terms of growth of output per capita (i.e., labor productivity). However, as well evidenced in the literature, it is a difficult task to unravel how population aging affects aggregate productivity (Disney, 1996). It is often argued that an aging population is less entrepreneurial and ambitious and may therefore negatively affect economic productivity. On the other hand, labor economists argue that a mature population embodies a greater stock of human capital and experience, measured by employment-specific skills and employment-independent experience. Testing for these competing hypotheses on the individual level is a difficult task since productivity is difficult to measure individually (Skirbekk, 2004; Johnson, 2002).

While the relation between age and individual productivity is less clear-cut, there has been recent evidence of a significant relation between population aging and aggregate productivity. Feyrer (2007) has shown that the age structure of the workforce has a significant impact on aggregate productivity. Lindh and Malmberg (1999) find an effect of the age composition of the labor force on growth of GDP per worker in OECD countries, while Malmberg (1994) finds for Sweden such age structure effects on growth of GDP, on growth of GDP per capita, on growth of TFP (Total Factor Productivity), and on aggregate savings.

The question, "How does aging population negatively affect labor productivity?" that is posed here, leads to the old debate on age–productivity profile and the degree of substitutability between labor of different ages in terms of human capital, skill, and attitude. What is clear is that older workers and younger workers cannot be compared in a one-dimensional manner: the former could be more experienced and skilled while the latter may be equipped with more human capital; the former may have better attitudes toward working and jobs than the latter. Thus, we cannot easily come up with a clear order list that arranges "productivity" along a biological age scale.

At the micro-level the age–productivity profile is known to have an inverted U-shape where the peak is reached at age around 45, in many empirical studies. Then, by definition, workplaces with older employees should be less productive than those with younger employees. But that is not fully supported in past studies and often is deemed to be far from fact. And so any empirical research outcomes and/or local experiences in each country concerned in this report will make valuable contributions to shedding light on the murky mechanism connecting population aging and productivity.

POLICY CONCERNS: DEMAND AND SUPPLY SIDES OF THE LABOR MARKET

In many countries with aging populations, policy concerns for the quantity of the labor force tend to precede concerns for the quality. However, the effectiveness of supply-side measures—i.e., increasing the incentive for older workers to actively participate in the labor market—is always conditioned by market demand. If enough decent jobs are not offered to old-aged job seekers, then supply-side measures will not be very effective. And in actuality demand-side conditions could be more serious than supply-side issues in many countries, where job opportunities for older workers are quite limited. So any fruitful discussions of the issue—population aging and labor shortage—should properly address and emphasize both supply- and demand-side issues and conditions (Fürnkranz-Prskawetz and Fent, 2004).

On the demand side, retirement policies and practices at the firm level are an important issue to be discussed for extended employment of older workers. In many countries mandatory retirement at a fixed age is forced at the firm level, and older workers are forced to quit their main jobs even when they are still healthy and productive. In those countries reforming the retirement system should be listed as one of the important policy

initiatives for sustainable economic growth in the era of population aging (OECD, 1998b).

While retirement policies constitute a "push" factor for non-employment of old-aged workers, pension systems and policies are a "pull" factor. It is well observed, especially in advanced European welfare countries, that more generous pension benefits tend to pull old-aged workers out of employment even before normal retirement age (Auer and Fortuny, 2000). How and to what extent pension systems in respective countries affect workers' retirement choices is thus an important research topic to be explored. While European welfare countries provide generous pension benefits to retirees, the same is often not the case in many Asian countries, whose pension systems are not fully mature or do not provide proper levels of retirement income security. Thus the maturity and generosity of pension systems need to be taken into account when we discuss the labor force participation and retirement patterns of the old-aged in each APO member.

NORMAL VS. EFFECTIVE RETIREMENT AGE

While the formal retirement age is normally linked to a country's pension system, effective retirement age is dependent on an individual's choice of whether to retire before or after the normal retirement age. Since older workers will represent a greater share of the workforce over the coming decades, changes in retirement behavior will have a larger impact on aggregate labor supply. For example, a continued trend towards early retirement, as observed in many European countries, would exacerbate the impact of population aging on the labor market and the economy. If, on the other hand, older workers do not imitate their predecessors and instead choose to work longer, this may significantly mitigate the effects of population aging.

There is a significant difference in effective retirement ages between countries, and the main sources of such differences are retirement incentives or disincentives embedded in pension policies and labor market institutions. An important research question that emerges, then, is how and to what extent older workers' retirement behavior in Asian countries differs from that in European countries, and how those differences help each country to cope with the negative impact of population aging on economic growth.

On the other hand, the transition towards retirement can occur in many different ways and at different ages. Some individuals exit the labor market from a full-time job and retire permanently. Others retire more gradually, first moving from full-time to part-time employment or from wage employment to self-employment before fully retiring. To examine the degree of pressure that the aging population may exert on the labor market, we need to look at long-term trends in labor force participation and retirement patterns of older workers in each APO member.

Based on the observations described so far, we can conceptualize the path of interacting influence between factors that impinge on employment and retirement of the old-aged as follows (Figure 1-2). Within this conceptual framework, we can effectively delineate the limits and opportunities which each country faces while pursuing a policy of "keeping the old-aged at work" in the face of population decline and labor force aging.

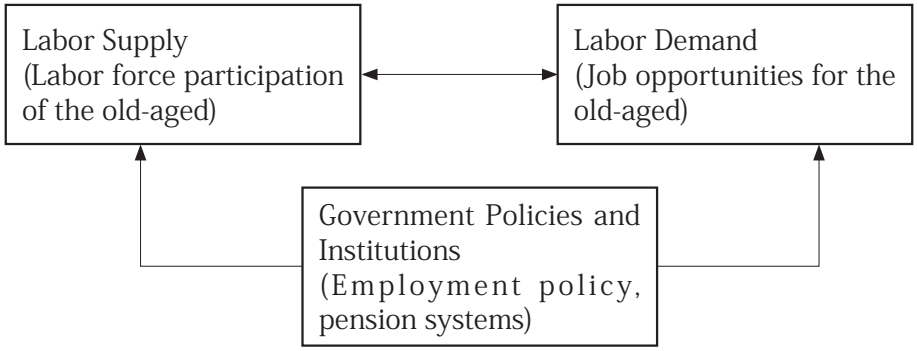

Figure 1-2. Conceptual Framework for Employment of the Old-Aged

TOPICS TO BE COVERED IN THE COUNTRY REPORTS

Specifically, in this international collaborative research project, experts are commissioned to identify and examine: i) key issues and challenges arising from rapidly aging population and societies in APO members (Japan, ROK, ROC, and Singapore), ii) labor market issues related to an aging work force, from both the supply and demand sides, iii) public policies and their impact on the participation and employment of the old-aged, and iv) productivity issues in the context of aging populations and decling workforces.

To accomplish the research mission, each country report will cover the following topics as conditions permit:

1) show long-term trends (from approximately 1960–2009) and prospects (from approximately 2010–2050) for population and workforce aging in each member;
2) discuss related labor market issues and challenges, if any, from both the supply and demand side;
3) introduce relevant retirement policies and regulations and discuss how they affect continued employment and active status of the old-aged in each country;
4) introduce any survey results that show worker motivation of the old-aged,;
5) identify workforce needs of industries and/or sectors facing the highest levels of challenge due to population aging;
6) introduce and evaluate public policies and measures related to population aging and their impact on the employment of the old-aged in each member;
7) address and discuss productivity issues and challenges in the context of aging populations and workforces;
8) introduce and discuss public policies and measures aimed at maintaining and enhancing the productivity of an aging workforce (such as targeted job training and/or lifelong learning programs and policy incentives) in each member.

Each chapter in this volume is an outcome of each expert's endeavor to cover the suggested topics as they are relevant to each country's situation and context. Using these streamlined facts and discussions, we could compare and contrast the situations in which the respective countries are positioned more effectively and deepen our understanding of the main topic: the productivity issues and challenges facing aging societies in Asia.

NOTES

[1] But in the early stage of population aging, the total dependency ratio could be decreasing if the force of lower fertility is larger than that of mortality because the youth dependency ratio will rapidly decrease in that case, while the old-age dependency ratio is gradually increasing (e.g., ROK).

[2] But on the other hand, Scarth (2002), for example, asserts that that population aging could lead to productivity growth by motivating "increased" investment in human capital as labor becomes a relatively scarce production factor.

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CHAPTER 2.

PRODUCTIVE CHALLENGES AND OPPORTUNITIES IN WORK AND RETIREMENT: BACKGROUND FROM THE USA

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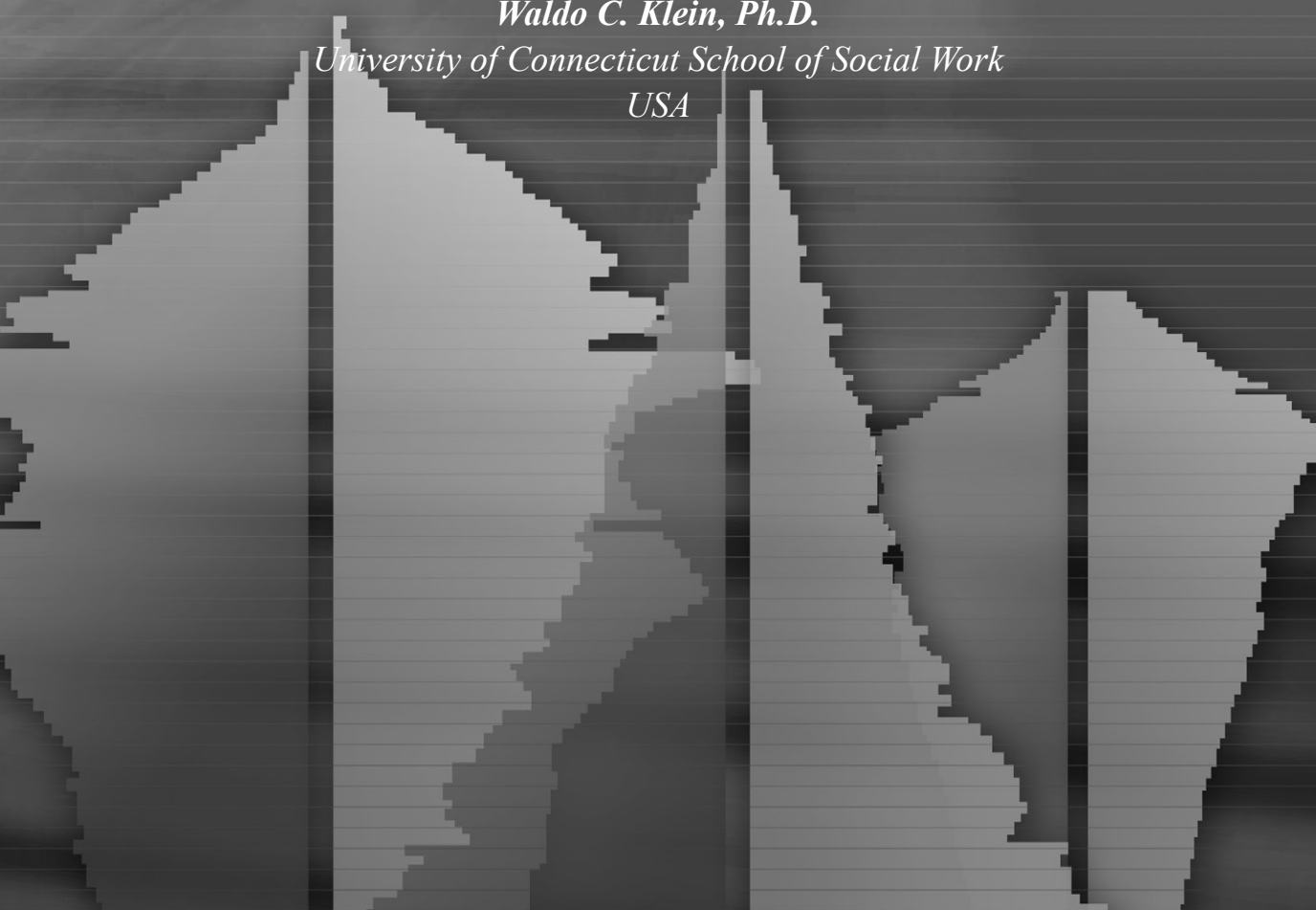

INTRODUCTION

Increased human longevity will impact every aspect of existence throughout the planet (Dasai, 1999). On the one hand, we ponder the impressive achievement of global aging; on the other we must also assess the practical realities of how an older world merits considerations related to a restructuring of the workforce, the perspective of work, reformulating social insurance programs as well as public and private pensions, and the societal and personal forces (economic, psychological, physical, spiritual) that shape how our societies view and respond to older age. Those who study global aging and productivity commonly cite the challenges and opportunities related to the promise and pressures of an aging society (GAO, 20007; Bluestone, Montgomery, and Owen, 1982).

Among those challenges faced in the United States are concerns about the demographic changes that portend a shortage of replacement workers along with a burgeoning population of "unproductive" retirees, the changing nature of pension coverage among American workers, the health care of an aging society, and anticipated economic growth—or stagnation. Opportunities that may be emerging include a fundamental shift in the very nature of retirement, a growing embracing of the notion of civic engagement, and an older population that brings heretofore unknown health, energy, and vitality to its senior years. Old age must come to be thought of as a phase in individual human development rather than an end point to a long life.

GLOBAL DEMOGRAPHICS

Human aging is an issue in every country around the world. While patterns and rates differ among countries that are earlier or later in their developmental processes, the sheer fact of population aging is undeniable. The median age has increased worldwide: for more developed regions from 28.6 in 1950 to 36.8 in 1998, with projections to 45.6 in 2050; and in less developed regions from 21.3 in 1950 to 23.9 in 1998 to a projected median age of 36.7 in 2050. North America, Europe, and Asia respectively were 29.8, 29.2, and 21.9 in 1950 and are projected to be 42.1, 47.4, and 39.3 in 2050 (UN Population Division, World Population Projection: 1998 Revision). About a half billion of the earth's inhabitants were 65 and older in 2006. By 2030, the number is expected to reach one billion, or 1 in 8 of the globe's occupants (Senior Stats, 2007). These changes will be more dramatic in developing regions and more moderate in regions that are already more developed. Developing countries' older populations are expected to increase by 140% by 2030. Globally, the fastest growing segment of older persons are those over the age of 85, and the number of those living to be 100 is dramatically increasing. By 2050, there will be more than 2 million centenarians, mostly women, with nearly 300,000 in the United States alone. Japan, a mega-aging country, expects the largest proportion of centenarians, 2.6 per thousand, at 272,000. Finland, Italy, Norway, Singapore, and Sweden will have slightly below two per one thousand people (http://www.un.org/NewLinks/older/99/older.htm).

US DEMOGRAPHICS

"Older person" is operationalized differently by country and by the literature, often referencing those over the age of 55; yet for this paper, older persons will be those over the age of 65 since 65 has historically been the age to collect full retirement benefits under Social Security (Old Age Survivors Disability Insurance) in the United States. Although the Social Security amendments of 1983 have already raised the age for future cohorts to collect full benefits to 67 years, those currently retiring have been influenced by the current policy and a full Social Security retirement age of 65 years.

The United States is not yet facing the pace of aging which many of the Asian Productivity Organization (APO) members, such as Japan, ROK, Singapore, and ROC already face. Nonetheless, persons living over the age of sixty in the US have tripled since 1900 (Friedland and Summer, 1999), and between 2005 and 2030 the number of adults aged 65 and older will almost double, from 37 million to over 70 million, accounting for an increase from 12% of the US population to almost 20 %. This trend of population aging largely rests on two forces, increased life expectancy and fertility rate patterns.

Life expectancy for those living in the United States increased dramatically during the 20th century. In 1900, life expectancy was approximately 47 years, with a modest difference of two years between men and women. It is now at an all-time high, with women living to an average of 81 years and men to nearly 76 years (Packer-Pope, 2009). Notably, life expectancy *at age 65* is now nearly 85 years for women and almost 80 years for men. Life expectancy is expected to increase further with improvements in health and reductions in disease across multiple categories. The oldest-old, those 85 and above, are the fastest growing segment of the population over 65. These gains reflect significant health and sanitation advances during the early decades of the century that resulted in decreased infant and maternal mortality. Being spared an early death from these causes, many of these individuals have lived to advanced ages. By the latter decades of the century, medical advances became increasingly focused on causes of death more common to later years—notably cancer and heart disease—that served the purpose of again extending normative life expectancy.

Fertility patterns represent the other primary causal factor in the United States's aging. Again, as with the two distinct health-care advances described above, two distinct fertility patterns have converged to dynamically contribute to population aging. First, following World War II the United States (as well as a number of other countries) experienced a postwar increase in the birth rate. However, in the United States this "blip" was an 18-year explosion—the post WWII "baby boom" of 78 million people—fueled by a variety of pro-family social policies as well as the natural postwar increase. The second pattern evident in US fertility was the marked decrease in family size among these baby boomers. This "birth dearth" has been somewhat offset by contemporary immigration patterns and a higher fertility rate among several more recent immigrant groups. The resulting fertility replacement rate stands at 2.1.

These two factors—changes in life expectancy and changes in fertility—have operated in different directions with respect to the nation's population structure. The first has increased the raw number of older adults, while the second has relatively decreased the number of younger people. Of course, the net of these two changes has been to dramatically increase the proportion of older persons.

THE WORKFORCE AND CHANGING PERSPECTIVES ON WORK AND RETIREMENT

The Workforce

Overall, the workforce has more than doubled in the past 50 years, from 62 million in 1950 to 141 million in 2000. By 2050, the labor force is projected to reach approximately 194.8 million. Older cohorts are expected to make up a larger proportion of the future labor force, with those 55 years and older growing from 13% in 2000 to (with modest projections) at 19% by 2050 (AARP, 2005), and more robust percentages projected at 23% (Purcell, 2000). Older workers, those between 65 and 74, will account for approximately 9 million (Purcell, 2000). Simultaneously, the labor force will become more diverse, with larger proportions of women and minorities.

Visions of the baby boomers retiring *en masse* at ever-younger ages have raised the specter of serious shortages in the labor market. "Today, many analysts conclude that if huge numbers of Baby Boomers adopt the Golden Years retirement ethic, we'll be on the road to social collapse" (Freedman, 2007, p. 55). The "birth dearth" following the baby boom further fuels these concerns. A near-term shortfall of 10 million workers has been estimated in the United States labor market as a result of the smaller number of workers available to replace retirees (Dennis, 2006). The experiential knowledge collectively held by these retiring workers may be even more difficult to replace.

Toossi (2002) investigated labor force changes in her article, "A Century of Change: the U.S. Labor Force, 1950–2050." Currently, about one-fifth of the workforce is over the age of 65 (Health and Retirement Study, 2000). Today's workforce is older, more diversified, and made up of increasing numbers of women. Overall, the labor force participation rate (LFPR) is increasing for those 55 and older. The increase is largely driven by women participating at higher rates. Rates for men aged 55–64 are flattening (2007), but increasing for both males and females over the age of 65.

The LFPR between 1950–1985 for men 65+ fell from 46% to about 16% (Purcell, 2000). However, after reaching a low in 1985, the labor force participation of adults age 55 and older increased by 2.2 million people by the end of the century, and the number of workers age 65 and older had increased by nearly one million (Rix, 1999). Four of every five boomers indicate they expect to work in "retirement" (AARP, 1998). The profile among the working-age population is already shifting toward a greater number of older workers. Clearly such labor force participation patterns would operate to ameliorate anticipations of dire labor shortages.

Changing Perspectives on Retirement

In the United States the contemporary notion of retirement evolved in the 20th century. Previously, a relatively short life expectancy and a lack of available alternative economic support systems (i.e., non-employment income) combined to require most people to work as long as they were physically able. Although it exceeded the life expectancy by more than 20 years, the average age of "retirement" in 1900 was 70 (Institute for Research on Women and Gender, 2002). With only about 3% of the population reaching the age of 65 in 1900, the experience of retirement was relatively uncommon. Although the specific labor roles of older adults may have changed to reflect their changing abilities, most continued to be productive for as long as they were able.

In the early 20th century, demographic and social dynamics shaped retirement as an emergent social institution. First, advances in health and increases in longevity swelled the number of older adults. Second, incremental expansion of pension coverage grew with unionization during the century's early decades. During the Great Depression of the 1930s job shortages created the need to "remove" older workers from paid employment and, coupled with the growing acceptance of pensions, culminated in passage of the Social

Security Act of 1935. With this act, the idea of retirement was institutionalized for most working Americans. Although current tensions exist between the ideas of "defined benefit" and "defined contribution" pension programs, the availability of employment pensions in addition to Social Security has generally increased over the decades. Institutionalized retirement represents the collective societal response to changing individual and group interests and needs.

By the end of the 20th century, retirement was a fully institutionalized life stage for most American workers. Retirement became an earned benefit in reward for years of service to a particular organization, to an industry, or, more generally, to the productive society. Most importantly, in this transition, older workers in the final decades of the 20th century were exposed to models of retirement that offered leisure, freedom, and flexibility for the "final years" of life. While some of these models were structured around a primary component of leisure or recreation, perhaps the majority incorporated significant themes of productive engagement.

Trends in workforce participation among those over the age of 65 have likewise changed over the past half-century, and will continue to change with the upcoming century. An influential factor in retirement security rests in whether retirees participate in defined benefit pension (DBP) plans or defined contribution pension (DCP) plans. The availability of retirement funds to older workers contributes to the "pull factor" of retirement. Due to under-funding and greater-than-anticipated growth in the number of retirees, many DBP plans are now struggling or have gone bankrupt. This has spurred the growth of DCP plans that essentially shift all of the investment risk to the individual retiree.

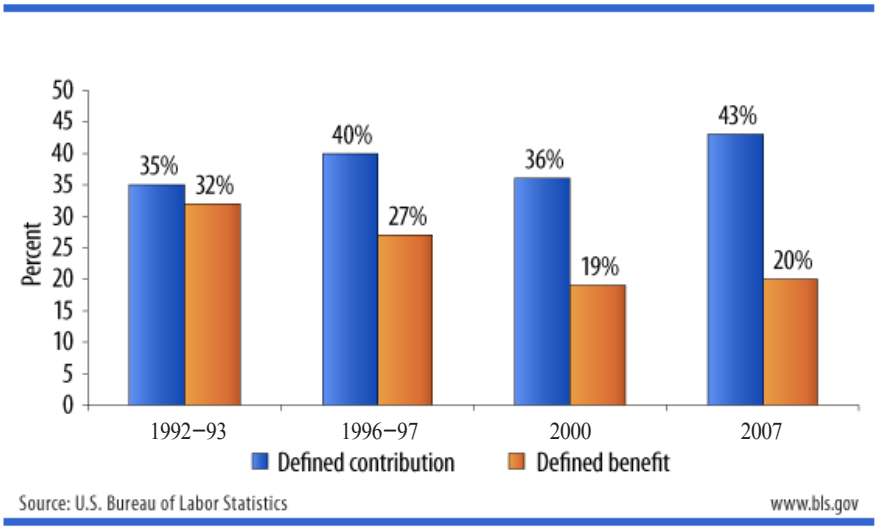

Figure 2-1. Participation in Defined Contribution and Defined Benefit Retirement Plans, 1992–2007

It must be recognized that retirement is an evolving social institution. Descriptions available in the literature of the social changes wrought by the aging of the baby boom range from dire—"wrenching economic and social costs that will accompany this demographic transformation" (Peterson, 1999, 1)—to more moderate (e.g., Dychtwald and Flower, 1989), and even to the manageably optimistic (e.g., Quandagno, 1996). Baby boomers' aging heralds many changes. However, reducing these social dynamics to the narrow dimension of population distribution denies the larger reality. The fact is that retirement patterns—or, more accurately, the collective decisions to continue, reduce,

or cease formal labor market involvement—reflect changes in demographics, as well as personal health, functional ability, flexibility in the structure of labor markets, individual economic need, personal interests and rewards, and myriad other factors. Anticipating these multiple dynamics will contribute to an expanded capacity to respond to the changing social reality.

Retirement traditionally reflects two characteristics: non-participation in the paid labor force; and receipt of income from pensions, Social Security, or other retirement plans (Purcell, 2000). However, the presence of these two characteristics varies across individual circumstances. Not all persons who receive retirement benefits have left the paid labor force as some may have "retired" from one position that pays benefits (i.e., military, industry) and continued with other employment. Others may not have paid into an organized retirement system and hence may not receive retirement benefits although they are no longer engaged in the paid labor market (i.e., undocumented workers, self-employed workers who do not follow federal regulations to contribute to Social Security). In part as a consequence of these differences, "retirement age" refers to the age one becomes *eligible* for benefits, not necessarily to whether one is employed or receives benefits.

Thus, "retirement" does not need to be all or nothing (Atchley, 1982). It can be marked by gradual phasing out of full- or part-time employment. Flexibility and choice in the workforce are constructs viewed as preferable by many older workers and retirees. Though retirement is often thought of as separation from paid employment at the end of a career, the actual and anticipated involvement of contemporary "retirees" in paid employment roles challenges the very meaning of the concept. Increasingly individuals experience two or even three "retirements."

As indicated previously, about 80% of baby boomers anticipate remaining in the labor market in some form after "retirement." Among the reasons for continued employment are the need for a continued income, maintaining employer-supported health benefits, opportunities to work in different and perhaps socially rewarding environments, or simply because significant personal satisfaction is derived from employment. The National Institute of Aging's Health and Retirement Study (NIA, 2007) cites the top reasons that people work after traditional retirement age: needing the money (61%); desire to stay mentally active (54%); and needing the health benefits (52%). Clearly, these categories are not mutually exclusive. Beyond reasons for continued employment that are "worker-initiated," others reflect an increasing awareness by employers of the need to create more attractive circumstances to retain older workers. This would include offering additional benefits and, perhaps most significantly, an altered work schedule or pace. All of these reasons, however, highlight yet another evolving aspect of "retirement": it is a process rather than an event.

Actuarially older adults now reach the "traditional" retirement age of 65 years with a lengthy period of life yet ahead. *On average* men and women can expect about 15 and 20 years of continued life after traditional retirement age respectively, and for those in reasonably good health and who maintain a healthy lifestyle, living well beyond these norms is a reasonable expectation. With the increased health and functional ability that boomers are likely to bring into their older adulthood, they are certainly *capable* of continued labor market participation. The transition from heavy manufacturing to a service-oriented economy further supports this extended labor capacity. Thus, any understanding of retirement as a social phenomenon must reflect the reality that retirement has evolved as a *life stage* that may unfold over decades in an individual's life. "It's not a transitional phase. It's not a bridge between the end of real work and the beginning of real leisure. It's not leftover time to be killed. It's an entire stage of life and work—a destination and a category of work unto itself" (Freedman, 2007, p. 148).

The fact that "retirees" are continuing active involvement in the formal labor market has potentially huge implications for the concerns about labor shortages resulting

from boomers' retirement. The labor performed by the older workers may or may not be the "same old job" that was performed earlier; many retirees report seeking employment opportunities that offer more flexibility than was common during their earlier careers, more telecommuting, less stress, and more personal satisfaction (Klein, 2007). In order for these aspirations to be realized, it is essential that the American employment market must also transition to reflect increasing opportunities that respond to the expressed interests of older adults including phased retirements, job sharing, job changing, part-time employment, and other yet-to-be-expressed desires.

PRODUCTIVE CHALLENGES IN THE UNITED STATES

To say that there are a great many challenges with respect to the aging of American society is to state the obvious. What has been less obvious to many observers is that a number of the prevailing challenges represent opportunities for positive action. This is the situation that we suggest with the phrase "productive challenges." We highlight some of the challenges that we believe offer the greatest opportunities for forward motion.

Workforce Challenges

The United States workforce has been projected to experience a shortage of 10 million workers in the immediate future as a result of a large cohort of retirees coupled with a very small cohort of replacement workers (Dennis, 2006). Beyond the obvious implications of such a shortage in the available workforce, the loss of experience and corporate memory caused by the departure of senior employees can be dramatic. The acquired skills gained through long experience cannot easily be replaced. Both of these dimensions represent very serious challenges that must be addressed.

A number of "opportunities" present themselves to mitigate labor shortages. First, and unfortunately, the US economy has slowed dramatically since the times during the last decade that many of the projections of labor shortages were made. With a current national unemployment rate of just under 10%, the specter of labor shortages does not seem so threatening. That said, neither unemployment nor labor needs are uniformly spread across the economy. In any case, the needs created by the demographic reality are likely to remain after economic recovery arrives.

Opportunities to soften the "brain drain" that will accompany the large-scale retirement of baby boomers depend more fully on the collective impact of a great many individual decisions to withdraw from the labor force. As discussed above, however, the majority of baby boomers report anticipating continued employment in "retirement." Already, major employers are offering a variety of incentives intended to retain older workers—in full-time capacities as well as in a range of alternate patterns. Employers have offered more scheduling flexibility, less travel, redefinition of job responsibilities, and financial incentives to hold on to the labor, experience, and contacts of older workers (Dennis, 2005)—and older workers are responding with continued labor force participation.

The shift from DB to DC pension plans has also shaped retirement decisions. Many have bemoaned the unquestionable reality that this change shifts the risk for future funding to the individual employee; if investments fail to perform as hoped, accumulated value will simply not reach the anticipated levels. However, a positive influence of the change to defined contribution pensions is the degree to which it encourages continued employment and heightens the individual motivation to save for retirement through direct contribution plans. With employees shouldering the risk for future benefits, an additional year or more in the full-time labor force adds insurance to the viability of longer-term financial security in retirement (Mermin, Johnson, and Murphy, 2007). Similarly, the opportunity to continue in the labor market in a part-time or part-year arrangement

augments income so as to limit potential withdrawals from one's retirement savings.

Finally, government policies can have a profound impact on the decision to retire. Already the increase in Social Security full retirement age to 67 years has changed individuals' retirement plans. Just as the original legislation institutionalized 65 years as "retirement age," the new standard will shift the retirement age and in doing so, maintain an older workforce. Changes in the tax implications for Social Security benefits, and the Social Security treatment of employment income, have done likewise. Perhaps no other identifiable challenge offers as many opportunities at the governmental, employer, and employee levels for a positive outcome.

Dependency Ratio

While much has been said about the senior dependency ratio—which will rise to one to three by 2050 (AARP, 2005)—it is vitally important to realize that the senior dependency ratio is but one component of a society's overall dependency ratio including both older adults as well as children. In 2010 in the United States, the total dependency ratio was lower than it was in 1950, and it is projected to remain below the 1965 total dependency ratio until 2080 (AARP, 2005). Further, the embedded notion of any dependency ratio is that a certain group of people, generally defined by age, is literally dependent on another group. It assumes that this latter group is productive while the dependent group is not. Clearly the assumption that those between the age of 18 and 64 are all employed and older adults are not is fallacious with respect to both groups. As has been discussed in this paper, labor market participation by older adults is increasing, and most boomers anticipate employment in retirement. To the degree that older adults address some or all of their economic needs through individual or employer funded pensions, their "dependency" on the society will not be as great. In fact, older adults are increasingly identified as a population of consumers to whom products and services can be successfully marketed. Thus, while concerns over the dependency ratio reflect a legitimate aspect of our social reality, such concerns create the opportunity to look more carefully at productivity and consumption. Policies that encourage continued labor market participation by older adults as well as increased financial planning for retirement both mitigate these concerns.

ECONOMIC GROWTH

Economic growth is evaluated by increased employment or more effective work done (KILM, 2009). Unfortunately, a series of negative economic shocks have slowed economic growth in the United States and in much of the rest of the world. Most economic forecasts do not point toward a return to robust economic growth in the US in the near future. A part of the challenge in an aging society, then, rests on how well the society can prepare for, and promote, healthy and productive aging, not simply in struggling to balance the equation of how the growing needs of an aging population can be met. Growth of productivity among older workers cannot be accomplished if early retirement is the normative culture in the United States and elsewhere (AKL, 2005). Not only will it be necessary to reconsider patterns in retirement, savings, and work programs and to highlight best practices, but it also will be necessary to reconsider theoretical and real perspectives of the contributions of older members of society. Although several realities raise concerns with a burgeoning aging society, there are opportunities within a population that has significant advantages with health, education, and income.

Social Security

Some 161 million people receive benefits from the Old Age, Survivors and Disability Insurance. Over the 75 years of its existence, Social Security has become the most universal social support program in the United States. In more recent years, considerable debate has raged over the solvency of Social Security, in spite of the fact that the Social Security trust fund is currently solvent and, with modest increases in contribution levels, can be maintained well into the future (Quandango, 1996). Bipartisan adjustments were last made in 1983; the time to revisit solvency issues is at hand but appears to be stalled with a bitter partisan divide. With passing time, the necessity of adjustments will become more acute and the magnitude of the necessary adjustments will increase. We believe that the opportunity embedded in this challenge is to bring bipartisanship to the fore in dialoguing about the realistic needs facing this popular bedrock program.

Scheduled levels of Social Security benefits and other income influence one's choice in the timing of initiating Social Security retirement benefits (Bernard, 2009). Generally, a delay in collecting benefits until one reaches full retirement age results in increased benefits; though many people cannot or choose not to wait, resulting in a lifelong reduction in annual benefits. This often results in those beneficiaries who are most in need of increased benefits receiving the most severely reduced benefits. Gender-based earnings differentials across one's working lifetime also result in women receiving smaller benefit levels on average. There is evidence that boomers are working to improve income security in later years by planning to delay their retirement decision until the age of full benefits or beyond (Munnell, Sass, and Aubry, 2006).

An individual's health, cultural norms, industrial trends and regulations, as well as how one views retirement, work, and leisure all impact retirement decisions. Motivations to retire and seek benefits under Social Security are important factors to understand in responding to the demographic reality faced in the United States. Clearly, delayed retirements would lead to less dependence on federal programs with a larger supply of experienced workers in the workforce (Purcell, 2000).

Personal Savings and Planning

Although retirement needs represent the biggest reason for savings accumulation among Americans, both the participation in and rate of saving is lower than optimal. Approximately 70% of workers (and/or their spouses) have saved for retirement. This rate grew during the latter part of the 1990s but declined to its current level with the economic downturn of 2001 (ERBI, 2006). It is disappointing that the anticipated need for funds among most individuals appears to be somewhat conservative. Many people simply guess at what future needs might be. Unfortunately, failure to knowledgably plan does not bode well for sustained and comfortable retirement living.

Quick fixes to poor savings habits are unlikely. Even if everyone was to immediately start saving aggressively, it takes a number of years for significant accumulation to take place. In a positive vein, today's mature workers between the ages of 45 and 64 enjoy higher education and income than earlier cohorts and should be able to save more for their own retirement (Rogers, Toder, and Jones, 2000). Further, older adults have been found to increase savings in retirement as a result of reduced consumption, a desire to leave dependents an estate, and recognition of unanticipated needs, leading to a disinclination to spend savings too quickly (AARP, 2005).

In addition to personal commitment to realistic retirement savings goals, a variety of government and workplace policies can encourage more appropriate savings. There is evidence that when workers are provided with tax-qualified workplace retirement savings vehicles, they participate. The greater the percentage of employees who participate in their employer's 401(k) or other tax-qualified plans, the smaller the percentage who may be

unprepared for retirement (Munnell, Sass, and Aubry, 2006). Additionally, when employees are required to "opt out" of 401 (k) plans (rather than "opting in"), participation increases substantially. Employer plans that allow workers to automatically divert a portion of any salary increase to a 401 (k) plan increase savings as well (AARP, 2005). These are rather simple employer initiatives that are potentially powerful influences in increasing retirement savings. For individuals, it is known that those with higher education and improved health status—as is the case among baby boomers—are more likely to report savings (ERBI, 2006). Finally, as health care is recognized as a major demand on American's financial resources, the opportunity to create meaningful health care reform may also contribute to an increase in retirement savings.

Health Care

The growth of spending on health care and prescription drugs in particular represents the biggest challenge to managing the costs of an aging society. From 1970 to 2003 health care costs increased 22-fold (AARP, 2005). While much of the public focus is on the rise in Medicare and Medicaid costs, the reality is that health care costs are spiraling upward in all sectors of health care—not just in these public programs. Spiraling health care costs take a toll reflected in personal bankruptcies as well as governmental deficits. With that in mind, the solution to the challenge of health care would appear to lie in the very structure of our health care system rather than narrowly focusing on the public programs that provide health care to older adults and long-term care to people more generally (i.e., Medicare and Medicaid).

If American health care reform can create a system in which people's health can be better protected without facing catastrophic costs, older adults and all Americans will be better positioned for their retirement in a number of ways. Improved health will reduce the financial demand faced by many Americans that restricts their ability to contribute to meaningful retirement savings. Increased health will enhance the likelihood of remaining in the labor market, increasing the potential for retirement savings and decreasing the demand on retirement financial resources—public or private. Finally, improved health will contribute to a reduction in demand for health care services among the older population. Meaningfully reformed health care is undoubtedly among the most significant "productive challenges" facing America today.

PRODUCTIVE OPPORTUNITIES IN THE UNITED STATES

Increased Engagement in the Labor Market

The history of "retirement" as a social institution in the United States is fairly short. During its short life, retirement has been in an almost constant state of evolution; that evolution continues. As such, the view of retirement as being a period of idyllic leisure is more an image than a reality. The age of retirement has been increasing and a large majority of current mature workers—those between 45 and 64 years of age—report anticipating working in some form during "retirement" (AARP, 2002). To fully realize the potential of this opportunity, however, employers need to prepare to be competitive in attracting older workers. Research with older workers and recent retirees confirmed an abiding interest in employment opportunities that offer flexibility, including reduced time commitments (by the day, week, or year), as well as opportunities to experience new work roles and to "re-invent" one's self (Klein, 2007).

Accommodating such interests seems a small "price" to pay for securing a labor force that is stable and experienced. To the degree that current demographic trends portend a significant shortage in labor, attracting and retaining older workers would be a prudent strategy. Capitalizing on the existing trend toward continued labor market participation, employers should seek to offer alternate workplace arrangements to expand the older

workforce. When such arrangements have been implemented, results in terms of worker productivity and satisfaction have both been positive (Hubbard, 2009).

Increased Voluntarism/Civic Engagement

America has always been a nation of volunteers. As the baby boom ages, there are hopeful signs that what has been a robust pattern of voluntary engagement to address a wide range of needs may in fact be poised to grow appreciably. The Gerontological Society of America, through a grant from The Atlantic Philanthropies, created a five-year initiative to stimulate research in support of policies and programs encouraging civic and social engagement among older adults. The initiative produced five priority issues. These included: modernizing the nation's senior and civic service programs, removing barriers to community civic engagement, linking adult volunteers with appropriate and rewarding civic engagement opportunities, improving public awareness of civic service as a critical component of health aging and communities, and encouraging companies to support and promote volunteering by employees and retirees (GSA, 2005). Such priority areas are in concert with a healthy and productive society.

Productivity is an essential construct to consider in facing these challenges and seizing the opportunities that present themselves in an aging society—indeed, in an aging world. Definitions of productivity range from ecological to economic to agricultural, but essentially relate to the ratio of outputs to inputs (Phang, 2010). However, as conceptions of "work" and productive engagement change in an aging society, it is incumbent that our understanding of "productivity" must also change. Productivity cannot be measured solely in terms of economic output.

Morrow-Howell and associates (2001) have defined productivity in later life to include the paid and unpaid production of goods and services including volunteering, engaging in civic affairs, and caregiving to dependent relatives, as well as working in the labor force. A quick online search of *civic engagement* provides countless links to sites dedicated to and reporting on growing trends for people to become involved in community matters—especially as they age. In some ways, this volunteer force of the future will differ from what might have been typical with previous cohorts. Most notably, the size of the aging baby boom generation will alone create demands for a new infrastructure supporting volunteerism (Johnson, 2003). While it has long been recognized that the most important predictor to volunteering is being asked to volunteer, among non-volunteering mature workers a large majority reports not having been asked.

To fully realize the value of this potential force, Bridgeland, Putnam, and Wofford (2008) have proposed a number of initiatives. They invite a *call to service* by local, state, and federal leaders. California already has established a cabinet-level position for service. Further, Bridgeland and associates suggest a *civic highway* for older Americans that will facilitate connections with volunteer opportunities, second encore careers, and other mechanisms to deepen relationship to communities. On the private side, they recommend a national summit to explore the creative opportunities that corporations have for expanding civic engagement among older Americans.

SOCIETAL AND PERSONAL FORCES SHAPING SOCIETY'S VIEW OF OLD AGE

Implications: An Eye to the Future

As we have argued in this paper, the aging of the United States creates both productive challenges and fresh opportunities to respond. It is important to recognize both; neither naively suggesting that the United States might just "grow" its way into economic solvency, nor offering the prediction of a catastrophic systemic failure is helpful to progress. *Demography Is Not Destiny* (Frieland and Summer, 1999) puts the projections of the aging population in a reasonable perspective. The report discusses the practicality

that some projections lean heavily toward the dark prospect of an overuse of Medicare, a failure of Social Security, and opportunities for older persons diminishing. In contrast, older workers can add to the potential workforce, instead of creating unused productive capacity (Gruber and Wise, 2007). It is imperative that policy makers, employers, and older adults themselves seize the many opportunities that are available to shape a future that supports the full living of all citizens.

Recommendations

There is no doubt that population aging raises enormous economic, social, and political considerations, not the least of which is the necessity to promote the rights, opportunities, and productivity of older workers in a society. In fact, Peterson (2002) suggests that the rights and opportunities of older workers may be one of the most challenging policy issues of the 21st century. The upcoming years will determine how the labor market entices, engages, and retains older workers, requiring a philosophical shift in viewing the employment of older workers. The perception that older workers are more expensive and time-consuming is false, and capturing the unused labor force capacity of older adults is something that is of global interest (Gruber and Wise, 2007).

The philosophical change required is reflected in the notion of "decent work." Decent work is defined by the International Labour Organization (2010) as *productive work for women and men in conditions of freedom, equity, security and human dignity, bringing together multiple dimensions and goals in an integrated manner* (ILO, 2010, n.p). The multiple dimensions of decent work are reflected in the four pillars of the ILO's Decent Work Agenda and include social protection, promoting employment creation and enterprise, increasing standards and rights at work, and provision of governance and social dialogue. To implement these ideals, it is recommended that policy initiatives are implemented and tracked to

- Counter age discrimination in the workplace by reviewing default retirement policies and perspectives to assure older workers are not forced out of employment;
- Increase private/public partnerships and intergenerational opportunities;
- Institute strategies to increase financial literacy from grade school on;
- Promote employment creation and enterprise

While these initiatives address larger issues than the employment of older workers, the benefits that would manifest in all aspects of the labor market would support older persons along with other workers across the life course. In seizing upon opportunities for decent work, older adults would be reducing their own need to actualize claims on either public or private retirement provisions. At the same time, older workers would be contributing to a strengthened retirement system through their own increased potential for retirement savings, as well as contributions to the larger society through payroll taxes. For younger workers, decent work enhances the capacity to actively participate in personal retirement savings as well as that of the larger society. While the value of increased financial literacy will benefit all, it can be especially productive for younger workers who have the advantage of a longer planning horizon for their own retirement. The creation of intergenerational partnerships as a part of a "decent work" agenda can help to mitigate the loss of the massive experiential knowledge base and corporate memory held by a large cohort of retiring workers. In short, the international agenda of the ILO can produce noteworthy gains in the United States.

Similarly, the Sloan Center on Aging and Work at Boston College (2009) has identified eight priorities in the framework of work experiences. Efforts to implement these principles in the US labor market will enhance the likelihood that older workers will welcome the opportunity to continue productive engagement as well as being welcomed in the larger economy. Reflecting the interests of both employers and employees, these

priorities include:

1. Workplace Flexibility
2. Opportunities for Meaningful Work
3. Wellness, Health, and Safety Protections
4. Culture of Respect, Inclusion and Equity
5. Provisions for Employment Security and Predictabilities
6. Promotion of Constructive Relationships at the Workplace
7. Fair, Attractive, and Competitive Compensation and Benefits
8. Opportunities for Development, Learning, and Advancement

These two sets of recommendations provide a solid beginning agenda to address the issues emerging from an aging workforce. They address concerns raised nearly 30 years ago by Bluestone, Montgomery, and Owen (1982) of how to keep older workers engaged and productive incorporating realities of supply and demand. They address the added hardship of age-based discrimination unquestionably faced by older people in a youth-obsessed culture (Allen, Cherry, and Palmore, 2009; Igaski, n.d.), which can become more perilous in the labor force. In the final analysis, a workplace that is more equitable for all will facilitate a productive response to the aging workforce that is currently emerging in the United States.

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CHAPTER 3.

ISSUES AND CHALLENGES FACING THE PRODUCTIVITY OF AGING SOCIETIES: THE CASE OF THE REPUBLIC OF KOREA

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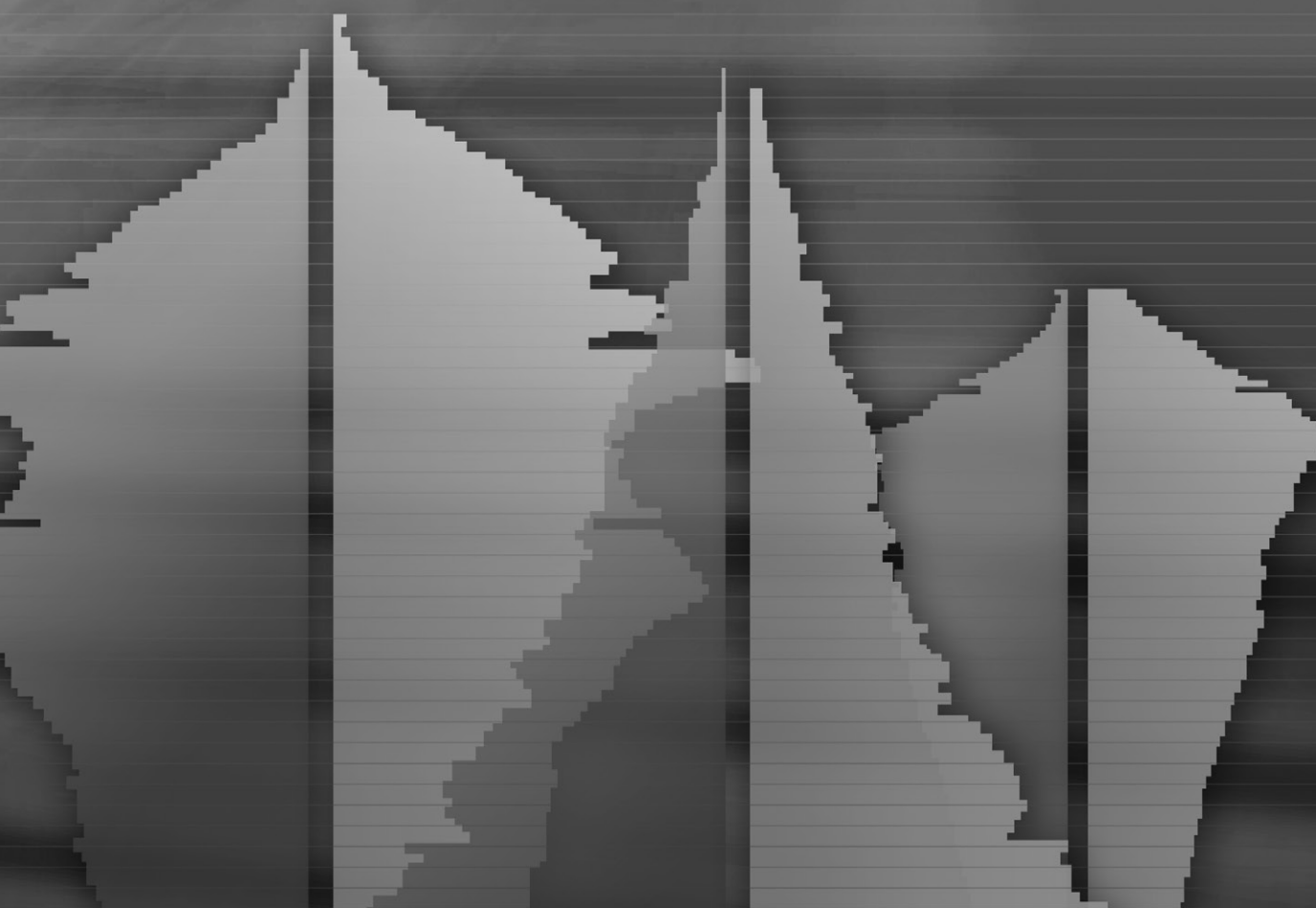


INTRODUCTION

Population aging is a global issue, and the ROK, along with other more developed countries in Asia (Japan, Singapore, and ROC), is now placed at the heart of the issue. Much like its economic development, demographic transition in the ROK followed a very steep and condensed path in the past, and the same pattern of rapid change is expected to turn "one of the youngest populations out of the more-or-less developed economies" into one of "the oldest" by the middle of the century (OECD, 2002).

Table 3-1 shows an international comparison of transitions from an aging to an aged society: time and speed. The ROK joined the ranks of "aging" societies in 2000 and is expected to become an "aged" society by 2018. And, according to the Korea National Statistical Office (KNSO)'s projections (2006), the ROK will become a "hyper-aged" society by 2025, only a quarter century since it joined the "aging" population circle in 2000.

Table 3-1. Transition from Aging to Aged to Hyper-Aged Society: International Comparison

	Year reached			Duration (years)	
	7%	14%	20%	7%→14%	14%→20%
ROK	2000	2018	2026	18	8
ROC	1993	2017	2025	24	8
Japan	1970	1994	2006	24	12
France	1864	1979	2020	115	41
Germany	1932	1972	2012	40	40
UK	1929	1976	2021	47	45
Italy	1927	1988	2007	61	19

Sources: ILO (2007), Statistics annual report; KNSO (2006).

The rapid demographic transition to an aged society is expected to have serious economic and social repercussions. Population aging is normally expected to affect economic growth and social welfare negatively (Auerbach, Hagemann, and Nicolette, 1989; Borsch-Supan, 2002; Visco, 2002; World Bank, 1994). As the proportion of the old (or retired) is ever increasing and that of the young (the workforce) among the population is ever decreasing, it will induce, first of all, changes in the quantity and quality of the labor force and its productivity in a negative way if other conditions remain the same. As the old-age dependency ratio increases, it will put severe pressure on public finances for old-age income and health security.

As such, social policy concerns and responses are focused on how to mitigate the possible negative impact of population aging on economic growth and social well-being. This issue could be properly addressed by examining, first of all, the past trends and future prospects of population and labor force aging and its implications for productivity and economic growth, and then by developing necessary policy measures and initiatives that could work effectively within the country-specific context of the labor market and social institutions.

In this report, I describe and discuss the major patterns of past demographic transitions and future prospects, drawing on a series of population projections made by the KNSO and/or by the UN[1]. Then I discuss the expected impact of population and labor force aging on society along with its implications for productivity change and economic growth in the future. In addition, the paper addresses necessary policy measures and initiatives that

might mitigate the possible adverse impact of population aging in order to keep the ROK's economic growth and social well-being on a sustainable path.

TRENDS AND PROSPECTS OF POPULATION AGING IN THE ROK

A Century of Demographic Transition in the ROK: 1950-2050

Table 3-2 presents the long-term trend in ROK population change through major indicators: population size, growth rate, total fertility, and life expectancy for a century, 1950–2050. During the second half of the 20th century, Korean population grew from about 19 million in 1950 to about 47 million in 2000, an increase of more than 2.5 times. The population growth rate peaked at 3.38% in 1955–1960, when the Korean baby-boom generation was born, and then started to decline rapidly to fall below "replacement level" already in the early 1970s (0.99). It is expected to turn to negative growth in around 2020 if current low fertility continues.

The demographic transition in the ROK can be characterized by a rapid decline in fertility and a consistent and gradual decrease in mortality. Rapid economic development and an active population policy to reduce birth rates have resulted in a dramatic decline in fertility rates during the early stage of the demographic transition. The total fertility rate had fallen from over 4.5 in the early 1970s to around 1.2 in 2002, and to 1.09 in 2007, well below the replacement level. The low total fertility rate in the ROK is projected by the KNSO to continue over the coming decades. The decline in fertility was also accompanied by a sharp decline in the mortality rate, resulting in an almost 20-year rise in life expectancy since 1970 for both men and women, one of the largest increases in the OECD area. Life expectancy at birth estimated for the period 2005–2010 is 79.4, while it was only 57.6 in 1965–1970, which is around a 22-year rise in about a 40-year time span. Life expectancy at age 60—the eligibility age for a "full" public pension—is currently 17.5 years for men and 22 years for women. By 2050, it is projected that life expectancy at birth will rise further, to around 80 years for men and to just over 86 years for women (KNSO, 2006).

Table 3-2. ROK Population Change: Trends and Prospects, 1950–2050

Year	Population (in 1,000)	Population growth	Total fertility	Life expectancy
1950–1955	21,168	1.94	5.05	47.9
1955–1960	25,068	3.38	6.33	52.6
1960–1965	28,390	2.49	5.63	55.2
1965–1970	31,440	2.04	4.71	57.6
1970–1975	34,721	1.99	4.28	60.9
1975–1980	37,459	1.52	2.92	64.6
1980–1985	40,505	1.56	2.23	66.8
1985–1990	42,983	1.19	1.60	69.8
1990–1995	44,651	0.76	1.70	72.7
1995–2000	46,429	0.78	1.51	74.4
2000–2005	47,566	0.48	1.22	77.5
2005–2010	48,501	0.39	1.22	79.4
2010–2015	49,153	0.27	1.26	80.0

2015–2020	49,475	0.13	1.29	80.6
2020–2025	49,484	0.00	1.34	81.2
2025–2030	49,146	-0.14	1.39	81.7
2030–2035	48,422	-0.30	1.44	82.3
2035–2040	47,296	-0.47	1.49	82.8
2040–2045	45,813	-0.64	1.54	83.3
2045–2050	44,077	-0.77	1.59	83.8

Source: UN Population Division, World Population Database (ROK), the 2009 revision at http://www.un.org/esa/population

For more information, Table 3-3 shows major indicators of population aging in the ROK forabout a century. In 1960, only 2.9% of the ROK population was aged 65 or over. At the turn of the 21st century, the proportion of the elderly has risen to 7.2%. But changes in the age structure of the population will be even more drastic over the coming decades. According to the KNSO (2006)'s projections, by 2019, the number of the elderly in the ROK will exceed the number of those under age 15 for the first time in history. By the year 2050, 38.2% of the ROK population will be aged 65 or over. The population in this age group will increase by 350%—from 3.4 million in 2000 to 15.3 million in 2050.

On the other hand, the share of the productive population (aged 15–64) was around 55% during the early stage of economic development and began increasing in the early 1970s to reach above 70% in 2000. As the entire population grew, so did the size of the population in the productive age group. This was made possible by the birth of a large baby-boom cohort at the onset of the demographic transition (1955–1960) and to their successive "offspring cohort" also being large in size. What is fortunate for the ROK is that the proportion of productive population (aged 15–64) is still large (around 73% as of 2010) and will stay at that level up to year 2020 while the population aging process goes on. This is a good indicator for economic growth potential and public finances for social security.

Table 3-3. Changing Age Composition of the Republic of Korean Population, 1950–2050

	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
0–14	42.4	40.8	42.1	34.0	25.6	21.1	16.2	12.4	11.4	11.8	8.9
15–64	55.0	54.8	54.6	62.2	69.3	71.7	72.9	72.0	64.4	58.0	53.0
65+	2.9	3.1	3.3	3.8	5.1	7.2	11.0	15.6	24.3	30.2	38.2
Median age	19.1	19.0	18.5	21.8	27.0	31.8	38.0	43.8	49.0	53.4	56.7
Old-age dependency	5.1	5.3	5.7	6.1	7.4	10.1	15.0	21.7	37.7	56.7	72.0

Source: KNSO (2006).

"Demographic Dividend" and Economic Growth

"Demographic dividend" refers to the opportunity for economic growth that a demographic transition offers to developing countries through changes in the age structure of the population in consideration, especially through the proportion of the workforce rising. According to Bloom, Canning, and Sevilla (2001), while population growth has a negative effect on per capita income growth, this effect is counteracted by the positive effect from growth in the share of the population that is economically active.

The demographic changes and economic growth in the ROK epitomize the "demographic dividend" as conceptualized by Bloom et al. (2001), which is characterized by a decline initially in the mortality rate followed by a decline in the fertility rate, albeit after a time interval. The decline in the mortality and the fertility rates brings about changes in the age distribution of the population, notably a growing proportion of the working-age population (15–64 years) for a significant time period, contributing to steady

growth in GDP. During the "demographic dividend" period, the growth rate of the labor force tends to significantly exceed that of the total population. The economic benefits during the demographic dividend phase include increased labor supply, savings, and human capital and, therefore, increased resources for production and distribution (Bloom, Canning, and Finlay, 2010; Rajagopalan, 2008)[2].

At the start of the half-century-long (1950–2000) demographic transition, the baby-boom generation was born during the 1950s (1955–1963). According to the ROK's national statistical records, the size of the baby-boom cohort was around 8 million or so. A long-term view of ROK population changes, either observed or expected for the period between the mid-20th century and the mid-21st century, clearly show that the baby-boom cohort has been and will continue to be a major factor and a variable that has shaped and will continue to shape the demography of the ROK population. In other words, the baby-boom cohort and its offspring "echo generation" constitute the "population momentum" that is working its way through the demographic history of the ROK population for almost a century. The phenomenon of rapidly declining fertility and then a rapidly aging population in an amazingly short time period revolves around the baby-boom cohort—their demographics, culture and attitudes, behavior, and ultimately, retirement from the labor market.

The baby-boom generation has been a "demographic dividend" to the ROK's economy and society. Born at the onset of the first demographic transition, they grew up to become a young and growing labor force, which, in turn, contributed to a "miracle" economic growth during the latter part of the 20th century. However, as the large baby-boom generation is now getting old and its life-expectancy is ever-increasing, the age structure of the ROK population is expected to be changed radically in the coming decades.

As such, the "demographic dividend" that benefited the ROK economy in the past generation is expected to turn into a "demographic debt," claiming its credit back on the same population but of a different generation. Out of this demographic process of switching from dividend to debt emerges a serious issue of intergenerational equity in terms of economic growth and welfare distribution. According to population projections and public finance accounting, the large number of old retirees from the baby-boom generation, through pension and health costs, will exert heavy pressure on the economy and the social security system, which will be run by the relatively small labor force of the next generation in the first part of the 21st century. Thus many concerned demographers and policy analysts are rightly pointing out that the transition period of a decade or so between the two centuries will be the most critical period in which appropriate and timely policy intervention and preparation can be effectively adopted and applied to keep the nation's economic growth and social welfare on a healthy and sustainable path (Phang, 2008).

Finally, the demographic transition may have a significant effect on investment in human capital. The long life expectancy granted by decreasing mortality and improved health causes parents to invest more in their children's development as the premium value of higher education increases and lasts longer. With fewer children, it becomes easier to devote more time and money to each child. And as a result, the labor force becomes more productive, promoting higher wages and a better standard of living.

In sum, population growth and changing age structure as a result of the demographic transition seem to have successfully worked as a population dividend to spur economic growth in ROK during the second half of the 20th century.

But here emerges an important question for future development. What will happen to the population and labor force in the coming decades of the 21st century? According to long-term projections, the ROK population will continue growing until at least 2020 (the exact peak depending on the future fertility rates) and then turn into negative growth.

Even though total fertility rates have already been reduced to a far-below-replacement level (1.19 in 2007), the population will continue growing until 2020, when the baby-boom and its "echo generation" will have passed through their reproductive age period. As Bloom et al. (2001) have rightly informed us, the population momentum created by the baby-boom cohort at the beginning of the demographic transition worked its way through the population for the latter part of the 20th century and will continue until 2020, totaling about 70 years in length. But after 2020 the ROK population is projected to age at full speed until it reaches the hyper-aged stage by 2025.

THE IMPACT OF AGING POPULATION ON FUTURE ECONOMIC GROWTH

The ROK economy enjoyed a very high growth rate of about 7% during the last two decades. Such a high growth was mainly based on growth in the quantity and quality of labor and capital accumulation, and not as much on total productivity growth (Hahn, Choi, Kim, and Lim, 2002). It has also been noted that there was a considerable drop in the growth rate between the 1980s and 1990s (from 8.29% to 5.97%) and that most of the drop was due to a decreasing rate of (working) population growth. These observations point to the possible negative effect of the rapidly aging population and labor force on economic growth during the coming decades.

As already noted in the OECD study (OECD, 2002), one of the economic consequences of such a slowdown in labor force growth, followed by a contraction after 2020, is likely to be slower growth in output. According to the OECD projections, under the baseline scenario, real GDP growth could decline by about 1.5 percentage points per annum over the next 50 years, relative to the growth rates experienced over the period 1980–2000. Further, the decline under the "declining" and "maximum" scenarios would be around 1.75 and 1.25 percentage points, respectively. It is also noted in balance that the impact of slower or negative labor force growth on economic growth could be offset by either a rise in total factor productivity growth or faster growth in capital inputs. However, in the case of the ROK, productivity growth is expected to be slower, not faster, in the future, as it had been relatively high and is likely to converge to the lower level observed in other advanced economies (Choi, Moon, Shin, and Hahn, 2003; Moon, 2006).

On the effect of population aging on economic growth, however, there is still more debate than consensus among researchers. While the majority of scholars hold a pessimistic view, quite a few advance an optimistic view, pointing out the over-simplifications ingrained in the pessimistic views so far advanced (see Gee, 2000). According to the pessimistic view (Bloom et al., 2001; Borsch-Supan, 2002; OECD, 1998; World Bank, 1994), population aging driven by low fertility and longer life expectancy has negative effects on economic growth through a set of inter-related mechanisms: (1) decreasing labor input due to low population growth and aging; (2) decreasing rates of savings and capital accumulation due to rising dependency ratios and the costs of prolonged care of the old-aged; (3) decreasing investment in the human capital of the young generation due to increasing social welfare costs; and (4) increasing foreign debt due to falling interest rates.

On the positive side, in contrast, scholars point to the positive effects of population aging and low growth, such as development of labor-saving technology and increased investment in human capital, which is posited to compensate for the lower growth due to quantitative decreases in labor input. Scarth (2002), for example, asserts that population aging could lead to productivity growth by motivating increased investment in human capital as labor becomes a relatively scare production factor. Cutler, Poterba, Scheiner, and Summers (1990)'s cross-national comparative study using panel data concluded that decreasing labor force growth results in increasing labor productivity.

But many researchers (Choi et al., 2003; Kim, 2004; Lee and Hong, 2000) in the ROK describe more negative scenarios. Based on the popular pessimistic view, Kim (2004) predicts that population aging in the ROK will result in a substantial decrease in future economic growth rate due to decreased savings rate and slower-to-negative labor force growth. It is predicted the potential economic growth rate will decline from 8.8% (in 2000) to 4.1% in 2010, 3.1% in 2020, 2.2% in 2030, 1.3% in 2040, and finally 1.0% in 2050. It is also projected that ROK labor productivity, which had been around 2–4% in the last three decades, could move into a zero growth rate territory as it is harnessed by an aging population and its negative side effects (Kim, 2004). According to long-term projections by ROK scholars (Choi et al., 2003; Kim, 2004), labor productivity growth in the ROK, on the other hand, is predicted to be around 0.2–0.4% per annum, a much lower level compared to the average 2.0–4.0% during the last 30 years.

Taking into account future fertility changes and total factor productivity assumption (TFP=2.0), Kim (2004) presents his simulation results for future economic growth rate as shown in Table 3-4. It is predicted that the potential economic growth rate of the ROK will be around 5.1% on average until 2010, 4.8% during the 2010s, 3.5% during the 2020s, 2.2% during the 2030s, and 1.5% during the 2040s. on the assumption that total fertility rate will bounce up to the 1.4 level and total factor productivity will grow by 2% annually.

Table 3-4. Projected Economic Growth Rate Based on Assumed Total Fertility Rates, 2000–2050

	TFR=1.00	TFR=1.19	TFR=1.40	TFR=1.60	TFR=1.80	TFR=2.10
2000–2010	5.23	5.23	5.23	5.23	5.22	5.22
2010–2020	4.96	4.94	4.92	4.92	4.90	4.87
2020–2030	3.65	3.62	3.59	3.56	3.54	3.49
2030–2040	2.25	2.27	2.26	2.25	2.24	2.24
2040-2050	1.26	1.39	1.49	1.53	1.61	1.75

Source: Kim (2004), Table 2-10.

Thus, one of the fundamental countermeasures against the adverse effects of aging population and shrinking labor force will be improving the productivity of the labor force. Increasing labor productivity is in fact recommended as an effective policy alternative to solve the problem of labor shortages and stagnant economic growth. If consistent growth in labor productivity and increasing labor force participation among women could be achieved in the coming decades, then, the negative effect of population aging could be greatly mitigated (Choi et al., 2003; Phang, Shin, D.K., Kim, and Shin, H.G., 2005).

In assessing the impact of population aging on economic growth, however, multiple factors should be taken into account in a more complicated way that is the case in many past studies. Depending on how future fertility changes are assumed, how labor quality changes are predicted, and how total factor productivity is estimated, the projection result could be wildly different.

The OECD and other ROK scholars' simulation studies imply that over the next few decades the size of the ROK labor force could vary in considerable magnitude depending not only on future fertility rates but also on the age-specific participation rates, which would be greatly influenced, in turn, by institutional settings and policy initiatives. This also suggests that the future size of the active labor force will depend to a great extent on the participation and/or activation rates of the old-aged and women, given that the participation rate of the core labor force (aged 20–64) may stay at much the same level at any given point in time.

In other words, there is considerable scope for changes in policy and institutional

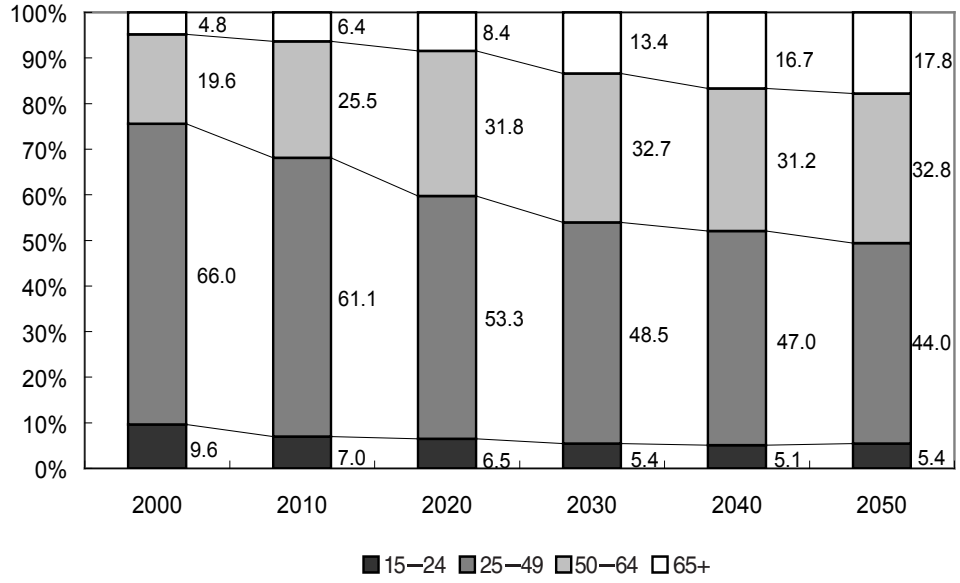
arrangements that affect participation rates to influence the rate at which labor force growth slows down over the next few decades. In all of the OECD scenarios, labor force growth turns negative after 2020, but again the magnitude of this drop will be larger if participation rates for the older population fall and smaller if there is a general rise in participation rates. If participation rates for the older population decline in response to, say, public pensions becoming more extensively available, then, all else constant, annual labor force growth over the next two decades will be even lower at only 0.5%. Under the maximum scenario this rises to 1.35% (OECD, 2002).

POPULATION AGING AND LABOR FORCE CHANGES

Changing Age Composition of the Labor Force

What changes can then be induced from the future labor force as the population rapidly ages? The impact of rapid aging on the labor force will be mainly through changes in its size and age composition: labor force growth will be slow and then negative, and its age composition will get steadily older.

Figure 3-1 presents the changing age composition of the labor force projected for the 2000–2050 period by the OECD (2004). As of 2000, less than 25% of the labor force is aged 50 or over. But that figure is expected to rapidly increase: to 31.9% in 2010, 40.2% in 2020, 46.1% in 2020, and ultimately 50.6% in 2050. In contrast, the proportion of the core work force (aged 25–49) will decrease from 66.0% in 2000 to 44.0% in 2050. Along with the population, the labor force will also be rapidly aging in the coming decades.



Sources: For 2000, KNSO, Economically Active Population Survey; and for 2010–2050, OECD projections based on the KNSO's 2001 revised population projections and assuming constant participation rates by sex and 5-year age groups at their 2000 levels.

Figure 3-1. Projected Changing Age Composition of ROK Labor Force, 2000–2050

Future Labor Force Projections

Slower growth and rapid aging of the population will result in decreasing labor force growth. The size of the future labor force will be dependent not only on population growth rate but also on the labor force participation rates of the population. Many of the projections of the future labor force by ROK scholars are limited in that future changes in participation rates are not adequately taken into account. As population aging continues, it is expected that people's labor market behavior will also change in response to changing living standards, the further development of social security programs (especially retirement pensions), increasing educational levels, and decreasing numbers of children in families—which will surely affect the labor force participation behavior of the old-aged and of women. Thus, it is of critical importance from a policy perspective to consider the possible effect of the future labor force participation rates of these groups.

Is this aspect, the OECD (2002)'s study of ROK labor force growth in the future is noteworthy. OECD reports simulation results of the future ROK's labor force growth according to age-specific participation rates. Considering the dependency of the size of the future labor force on future variations in age-specific participation rates, several scenarios have been developed by the OECD study group which make different assumptions about how participation rates will change over the next half century, and their predictions are as follows.

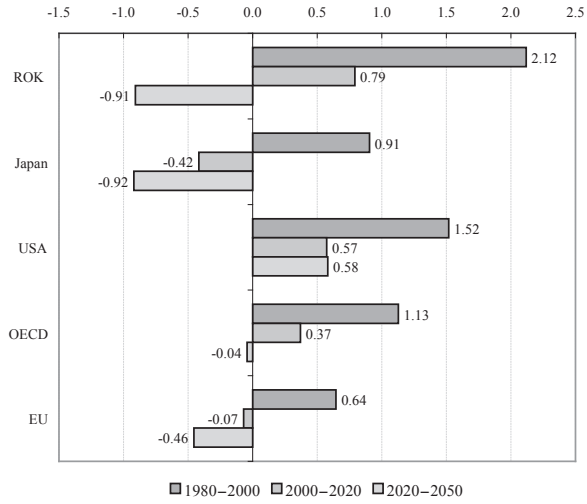
Table 3-5 summarizes the estimated size of the labor force in 2020 and 2050 under different scenarios regarding age- and sex-specific participation rates, while Figure 3-2 graphically shows future growth of the labor force under the three different scenarios. As summarized in Table 3-5, first, in the "constant" scenario—where the age- and sex-specific participation rates remain constant at their current level—the labor force will reach its peak size at 2020 (about 27 million) and then begin to decline to about 20 million in 2050. Second, in the "declining" scenario—where participation rates of the old-aged are assumed to converge to the lower OECD average level as of 2000—the labor force will also reach its peak size in 2020, but at a lower level than in the first scenario (about 24 million), and will subsequently fall to around 16.5 million by 2050. Third, in the "maximum" scenario—where participation rates are assumed to converge to the maximum level among OECD countries over the next decades (that is, with a steep increase in youth and female participation rates), the labor force will peak at a much higher level than in the other two scenarios, reaching 29 million in 2020, and then will decline to 24 million by 2050.

Table 3-5. Estimated Size of the Labor Force in 2020 and 2050 under Different Scenarios

Scenario	Participation rates	Labor force in 2020	Labor force in 2050
"Constant"	Remain constant	27 million	19.5 million
"Declining"	Converge to the lowest OECD	24 million	16.5 million
"Maximum"	Converge to the highest OECD	29 million	24 million

Source: OECD (2002).

Using the same assumptions about participation rates remaining constant at their 2000 levels, these changes in labor force growth can be compared across OECD countries (Figure 3-2). Over the next two decades, labor force growth will still be faster in the ROK than in most other OECD countries. However, the slowdown in growth when compared with the earlier two decades will be more marked (OECD, 2002). Japan and the European Union (EU) may already be experiencing a decline in the absolute size of their labor forces. Over the period 2020–2050, labor force growth will switch sharply into reverse in the ROK, and, along with Japan, the ROK is projected to experience one of the steepest falls in the size of the labor force.



Note: The projections of labor force growth over the period 2000–2050 assume that participation rates by 5-year age groups and gender remain constant at their 2000 levels.

Source: OECD (2004).

Figure 3-2. Labor Force Growth Rates of ROK and Selected OECD Countries, 1980–2050

Labor Force Participation of the Old-Aged

The future size of the labor force will depend not only on demographic changes but also on age-specific participation rates. Particularly significant will be the effect of old-age participation rates, as that age group will be growing significantly in both relative and absolute terms (OECD, 2002).

One of the major challenges faced by the European countries is voluntary early retirement of the old-aged workers in the midst of population aging. Massive early retirement means decreasing the number of contributors to social security and increasing the number of welfare recipients and thus puts unbearable pressure on social security financing (old-age pensions and disability insurance) in most European countries (OECD, 1998, 2000).

But the old-aged in the ROK seem to be willing to work until they are very old. According the KNSO (2008)'s special survey of the old-aged (Table 3-6), about 57% of people aged 55 and over wanted to work, while there is a large difference between men and women (71.8% vs. 44.5%) and between relatively younger (55–64) and older (65–79) cohorts (71.5% vs. 41.7%). But even among the 65–79-year-old group, almost 42% want to work, and the major reason is to earn a living.

Table 3-6. Percentage of the Old-Aged Who Want to Work and Their Reasons, 2008

	Want to work (%)					Do not want to work (%)	Total
	Total	To stay ctive	For living	For health	Other		
All	57.1	19.8	31.2	1.7	6.0	42.9	100.0
Men	71.8	27.7	36.8	2.3	7.4	28.2	100.0
Women	44.5	13.0	26.6	1.2	4.9	55.5	100.0
55–64	71.5	24.6	40.5	1.6	6.3	28.5	100.0
65–79	41.7	14.6	21.4	1.8	3.9	58.3	100.0

Source: KNSO (2008), Supplementary survey of the economically active population (age 55 and over).

How do ROK old-aged participation rates compare with those of other advanced industrial countries? Table 3-7 shows labor force participation rates by age group (25–49 vs. 50–64) and by sex for the ROK and other international groups. The prime-age labor force participation rate of ROK males is slightly lower and that of females is much lower than the average rate of OECD or EU countries. On the other hand, the old-age participation rates for both ROK males and females are slightly or considerably higher than the average rates in OECD or EU countries (with the exception of U.S. females), even though they are much lower than those of Japan.

The data presented indicate that ROK old-aged people tend to remain in the labor market in higher proportions than those of Western industrialized countries, which makes the ROK look more like Japan than EU or OECD countries. This in turn implies a possibility that the future pattern of labor force participation and withdrawal for Korean old-aged could be different from that of advanced Western countries—the secular trend of early voluntary withdrawal from the labour force (Gruber and Wise, 2004).

Table 3-7. Labor Force Participation of the Old-Aged in the ROK and Other Selected Countries, 2008

	M			F			All		
	25-54	55-64	65+	25-54	55-64	65+	25-54	55-64	65+
ROK	90.5	61.8	41.4	62.3	47.9	22.9	76.6	61.8	30.6
Japan	98.3	68.8	29.0	70.3	53.1	13.0	83.4	68.8	20.2
EU	92.4	48.0	6.6	77.4	38.7	2.7	84.9	48.0	4.4
USA	92.4	64.5	20.5	75.8	59.1	13.3	83.1	64.5	16.8
OECD	92.2	56.3	17.0	70.8	46.2	8.2	81.4	56.3	1.2

Source: OECD (2008); Labor force statistics (each country) at http://stats.oecd.org

The high participation rate of the old-aged may be attributable, in part, to one particularity of the ROK labor market: that is, the largest self-employed sector (including agriculture, which accounts for 40%) among OECD countries. Among workers aged 55–64, about 60% of men and also of women are classified as self-employed. And this figure becomes even higher for workers aged 65 and above (77%, 76%). Given that self-employed workers tend to work until they are quite a bit older than do wage workers, this could in part explain the relatively high rate of labor force participation by old-aged Koreans. This relatively high participation rate of the old-aged will help alleviate the negative effect of decreasing labor force on economic growth in the coming decades. Thus one of the most important and challenging policy initiatives is making quality employment opportunities available to older workers so that they can remain active in the labor market until the normal retirement age. In that sense, the quality of employment and working conditions for old-aged workers needs to be improved (Phang et al., 2005).

INSTITUTIONAL BARRIERS TO EMPLOYMENT OF THE OLD-AGED

Mandatory Retirement Policies and Practices

Mandatory retirement is a common practice among ROK firms, and the regulated retirement age is often set at a very low age, well below both the official (pensionable) and effective retirement ages (Phang et al., 2005). Table 3-8 shows the distribution of retirement ages surveyed over firms (with 300 workers or more) and over workers. The most common retirement age is 55, and the average age is 56.7 years. Only around 13% of firms surveyed in 2001 had set their mandatory retirement age at 60 or older. But the survey result reflects only the regulated age at retirement according to employment contracts. The actual age at which employed workers quit their lifetime main jobs for various reasons is estimated to be around 53 (Phang et al., 2005). Thus most ROK wage workers are forced to retire from their

career jobs in their early 50s, and the rest of their work lives tends to be covered by either holding irregular jobs or starting their own businesses to support themselves and their family members until they finally stop working.

Table 3-8. Mandatory Retirement Age in Medium-to-Large Firms in the ROK, 2001

	Percentage of all firms/workers								Average retirement age (years)	
Retirement age	<55	55	56	57	58	59	60	>60	Mean	Median
Firms	0.9	46.4	5.8	11.4	21.2	1.1	10.0	3.2	56.7	56.0
Workers	0.4	45.5	5.0	14.8	24.6	0.8	7.1	1.8	56.6	56.0

Source: Ministry of Labour (2001), Survey of firms (with 300 workers or more).

When do ROK workers finally retire from work? An analysis of ROK panel data (i.e., Korean Labor and Income Panel Study) provides us an effective age at retirement for ROK workers. It is estimated to be 67.3 for male workers and 68.3 for female workers (Phang et al., 2005; see also OECD, 2004). Table 3-9 presents a summary of various retirement ages over the life-course according to various data sources (OECD, 2004; Phang et al., 2005). The data tell us that, on average, ROK workers spend about 14 years in the labor market after they retire from their career jobs before they eventually withdraw from working. The gap between retirement from their main job and retirement from their work life is wide, and in most cases becomes a period for a second work-career. During their second work-career most old-aged workers face a hard side of the labor market: irregular, low-paid, unstable employment or self-employment (Chang, 2003; OECD, 2002). That period is be particularly harsh for the old-aged workers whose work-career is unstable and/or low-paid, because their retirement benefit (allowance) is usually not enough to supplement their second work-career income, if any, and because, when they first retire, they may not be fully qualified for public pension benefit yet.

Table 3-9. Regulated, Actual, and Final Retirement Ages of ROK Workers, 2005

	Actual retirement age (A)	Regulated retirement age (B)	Final retirement age (C)	Second work-career (years) (A-C)	Life expected D	Remaining life after final retirement (D-C)
Total	54.1	56.0	68.1	14.0	79.4	10.7
Male	54.4	56.0	67.3	12.9	75.9	8.6
Female	53.8	56.0	68.3	14.5	82.5	14.2

Sources: OECD (2004), Phang et al. (2005).

In fact, a large proportion of older workers active in the ROK labor market are employed in a “bridge job” that they find before they eventually retire from work. Although some of the workers leaving their lifetime main jobs do actually retire, most of them move into self-employment, which is characterised by low productivity and income (Jones, 2005). Lack of decent job opportunities for older workers is reflected in the large proportion of the irregularly employed in the labor force statistics (Table 3-10). Of the old-aged who are working, the majority are self-employed. In particular, more than two-thirds of workers aged 65 and over are self-employed or unpaid family workers.

Table 3-10. Proportion of Old-Aged Workers by Employment Status and by Sex, 2008 (%)

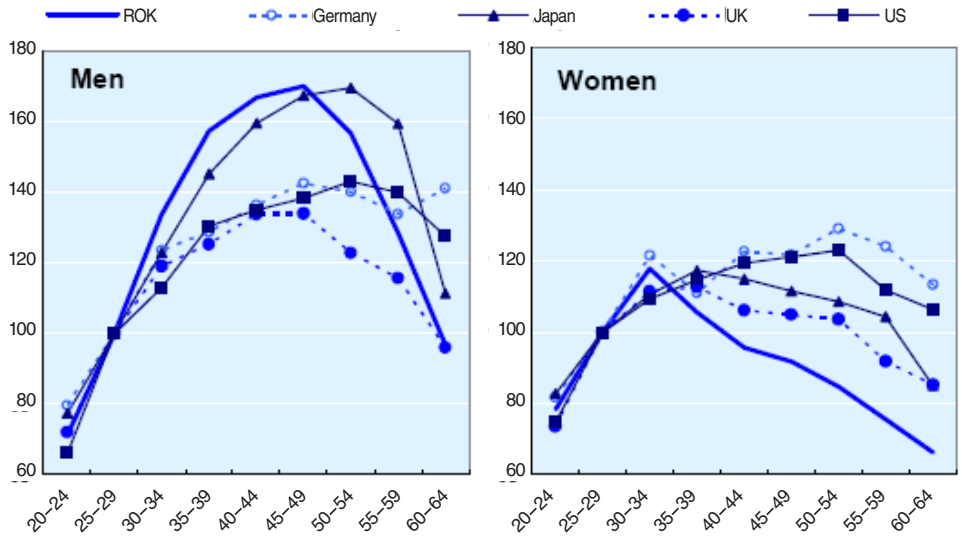
	Male: 55–64	Female: 55–64	Male: >=65	Female: >=65
Employed: Regular	21.6	3.9	6.6	1.0
Employed: Temporary	13.6	19.4	10.7	8.4
Employed: Daily	10.4	16.7	5.8	14.8
Employer	8.7	2.9	4.8	0.6
Self-employed	44.5	26.2	67.4	42.2
Unpaid family worker	1.2	30.8	4.8	33.0

Source: KNSO (2008), Survey of the economically active population: Special supplement.

Seniority Wage and Severance Pay System

In most empirical labor markets, wages tend to rise with age. This may reflect the increasing productivity of workers as they gain more experience. Or wages may increase as the length of service (i.e., seniority) increases regardless of the individual worker's performance. In a labor market where a seniority-based wage system is predominant, wages will eventually rise above a worker's productivity as he/she gets older. Therefore, employers would like to set a mandatory retirement age as part of personnel management (Lazear, 1995).

The seniority-based wage system is an entrenched feature of the ROK labor market, and that explains why most employers do not want to retain older workers beyond a certain age (OECD, 2004). An international comparison of age–wage profiles (Figure 3-3) indicates that wages in the ROK labor market are strongly linked to seniority. That is, wages are rising much more steeply with age (up to 45–49) and then falling much more steeply than in other countries (even Japan). Accordingly the mandatory retirement age is low and workers have to leave their career jobs at around age 55.



Source: OECD (2004).

Figure 3-3. Age Profile of Workers' Wages: ROK and Selected Countries, 2004

Under the Labor Standard Act (now Workers Retirement Income Security Act) all employers are required to set up a firm-based "retirement allowance" scheme and to pay one month's final wagesfor every year of service whenever a worker leaves or retires from the firm voluntarily or involuntarily (Phang, 2002). The severance pay liability on the employer, then, gets larger and larger as a worker's seniority and wages grow. Thus the mandated retirement allowance constitutes a strong disincentive for employers to keep

older workers over a certain age limit. On the other hand, greater market competition and restructuring pressure also discourage employers from hiring workers on permanent contracts or retaining workers for an extended tenure. Thus, on balance, strong seniority-based wages and retirement allowance requirements are considered an obstacle to promoting better employment prospects for older workers in the ROK. The seniority-based wages and retirement allowances that characterize the pay system of the ROK labor market are clearly be an attractive benefit for workers while they are employed. But the irony is that the same benefit grows into a potential cost to workers' employment security as they age.

Institutions and the Culture of Age Discrimination

There also exists a corporate culture of age discrimination (Phang et al., 2005). This can be sensed from employers' decision-making in their hiring and firing practices. The age of a worker is a distinctive attribute on which hiring or firing decision-making is based. Older workers are less likely to be employed and more likely to be laid off. Particularly in decisions concerning induced early retirement and layoffs, age is often the first criterion to be considered in selecting the candidates (Jones, 2005). At the same time, pressure grows on older employees to make way for younger employees in a system where promotion is heavily based on seniority or tenure rather than on performance or competence. These institutions and the culture of age discrimination, then, form an apparent threat to equal employment opportunity for older workers.

POPULATION AGING AND OLD-AGE INCOME SECURITY

Social Costs of Old-Age Income Security Increasing

The projected demographic transition to an aged society will have serious economic and social impacts. Aging populations, above all, will result in constant increases in old-age dependency (Table 3-11). By 2020, old-age dependency will become larger than youth dependency and then will rapidly increase to 62.5 in 2050. An ever-increasing proportion of old-aged people and the resulting rise in old-age dependency will create, among other things, a severe strain on public finances. According to an OECD (2009) estimate, total public expenditures associated with aging in the ROK are expected to rise by 8.5% of GDP over the next five decades, one of the largest increases in OECD countries.

Table 3-11. Trends in Dependency Ratios in the ROK, 1970–2050

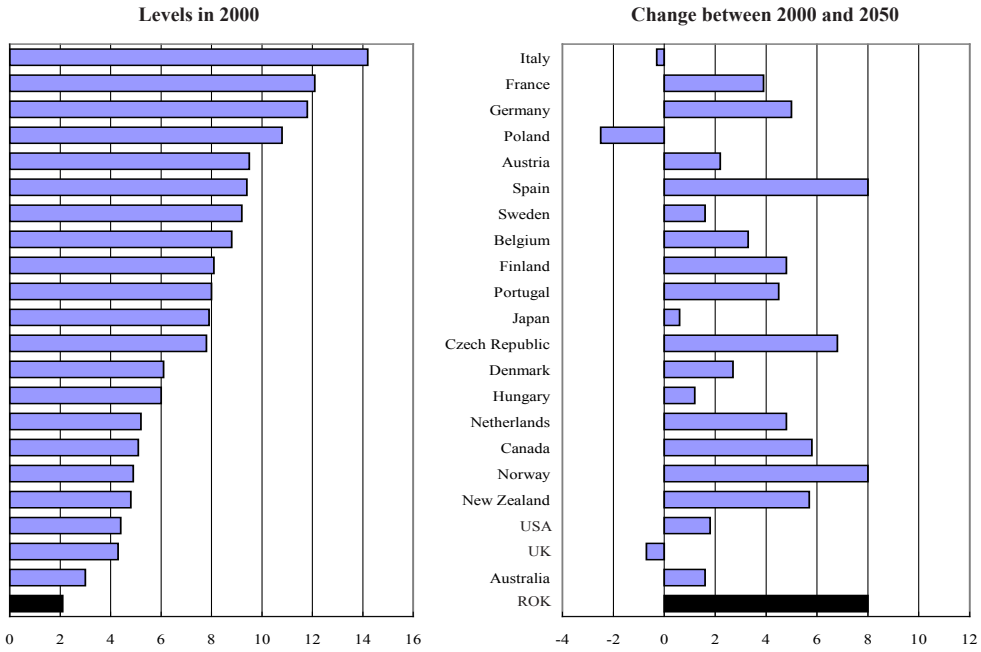
Dependency ratio	1970	1980	1990	2000	2010	2020	2030	2040	2050
Total (%)	83.8	60.7	44.3	39.5	38.8	40.9	54.9	71.2	81.6
Youth	78.2	54.6	36.9	29.4	23.9	19.6	19.1	19.6	19.0
Old-aged	5.7	6.1	7.4	10.1	14.8	21.3	35.7	51.6	62.5

Source: KNSO (2006).

The ROK's national pension system in particular is projected to be accumulating huge amounts of hidden liability as it matures, which will be transferred to the next generation of workers and which will again negatively affect the national economy in the next few decades by putting too much burden on the future work force (Moon, 2001, 2005).

Figure 3-4 shows public expenditure on old-age pensions in 2000 and projected changes between 2000 and 2050. At only 2%, Korea as of 2000 has the lowest level of public expenditure on old-age pensions, but it will be in the highest group with its future increases

in public pension expenditures (OECD, 2002). Social and public expenditure on medical insurance will also steadily increase with the aging of the population (OECD, 2008). The old-aged group already accounts for a major portion of national health insurance costs (more than 60%), and this will be surely be exacerbated as we go along.



Source: OECD (2002).

Figure 3-4. Public Old-age Pension Expenditures in OECD Countries: 2000–2050 (Levels as a Percentage of GDP, Changes in Percentage Points)

The projected increase in public expenditures and the associated hikes in taxes and social security contributions could result in slower economic growth and give rise to a number of intergenerational inequities and tensions. Much of this extra burden of taxation will fall on the working-age population while at the same time their political power in terms of voting numbers may be in decline relative to the growing number of older people. This could make the necessary adjustments to cope with an aging society more difficult in the future (OECD, 2000; World Bank, 2000).

Tradition of Family Self-Help Receding

In the ROK, family has traditionally played a key role both in caring for elderly relatives and in providing income support. And ROK people's plans for earnings, consumption, and savings during their work lives has been implicitly based on the expectation of their offspring's (especially the oldest son's) financial as well as psychological support for their lives after retirement (Phang, 2006).

This tradition of family-based old-age welfare explains in large part how the ROK government could constrain public expenditure on social security and assistance all the way through rapid economic development. However, there has been a gradual erosion of this family-based self-help pattern over time, and the elderly will have to rely increasingly on social transfers as well as on their own resources. First, the traditional extended family system has already been replaced by the nuclear family system of earnings and

consumption. Second, fewer children due to declining fertility means fewer sources of financial support available for parents and higher old-age dependency within families.

Unfortunately, however, the majority of old people in the ROK are still too dependent on within-family private transfers for their after-retirement living. Table 3-12 shows the compositional proportion of old-aged (>=65) income by source for the ROK and other selected countries. The income sources of ROK old-aged are strikingly different from those of other advanced economies. Public transfers (mainly public pensions) and private pensions are the major source of old-aged income in Sweden (87.3%), Germany (82.2%), the Netherlands (84.4%) and even the USA (69.7%). But only 14.2% of the total income for the old-aged in the ROK comes from public and private pensions. The rest of it comes from their own work and support from family members and relatives.

These striking differences are clearly due to a still under-developed and immature social security system for the old-aged (i.e., public and private pensions) in the ROK. The majority of the old-aged, once they retire, still have to depend on their offspring and other relatives for their income and living arrangements (OECD, 2000; OECD, 2004; World Bank, 2000). Therefore, older workers in the ROK currently have few options but to continue working much longer than in most other OECD countries. The relatively high proportion of the old-aged participating in the labor market in the ROK, especially for men, may be largely explained by the fact that the major sources of old-age income are their own earned income, private savings, and transfers from other family members.

Table 3-12. Income Sources of the Old-Aged in the ROK and Other Selected Countries

	Earned income	Asset income	Public transfer	Private transfer	Support from relatives	Private pension	Other sources
ROK	23.6	4.1	13.9	28.2	29.4	0.3	0.5
Sweden	6.6	2.2	79.3	0.2	3.7	8.0	0.0
Germany	6.6	4.8	74.8	0.2	6.2	7.4	0.1
Netherlands	5.2	3.6	55.5	0.1	6.5	28.9	0.1
USA	10.9	7.8	49.6	0.8	8.3	20.1	2.6

Source: ROK (KLOSA); USA (HRS); Europe (SHARE), cited from Chang et al. (2008).

Public Pension System at Risk

A country's pension system serves as a basic component of its old-age income security. While most advanced industrial countries have a multi-pillar old-age income security system based on public–private pension linkages, the ROK has not yet developed such a multi-pillar, coordinated system, and has to depend on the public pension system alone (World Bank, 2000).

The National Pension System (NPS) was introduced in 1988 but started paying out half-full pension (after 20 years' contribution) only in 2008 and will only start paying out full pensions in 2028 (after 40 years' contribution). Since its introduction in 1988, the coverage of the NPS has been extended progressively to cover, in theory, all private-sector employers and the self-employed on either a compulsory or a voluntary basis. While coverage is now compulsory for all regular employees in workplaces, it is only voluntary for other types of workers such as part-time employees, the self-employed, and family helpers. Only around 50% of the self-employed are actively contributing to the National Pension System[3]. Clearly there exists a serious dead-zone problem with depending on the NPS for old-age income security, both in cross-sectional (the large proportion of workers not actively contributing) and in longitudinal terms (the transitional problem while the system matures). These problems are especially acute for the baby boomers, who will be retiring from their lifetime job beginning around 2010.

As of 2007, only 23.8% of the old-aged in the ROK are receiving any form of public pension. This is a substantial increase from 10.9% in 2002 (National Pension Corporation [NPC], 2008). But the majority are not receiving any public pension benefits, and this situation will not be improved much over the next 10–20 years. Table 3-13 shows the projected proportion of the old-aged receiving the national pension in the future if the current arrangement remains intact. It is projected that, if the current system continues without any reform, only 25.3% of the old-aged in general will be receiving national pension benefits in 2020. The proportion will increase to 41.3% by 2030, when the NPS becomes fully mature. But even then the proportion of the old-aged receiving national pension will still be less than 50%. These results are due to the large gap between the nominal and the effective coverage and benefit formula embedded in the NPS. That is, while the effective coverage and benefits strictly depend on individuals' employment and contribution history, many low-income self-employed, and irregular workers, as well as housewives, are not contributing to the system and not accumulating any benefit as long as they are not contributing.

Table 3-13. Projected Proportion of the Old-Aged Receiving National Pensions, 2008

Year	Total population aged 65 + (in 1,000)	# receiving national pension (in 1,000)	% receiving
2010	5,353	1,353	20.2
2020	7,821	3,230	25.3
2030	11,899	6,795	41.3
2040	14,941	10,049	67.3
2050	15,793	11,572	73.3

Source: NPC (2008).

POLICY MEASURES AND INITIATIVES

The general objective of the labor force policy of the ROK government is to reinforce the potential of a sustained economic growth in an aging society. The motto of the policy drive is to set up a labor market environment in which old-aged individuals can keep working as long as they are healthy and strong enough to work and women can continue their work careers in a more consistent manner. Following are the major policy measures that will be taken up to advance the necessary labor market reform procedures.

Rationalization of the Wage-Determination System

The wage and compensation structure at most ROK firms is a "back-loaded," system in which pay is lower than productivity for junior workers and higher than productivity for senior workers (Jones, 2005). Such a system has its own merit in that it potentially increases economic efficiency by strengthening incentives for workers to work more diligently, to remain with the same firm, and to invest in firm-specific skills (Lazear, 1979). And older workers generally are benefited by employment contracts of this type, since both lifetime and current earnings are increased (OECD, 1998). But such an efficient match between the demand and the supply of labor will be no longer readily available in the future. Such a system was based on traditional lifetime employment practices that were predominant in the past, when there was a relative shortage of well-educated and skilled workers for a rapidly growing economy. But in the future labor market conditions will be quite different.

In such a system, difficulties could arise for future older workers attempting to delay retirement or to change jobs and remain in the labor market after early retirement

because (1) employers will find it costly to hire older workers who have only a limited period of time during which their compensation exceeds their productivity, and (2) it is infeasible to offer a compatible wage-compensation to experienced old workers because of the fixed cost of hiring under the "back-loaded" pay system. However, the argument that fixed hiring costs may discourage older job seekers is more relevant. Fixed hiring costs typically may increase the job security of older workers who are already inside the firm but may decrease the chance of employment for older job seekers who are outside the firm. At the same time, firms may prefer to shed older workers first when downsizing, because, on the theoretical level, the loss of match capital would be larger when a younger worker, who is expected to remain with the firm longer, leaves (OECD, 2006).

One of the policy tools for insuring the old-aged decent job opportunities until normal retirement age is to develop a "wage adjustment option" system in which employers could negotiate wage increases with their old-aged employees for an extended employment over a certain age-limit. For the system to be successfully implemented, the government is considering an incentive mechanism to support part of the negotiated wage either to the employer or to the employee. In order for the policy measures to be effective, the current wage-determination system needs to be transformed from a seniority-based to a productivity- and performance-based wage system. For that purpose the ROK government is investing in the development of industry-specific performance-based compensation models to be publicized and distributed to employers and workers as a general guide to collective bargaining (Phang, 2009).

Reforming Firms' Retirement Policies

The "back-loaded" seniority-wage system exerts a negative effect on the job security of in-house older workers when they are considered excessively over-paid and thus when employers find it to be too costly to keep them beyond a certain age. The burden of a mandatory retirement allowance that is designed to steeply increase along with tenure has been a dominant cost factor to employers, and is one of the main reasons for the large-scale dismissal of old-aged employees from firms observed in the past several years during the recent economic downturn (Phang, 2002). Thus labor market reform efforts should be moving in the direction of extending the longevity of employment at the expense of compensation, making a longer active work-life possible for average workers.

The ROK government is setting up incentive programs for employers to keep old-aged employees longer by extending their firms' retirement ages. In the long term, it is well recognized that these retirement-age extension efforts need to be further reinforced by measures against the age-discriminating layoffs and retirement policies widely practiced at firms, so that the length of tenure is determined not by age but by the individual worker's productivity and ability. That is also the direction of the reforms that are being pursued in many advanced countries.

The first step for policy implementation will be setting up policy measures against forced early retirement. The bottom line for such policy intervention will be ensuring that the minimum age for retirement at firms is above 57. At the same time, the government is considering a more affirmative measure: drafting an Equal Employment Opportunity Act in which age discrimination in terms of employment and retirement will be more strictly defined, monitored, and penalized.

The second step for policy implementation will be setting up incentive measures for an extension of the retirement age. One of the options could be making current Employment Promotion Incentives under the Employment Insurance System contingent on employers' efforts to extend their employees' retirement age. By doing so the Employment Promotion Incentives could be more target-specific and thus become a more effective policy tool for promoting employment among the old-aged workforce.

The third step for policy implementation will be setting up institutionalized paths to normal retirement through measures against age-based discrimination in training and retirement. The objective is to induce firms to gradually increase the retirement age to the age at which the National Pension benefit begins to be paid (e.g., to 60 by 2008 and to 65 by 2033).

Subsidizing Wages of Older Workers

Another way of making it more attractive to employers to hire and retain older workers is to subsidize the cost of employing and keeping them. In the ROK, under the Employment Insurance System (introduced in 1995), four types of wage subsidies are available: subsidy to promote over-quota (6%) employment of older workers, subsidy to promote newly employing older workers, subsidy to promote extended employment of retiring workers, and subsidy to promote employment of older workers upon completion of subsidized job training (Chang, 2004).

But the take-up rate of employers is still very low. For example, the most generous subsidy—the subsidy to promote extended employment of retiring workers—was paid for only 340 workers in 2007. Taking into account all of the programs targeting older workers, as in Table 3-14, around 260,000 workers (53,600 employers) benefited from wage subsidies. Out of this total, the subsidy for employing older workers above the legally required proportion (6%) comprises an absolutely large proportion in terms of the beneficiary (more than 90%) and the expenditure (more than 60%). The data in the table show that, even though the number of participants and the amount of expenditure have been increasing over the years observed, those increases are dominated by that single subsidy program, which is likely to involve a considerable amount of deadweight loss. The lower attractiveness of the other subsidy programs may be explained by the weakness of the incentive to employers or by the qualification conditions and restrictions (OECD, 2004). It is advised by experts that ROK wage subsidy programs need to be reformed to be more efficient and effective: first, they should be better targeted (Martin and Grubb, 2001); second, the level of subsidy should be raised; third, many overlapping and related programs should be redesigned into a more flexible and integrated program.

Table 3-14. Employment Subsidies Paid for Older Workers in the ROK, 1998–2007

	1998	2000	2002	2004	2006	2007
# Firms benefited	2,134	50,466	66,566	63,972	48,424	53,691
#Workers benefited	96,334	225,711	270,902	266,119	229,092	259,357
Amount paid (in million KRW)	1,999	36,758	39,980	41,299	36,025	40,880

Source: MOL (2009), White paper on employment insurance system.

Improving Skills and Productivity

While the industrial map is ever-changing in today's global economy, the ongoing shift away from manufacturing to services together with technological change is widely recognized. These changes have increased the need for a more skilled and flexible workforce and constitute another challenge that population aging poses to governments, employers, and individual workers: for governments to reform education and training systems, for employers to provide more on-the-job training, and for individuals to engage actively in lifelong learning. An important aspect of the way aging affects productivity is the question of whether older workers have greater difficulty learning new skills and thus whether they tend to be overpaid. This point is critical for older workers' extended employment, especially in the context of policies designed to gradually raise the effective age of retirement (Phang et al., 2005). To that end, job training policies and practices also need to be reformed in order to minimize any adverse effects of aging on labor productivity.

The key challenge is how to keep older workers productive and employable in a time when the workforce is getting older rapidly. Policy researchers point out that lifelong learning and job training systems need to be reformed in a way that increases old workers' incentive to participate and employers' incentive to provide them with fair training opportunities (OECD, 2004). Human capital theory indicates that older workers could be disadvantaged because it is more efficient for employers to concentrate on younger workers for whom economic returns are greater (Lazear, 1995). If that is true, then policy intervention should aim at reducing the cost of training older workers on the employer side through training subsidies.

In the ROK, job training subsidies are being paid to employers who provide training opportunities to workers under the Employment Insurance (Occupational Skill Development scheme). But participation rates are still low and largely dependent on employers' choice. According to an OECD (2004) report (Table 3-15), older workers in the ROK are, in fact, much less likely to participate in job training programs on or off the job relative to younger workers (8% vs. 21%). This rate is much lower than in other advanced economies. The participation rate of 50–64-year-olds in the ROK is under 10%, while it is at or over 40% in the USA, Demark, and Norway, for instance. The low participation rate may be, in large part, due to limited opportunity or the poor quality of programs available under the current system. Thus, on balance, there is great potential for government intervention to be improved to expand training opportunities by strengthening the incentives for participation and by enriching the types of job training available.

Table 3-15. Participation in Job-Related Training and Lifelong Learning Activities in OECD Countries (%)

	Lifelong learning activities (all persons)			Job-related training (employees)		
	Total	Age		Total	Age	
		25–49	50–64		25–49	50–64
ROK	18.8	21.6	10.8	14.3	15.7	9.6
USA	43.6	47.2	35.7	44.3	45.9	39.9
Denmark	56.2	63.6	41.4	52.5	55.6	44.5
Sweden	54.2	58.1	45.9	.	.	.
UK	44.9	47.2	35.7	44.3	45.9	39.9
Italy	22.1	27.1	12.6	24.6	25.2	22.5

Source: OECD (2004), International adult literacy survey; Korean social statistics survey.

In terms of lifelong learning opportunities, the ROK also compares unfavorably with most other OECD countries (OECD, 2005). Whereas just over 10% of citizens of ROK aged 50–64 participated in some form of lifelong learning activity during 2000, the corresponding proportion was around 36% in the United States and around 46% in Sweden. This gap between the ROK and other advanced OECD countries is equally large for the younger group aged 25–49. And there is a considerable gap between men's and women's participation in lifelong learning in the ROK, which is much larger than in the other OECD countries shown in the table.

Improving Employment Prospects for Women

Currently the labor force participation of ROK women is considerably low relative to other advanced countries. It has been increasing over the long term but is still below the 50% level. Particularly low is the participation rate of young women with higher educations (Chang, 2003). So women could be the most valuable source of a future labor

force for the ROK. The ROK government is advised to strengthen its sex-fair policy to keep the threshold to labor market entry lower so that first entry (after schooling) and re-entry (after childbearing) to the labor market can be achieved without much transition cost being incurred. Also the ROK labor market institutions and practices need to be reformed in the direction that enables working women to successfully harmonize work and family and to develop their careers more consistently. To that effect the ROK government has recently enacted a Sex-Fair Employment Act and arranged a set of necessary follow-up measures to ensure fair opportunity for female participants.

Consolidating Old-Age Income Security

As the phase of population aging for the ROK is expected to be extraordinarily rapid and condensed, one of the key challenges will be how to provide an adequate income security for the old-aged (especially the soon-to-retire baby boomers) while keeping the National Pension Scheme financially sustainable. One viable policy option is to build and strengthen private and occupational pension schemes to supplement the NPS, which is still immature and limited in the ways outlined above. In particular, the role of the Retirement Pension scheme for employed workers needs to be strengthened to ease the pressure put on the public scheme.

Under the Labor Standards Act, firms in the ROK are required to pay workers leaving the firm one month of wages for every year of service. These severance payments are called retirement allowances, and in the past they played a limited role in providing income support after retirement or after job loss prior to retirement.

However, a number of factors have undermined the original purpose of the retirement allowance system. First, since 1997, interim or mid-career payments of the allowance are permitted, which has further weakened the scheme as a form of income support after retirement. Thus, for many workers, these retirement allowances are considered to be payment of deferred wages rather than a true retirement scheme. Second, coverage under the system is still limited in that these allowances are not compulsory for firms with fewer than five workers. Temporary workers with a contract of less than one year and employees with less than one year of service are also not covered. Third, because allowances are run as a largely unfunded, book-reserve scheme in most firms, there is a risk of firms defaulting on payment of retirement allowances that fall due (Phang, 2002).

In recognition of the social need to reform the retirement allowance scheme and to strengthen old-age income security for a rapidly aging society, the ROK government enacted the Employee Retirement Income Security Act in 2005. Under this legislation, employers are permitted, but not required, to replace the old scheme with new retirement pension plans, which should be funded and can be either “defined benefit” or “defined contribution” schemes. These retirement pension plans are expected, if properly developed and matured, to form a multi-pillar system for old-age income security in coordination with the National Pension System. The new private pension scheme is still in its early development stage, while the take-up rate is still under 20% of employed workers. Favorable tax policies and incentives are considered to be a necessary policy intervention to quicken its expansion and growth (Phang, 2002).

But, even with the new pension scheme introduced, for the large number of the self-employed, the National Pension is the only public source of old-age income; and, to make the situation worse, more than 40% of them are not active contributors to the system. As such, special arrangements are essential for the low-income self-employed to avoid the potential risk of old-age poverty in an aging society. To address this pension gap, an individual retirement account scheme that is tax-treated and easily accessible to the low-income self-employed is recommended by experts (Phang, 2010).

CONCLUSIONS

The ROK has apparently benefited from the demographic transition that enabled the coutnry to have a relatively young population and a growing labor force during the second half of the 20th century. The result was arapid and consistent economic growth and social development. The baby-boom generation born in the early stage of demographic transition has brought in a ”demographic dividend” on which the nation’s miracle economic development could be based.

Social structural changes at the macro-level that accompany rapid economic development often tend to induce radical changes in individuals’ demographic behavior at the micro-level, which was more than the case in the ROK. Rapid changes in family formation behaviour, especially marriage and childbearing, were observed among the generations succeeding the first baby-boom cohort. They get married much later and bear much fewer children. At the same time, the baby-boom generation who formed the backbone of ROK's economic development during the past half-century are getting old. These demographic changes, which are still under way, are expected to materialize in a rapidly aging population. Together they pose a socioeconomic challenge that the ROK has never been confronted: an old-aged population and labor force, low economic growth, and the growing burden of social cost for supporting older people.

Nevertheless, according to population projections, whether optimistic or pessimistic, the ROK seems to be granted a grace period of about 20 years (2000–2020) during which the old demographic regime characteristic of a developing economy and society will gradually fade into a new demographic regime typical of a developed one. During that grace period its population and labor force are expected to continue to grow, though at a much slower rate than before. Symbolically the year 2020 will be the time point at which the large baby-boom cohort will be completely retired from the labor force and its small off-spring cohort born during the 1980s will make up the core labor force—marking the completion of a generational transition.

The demographic changes that will characterize labor supply and demand in the next several decades will be qualitatively different from the past quantitative changes. With only limited job opportunities available and involuntary early retirement practices in place at ROK firms, increasing numbers of older workers could encounter employment difficulties. Rapid technological changes and skill upgrades that will characterize the future labor market also could exacerbate the employment problems of older workers who are slow to adapt to new skills and technological change.

On the demand side, employment contracts (including mandatory retirement policies) should be changed gradually to adjust to the aging of the population and of the labor force. On the supply side, workers’ initiatives and choices should be directed toward lowering the cost of long-duration employment contracts (such as seniority wage and retirement allowances) so that long tenure (normal retirement) with a productivity-based wage system can gradually replace short tenure (early retirement) with a high-wage system. Otherwise, current trends towards involuntary early retirement may not be easily reversed.

The cost burden of population aging on the economy and society should be borne equally by the government, employers, and employees. And there is an urgent need for the ROK government and society to devise a practical and effective plan for ensuring a smooth and controlled transition to an aged society. It is strongly advised that the ROK government pursue a wide range of reform policies in a consistent and efficient way, especially reforms in labor market institutions and the social welfare system that will benefit a rapidly aging population and labor force and that can enable the ROK economy and society to stay on a sustainable growth path (OECD, 2002).

NOTES

[1] Past population trends and changes described in this paper are based on KNSO's official population statistics up to 2000, and population prospects are mainly based on KNSO's population projections using the 2000 census (http://kosis.kr) or UN Population Division's world population projections (the 2009 Revision at http://www.un.org/esa/population).

[2] Bloom et al. (2001) estimated that the dividend could explain about one-third of the region's economic growth.

[3] Workers become eligible for the "full" old-age pension once they reach 60 years of age and have a contribution record of at least 20 years. Additional pension rights accrue for each additional year of contributions. For workers with average earnings, the accrual rate is 1.5% of earnings per year. Workers aged at least 60 with less than 20 years of contributions are still eligible for a pension (the "reduced" or "special" old-age pension) but at a lower rate. Between the ages of 60 and 64, earnings from work can be combined with an "active" pension, which corresponds to the full or reduced pension less 10 percentage points for each year that a worker is younger than 65. After the age of 65, there is no reduction in the pension if a person continues to work. Finally, there is the "early" old-age pension for workers retiring between the ages of 55 and 59, inclusive. It is calculated by reducing the full or reduced pension by 5 percentage points for every year that a worker is younger than 60 when he or she retires.

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CHAPTER 4.

POPULATION AGING, OLDER WORKERS, AND PRODUCTIVITY ISSUES: THE CASE OF SINGAPORE

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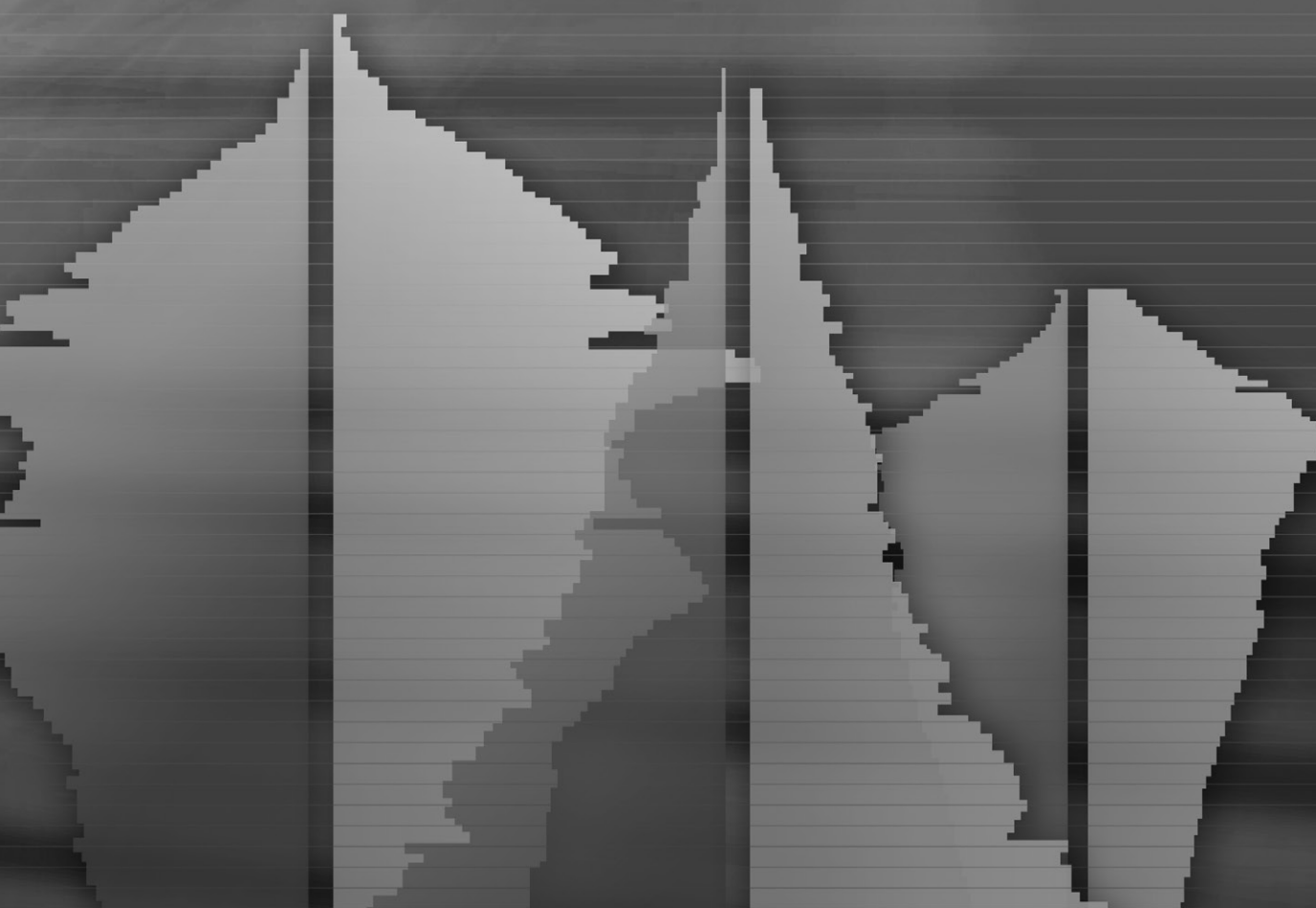
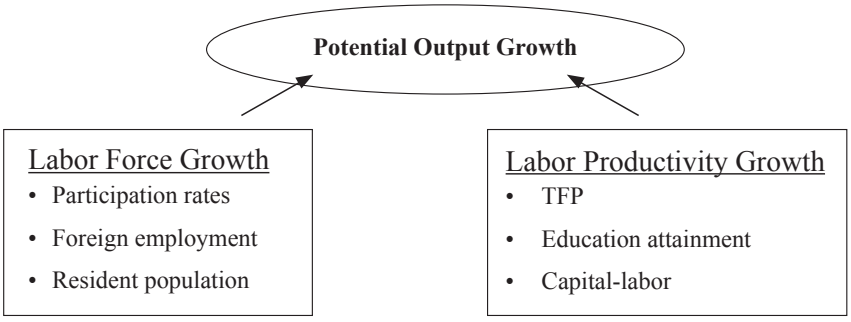


INTRODUCTION

The phenomenon of rapid demographic aging brings numerous challenges to a society and its economy. Among them are concerns that an aging population will lead to critical manpower shortages and declines in productivity, as well as having an undesirable impact on the economy with reduced tax revenues and increased public expenditures to support the pension and healthcare expenses of an older population generally perceived to be economically unproductive. How can the impact of population aging be mitigated? As authors in this volume have shown, it is generally agreed that an emphasis on labor productivity growth along with an increase in labor force participation rates through delayed retirement and more women in the labor force are fundamental measures that can be effective in meeting the challenges.

In an estimate of Singapore's long-term economic growth where potential output growth is measured by the rate of labor force growth and the rate of labor productivity growth (Figure 4-1), it is expected that with projected decline in the labor force, productivity will play a more important role in economic growth. Among the factors determining productivity growth—total factor productivity (TFP), educational attainment of the population, and changes in the capital–labor ratio—total factor productivity is projected to be the main source of driving force in the long term. Defined as the efficiency with which factors of production combine to produce output, TFP can be achieved through various means such as innovations in IT and improved business management (MAS, 2000; Chuan, 2007).

This chapter, in examining the issues and challenges facing the productivity of an aging society in the case of Singapore, focuses on the older workforce as an increasingly essential labor supply source and discusses the measures adopted by the state to encourage, enable, and enhance the employment/re-employment and productivity of older workers. The chapter concludes with several recommendations, including suggestions for rethinking what constitutes productivity and retirement. How can productivity and retirement be (re)conceptualized in the era of global population aging?



Source: MAS, 2000, p. 19.

Figure 4-1. Determinants of Potential Output Growth

TRENDS AND PROSPECTS FOR SINGAPORE'S POPULATION AND WORKFORCE AGING

A small city-state with a land area of only 710 km^2, Singapore has experienced dramatic changes in its demographic trends since its independence in 1965. From a population of 2 million in 1970, the population has more than doubled to 4.99 million in 2009 (Table 4-1).

However, the population increase is most significant among the non-resident category. In comparison, the increase in the number of Singapore citizens within the "Resident" category (divided into citizens and permanent residents) registers the lowest growth, hovering around 0.8 to 1 after 2000 (DOS, 2008:1). Low birth rate is a major factor contributing to the low increase in resident population. Total fertility rate in Singapore, which was at a high of 3.1 in 1970, started to decline through the 1970s with effective family planning measures urging families to "Stop at Two." However, the declining birth rate became a national concern a decade later, and when TFR fell to a below-replacement rate of 1.43 in 1986, pro-natalist measures were introduced in the late 1980s with some positive impact, raising the TFR to the near-replacement rate of 1.96 in 1988 (Yap, 2005). Since 1988, however, the birth rate has continued to fall consistently, and in 2009 TFR has fallen to its lowest at 1.22 among the resident population. The slow increase in resident population gives rise to the necessity of an expanding foreign workforce. In 2009, among the working population of 2.99 million persons employed in Singapore, foreigners made up 1,053,500, forming 35.2% of total employment (Ministry of Manpower, 2010a). Most recently, as Singapore projects a high GDP growth of 13–15% in 2010, there is expectation of an inflow of at least another 100,000 foreign workers in the population (*The Business Times*, 15 July 2010).

Table 4-1. Population Trends 1970–2009

	Number (thousands)			Average Annual Growth Rate (%)		
Year	Total	Resident	Non-resident	Total	Resident	Non-resident
1970	2,074.5	2,013.6	60.9	2.8	NA	NA
1980	2,413.9	2,282.1	131.8	1.5	1.3	8.0
1990	3,047.1	2,735.9	311.3	2.3	1.7	9.0
2000	4,027.9	3,273.4	754.3	2.8	1.8	9.3
2005	4,265.8	3,467.8	797.9	2.4	1.6	5.9
2009	4,987.6	3,733.9	1,253.7	3.1	2.5	4.8

Note: Residents are Singapore citizens and permanent residents.Non-residents are those who have resided in Singapore for more than one year.

Source: 1970–1980: Tan Yeow Lip (2002). *Singapore's Current Population Trends*, Statistics Singapore. Newsletter, September 2002, Table 1, p. 2. 2009: Singapore Department of Statistics (2009). *Population Trends 2009*. Department of Statistics, Ministry of Trade and Industry.

The population of Singapore is characterized by rapid completion of its demographic transformation from a young population of high fertility and high mortality in the 1970s to an aging population of low fertility and low mortality merely three decades later. This is accompanied by a rapid rate of aging: the proportion of those age 65 and above in the population is expected to rise to 14% from 7% in only 15 years (from 2000 to 2015). It will take only another 7 years for the proportion of the older population to reach 20%, in 2022. This will make Singapore the country that will experience the most rapid rate of aging, taking only 22 years to transform from an aging society (7%) to a hyper-aged society (20%); in comparison with fellow aging Asian countries, the transformation will take 32 years for the ROC, 26 years for the ROK, and 36 years for Japan (see Table 3-1 and Table 5-2 in this volume).

In Tables 4-2 and 4-3, showing UN projections of Singapore population until 2050, similar trends of low fertility and low mortality rates are expected to continue after 2010, resulting in a consistent fall in proportion among the younger population and a consistent increase among the older population. The population is expected to decline beginning in 2035, with continual declines in the numbers of births and the passing of the baby boom generation after 2030. The median age is projected to reach 50 by 2035 and 53.5 by 2050.

Table 4-2. Prospects for Singapore Population I, 2010–2050

Indicator	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Population (thousands)	4 837	5 059	5 219	5 362	5 460	5 485	5 437	5 339	5 221
Percentage aged 0–4 (%)	4.1	3.9	4.2	4.4	4.3	3.9	3.5	3.5	3.7
Percentage aged 5–14 (%)	11.5	9.0	7.9	8.0	8.6	8.9	8.6	7.9	7.5
Percentage aged 15–59 (%)	68.4	66.2	61.4	59.8	51.5	49.6	49.6	49.9	49.2
Percentage aged 60 or over (%)	16.0	20.9	26.5	31.7	35.6	37.7	38.3	38.8	39.6
Percentage aged 65 or over (%)	10.2	13.6	17.9	22.9	27.5	30.9	32.5	32.7	32.6
Percentage aged 80 or over (%)	2.0	2.6	3.3	4.1	5.9	8.3	11.0	13.4	14.6
Percentage of women aged 15–49 (%)	50.9	47.0	42.6	39.3	37.4	36.2	35.2	33.4	32.1
Median age (years)	40.6	43.4	45.7	47.3	48.4	49.5	50.8	52.3	53.5
Population density (population per sq. km)	7 082	7 407	7 642	7 851	7 994	8 031	7 960	7 817	7 645

Table 4-3. Prospects for Singapore Population II, 2010–2050

Indicator	**2010–2015**	**2015–2020**	**2020–2025**	**2025–2030**	**2030–2035**	**2035–2040**	**2040–2045**	**2045–2050**
Population change per year (thousands)	44	32	29	20	5	-10	-20	-23
Births per year, both sexes combined (thousands)	39	43	47	47	42	38	37	39
Deaths per year, both sexes combined (thousands)	30	36	43	52	62	73	81	87
Population growth rate (%)	0.90	0.63	0.54	0.36	0.09	-0.18	-0.36	-0.45
Total fertility (children per woman)	1.29	1.34	1.39	1.44	1.49	1.54	1.59	1.64
Net reproduction rate (daughters per woman)	0.62	0.64	0.66	0.69	0.71	0.74	0.76	0.78
Infant mortality rate (infant deaths per 1,000 live births)	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.8
Life expectancy at birth, both sexes combined (years)	81.0	81.6	82.2	82.6	83.0	83.4	83.7	84.1
Life expectancy at birth, males (years)	78.5	79.1	79.7	80.2	80.6	81.0	81.4	81.7
Life expectancy at birth, females (years)	83.4	84.0	84.6	85.1	85.5	85.8	86.2	86.5

Source for Table*s* 4-2 and 4-3: United Nations, Population Division of the Department of Economic and Social Affairs. Singapore Demographic Profile Medium Range. From World Population Prospects: The 2008 Revision Population Base <http://esa.un.org/unpp/p2k0data.asp>.

Labor Force in an Aging Population

An aging population inevitably implies changes in the size and age composition of the labor force. Chuan (2007) posits that in the scenario of a closed population without the input of foreign labor supply, and where fertility rate remains at a low of 1.25 throughout the years, population decline is expected to begin after 2020, and labor supply will contract across all age groups except for the group above age 60. The contraction will be most pronounced in the group from ages 35 to 49, where a decline of 45% to 52% is predicted from 2010 to 2050. Overall, the fall is predicted to be as much as 33%—from 1.75 million in the resident labor force in 2010 to 1.18 million in 2050; those aged 55 and over will make up 23% of the resident labor force in 2050, compared to only 11% in 2010 (Chuan, 2007:201).

While Singapore is likely to continue with the strategies of migration and input from foreign labor supply as a means to maintain labor force growth (MAS, 2000), there is a need to expand the resident labor force at the same time by tapping older workers as well as females.

With population aging, the resident workforce has seen more significant growth among workers above age 50 in the past decade (Table 4-4). The proportion of the workforce aged 15–49 has declined from 86.8% in 1991 to 72.4% in 2009; in the same period, the proportion of the above-age-50 workforce has increased from 13.2% to 27.6%. When comparing 2009 with the previous year, a report on the Singapore workforce in 2009 (MOM, 2010) noted that while the global recession that began in late 2008 has resulted in a fall in employment rate among resident population aged 25–64[1] from 77% in 2008 to 75.8% in June 2009, a fall for the first time in six years, the employment rate of those aged 55–64 maintained at a record high of 57.2% in 2008, with the employment rate of older men increasing to a record high of 74.7% in 2009, compared to 73.8% in 2008 (MOM, 2010:13). The consistent increase in older worker employment has led Singapore to become one of the countries with a comparable higher rate of labor force participation among the older population, especially among older male workers (Table 4-5). While this reflects positive efforts by the tripartite committee to enhance the employability and retention of older workers in the workforce, the higher labor force participation among those beyond age 50 also implies a higher educational profile of current older workers compared with past cohorts.

The increase in the female labor force participation rate (LFPR) is another determinant of growth in labor supply. With higher education attainment among women, the labor participation rate for women in the 30–34 age group has seen an increase, from 69.3% in 1999 to 79.9% in 2009 (Table 4-6), and it is projected to increase to 85% in 2020 and 89% in 2030 (MAS, 2000:20). Among older women, although their employment still lacks behind developed countries such as Sweden and the United States (Table 4-5), their entrance into the workforce is nonetheless significant in contributing to the increase in the employment of women during the past decade. Between 1999 and 2009, women aged 50–54 have seen an increase in LFPR from 46.7% to 63%; for the 55–59 age group, the increase was 17.1 percentage points, from 32.4% to 49.5%; and among the 60–64 age group, LFPR increased from 19.4% to 33%. An online survey of 300 women in Singapore July 2009 found that 63.4% of those surveyed will consider working beyond age 60, indicating the tendency for female LFPR to increase further (*Lianhe Zaobao*, 28 December 2009).

However, the general trend of lower LFPR among women remains, especially in the older age group. Beyond age 65, while the decline is sharp for both men and women, it is more pronounced for women. In comparing the 60–64 age group with the 65–69 age group in 2009, male LFPR declined from 69.5% to 43.6%, while female LFPR declined from 33% to 17.7%. Beyond age 70, the LFPR for men is 17.6% and only 5% for women (Table 4-6). Lower education among women compared to men in the older age groups and the tendency for older women to stay at home as homemakers contribute to such a gender discrepancy. However, although they are out of the formal workforce, older women tend to take up roles as informal caregivers for their grandchildren and spouses, so they continue to contribute productively in an indirect manner.

Table 4-4. Employed Residents Aged 15 and Over by Age and Sex, 1991–2009.[2]

Age (In Years) / Sex	1991	1994	1997	1999	2001	2004	2006	2007	2007a	2008	2009
Total	1345	1416.1	1499.8	1518.3	1582.5	1632.1	1796.7	1842.1	1803.2	1852	1869.4
15 – 19	63.8	42.6	31.2	30.6	30.6	25.1	28.8	33.7	33.4	31.5	27.5
20 – 24	185.5	176.5	152.9	129.6	130.4	127	139.6	129.9	128.1	133.1	127.5
25 – 29	229.2	217.4	216	214.2	209.7	193.9	201.9	204.6	199.9	197.9	204.1
30 – 34	225.8	229.3	236.6	236.8	228.2	232.4	237.7	246.1	237.8	235.3	237.3
35 – 39	198.4	223.7	234.1	236.7	248.2	229.1	241.4	249.5	241.7	256.8	255.7
40 – 44	169	186.9	218.6	226.3	242.2	246.8	256.1	255.3	249.4	253.6	251.2
45 – 49	95.8	138.3	182.9	187.2	203.3	226.8	253	253.5	249.5	253.7	249.3
50 – 54	84.5	90	104.9	123.9	154.5	172.8	203.2	212.6	209.9	217.7	221.9
55 – 59	48.8	58	66.5	68.3	64.8	106.4	135.8	145.4	143.5	146.5	150.7
60 – 64	26.4	29	31.4	37.7	42.3	43	54.8	64.7	63.9	75.6	87.1
65 & Over	17.8	24.2	24.8	27.1	28.2	28.7	44.4	46.6	46.1	50.3	57.1
Males	839	875.7	912.7	912.1	938.4	960.8	1036.5	1059.5	1038.4	1053.6	1066.2
15 – 19	35.7	24.1	18	18.6	18.9	14.1	16.4	20.7	20.4	18.8	17
20 – 24	96.4	91.6	78.8	66.8	69.3	69.7	74.8	68.7	67.9	70.1	70.2
25 – 29	131	119.3	112.4	109	104.8	97	99.6	100	98.3	98	102.5
30 – 34	140.8	138.5	139	136.7	126.4	126.8	124.3	130.9	126.6	121.1	124.5
35 – 39	129.1	141.8	147.3	149	150.5	132.1	137.8	142.5	138.1	141.7	135
40 – 44	108.4	121.3	138	139.6	148.6	149.6	150.1	148.2	144.7	145.3	145.1
45 – 49	63.1	91.8	117.5	115.2	125.6	139.2	151.1	148.9	146.5	150.1	146.2
50 – 54	61.7	62.6	71	81.6	99.9	110.6	126	129.4	127.8	130.2	132.1
55 – 59	37.8	42.2	48.1	47.6	42.1	69.7	88.4	94.4	93.1	94	96.3
60 – 64	21	23	23.7	26.9	30.9	31.1	37.9	43.4	42.9	49.8	57.5
65 & Over	14.2	19.4	18.9	21.1	21.4	20.8	30	32.4	32.1	34.6	39.9
Females	506	540.4	587.1	606.2	644	671.3	760.2	782.5	764.8	798.5	803.2
15 – 19	28.2	18.5	13.2	12	11.7	11	12.4	13.1	12.9	12.6	10.5
20 – 24	89.1	85	74.2	62.8	61.1	57.2	64.8	61.2	60.2	63	57.3
25 – 29	98.2	98.1	103.5	105.2	104.8	96.9	102.2	104.6	101.6	100	101.6
30 – 34	85	90.8	97.6	100	101.8	105.7	113.4	115.3	111.2	114.2	112.8
35 – 39	69.4	81.9	86.8	87.6	97.7	97.1	103.6	107	103.6	115.1	120.7
40 – 44	60.6	65.6	80.6	86.7	93.6	97.1	106	107.2	104.7	108.3	106.1
45 – 49	32.7	46.5	65.4	72	77.6	87.6	101.9	104.6	103.1	103.6	103.1
50 – 54	22.8	27.4	33.9	42.3	54.7	62.1	77.2	83.2	82	87.5	89.8
55 – 59	11	15.8	18.4	20.7	22.7	36.7	47.5	51.1	50.4	52.5	54.4
60 – 64	5.5	6.1	7.6	10.8	11.5	11.9	16.9	21.3	21	25.8	29.6
65 & Over	3.6	4.8	5.9	6	6.8	7.9	14.3	14.2	14.1	15.7	17.2

Source: Ministry of Manpower (2010c). *Labor Force Survey of Singapore.*

Table 4-5. Labor Force Participation Rate of Older Population for Various Countries, 2005/2006 and 2008 (%)

Age range/ Country	Singapore			Hong Kong		Japan		ROK		ROC		USA		UK		France		Germany		Netherlands		Sweden		Total OECD
Year	2005	2006	2008	2005	2008	2006	2008	2006	2008	2006	2008	2006	2008	2005	2008	2005	2008	2005	2008	2005	2008	2005	2008	2005
MALES																								
55–59	76.6	(81.9)	84.9	76.0	62.2	93.2	81.3	79.9	74.3	68.0	58.9	77.7	67.7	77.9	67.7	66.1	40.5	82.2	61.7	77.6	60.2	85.9	73.6	76.9
60–64	52.5	(62.5)	64.7	44.9		70.9		68.5		46.9		58.6		55.5		18.5		40.7		30.7		65.5		51.6
FEMALES																								
55–59	39.4	(44.7)	48.0	35.5	30.7	60.3	51.7	49.7	47.4	28.7	27.2	66.7	57.0	63.5	49.0	56.0	36.0	64.5	46.0	49.2	41.1	79.7	66.9	54.1
60–64	21.3	(26.2)	33.1	13.6		40.2		43.8		17.1		47.0		31.0		16.7		22.9		18.0		57.1		31.4
TOTAL																								
55–59	57.8	(63.5)	66.6	56.0	46.6	76.5	66.3	64.7	60.6	48.2	42.8	72.0	62.1	70.6	58.2	61.0	38.2	73.3	53.8	63.6	50.7	82.8	70.3	65.2
60–64	36.6	(43.9)	48.8	30.2		55.1		55.8		31.6		52.5		43.0		17.5		31.7		24.4		61.4		41.1

Notes: (1) Data for Singapore pertain to the resident population (2006 data in brackets). (2) Data shown are for the latest year available. (3) Shaded cells indicate the coun tries whose labor force participation rate was higher than Singapore's rate for 2006.

Source: General Household Survey 2005, Singapore Department of Statistics Labour Force Survey, MOM Hong Kong General Household Survey, Japan Statistics Bureau, Director-General for Policy Planning (Statistical Standards) and Statistical Research and Training Institute Website, Korea National Statistical Office Website, Taiwan Directorate-General of Budget, Accounting and Statistics Executive Yuan, R.O.C. Website OECD Database on Labour Market Statistics, Current Population Survey, US Bureau of Labor Statistics.

Sources: Ministry of Manpower (2007).*Statistical Profile of Older Workers, February 2007.* Table 1, p. 3 (2005 and 2006 figures).Ministry of Manpower (2010). *Report on Labour Force in Singapore, 2009: Statistical Tables*. 14 July 2010. Table 3: Age-gender specific resident labour force participation rate, 1991–2009 (As of June) (2008 figures).

Table 4-6. Age-Gender-Specific Resident Labor Force Participation Rate, 1999, 2008, and 2009 (as of June)

Year/Gender/ Age	15–19	20–24	25–29	30–34	35–39	40–44	45–50	51–54	55–59	60–64	65–69	70 & over
1999, Males	17.3	70.3	94.1	98.1	98.2	97.6	96.9	92.2	76.4	51.8	33.3	13.9
2008, Males	13.9	66.1	93.3	98.1	97.7	97.5	96.6	93.0	84.9	64.7	40.1	15.9
2009, Males	13.0	65.2	93.3	97.7	97.8	97.8	96.4	93.5	86.8	69.5	43.6	17.6
1999, Females	14.8	71.1	80.8	69.3	59.8	60.1	59.6	46.7	32.4	19.4	9.1	2.7
2008, Females	11.6	67.0	84.5	80.5	74.4	69.9	68.7	62.0	48.0	33.1	16.6	4.8
2009, Females	10.4	61.8	85.5	79.9	75.5	71.3	67.9	63.0	49.5	33.0	17.7	5.2

Source: Ministry of Manpower (2010). *Report on Labor Force in Singapore, 2009*. 1 February 2010. Manpower Research and Statistics Department Singapore. Chart 1, p. 4.

PROFILE OF OLDER WORKERS AND WORK MOTIVATION

With the population aging, the median age of the resident labor force has increased to 41 in 2009. Consequently the share of the older workforce has also seen an increase of 10% percentage points in the last decade, from 17% in 1999 to 27% in 2009. Currently one in four residents in the labor force is age 50 and over; and, given the fact that the entrance of older persons is one driving force towards the gains in employment in the Singapore workforce, it is pertinent to understand what characterizes the older workers and the motivation towards working among the older population.

According to recent reports released by the Singapore Ministry of Manpower, the profile of the population age 50 and over in Singapore summarized in Table 4-7 shows the following interrelated characteristics (MOM, 2007a, 2008, 2010):

1) Education: Although better education has helped drive the employment rate of older workers in recent years, in general, the older population in Singapore is still comparatively less educated within the general population because of early years of little opportunity for higher education. There has been an improvement, though: in 1991 78% of older workers had less than a secondary education, while in 2007 that percentage had dropped to 55%; and the percentage of those with a tertiary-level education increased from 4.3% in 1991 to 14% in 2007. This is however still substantially lower than the below-age-50 group, where 44% had a tertiary education.

2) Employment Status: Older workers are more likely to be self-employed (26.7%), which also means that they are not restricted by a mandatory retirement age and may work for more years than salaried workers. While 90% are in full-time employment, older workers are more likely to be in part-time work (10.4%) than are younger workers (4.8%).

3) Occupation: Older workers tend to concentrate in lower-skilled non-PMET jobs (67%) due to their lower educational attainment (68%). They include cleaners, laborers, and related workers, plant and machine operators and assemblers, service and sales workers. Only 10% are working as professionals or associate professionals and technicians (15%) (MOM, 2008).

4) Industry: 77% of older workers were employed in the service sector, including community, social, and personal services, wholesale and retail trade, transport and storage, hotels and restaurants. Land transport and supporting services have the highest incidence (such as taxi drivers who are among the self-employed), followed by administrative and support services (such as cleaners and security guards) and restaurants. The incidence was lowest in IT and other information services, followed by electronic produces manufacturing and financial institutions (Table 4-8). This is expected as the hotel and restaurants sectors and the transport and storage sectors both have a relatively high median age of 47 and 46 respectively, while the information and communication sector and the financial services sector have the lowest medium age, at age 35 and 36 respectively (MOM, 2010:19).

5) Job Change: Older workers are less likely to change jobs than younger workers: 14% of older workers changed jobs in 2007 compared to 25% of those in their 30s and 34% of those younger. They seem more settled in their jobs, with longer years of work experience. The lesser opportunity available to older workers in the job market may also deter them from switching to another job (MOM, 2008).

6) Hours of work and terms of contract: Older workers tend to work an average of 50 hours a week in full-time jobs, which is a higher average than the younger workers in their 20s and 30s. They work an average of 20 hours a week for part-time, which parallels with other age groups. Older workers are also more likely to work on term contracts:16% of older workers, compared to 9% of the 25–49 age group, are contract workers (in the MOM, 2008). In a comparison between workers in the 50–59 age group and the 60-and-over age group, the incidence increased from 13.1% to 23.3% (MOM, 2010:24), showing

the tendency towards more casual or flexible jobs as workers approach retirement. Term contracts are also more prevalent among the less well educated: among the resident employees in general, the incidence rate for term contract work is high, at 20.5% for those with primary school and lower educational attainment (MOM, 2008).

Table 4-7. Profile of Employed Residents by Gender and Age Group, June 2007

Per Cent

CHARACTERISTICS	Total		Males		Females	
	Aged 15–49	Aged 50 & Over	Aged 15–49	Aged 50 & Over	Aged 15–49	Aged 50 & Over
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
GENDER						
Males	55.4	63.9	n.a.	n.a.	n.a.	n.a.
Females	44.6	36.1	n.a.	n.a.	n.a.	n.a.
EDUCATIONAL ATTAINMENT						
Below Secondary	18.3	54.7	20.1	55.7	16.0	52.9
Secondary	24.1	23.0	22.0	21.0	26.6	26.6
Upper Secondary	14.2	8.6	13.6	7.9	14.8	9.9
Polytechnic Diploma	15.0	3.7	15.8	4.4	14.1	2.6
Degree	28.5	9.9	28.6	11.0	28.5	8.1
EMPLOYMENT STATUS						
Employees	88.6	73.3	85.7	68.3	92.1	82.2
Self-Employed	11.4	26.7	14.3	31.7	7.9	17.8
Own Account Workers	6.8	17.0	8.4	20.9	4.9	10.1
Employers	4.0	8.3	5.5	10.2	2.2	4.9
Contributing Family Workers	0.6	1.4	0.4	0.6	0.8	2.8
NATURE OF EMPLOYMENT						
Full-Time	95.2	89.6	97.4	93.0	92.5	83.6
Part-Time	4.8	10.4	2.6	7.0	7.5	16.4

Source: Labour Force Survey, MOM

Note: n.a. – Not applicable.

Source: Ministry of Manpower. (2008) Paper No. 3/2008, *Focus on Older People In and Out of Employment*, July 2008. Manpower Research and Statistics Department Singapore. Table 1, p. 7.

Table 4-8. Employed Residents Aged 50 and Over by Industry, June 2007[3]

INDUSTRY (SSIC 2005)	Number	Incidence (%)	Distribution (%)
TOTAL	469,400	25.5	100.0
MANUFACTURING	68,400	21.8	14.6
Food, Beverages & Tobacco	5,400	30.5	1.2
Paper Products & Printing	6,000	32.0	1.3
Petroleum, Chemical & Pharmaceutical Products	6,200	19.7	1.3
Rubber & Plastic Products	2,600	22.1	0.6
Fabricated Metal Products	4,700	27.9	1.0
Machinery & Equipment	7,100	20.8	1.5
Electrical Products	2,700	23.7	0.6
Electronic Products	11,400	11.7	2.4
Medical & Precision Instruments	1,400	13.8	0.3
Transport Equipment	10,900	31.7	2.3
Other Manufacturing Industries	10,000	33.9	2.1
CONSTRUCTION	31,400	30.3	6.7
SERVICES	361,800	25.8	77.1
Wholesale & Retail Trade	76,400	27.1	16.3
Wholesale Trade	32,700	24.3	7.0
Retail Trade	43,800	29.6	9.3
Transport & Storage	67,100	36.8	14.3
Land Transport & Supporting Services	39,000	52.2	8.3
Water Transport & Supporting Services	9,300	27.2	2.0
Air Transport & Services	6,400	22.1	1.4
Other Transport & Storage Services	12,300	27.8	2.6
Hotels & Restaurants	49,400	41.1	9.4
Hotels	5,500	29.7	1.2
Restaurants	43,900	41.1	9.4
Information & Communications	8,700	9.6	1.8
Broadcasting & Publishing	2,300	12.7	0.5
Telecommunications	3,300	16.6	0.7
IT & Other Information Services	3,100	5.8	0.7
Financial Services	14,500	12.9	3.1
Financial Institutions	10,500	11.9	2.2
Insurance	4,000	16.6	0.9
Real Estate & Leasing Services	12,100	29.1	2.6
Professional Services	15,100	15.1	3.2
Legal, Accounting & Management Services	6,800	15.8	1.4
Architectural & Engineering Services	4,600	17.3	1.0
Other Professional Services	3,800	12.2	0.8
Administrative & Support Services	36,800	42.3	7.8
Community, Social & Personal Services	81,600	21.3	17.4
Education & Public Administration	35,800	16.0	7.6
Health & Social Services	17,800	24.9	3.8
Other Community, Social & Personal Services	28,000	32.1	6.0
Others ★	7,800	37.1	1.7

Source: Labour Force Survey, MOM

Notes: (1) Incidence of older workers refers to the percentage of the resident workforce who were aged 50 & over.
(2) ★ – Includes Agriculture, Fishing, Quarrying, Utilities and Sewerage & Waste Management.
(3) Shaded cells refer to industries with an above-average incidence of older workers.

7) Wages: With more of them in low-skilled jobs and lower education, there are proportionately more of older workers who belong to the low-wage group. The median income for older workers is SGD1690, but higher at SGD2500 for younger workers (15–49 years old). However, in the managerial and professional group, the wage differential for those aged 55–59 can be twice as much as young managers in the 25–29 age group (MOM, 2007a). This partly reflects the differences in job scope and responsibility, as well as the presence of a seniority-based system in some companies.

In general, the profile of older workers in Singapore shows that a large proportion of the current cohort tend to be less well educated; thus many are employed in low-skilled jobs and hence receive lower wages. It is thus a challenge to raise labor productivity and to enhance their long-term employability in an unstable economic climate.

Motivation to Work among the Older Population

General surveys have so far shown high willingness among Singaporeans to work beyond retirement age among the Singapore population. A global survey by Aviva (an insurer), for example, has shown that 6 out of 10 Singaporeans would like to work beyond retirement, the second highest rate in the world after Hong Kong[4].

As expected, financial need is the major motivation cited for the willingness to continue working to an older age among Singaporeans, although with increasing age, a larger percentage also desire to lead an active life through working. While 66.9% and 62% of men in the 55–64 and 65–74 age group respectively needed to work to pay for current expenses, the figure dropped to 40.7% for the above-75 group. In contrast, 25.9% of the above-75 age group work "to lead an active life," while 11.2% and 20.4% of men in the 55–64 and 65–74 age groups agreed (MCYS, 2005). Similarly, older job seekers reported that 66.4% wanted to get a job because they need money to pay for their current expenses, while 11.5% said they needed money for future financial security. The remaining 22.1% included reasons such as "need something to occupy my time," "want to lead an active life/ have social contact at work," "want to be independent financially," and "to have a sense of purpose/being useful," and a slightly higher percentage of them are women (MOM, 2008).

Among the older job seekers, 48% relied on their savings while 35% depended on family members during unemployment. The better educated tend to rely on savings while the less well educated tend to rely slightly more on the family. When the same question was asked of economically inactive older persons (above age 50), a higher portion (76%) relied on income support from family members; this is especially so for the older women (84%), compared to men (61%). The less educated also tend to rely more on the family than do higher educated older persons (MOM, 2008:17-18).

Financial support from family members has been shown to be an important factor allowing older persons to stay away from the job market. However, with falling family size, this group of economically inactive persons may have to consider working in their later years to ensure financial security. This older age group will be an important group to tap into as the nation faces a tight labor force situation in an aging society.

Income Sources of Older Persons

In a comparison of income source of older persons in the ROK with selected developed countries (see Table 3-10 in this volume), Phang notes that public transfers, mostly in the form of public pensions, are significant in Sweden (79.3%) and Germany (74.8%), but accounted for only 13.9% of income in the ROK. In Singapore, only a very small proportion of older persons (such as older generation of public servants, teachers, and military officers) are eligible for the public pension, while the majority are enrolled in the Central Provident Fund (CPF) system[5]. The CPF differs from other publicly managed pension schemes, and is increasingly favored by policy makers for its merit in minimizing the impact of aging on state finances as it does not include social risk pooling and

redistributive elements, but is based on a defined contribution relying on an individual's earnings to accumulate funds under individual accounts.

Phang (2006) observes that Singapore is unique among countries with high income levels and a rapidly aging demography in relying on a single mandatory savings scheme. The CPF is also unique for its comprehensive coverage in meeting the financial needs of individuals over their life course. Besides its role as a savings plan to meet retirement needs, CPF is also a scheme to pay for housing loans, medical expenses, education, insurance, and investment.The comprehensiveness of the scheme adds concern to the already well-recognized argument that the CPF system is "unlikely to meet the retirement income needs of a significant portion of the population (Phang, 2006:811).

Compared with the ROK, older persons in Singapore show more reliance on children for financial support. The 2005 National Survey of Senior Citizens (NSSC) has shown that children's financial contribution to their parents tops the list of sources of financial support for older persons, and reliance on children increase as one gets older (Table 4-9). Salaries/business income is the second most common source of support, followed by personal savings. Less than 4% of older persons regard CPF as a main source of financial support.

Table 4-9. Main Sources of Financial Support in 2005

Main source of financial fupport	55 years old and above (%)	55–64 years old (%)	65–74 years old (%)	75 years old and above (%)
Children	44.7	31.9	55.8	63.7
Salaries/business income	24.8	38.9	12.7	3.7
Spouse	6.3	9.1	4.1	1.6
Personal Savings	12.1	11	15.0	10.7
CPF	3.5	3.9	3.7	1.8
Pension	1.4	0.5	2.0	2.7
Others	8.6	4.7	6.7	15.8
TOTAL	100.0	100.0	100.0	100.0

Source: The National Survey of Senior Citizens in Singapore 2005, MCYS, Table 4.4.

The low level of reliance on CPF to meet financial needs by the current cohort of older persons is probably due to their low accumulation in the CPF, especially if they were low-income workers. It is also possible that many withdrew most of their savings as a lump sum once they reached age 55, and since the CPF savings that they were required to set aside after that was relatively low at that time, it was inadequate as a form of financial support (MCYS, 2009:21).

The insignificance of CPF as a main source of financial support also reveals the limitations of the system, especially for low-income workers and those with inconsistent employment who will tend to have little CPF savings accumulation. This is aggregated by the fact that workers over the age of 50 will accumulate less in their CPF through a reduction in employer's contribution. In a measure designed partly to keep older workers attractive to their employers, the employer's contribution for workers is reduced from 14.5% for workers below age 50 to 10.5% for workers aged 50–54. The contribution rate is further reduced to 7.5% for workers aged 55–59, and to 5% when workers reach 60.

As a response to discussions about setting up compulsory annuities to provide financial security in old age, new reforms to ensure savings in old age were introduced in September 2009 in the form of CPF Life. While persons currently above age 55 are encouraged to join the scheme with incentives provided, CPF members who turn age 55 from 2013 with at least SGD40,000 in their Retirement Account will be automatically enrolled. The scheme represents a positive step towards the provision of annuity for older population, but it still does not protect the more vulnerable low income group since it is not compulsory for those with less than SGD40,000 in the Retirement Account to participate in the scheme.

ISSUES AND CHALLENGES IN OLDER WORKERS' EMPLOYMENT

Singapore expects the rapid increase in the participation of older workers to continue, from both the demand and supply perspectives (Ministry of Manpower, 2008). From the demand perspective, the advent of an aging society with fewer entrants from the younger workforce will eventually force industries and companies to consider alternate sources of labor such as older workers. From the supply perspective, we can expect the postwar baby boomers born between 1947 and 1964—who are better educated than their earlier cohorts—to seek longer years in employment with perceived needs for financial security as more will be living longer but at the same time are expected to be more financially independent with fewer children to support them in the future. With the population aging, the local workforce above age 50 will rise from 24% in 2006 to 29% by 2015.[6]

However, even when both employers and employees may agree to the need to continue to stay in employment to an older age, there are still various issues and challenges that have to be dealt with in order for the practice and attitude to gain wider acceptance.

Among the issues in the employment of older workers, it seems most important to first counter organizations' stereotypical notion that older workers are too costly and less productive than younger workers. Even when such skewed notions have been well countered with research evidence supporting the advantages to employing and retaining older workers (Feinsod and Davenport, 2006), there remain the challenges of how best to effectively retain/employ, manage, and enhance the productivity of an aging workforce. A study by the Tripartite Alliance for Fair Employment Practices (TAFEP) on generational issues in the Singapore workplaces has shown that a multi-generational workforce has many potential advantages and opportunities both for the individual and for the organization when effectively managed (TAFEP, 2010).

When agreeing to employ older workers, employers should be open to the needs of older workers, which may involve a restructuring of the current system, for example revising work systems to allow for flexibility and part-time work arrangements.

The Labor Force Survey by MOM in June 2007 showed that 25,500 or 12% of economically inactive persons (50–64 years old) intended to look for a job in the next two years. The majority of these potential workforce entrants are females, who also form the majority of the economically inactive in this age-group. The vast majority (71%) of the potential female entrants preferred part-time work, while 55% of the male potential entrants preferred full-time employment (MOM, 2008:22–23).

The preference for part-time jobs also surfaced in another survey[7] by the Ministry of Manpower, which asked the 25% of the economically inactive men aged 50–64 and 28% of women in the same age group who had no intention to look for jobs in the next two years to give three main factors that would motivate them to work. The first was the availability of part-time/flexible work arrangements, followed by having jobs nearer home and jobs with low stress levels and work environmentas more open and friendly to older workers (MOM, 2008: A6). Similarly, the 2006 HSBC Retirement Research survey found that 71% of the respondents in Singapore regarded flexible working as the ideal way to achieve a balance among leisure, work, and the need for money in later life.

Such preferences show the need for employers to proactively redesign and develop flex-time and part-time work systems to accommodate the desires of older workers. Moreover, workers, too, need to change their attitude to accept changes that may come with a new work environment; these attitude changes include being willing to accept lighter work, agreeing to renegotiate a lower compensation that better matches the reduced/new responsibilities; and being willing to undertake training and retraining to become better equipped for the workplace.

In the TAFEP survey, when employers were asked how they cope with the hiring of older workers, 78% responded by citing the willingness to provide them with skills

training. To support training and lifelong learning in the workplace, Singapore set up the Skills Development Fund (SDF) in 1979 through the Skills Development Levy contributed by employers. The subsidies provided by SDF help to raise the skill sets of workers to meet the demand of changing employment needs. In 2007, almost 100 million SGD in value of assistance were committed, with almost 60% of the amount utilized for technical service skills training (DOS, 2009).

However, compared with younger workers, fewer older workers have undergone training/retraining. In 2009, 37% of individuals in the 20–29 age group had participated in training compared with 19% in the 50–64 age group (MOM, 2010:8). The lack of training, combined with lower educational attainment among the current older workers in Singapore, in turn affects their employability and limits their engagement only to low-skilled jobs. It is thus inevitable that in the national effort to increase productivity in Singapore, enhancing the opportunities for and employability of older workers remains an important concern to the government.

The next section provides an overview of the recent strategies adopted by the Singapore government especially to encourage older workers to stay in the workforce, and to enhance their, employability and productivity.

MEASURES TO ENHANCE THE EMPLOYABILITY AND PRODUCTIVITY OF OLDER WORKERS

As the reality of Singapore as an aging society gained more scholarly and policy attention in the late 1990s, the effects of aging on workforce productivity have since surfaced as an essential consideration for its significant impact on Singapore's future economic development (Kalirajan and Shantakumar, 1998). The 2005 appointment of a Tripartite Committee (government, employers, and trade union) on Employability of Older Workers by the Minister for Manpower marked the first attempt to address the issues in a comprehensive manner, reflecting a serious commitment by the government to solve the challenges of an aging society for productivity. The Tripartite Committee's report and actions thus form the pillar for our understanding of the strategies adopted by Singapore in addressing these issues and challenges. The final report of the Committee, released in 2007, has recommended four key strategic thrusts as follows[8]:

1. Expand employment opportunities for older workers;
2. Enhance the cost competitiveness of older workers;
3. Raise the skills and value of older workers;
4. Shape positive perceptions towards older workers.

Through a comprehensive approach to retaining older workers, enhancing their productivity, and changing social mindsets about discrimination towards an older workforce, the Tripartite Committee is targeting to increase the employment rate for workers aged 55–64 from 57% in 2009 to a medium-range target of 65 by 2015.

Legislative Measure: The Enactment of Re-Employment Legislation by 2012

The statutory retirement age in Singapore was 60 years old at the introduction of the Retirement Age Act in 1993. In 1999, it was raised to 62, with the long-term objective of increasing the retirement age progressively to 67. In the effort to encourage more older workers in employment, the 2007 recommendation by the Tripartite Committee, however, has recommended re-employment and the enactment of the legislation by 2012 instead of urging a higher statutory retirement age. The adoption of re-employment as a measure is inspired by labor practices in Japan, and is believed to be more useful in raising the effective retirement age while enhancing mutual benefits as it allows for more flexibility in

work arrangements as well as wages and benefits adjustments.

In October 2007, the Tripartite Committee formed the Tripartite Implementation Workgroup (TIWG) to help employers with the formulation and implementation of re-employment policies. A web portal on the "Re-employment of Older Employees" (www.re-employment.sg) was launched in 2008 to serve as a one-stop information and resource center for employers and employees. Besides providing a guide to help employers and employees, the portal also introduces a listing of the workforce age profiles of over 250 companies from various sectors, thus giving a candid view of the extent of age-friendly and fair employment practices in these organizations.

To urge companies to adopt re-employment practices earlier, TIWG issued a Tripartite Advisory in April 2008, and further expanded it into Tripartite Guidelines on the Re-Employment of Older Employees in March 2010. The Guidelines provide detailed guide on how to plan and prepare employees for re-employment, how to draft re-employment contact and to assist eligible employees whom employers are not able to re-employ. The efforts to promote re-employment also received encouraging responses; in February 2009, 706 unionized companies have committed to re-employment, 4650 workers over age 62 were re-employed by end 2008[3].

The Tripartite is supported by efforts from independent organizations working closely with the government to reach out to the wider public. They include the Council for Third Age, set up in May 2007 to promote active aging that includes a better quality of life through the vocational dimension (http://www.c3a.org.sg) and the Centre for Seniors (CFS), a nonprofit voluntary welfare organization in operation since April 2007 with the aim of encouraging older persons to be actively engaged in employment for as long as possible. CFS is noted for offering various Seniors Employability Programmes (SEP) that empower seniors to help them stay in employment, as well as courses for managers and supervisors of mature workers to equip them with knowledge to realize the potential of older workers (Centre For Seniors, 2009). The efforts to promote re-employment have yielded encouraging responses: in February 2009, 706 unionized companies committed to re-employment, and 4650 workers over age 62 were re-employed by the end of 2008[3].

Focusing on Training and Financial Grants: Measures to Support Employers and Older Workers

Measures to Support Employers

- **Financial Grants** to help companies put in place re-employment policies and processes prior to the enactment of legislation in 2012.

Funding of up to S$400,000 per company that is incorporated or registered in Singapore can be applied to support companies' initiatives in boosting recruitment, retention, and re-employment of mature workers. These initiatives include making HR changes, introducing flexible work schemes, re-designing projects, providing counseling for older workers, and restructuring wages to move away from a seniority-based system. This funding scheme is implemented within the ADVANTAGE! (Add Value and Tap on Age!) Scheme under the aegis of the Singapore Workforce Development Agency (WDA)[9].

- **Employment Assistance Payments (EAP)** are to be offered to eligible employees as a last resort when employers are unable to re-employ them. The Guidelines include a reference point for the one-off EAP payouts, recommending a minimum of SGD4,500 to a maximum of SGD10,000.
- **Training programs** for companies to help them make adjustments to their HR policies for re-employment are also subsidized by the WDA (Workforce Development Agency). These programs are jointly organized with WDA partners, such as the Singapore National Employers Federation (SNEF), the Association of Small and Medium Enterprises (ASME) ,and the Centre for Seniors (CFS).

Measures to Enhance the Employability of Older Workers

- **Subsidize skills upgrading and work training/re-training programs** to make them accessible and affordable to workers**.**

The government subsidizes 80–90% of fees for approved courses available under various schemes to help workers enhance their employability. WDA has already in place a Workforce Skills Qualifications (WSQ) framework as well as Employability Skills System (ESS) Training to provide skills upgrading and better job opportunities.

WSQ has been found to be highly effective in improving work performance (WDA, 2010), but the WDA survey also found that only around one in ten employers participated in the WSQ scheme in 2009, and the participation rate is especially low in some industries dominated by SMEs, such as the retail sector, which only has a 5% participation rate. To help improve labor productivity in these industries, which may have difficulties in releasing workers for training, WDA is refining the WSQ courses so as to offer on-site, bite size training, and to have training during the hours that suit the workers (MAS, 2010).

In 2008, when economic crisis caused nearly 16,000 workers to become unemployed and led to a 3.7% rise in the unemployment rate in the same period, a new training program called the **Skills Programme for Upgrading and Resilience (SPUR)** was **i**ntroduced for two years to save existing jobs by giving employers substantial subsidies for course fees and absentee payrolls to enable them to send their excess employees for training instead of retrenching them. A[10] survey conducted a year after the implementation of the initiative shows that the $650-million SPUR program has benefited 47,000 workers who have found jobs either through the SPUR program (42,000) or after undergoing SPUR training (5,000). The initiative is especially useful for low-skilled, low-wage, and mature workers, who make up the majority of the placements (Gov. Monitor, 2009).

To better reach out to low-wage workers, the government will further introduce a three-year Workforce Training Scheme (WTS) which complements the WIS scheme (see below) for low-wage workers. This new scheme will subsidize 90% to 95% of absentee payroll and course fee outlay for employers who send their older low-wage workers for training introduce a structured training program for those with very low skills, and provide cash grants (capped at SGD400 per year) when WIS recipients complete their training (Singapore Budget, 2010:51).

- **Augment the capacity and quality of the Continuing Education and Training (CET) infrastructure** with the launching of the CET (Continuing Education and Training) Masterplan in 2008. This includes the delivery of more quality industry-relevant courses, and infrastructure to provide focal points for skills upgrading. The number of CET centers has more than doubled, from 19 to 42, since the launch, and more new CET centers in growth areas, such as aerospace, precision engineering, process manufacturing, service professionals, and logistics and supply chains will be set up while the existing ones such as finance, information and communications technology (ICT), tourism and hospitality, and digital media will be further expanded to meet growing demands[11]. The 2010 Budget shows further commitment by the government with SGD2.5 billion to be spent over the next five years on CET.
- Encourage non-working women back into the workforce through the setting up of a **Tripartite Workgroup on Enhancing Employment Choices for Women** in 2007. Compared with countries such as Japan, women in Singapore who left to raise children after they married are less likely to return to the workforce; they are thus the main target group for the workgroup. Measures to encourage them to join the workforce include training programs to help them obtain appropriate skills for the workplace, work fairs to introduce them jobs near their homes and to flexible/part-time work arrangements. It is also found that family attitudes may hinder women's decisions to work. Besides the problem of husbands who may refuse to let their wives work outside the home, children too may not

want their parents to work in jobs they see as less desirable, reflecting the need for efforts to change attitudes against women's entrance/re-entrance to the workforce.

Nonetheless, the efforts of the **Tripartite Workgroup on Enhancing Employment Choices for Women** show encouraging results as 5,600 women were successfully placed in jobs through the job fairs, recruitment drives, and job matching services over the past three years (Daipi, 12 March 2010).

- Address the needs of older Professionals, Managers, Executives, and Technicians (PMETs) through the **Professionals Conversion Program (PCP)**, a new scheme launched in 2007. In recent years, PMETs are realizing that their positions have become vulnerable as displacements and unemployment hit them with economic restructuring and downturn. Older PMETs, with 3.6% of unemployment rate compared to 2.9% among the general PMETs in 2006 faced relatively more challenges in finding another job (MOM, 2007:43). The PCP will provide skills upgrading and training required for new professions. PMETs will receive up to $1000 a month of allowance for attending the longer courses.
- Encourage those over age of 55 to stay in employment by providing a **higher Workfare Income Supplement (WIS) Payout** to low wage workers above age 55. The ceiling was set at those earning less than SGD1,500 a month in 2008, but will adjust to SGD1,700 a month as announced in the 2010 Budget. The WIS is a scheme to increase the take-home pay of low-wage workers from age 35; the payout increases with age, hence a worker whose monthly income is SGD1,000 will receive SGD1,200 for the year at age 45, SGD1,800 at age 55, and SGD2,400 from age 60 onwards. In 2010, the payouts will be revised higher by between SGD150 and SGD400, with more going to older workers to encourage them to remain in the workforce (Singapore Budget, 2010). The higher payout for older workers also serves to compensate them for the lower CPF payments that they are receiving from employers.

Measures to Promote Age-Friendly Workplaces

- The Tripartite Alliance for Fair employment Practices (TAFEP) reaches out to employers and employees through various channels. It has also established various guidelines to facilitate the mission, such as Guidelines on Fair Employment Practices and Guidelines for Non-discriminatory Job Advertisements; as well as setting up a Tripartite Centre for Fair Employment to serve as a focal point to promote awareness of fair employment practices, promote age-friendly workplaces, and disseminate good practices.
- Promote the changing of attitudes towards older workers through the establishment of a national award to recognize companies with the most progressive and fair employment practices.

Some Concerns with the Measures

The Singapore government's efforts to maximize manpower and increase productivity to counter the negative impact on the economy and productivity of an aging population have been progressing since the release of the 2007 Tripartite Committee's report. However, Singapore's spending on CET at 0.1% to 0.2% of GDP today is still less compared to the rate of 0.3% in some developed countries.[12] With the government's vision in 2010 to achieve 2–3% annually in productivity growth over the next 10 years, more progressive measures to promote CET as well as grants and relief schemes to support both employers and employees of all age groups will be necessary.

The re-skilling and upgrading of older workers will remain a strategic step towards helping older workers to remain productive and relevant in the workforce. There have been many successful stories of seniors hired in new jobs with skills gained through training programs. One example highlighted in the media is the 63-year-old widower Mr. Ng, who felt lost after retiring from selling fish congee in a varsity canteen to stay at home. His children's decision to sign him up for a certificate course on community and social care

(elder care), a program supported by SPUR and organized by Hua Mei Training Academy, was a turning point for him. Since he graduated with an advanced certificate, he has been employed full-time as a therapy assistant at a rehabilitation and elder-care center (Lianhe Zaobao, 30 March 2010).

However, even amidst happy stories in the media about seniors satisfied with their new jobs or new responsibilities in the workplace, more efforts are still needed to reach out to those in need of a job or who are contemplating working again but may have little access on information about jobs or training available to them. They may require extra help such as courses conducted in their native languages. Moreover, even when training courses are available and largely subsidized, there may still be a small disadvantaged group in poverty who will still require some form of assistance to help defray their transportation and meal expenses as they attend courses. More concerted efforts are thus required in the community to reach out to this group of older workers. Some efforts to widen the outreach have been seen recently when career fair roadshows targeting at the over 50 years old population are being organized in the communities on the weekends in locations where on-the-spot-job interviews are available, as well as offers to sign up for new courses to enhance employability.

In the discussion of challenges facing the retaining and retraining of older workers, there are also concerns that even after retraining and continued education, workers may not necessarily gain relevant employment or better pay; only 6% of workers are shown to enjoy a pay rise after training in courses like SPUR. Furthermore, the availability of cheaper alternatives through the employment of foreign workers in Singapore may encourage employers to lay off their older employees through the Employment Assistance Payment (EAP) program even when they are still healthy and eligible to work or to be re-trained[13].

Older workers, too, often speak of de-motivation to continue working after age 62 if re-employment means a significant cut in their salary while their job responsibilities remain largely similar. As stated in an earlier section of this chapter, employees already face a wage cut from age 50 in the form of lower employer contributions to CPF; while the reduction in CPF contribution benefits employers, it is inevitable for older workers to feel de-motivated when the decrease in CPF savings is compounded with pay cuts. Counselling for older workers reaching age 62 and employers' effort to re-design their job scope, including flexi-work arrangements to parallel their wage and ability is thus important in maintaining a satisfied workforce (instead of coming through as taking advantage of older workers).

Last, the definition of older workers in Singapore in general refers to workers from age 50, and statistics on older workers usually refer to those aged 55–64. The re-employment measures are also targeting at continuity in employment for up to three years after age 62, and eventually for another two years to 67. However, with the rapid increase in life expectancy to at least age 76 and 80 for males and females respectively, more workers should be allowed to work longer if they are capable of doing so; and this means statistics concerning older workers should expand to include figures for those who are 75 and beyond. There are certainly some encouraging cases of workers in their seventies still in employment, such as the case of employees of On Chong Jewellery, an SME which does not have a retirement policy. Among its 42 staff members, 11 are older than 62, with the director already at 90 years old. The media highlighted three employees in their seventies who have been with the company for at least 40 years. They have no intention to retire and, while still performing their work, also take on the role of mentoring their younger colleagues (*The Straits Times*, 9 January 2009).

CONCLUDING REMARKS: RE-THINKING PRODUCTIVITY AND RETIREMENT

A rise in the employability of older workers will positively affect both labor force growth and productivity growth—the determinants of potential output growth introduced at the beginning of the chapter. However, while it is important to encourage as many men and women as possible to continue working beyond the official retirement age through measures such as re-employment so as to keep the positive effect of labor supply, still, over time, population aging will inevitably lead to a decline in the labor force. It is estimated that by 2030, overall female participation rates will fall slightly from 53% to 52%, while the decline will be a higher 13%-point for males, from 78% to 65%. In fact, total labor force growth is expected to stop increasing in 2021 with the projected stabilizing of the foreign labor supply and leveling off of the domestic labor force (MAS, 2000:20). Such is the impact of an expanding and rapidly aging demography.

Under the shadow of an inevitable decline in the labor force, productivity growth becomes all the more important for economic sustainability. The same estimate projects that in the two growth scenarios where TFP rises to 1% or 2% by 2010, Singapore's long-term potential output growth can be expected to average 2.8% and 4.4% respectively in 2025 and 2030. Labor productivity growth determined by the increase in TFP will largely account for the potential output growth, with some contributions from higher educational attainment of the labor force and the capital–labor ratio (MAS, 2000:21). So far, the situation a decade later has shown a decline in labor productivity growth, from 3.4% in the 1990s to 1.1% in the 2000s, the same period in which GDP growth moderated from 7.6% to 4.9%. Capital input remains high, but is reduced from 59% to 46% in driving GDP growth, while labor input increased significantly from 30% to 50%. Labor quality as part of labor input has also seen an improvement, from 1.5% to 11% I the same period. However, TFP growth has not increased as expected, with its contribution to output growth falling from 0.9% in the 1990s to 0.2% in the 2000s, probably due to "the many cyclical shocks in the past decade, rather than a structural downshift" (MAS, 2010:72). In the 2010–2019 forecast, TFP is assumed to be 0.4–0.7% p.a. (ibid.76). To achieve the productivity growth target of 2-3% annually over the next decade, the Singapore government is committing SGD1.1 billion a year over the next five years to raise productivity, and a new National Productivity and Continuing Education Council has been set up to drive the productivity efforts (Singapore Budget, 2010).

Bearing in mind that TFP growth impacted by factors such as ICT innovations and improved business management will play major roles in the drive for productivity, the chapter concludes with related recommendations to address TFP and related growth in the era of global population aging:

Emphasis on Innovation

In an aging context, the role of innovation in diverse areas will inevitably become more significant in lifting productivity. Innovation in work technology through workplace redesign and special tools and equipment is supporting the work capability of workers as well as sustaining and enhancing productivity. For example, to utilize technology to reduce physical demands, a Singapore pharmacy replaced manually pushed trolleys with new motorized ones navigated with a controller allows storekeepers to work without fear of physical constrains that come with aging (AARP and C3A, 2009). Innovation in lifelong learning and training is also required to encourage higher participation in training among the older workers; examples include repackaging courses and services catering to the needs of older workers, providing bite-size modules to cater to learning preferences and motivations, and providing intergenerational peer support systems in the case of intergenerational classrooms.

Improving Management Systems

The TAFEP survey (2010) on employing older workers has shown that while some employers are willing to hire seniors as consultants or temporary staff, and to provide part-time work with continuous benefits, others hesitate to hire older workers precisely because they may need part-time or flexible work schedules. However, as labor force demand increases with an aging demography and low fertility, flexible attitudes from employers and the willingness to seek improvements in management systems are necessary for a sustainable workforce. Some suggestions for improvement in management systems to meet workplace needs may include the re-packaging of benefits and rewards to include flexible work arrangements, target hiring to focus on skills rather than age, phased retirement to allow for gradual exit from the workforce with re-employment, and the expansion of HR roles to include counseling of older workers to motivate them in continued employment.

While the proportion of older workers will rise in the future, it is more realistic to consider the future workforce as becoming a multigenerational one. The TAFEP study on generational differences in the workplace reveals the increasingly common scenario where four generations (the traditionalists born before 1946, baby boomers born between 1946 and 1964, Gen X born in 1965–1980 ,and Gen Y born after 1980) coexist in the same workplace, and each generation has a different perception of the others. It suggests that training and other opportunities to promote intergenerational understanding among employees should be provided, and companies should encourage the formation of multigenerational work teams where seniors may provide mentoring and transfer of knowledge to the younger staff (TAFEP, 2010). An integrated management strategy catering to a multigenerational workforce where every process, such as recruiting, retaining, and training, should include multigenerational perspectives. There are already different models of ways to harness the strength of an age-diversified workforce, of which Juhani Ilmarinen's evidence-based concept of Age Management is one innovative example.

Changing of Mindsets

As the above suggestions challenge existing mindsets on work practices, they also contribute to expanding the scope of concepts such as productivity and retirement, concepts that were earlier conceptualized under entirely different circumstances of high fertility growth and a young population and may need a redefinition.

Can productivity, which is usually conceptualized with relation to wages and GDP growth, be recognized and redefined beyond paid work to include unpaid work in the form of volunteer work in the community, as well as care-giving responsibilities towards grandchildren and their elderly parents? A study by Freedman in June 2008 found that some 5 to 8 million Americans in the second-half of life have shifted into new careers—what he referred to as "encore careers"; and these second careers tend to focus in areas such as the environment, education, the nonprofit sector, and government (Freedman, 2009). They may be high in social impact but not necessarily high in productivity in the conventional definition. Nonetheless, they are productive in their own right, contributing to the future sustainability of society.

The call for a rethinking of the notion of retirement is nothing new. There are scholars urging for the removal of the boundary between work and retirement, or, as Freedman suggests, to see retirement as "a mid-life 'sabbatical' from work, followed by a return to a more balanced work-home life" (AARP and C3A, 2009:69). At a conference devoted to discussing the reinventing of retirement in the context of Asia, Freedman offered the new insight of "not so much seeing the reinvention of retirement, as the creation of an entirely new stage of life." As he rightly points out, the key question for the future is how to harness the potential of older adults: "Will it be roles that dismiss what they have learned—the investments they have made in their human capital? Or will it be an opportunity to recapture those investments and target their talent in areas where it is needed?" (*ibid*.: 67). Perhaps in the near future, the concept of retirement will need to be replaced or radically

revised to reflect the realistic situation of active engagements in later years. But to begin with, society should learn to recognize that older persons form a diverse group among themselves with individual areas of strength and talents; there should be concerted publicity to remove age discrimination and instead highlight work capabilities irrelevant to aging.

Finally, it is important to integrate policies relating to the employment of older workers with others in the population, such as women and the disabled, as well as policies to balance work and family. For example, policies on flexible work arrangements should cater not only to young mothers, but also to others including older men who prefer such arrangements to meet their work and recreational needs. Policies to promote employability among older workers should be part of the larger efforts towards an inclusive and multigenerational society with sustainable productive growth.

NOTES

[1] Of the total labor force of 3.03 million in 2009, residents (citizens and permanent residents) made up 1.9877 million, i.e., 65% of the total labor force (Ministry of Manpower, 2010).

[2] Notes: 1. "Residents" refer to Singapore Citizens and Permanent Residents. 2. Data for 1995, 2000, and 2005 are not available as the Labour Force Survey was not conducted in these years due to the conducting of the Census and General Household Survey by Department of Statistics, Ministry of Trade and Industry. 3. To facilitate comparison with 2008 onwards, the 2007 Labour Force Survey (LFS) data have been adjusted based on Singapore Department of Statistics revised population estimates (released in February 2008) which exclude Singapore residents who have been away form Singapore for a continuous period of 12 months or longer. Adjusted data for 2007 are denoted by the symbol a.

[3] Ministry of Manpower. (2008) Paper No. 3/2008, Focus on Older People In and Out of Employment, July 2008. Manpower Research and Statistics Department Singapore. Table 2, p. 8.

[4] http://sg.aviva-asia.com/about-us/aviva-news-081205.

[5] Although there is also a small group of civil servants from certain categories who received Government Pensions in the form of a non-contributory pay-as-you-go scheme, and certain categories of armed forces personnel who are enrolled in the Savings and Employees scheme, the majority are enrolled in the CPF scheme. <http://www.pensionfundsonline.co.uk/countryprofiles/singapore.aspx> (Accessed 25 March 2010).

[6] Singapore Press Centre (2009) Speech by Mr Lim Boon Heng, Minister for Prime Minister's Office, at Committee of Supply 2009, 6 February 2009, 3:30 pm at Parliament. Online Available : <http://www.news.gov.sg/public/sgpc/en/media_releases/agencies/pmo/speech/S-20090206-2.print.html?AuthKey=> (accessed 19 August 2009).

[7] Ad-hoc survey on Barriers to Work conducted by the Manpower Research and Statistics Department, October 2006 (cited in MOM, 2008:23).

[8] http://app2.wda.gov.sg/web/Contents/Contents.aspx?ContId=107

[9] WDA (Singapore Workforce Development Agency) was set up in 2003 with the mission of enhancing the competitiveness and employability of all in the workforce (http://app2.wda.gov.sg)

[10] Another important scheme implemented during the economic crisis is the Jobs Credits Scheme provided by the government to encourage employers to keep their workers. In the new Jobs Credit Scheme introduced in 2009, the government helps employers with a 12% cash grant on the first SGD2,500 of each local employee's monthly wage. These initiatives form a part of the government's comprehensive Resilience Package of SGD20.5 billion(Keeping Jobs, Building For The Future http://app.mof.gov.sg/news_press/pressdetails.asp?pressID=354).

[11] Details about the CET Master Plan. Online Available

<http://www.mom.gov.sg/publish/etc/medialib/mom_library/corporate/files.Par.14508.File.dat/Factsheet%20for%20Continuing%20Education%20and%20Training%20Masterplan.pdf>

[12] Speech at Singapore Parliament session 11 March 2010 by Minister of State for Manpower, Mr. Lee Yi Shyen. Online Available <http://www.parliament.gov.sg/parlweb/get_highlighted_content.jsp?docID=592549&hlLevel=Terms&links=LOW,THIA,KHIANG&hlWords= &hlTitle=&queryOption=1&ref=http://www.parliament.gov.sg:80/reports/public/hansard/title/20100312/20100312_S0004_T0003.html#1> (accessed 30 March 2010).

[13] Quoted from speech by MP Zainudin Nordin on 11 March 2010 at Singapore Parliament session. <http://www.parliament.gov.sg/parlweb/get_highlighted_content.jsp?docID=592549&hlLevel=Terms&links=LOW,THIA,KHIANG&hlWords=&hlTitle=&queryOption=1&ref=http://www.parliament.gov.sg:80/reports/public/hansard/title/20100312/20100312_S0004_T0003.html#1> (accessed 30 March 2010).

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CHAPTER 5.

THE IMPACT OF POPULATION AGING ON THE LABOR MARKET AND PRODUCTIVITY: THE CASE OF THE REPUBLIC OF CHINA

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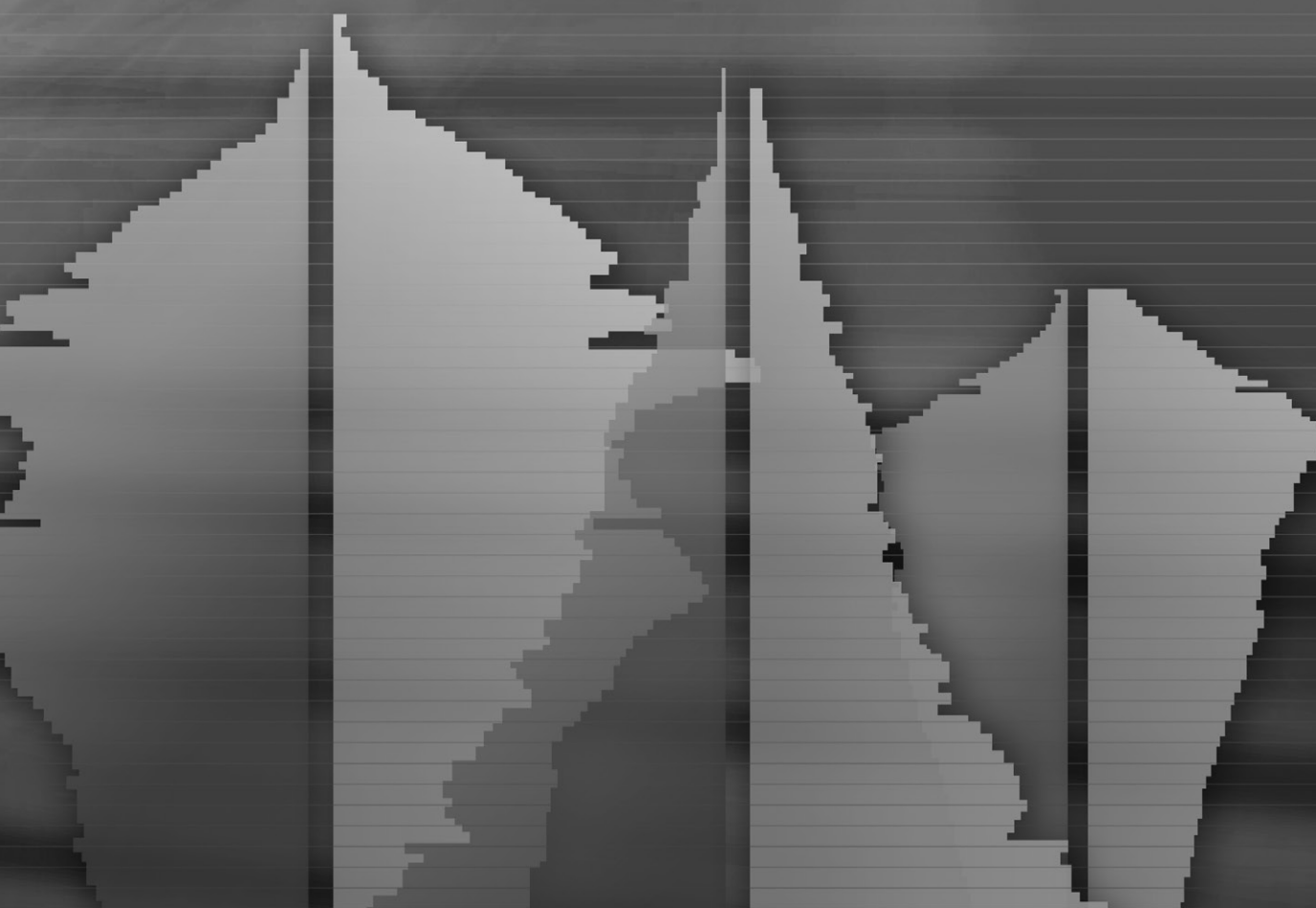


LEARNING OBJECTIVES

· Global Trends and Challenges of Population Aging
· Trends and Characteristics of Population Aging in ROC
· Aging and Labor Force Changes in ROC: Labor Supply and Labor Demand
· Retirement Behaviors and Institutional Reforms
· Challenges and Impacts of Population Aging on the Economy and Productivity
· Current Programs and Policies and Future Policy Suggestions

GLOBAL TRENDS AND CHALLENGES OF POPULATION AGING

Population aging has become a major global issue and challenge in recent years. The latest World Population Prospects (United Nations, 2008) estimates that the median age for all countries will rise from 29.1 to 38.4 by 2050. In addition, 7.6% of the current world's 6.9 billion people are over 65 years old. However, this share will have risen to 16.2% (over 9.1 billion) by 2050. Moreover, several countries are facing especially rapid population aging. For example, the ratio of population aged 65 and above to the total population in Japan is projected to rise significantly, from 22.6% by 2010 to 37.8% by 2050. In the ROK, another APO member, the population aged 65 and above is projected to reach 11.0% of its total population by 2010 and is expected to increase to 34.2% by 2050. In comparing the ROC with other countries, ROC is expected to have a relatively higher ratio of population aged 65 and above to the total population by 2050 (Table 5-1). In 2050, the ratio of the population aged 65 and above to the total population among APO members is projected to be more than double the world average . The global population is already rapidly aging. On the other hand, only a few countries with already-old populations have started to notice the effects. Insufficient attention has been paid to the challenges of population aging (*The Economist,* 2009; APO, 2008). Therefore, it is important for each country's government, including that of the ROC, to take timely actions to adapt to population aging.

Table 5-1. Projected Ratio (%) of Population Aged 65+ to Total Population in the ROC and Selected Countries, 2010–2050

	World	ROC	Japan	ROK	Singapore	USA	UK	Italy	Spain
2010	7.6	10.8	22.6	11.0	10.2	13.0	16.6	20.4	17.2
2015	8.2	12.6	26.3	13.0	13.6	14.3	17.9	21.9	17.8
2020	9.3	16.2	28.5	15.4	17.9	16.1	18.5	23.0	18.7
2025	10.4	20.1	29.7	19.3	22.9	18.1	19.4	24.4	20.4
2030	11.7	24.0	30.8	23.2	27.5	19.8	20.9	26.8	22.7
2035	13.0	27.4	32.5	26.8	30.9	20.6	22.1	29.4	25.4
2040	14.2	30.0	35.1	30.2	32.5	21.0	22.6	31.8	28.1
2045	15.2	33.3	36.8	32.2	32.7	21.2	22.6	33.1	30.7
2050	16.2	35.9	37.8	34.2	32.6	21.6	22.9	33.3	31.8

Sources: 1. Population Projections for Taiwan Areas (Medium Variant): 2008–2056 (2008), Council for Economic Planning and Development, Executive Yuan, ROC.
2. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision (http://esa.un.org/unpp).

Moreover, Table 5-2 shows that it will take approximately 24 years for the ROC to progress from an aging society to an aged society. The amount of time this transition will

take in the ROC is equal to that in Japan. However, the ROC will only take approximately 8 years to progress to becoming a super-aged society from an aged society. The amount of years spent in the transition to a super-aged society in will be shorter for the ROC than for Japan but one year longer than for the ROK. By contrast, it will at least take approximately 75–150 years to progress from aged to super-aged societies in Europe, the United States, and other developed countries. The ROC has a shorter time to prepare for adapting to population aging issues. The fertility rates in the ROC have been rising in order to adapt to population aging issues; however, the effects of this are limited. Furthermore, reliance on foreign nursing workers has also restricted the development of domestic long-term nursing job opportunities. Other more feasible measures will be taken, including help female and elderly workers accommodate to the labor market, in terms both of quantity and of quality.

Table 5-2. Time Spent Becoming an Aged Society/Super-Aged Society by Country

Country	Year to Reach Ratio of Population Aged 65+			Years Spent to Reach	
	7%	14%	20%	7%→14%	14%→20%
ROC	1993	2017	2025	24	8
ROK	2000	2019	2026	19	7
Japan	1970	1994	2006	24	12
Singapore	2000	2015	2022	15	7
UK	1929	1975	2026	46	51
USA	1949	2015	2030	66	15
Italy	1927	1986	2005	59	19
Germany	1932	1970	2009	38	39
France	1864	1980	2017	116	37
Canada	1945	2010	2023	65	13

Sources: 1. United Nations, World Population Prospects: The 2008 Revision.
2. Population Projections for Taiwan Areas (Medium Variant): 2008–2056 (2008), Council for Economic Planning and Development, Executive Yuan, ROC, Taiwan.

The objective of this study is to analyze the effects and implications of population aging on the labor market and productivity in the ROC. In this chapter, long-term trends and characteristics in population aging and its implications for and impacts on productivity will be discussed to provide some empirical data for evaluations of this issue and international comparisons. The employment of elder workers and retirement trends will be analyzed from the point of view of both employers and labor. The recent policy changes and programs will also be described. Finally, some policy recommendations will be proposed aiming at a more sustainable economy and a better society.

TREND AND CHARACTERISTICS OF POPULATION AGING IN THE ROC

Demographic Transition in the ROC: 1961–2056

According to population statistics from the Ministry of Interior, the newborn population declined to 203,000 and the total fertility rate significantly declined from 2.65 persons in 1979 to 1.05 persons in 2008 in the ROC. At the same time, both the absolute number of people aged 0–14 (young) and this group's share of the total population have been declining, as Table 5-3 shows. Thus, a rapid decline of fertility rates in the ROC could have a negative impact on economic growth.

Table 5-3. Long-Term Trends in Population and in Numbers of Working-Age People, 1961–2056

	Total Population (in thousands)	Absolute Numbers (Ratio to the Total Population)		
		0–14 (%)	15–64 (%)	65+ (%)
1961	11,149	5,112 (45.9)	5,759 (51.7)	278 (2.5)
1981	18,136	5,731 (31.6)	11,605 (64.0)	799 (4.4)
1993	20,944	5,265 (25.1)	14,193 (67.8)	1,486 (7.1)
2010	23,123	3,672 (15.9)	16,962 (73.4)	2,489 (10.8)
2011	23,200	3,556 (15.3)	17,109 (73.8)	*2,535 (10.9)*
2015	23,479	3,211 (13.6)	17,381 (73.8)	2,980 (12.6)
2016	23,539	3,143 (13.4)	*17,254 (73.3)*	3,142 (13.4)
2017	23,593	3,112 (13.1)	17,250 (72.8)	*3,325 (14.0)*
2025	*23,833*	2,976 (12.4)	16,139 (67.5)	4,811 (20.1)
2029	23,804	2,874 (12.1)	15,389 (64.7)	*5,541 (23.3)*
2041	22,842	2,421 (10.6)	13,392 (58.6)	*7,029 (30.8)*
2055	20,481	2,070 (10.1)	10,777 (52.6)	7,634 (37.3)
2056	20,286	2,060 (10.2)	10,610 (52.3)	7,616 (37.5)

Source: Population Projections for Taiwan Areas (Medium Variant): 2008– 2056 (2008), Council for Economic Planning and Development, Executive Yuan, ROC.

Slower to Zero Population Growth and Negative Labor Force Growth

The growth rate of the total population in the ROC was 9.87% in 1997, while the number of the births was 32,500 with a birth rate of 1.77. However, the total population was 22.87 million, and the growth rate of the total population declined to 3.36% over the succeeding decade. The number of births declined to 20,300 with the birth rate significantly reduced to 1.1 (CEPD, 2008). According to medium variant data, it is expected that the ROC is facing zero growth in the birth rate with a total population of 23.8 million by 2025.

Table 5-3 shows that the ROC is expected to enter the "aged society" stage, with the ratio of population aged 65 and above to the total population equal to 14%, by 2017. However, the working population aged 15–64 is expected to start declining in 2016 and continue to decline through 2056 (to 10.6 million). Moreover, the growth rate of the working population aged 15–64 will have started declining before the ROC reaches the aged society stage. Therefore, the country could face a slowdown in GDP growth due to the decreased number of working people and the decreased growth rate of the working population, *ceteris paribus*.

The total fertility rate (TFR) in the ROC significantly declined from 1961 through 2005 (Table 5-4). The TFR was 1.11 in 2005; this rate was close to that of Japan, ROK, Singapore, and Hong Kong. Although the ROC's TFR (1.12) showed a slightly gain in 2009, it was still lower than that of ROK (1.2), Singapore (1.3), Germany (1.3), and Japan (1.4), and lower than the population replacement rate (2.1) (CEPD, 2008). Additionally, the population growth rate is projected to decline from 2.6% in 2010 to –8.9% by 2050 (Table 5-4). It is noteworthy to mention that the medium variant population projections data in the ROC show the trend of advancing population aging.

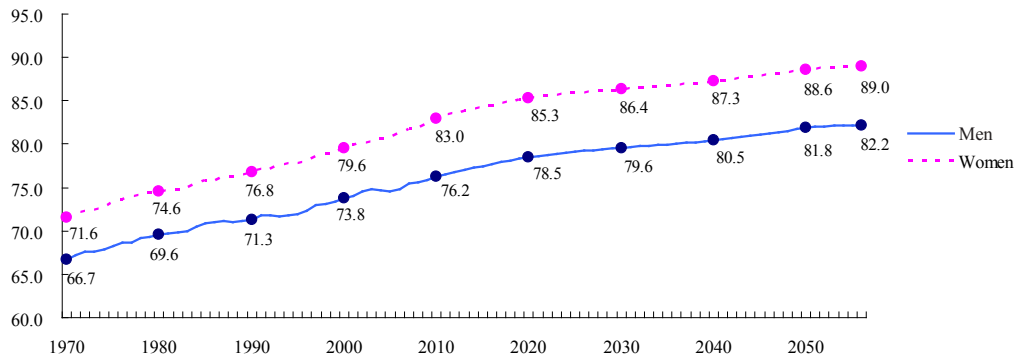
Table 5-4. Population Change in the ROC: 1961–2056

Year	Population (in thousands)	Population Growth	Total Fertility Rate
1961	11,149	6.7	5.6
1965	12,628	5.5	4.8
1970	14,676	4.9	4.0
1975	16,150	4.7	2.8
1980	17,805	4.8	2.5
1985	19,258	4.8	1.9
1990	20,353	5.2	1.8
1995	21,304	5.6	1.8
2000	22,216	5.7	1.7
2005	22,690	6.1	1.1
2010	23,123	2.6	1.1
2015	23,479	2.0	1.2
2020	23,724	0.9	1.2
2025	23,833	-0.3	1.3
2030	23,777	-1.8	1.3
2035	23,499	-3.8	1.3
2040	22,974	-6.0	1.4
2045	22,252	-7.7	1.4
2050	21,407	-8.9	1.4
2056	20,287	-10.3	1.4

Source: Population Projections for Taiwan Areas (Medium Variant):2008–2056 (2008), Council for Economic Planning and Development, Executive Yuan, ROC.

Two Major Forces Driving Population Aging

Increasing life expectancy and declining fertility rate are two major forces driving population aging in Taiwan. According to medium variant population projections (CEPD, 2008), the zero-year-old average in Taiwan was 83.0 and 76.0 years old for female and male in 2010 (see Figure 5-1), respectively. The zero-year-old average is projected to increase another 6 years for both female and male by 2056, respectively.



Source: Population Projections for Taiwan Areas (Medium Variant): 2008–2056 (2008), Council for Economic Planning and Development, Executive Yuan, ROC.

Figure 5-1. Life Expectancy in ROC, 1970–2056

On the other hand, the absolute number of people aged 0–14 (young) and this group's share of the total population have declined from 1981 and are projected to continue declining through 2056, as shown in Table 5-3. The absolute number of people aged 15–64 (working population) and its share of the total population are projected to decline from 2016 through 2056. Therefore, an increase in life expectancy positively affects the absolute number of the elderly and their proportion of the total population. In other words, an increase in life expectancy could be a positive factor for elder labor supply; but, it will have a negative impact on the social security system in the ROC. How population aging affects the labor force and participation among the elderly, as well as the impacts of population aging on the economy and productivity, will be looked at.

The population aged 65 and above in the ROC has exceeded 2 million since 2002. The first postwar generation born between 1946 and 1964 will become 65 years old between 2011 and 2029, and the elderly population aged 65 and above will dramatically rise to 2.5 million and 5.5 million in 2011 and 2029 respectively. Moreover, the generation born in the Year of the Dragon (1976) will reach age 65 in 2041, and the elderly population will reach 7.03 million in that year. The elderly population aged 65 and above will reach approximately 7.62 million by 2056 (Table 5-4). Due to the larger proportion of retired baby boomers, this may pose challenges on the skills of transforming and cause the adverse shocks of decreased labor inputs.

AGING AND LABOR FORCE CHANGES IN THE ROC: LABOR SUPPLY AND LABOR DEMAND

Expanding the range and quality of employment opportunities available to elder workers will become increasingly important as the population ages in OECD countries (OECD, 1998). Accordingly, there is a need to understand better the capacity of labor markets for adapting to aging work forces. Both the supply and demand sides of the labor market will be important. As in the ROC, pension and social security systems have started to reform so that existing incentives for early retirement, such as extension of the mandatory retirement age, labor pensions, and the extension of the insured age for labor insurance to 65, will be reduced or eliminated. If the ROC government can strengthen financial incentives to extend working life, together with a large increase in the elderly population and improvements in their health, the supply of elder workers may increase in the coming decades. The demand for elder workers, along with the efficacy of labor markets in matching supply and demand, will determine their employment and earnings prospects as well as the impact of workforce aging on aggregate productivity and income.

International Comparison of Labor Force and Growth of Labor Force

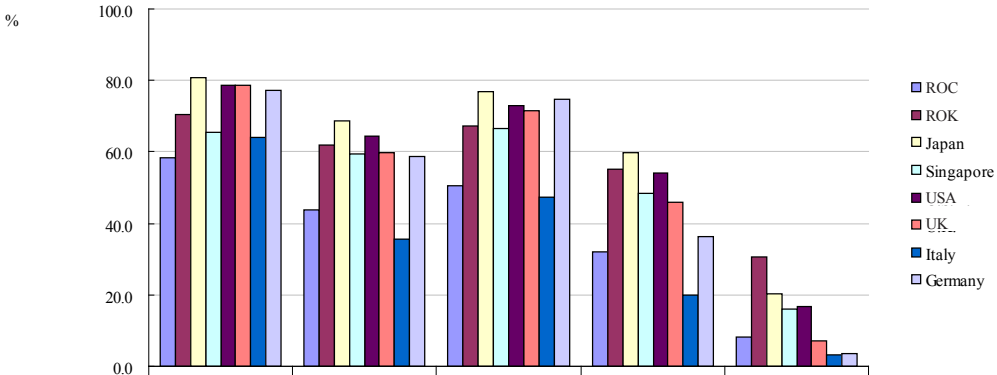
According to International Labor Statistics (2010), the ROC's total labor force in 2008 was 10.85 million, which was much lower than that in Japan (66.5 million) and the ROK (24.35 million) but higher than that in Singapore (1.92 million) and Hong Kong (3.6 million). It was also lower than in European countries such as Germany (41.69 million), the UK (30 million), and France (27.84 million). It was about 14 times smaller than that in the USA.

The growth rate of the labor force was 1.3% between 1998 and 2008 in the ROC. This is pretty much the same as in the USA and the ROK. Singapore had much higher labor force growth rate (2.2%) between 1997 and 2007; however, Japan had a negative labor force growth rate (–-0.2%) between 1998 and 2008.

The majority of countries had 70% male labor participation rates. Italy (60.7%) and France (61.9%) had relatively lower rates. Labor participation rates for females varied more widely among countries, with Italy having the the lowest female participation rate (38%). The labor participation rate of females in the ROC was 49.7%, which was higher than in Japan

(48.4%), but was lower than in ROK (50%) and Singapore (54.3%).

Figure 5-2 illustrates the labor participation rate by the age groups of 55–59, 60–64, and 65 and above in selected countries. The average rate of labor participation rate for the 55–64 age group in the ROC is only 43.8%, which is significantly lower than the rate in the other countries, except for Italy. Japan (68.8%) had the highest rate of labor participation for the 55–64 age group among APO membes. Japan also had the highest rates of labor participation (77% and 59.8%) for the age groups of 55–59 and 60–64, respectively, in 2008. In comparison with APO members' labor participation rates among the age group of 65 and above in 2008, the ROK had the highest rate of labor participation (30.6%). However, the ROC had the lowest rate of labor participation in all three age groups compared to other APO members in 2008. Therefore, the ROC government should implement policies and incentive programs to increase the rate of labor participation among those aged 55 and above in order to deal with a rising old-age dependency ratio and the increasing financial pressures posed by population aging.



	Total	55-64	55-59	60-64	65+
ROC	58.3	43.8	50.6	31.9	8.1
ROK	70.5	61.8	67.3	55.1	30.6
Japan	80.7	68.8	77.0	59.8	20.2
Singapore	65.6	59.3	66.6	48.4	16.1
USA	78.5	64.5	73.1	54.1	16.8
UK	78.6	59.9	71.5	46.0	7.0
Italy	64.1	35.5	47.2	19.9	3.3
Germany	77.1	58.7	74.8	36.2	3.7

Sources: ROC: Yearbook of Manpower Statistics (2008). Directorate-General of Budget, Accounting and Statistics Executive Yuan (DGBAS), ROC.
Singapore: Yearbook of Statistics Singapore (http://www.singstat.gov.sg/pubn/reference.html#mds)
Others: Labor Force Statistics 1998-2008, 2009 Edition,
OECD (Organization for EconomicCooperation and Development) Database (http://www.oecd.org).

Figure 5-2. International Comparison of Labor Participation Rate by Age Group among Elder People Aged 55 and Above, 2008

Current ROC Labor Participation Rate by Age and Gender Comparisons

As Table 5-5 shows, the average labor participation rates in the ROC was 58.3% in 2008; the rate for males was 67.1%, and that for females was 49.7% . The results showed that the labor participation rate was lower than in other countries, and

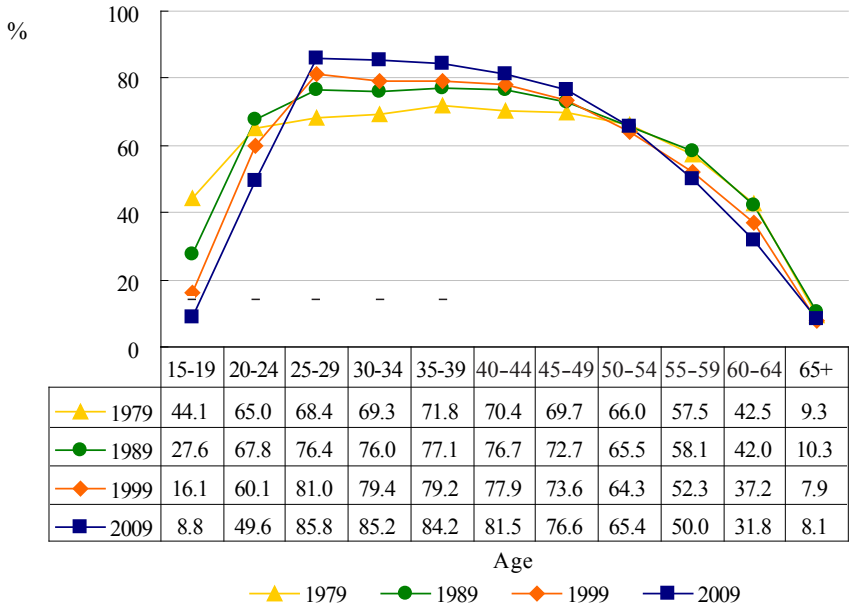
the difference in the labor participation rate between males and females in the ROC was 17.4%. Furthermore, observing the difference in the labor participation rate for different age groups, the male labor participation rate is lower than the female in the 15–24 age group due to the military service requirement for males. However, the gender difference in the labor participation rate increases to 18.1% in the 25–44 age group as females get married, give birth, and leave the job market. After that, the gender difference in labor participation rate increases to a peak of 35.5% in the 55–59 age group as female re-employment is rather difficult. The gender difference in labor participation rate declines to 7.1% in the age group 65 and above because males leave the job market. According to the data in Table 5-5, there is a noticeable gender difference in the rate of labor participation. Thus, one possible solution to the aging labor force and the labor force shortage posed by population aging is to encourage women to be engaged in the workforce.

Table 5-5. The ROC's Labor Participation Rate by Age and Gender in 2008

	Average	15-24	25-44	45-49	50-54	55-59	60-64	65+
Total	58.3	30.2	83.8	76.2	65.9	50.6	31.9	8.1
Male	67.1	27.8	92.9	90.7	82.7	68.6	45.9	11.7
Female	49.7	32.5	74.8	61.7	49.4	33.1	18.6	4.6

Source: Yearbook of Human Resource Statistics, Directorate of Budget, Accounting, Statistics (DGBAS), ROC (2009).

Figure 5-3 shows the long-term trend of changes in the average labor participation rates for the ROC in 1979, 1989, 1999, and 2009. From Figure 5-3, labor participation rate for people aged 50–54 did not significantly increase, and there was a decline in the labor participation rate for people aged 55 and above in the past two decades, although the population aged 55 and above continued aging. The pattern of population aging and lower labor participation rate for elder people at the same time indicates that the labor market might have a pattern of institutional age discrimination and preference.

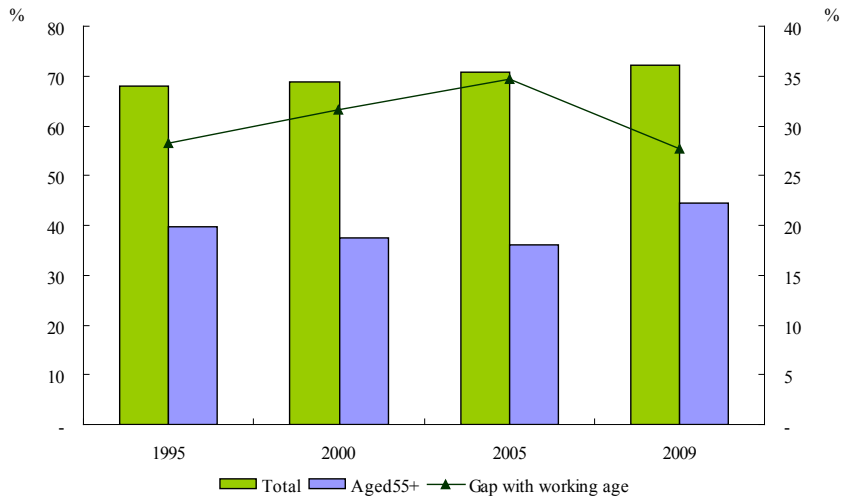


	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
1979	44.1	65.0	68.4	69.3	71.8	70.4	69.7	66.0	57.5	42.5	9.3
1989	27.6	67.8	76.4	76.0	77.1	76.7	72.7	65.5	58.1	42.0	10.3
1999	16.1	60.1	81.0	79.4	79.2	77.9	73.6	64.3	52.3	37.2	7.9
2009	8.8	49.6	85.8	85.2	84.2	81.5	76.6	65.4	50.0	31.8	8.1

Source: Yearbook of Manpower Statistics, Directorate of Budget, Accounting, Statistics (DGBAS), ROC (2009)

Figure 5-3. Long-term Trend of Changes in the Average Labor Participation Rates in 1979, 1989, 1999, and 2009, ROC

Statistics on the average employment rates for the total population and for people aged 55 and above in the ROC, 1995–2009 (Figure 5-4) show that the proportion of people of working age above 55 who are employed was 44.6% in 2009. In that same year, the proportion of people of working age among those aged 15–64 was 72.3%. The employment rate for people aged 55 and above was between 20–25%. There had been a small rise in the overall average employment rate for people aged 55 and above between 2005 and 2009, but there was still a 28–35% difference compared to the overall average rate.



Source: Yearbook of Human Resource Statistics, Directorate of Budget, Accounting, Statistics (DGBAS), ROC (2009)

Figure 5-4. Comparison of the Average Employment Rate among People Aged 55 and above in ROC, 1995–2009

Table 5-6 shows the selected industrial categories for older workers by age group in the ROC and indicates that over half of middle-aged and older ROC workers are in the service sector.

Table 5-6. Selected Industries of Middle-aged and Older Workers by Age Groups, 2008

Category	Total (%)	Age Group			
		45–49	50–54	55–59	60–64
Farming and Forestry, Fishing, Animal Husbandry	9.3	4.9	7.6	14.2	28.2
Industry Sector	34.4	37.6	36.0	30.4	20.4
Service Sector	56.3	57.5	56.4	55.5	51.5

Source: Labor Statistics for Middle and Elder Workers (Council of Labor Affairs, Executive Yuan, ROC, 2008) and Table Summarized by Our Research

Table 5-7 shows the employment types for older ROC workers by age group. It shows that workers in the 60–64 age group are the most likely to be self-employed and that those in the 4549 age group are the most likely to work in the private sector. In addition,

there is a positive relation between the ratio of the self-employed and workers' ages. Moreover, the ratio of hired employees declined by age group.

Table 5-7. Employment Types for Older ROC Workers by Age Group, 2008

Category	Workers (Persons)	Employer (%)	Self-Employment (%)	Employee			Work at Home (Unpaid) (%)
				Subtotal (%)	Public Sector Employee (%)	Private Sector Employee (%)	
Total	3,264,137	8.6	23.27	60.09	11.36	48.73	8.05
Age Group							
45–49	1,349,439	8.06	17.93	66.61	11.63	54.99	7.40
50–54	1,054,087	9.21	22.16	60.75	11.62	49.13	7.88
55–59	617,435	8.60	29.50	53.24	11.67	41.57	8.65
60–64	243,176	8.69	41.91	38.47	8.01	30.46	10.93

Source: Labor Statistics for Middle and Elder Workers, Council of Labor Affairs, Executive Yuan, ROC (2008).

Empirical Findings: Labor Supply Side

According to the national representative data "Survey of Needs, Service Provision and Value Preference among Different Cohorts in Taiwan" conducted by research teams on aging societies under the auspices of the National Science Council (Chou, 2008a), only 16.1% of 771 persons aged 45 and above chose full retirement at age 60 or younger. 48.5% of persons aged 45 and above said they would choose to retire at age 60 or above. Approximately 37.6% of persons aged 45 and above would choose to continue to work post-retirement depending on their jobs and health conditions. Moreover, with regard to the workers' motivations for their lives post-retirement, 45.4% of persons aged 45 and above chose to no longer work after reaching retirement age, while 46.9% chose to continue to work and 7.7% were undecided. This indicates that over half of the people surveyed would choose to continue working after retirement. Marital status, occupation, and self-reported economic status were the factors that motivated them to choose to continue working after the mandatory retirement age. Of the 771 persons aged 45 and above in the survey who continued to work, 47.9% chose part-time jobs, 31.3% chose full-time jobs, and 20.8% chose self-employment. In other words, the retired middle-aged and older people were most likely to choose part-time jobs and least likely to choose self-employment. For the 74.3% of current workers who said they would choose post-retirement work if they did not have sufficient pensions, age, job sector, occupation, and self-reported economic status were the factors mentioned. On the other hand, the most common reason for current retirees continuing to work was to have income (70.6%) and the least common reason was to make new friends (see Table 5-8).

Table 5-8. Reasons for Post-Retirement Work, 2008

	Main reasons for current retirees continuing to work (multiple choices possible)
To have income	70.6
To have more energy	38.7
To make life meaningful and social participation	31.0
To prevent aging	22.2
To make a living due to insufficient pension	21.3
To make new friends	20.8

Note: 23.3% of current retirees are willing to continue working.

Source: Survey of Needs, Service Provision and Value Preference among Different Cohorts in Taiwan, National Science Council, Chou (2008a).

According to the study by Chou (2008a), approximately half of middle-aged and older workers who had retired but continue working in the ROC choose part-time jobs as their paid jobs. These middle-aged and older workers were willing to work when they had insufficient money for retirement. The study also found that 9.9% of all current workers had continued to work after retirement. In addition, among workers aged 55–64 who had retired from public-sector institutions, 13.1% of males and 4% of females were currently working according to DGBAS (2006). Among retirees aged 65 and above, 2.1% of males and 1% of females were currently working. The research showed that there were big differences between expectations/needs and actual behaviors/job opportunities in the labor market. Therefore, the government should implement policies that satisfy middle-aged and older people's needs.

Table 5-9 (Old Age Living Condition Survey, 2008) shows that the average age at which people over 45 decided not to continue to work was 62.25 years in 2008. However, there were approximately 1.5 million people expecting to continue working. The average age of deciding not to work among males aged 45 was higher than among females (males=62.99, females=61.23). From the point of view of labor force conditions, the average age at which current workers aged 45 and above decided not to work was 62.2 in 2008. The average age of deciding not to work among unemployed people aged 45 and above who found jobs was 63.12. Finally, the average age of deciding not to work among people aged 45 and above who were not in the labor force but found jobs was 62.43 years old. Over one third of the surveyed people aged 45 and above said that they would prefer not to stop working in the future.

Table 5-9. Average Age of Deciding Not to Work among People Aged 45 and Above, 2008

Category	Total		Future People Who Stop Working			Future People Who Do Not Stop Working	
			Subtotal		Average age for not working (Yrs)		
	Persons x 1,000	%	Persons x 1,000	%		Persons x 1,000	%
Total	4,170	100.00	2,669	64.00	62.25	1,501	36.00
M	2,505	100.00	1,552	61.95	62.99	953	38.05
F	1,665	100.00	1,117	67.08	61.23	548	32.92

Source: Old Age Living Condition Survey (2008), Ministry of Interior, Executive Yuan, ROC.

According to the investigation on the conditions of the middle- and old-aged in the ROC, 2008 (Table 5-10), about half of the old-aged (65+ yrs) depended on family support as their main income source; 15.5% depended on severance pay or pensions, and 14.4% depended on government subsidy. According to another APO report (Phang, 2010), 28.2% of the old-aged in the ROK depended on private transfers as their income source and 29.4% on support from their relatives. However, only 13.9% of the old-aged in ROK depended on public transfers as their income source—a much lower percentage than in other countries. Comparing income sources between the old-aged in ROK and ROC, 5.1% of the old-aged in ROC and 23.6% of the old-aged in ROK depended on earned income as their main income source. In sum, the elderly in these two countries were less likely to depend on their governments for their economic security. It is relatively commom for older ROC citizens to depend on family support and relatively rare for them to depend on their earned income, as compared with older ROK citizens. As a result, the labor participation rates among the elderly in ROC were significantly lower than those in ROK. However,

family support is declining as well in ROC, due to very low fertility rates and to changes in family values and structures. There is a need to help seniors be self-reliant if—or because—the government cannot provide an adequate economic security net for the old-aged.

Table 5-10. Main Income Sources of the Old-Aged (65+ yrs) in ROC, 2008

Unit: %

	Earned Income	Savings and Interest	Family Support	Severance Pay or Retirement Money	Investments	Government Subsidy	Other Sources
Taiwan	5.1	14.6	48.8	15.5	1.5	14.4	0.1

Source: Middle and Old Aged Condition Investigation (2008), Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan.

Empirical Findings: Labor Demand Side

The author-assisted report on the Employment Policies of Public Opinions and Needs among the Aging Society for the Council of Labor Affairs in 2007 described the current labor conditions among middle-to-old-aged persons, from the viewpoints of companies. The findings can be briefly summarized as follows.

When the companies were asked whether they would hire new employees within 2 years, 45.5% of the companies were willing to hire labors aged 45 and above, but 54.6% were not. The majority of the companies were hiring laborers aged 45 and above for the reason that they wished to use the abilities and experiences of these older workers (30.7%). The majority of the companies were not hiring laborers aged 45 and above because they didn't have jobs suitable for the middle-to-old-aged persons (39.8%).

When when asked whether there was an age limit when they hired employees, 59.6% of the companies replied that they did not have an age limit, but 40.4% did have a limit. The average age limit was 42.5 years old. 64.0% of the companies would consider hiring persons aged 45 and above if the government provided the partial ratio of the wage subsidy, but 36.0% would not. If there were insufficient laborers, 69.8% of the companies supported extending the retirement age. In terms of company sizes, 77.9% of the companies with 500 or more employees and 53.9% of companies with 200–499 employees supported extending the retirement age. 58.5% of the companies thought that the government should underwrite or provide educational training to support private enterprises's hiring. 54.7% of the companies thought that the government should establish human resource banks and service centers for middle-to-old-aged workers and rapidly provide employment information to them. 48.1% of the companies thought that the government should encourage enterprises to assist and to re-hire employees who have just retired.

The demand for eoder workers in the current labor market in the ROC is a bigger problem because fewer than a quarter (23.8%) of people aged 45–64 are privately employed (Survey of Manpower Hiring, DGBAS, 2008). In addition, it was found that the self-employed accounted for 23.3% of the workforce in the 45–64 age group overall, but the proportion of the self-employed significantly increased to 41.9% for workers aged 6064. Moreover, the ratio (28.2%) of laborers aged 60–64 who entered the agriculture/farming sector was relatively high and was obviously higher than the ratio in the overall workforce (9.3%). This shows that the agriculture sector is limited to hiring middle-aged and older people in the current labor market. Therefore, the effects of the reforms in the retirement system on increasing the labor participation rate of middle-aged and older people need to be observed.

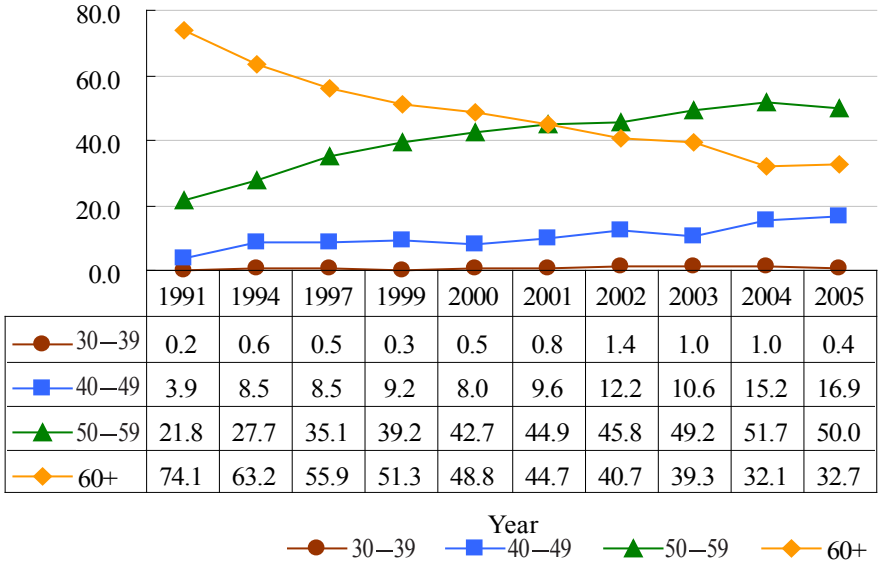
In order to assist employers in dealing with the big gap in wages between the working years wage and post-retirement years, incentives should be provided for employers, such as reform of the wage system, provision of training channels, and assistance with job redesign for people re-entering the workplace. In addition, researchers should consider whether there is competition for employment opportunities between the elderly and young people as the government currently is making greater efforts to deal with issues of youth unemployment than it is with issues of the employment of middle-aged and older people. For example, it may influence the new hiring opportunities for youths for the employers if the government expands the mandatory retirement age. However, it is worth exploring the relationship between employment opportunities for the elderly and those for youth through the concepts of job redesign, job sharing, intergenerational cooperation, and mixed-age-group work organization.

The quality of the labor force includes factors like job ability and the employability. Education and training are the two channels of promotion. Based on the age structure of the education system, the education level of the middle-aged and older people will be significantly higher than that of the current generation cohorts in the next decade or two. Researchers think that it is helpful to distinguish and emphasize the job abilities of the elderly for employers through developing tools for assessment methods and measurements. In addition, advances in medicine and technology have expanded the life expectancy and the numbers of the healthy elderly. In the past, the policy emphasis in adapting to aging was long-term care. However, the focal points of future policies should also include developing a more healthy elderly population through employment, volunteering, and health-care jobs. What is more, it can be helpful to promote health and reduce medical expenditures if the elderly devote appropriate amounts of time to making contributions to society.

RETIREMENT BEHAVIORS AND INSTITUTIONAL REFORMS

Trends of Retirement Age among Employees and International Comparison

According to the Employed Staff Trend Survey from the DGBAS (Figure 5-5), the ratio of retirement in the age group 60 and above to overall retirement reached 74.1% in 1991 and then declined by more than half to 32.7% in 2005. The opposite trend was the case for the ratio of retirement in the 50–59 age group to overall retirement, which was only 21.8% in 1991 but substantially increased to 50% in 2005. These findings showed that the population aged 50–59 was the main component of the current retired population in Taiwan, while the retired population aged 60 and above was only one third. It is notable that this trend of early retirement is contrary to the international trend of expanding retirement. Additionally, there is a mutual interaction between the age groups 50–59 and 60 and above (Figure 5-5). It is also noteworthy that the ratio of the retired population aged 40–49 to the overall retired population increased from 3.9% in 1991 to 16.9% in 2005.



	1991	1994	1997	1999	2000	2001	2002	2003	2004	2005
30—39	0.2	0.6	0.5	0.3	0.5	0.8	1.4	1.0	1.0	0.4
40—49	3.9	8.5	8.5	9.2	8.0	9.6	12.2	10.6	15.2	16.9
50—59	21.8	27.7	35.1	39.2	42.7	44.9	45.8	49.2	51.7	50.0
60+	74.1	63.2	55.9	51.3	48.8	44.7	40.7	39.3	32.1	32.7

Source: Statistical Analysis of Being Employed Staff Trend Investigation, DGBAS (2006)
Figure 5-5. Retirement of Employees by Age Group, 1991–2005

The Statistical Analysis of Employed Staff Trend Investigation has adjusted the age groups for its data since 2006. The latest data showed that the ratio of the retired population aged 55–64 had increased from 48.6% in 2006 to 58.1% in 2008 (Table 5-11). In addition, the ratio of the retirement population aged 65 and above had increased from 5.2% in 2006 to 7.4% in 2008. It is worth exploring whether this trend was related to reforms in the retirement system.

Table 5-11. Retirement of Employees by Age, 2006–2008

unit: %

	2006	2007	2008
35–44 yrs	4.3	3.9	4.5
45–54 yrs	41.9	33.7	30.0
55–64 yrs	48.6	56.0	58.1
65+ yrs	5.2	6.5	7.4

Source: Statistical Analysis of Being Employed Staff Trend Investigation, DGBAS (2009)

Effective Retirement Age vs. Formal Retirement Age

In comparison with other major countries, the actual average retirement age for males and females in the ROC is much earlier than that in the ROK, Japan, and the USA The actual average retirement ages for males were 70, 69.3, 64.2, and 61.8 years old in the ROK, Japan, the USA, and the ROC, respectively, between 1999 and 2004. In the same period, the actual average retirement ages for females were 66.9, 66.1, 63.1, and 59 years old in the ROK, Japan, the USA, and the ROC, respectively. It appears that the retirement age in the ROC can be raised, as the withdrawal of workers from the labor market is too early.

Figures 5-6 and 5-7 show an international comparison of the effective retirement age and the formal retirement age by females and males, respectively. The formal retirement age is around 60 or below in the ROK, Japan, the ROC, the UK, Italy, and France. The formal retirement age is over 60 in the USA, Canada, and Germany. ROC

females have the youngest effective retirement age, at 59 years old. French males have the youngest effective retirement age at 59 years old. The effective retirement age for Taiwanese males is 61.8 years old. The data suggest that one of solutions to increasing labor participation and productivity among older people in the ROC is to encourage ROC seniors to work longer.

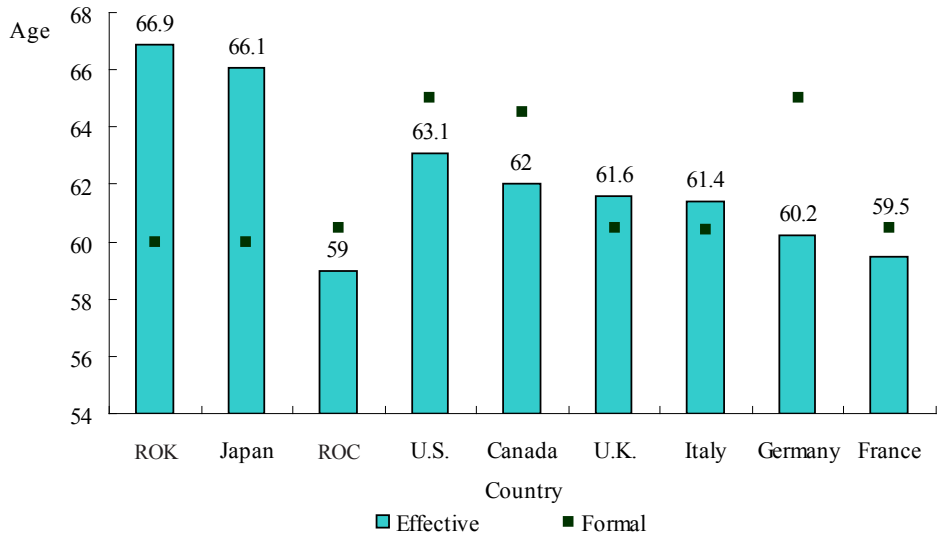


Figure 5-6. Comparison of Effective Retirement Age and Formal Retirement Age for Females

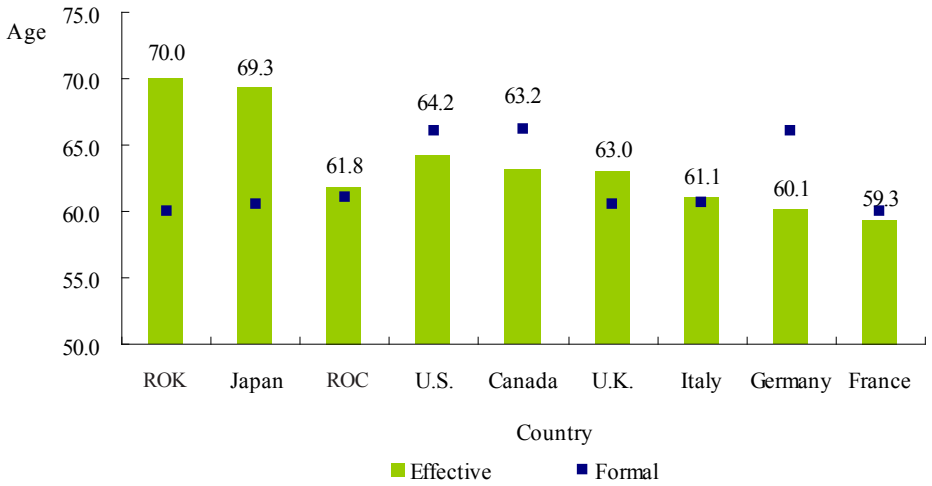


Figure 5-7. Comparison of Effective Retirement Age and Formal Retirement Age for Males

Retirement Systems and Methods of Employers in Taiwan

Table 5-12 shows the retirement systems of employers in 2007. In Table 5-12, 64.5% of company retirement systems were based on fixed age, and only 35.53% of company on no-fixed age. Among the companies whose systems were based on fixed age or working years, 63.5% were based on the Labor Standard Law. The smaller the company is, more likely it is to have a no-fixed age retirement system.

Table 5-12. Retirement Systems by Company Size, 2007

	Company	No Fixed-Age or Working Years Retirement (%)	Fixed-Age or Working Years Retirement (%)			
				Based on Labor Standard Law (%)	Depending on Job Positions (%)	Other (%)
Total	2,375	35.53	64.47	63.50	1.11	1.05
Company Size (# of Employees)						
< 4	1,136	42.11	57.89	56.69	1.15	0.98
5–29	1,095	31.19	68.81	68.22	0.88	0.85
30–49	58	21.23	78.77	76.29	3.52	0.67
50–199	66	15.50	84.50	83.05	1.33	2.99
200–499	13	8.44	91.56	88.70	3.80	11.17
> 500	6	N/A	100.00	97.17	3.22	10.57

Source: Employment Policies of Public Opinions and Needs among the Aging Society (2007), Council of Labor Affairs, Executive Yuan, ROC.

According to the retirement methods of employers in the past 5 years and within the past 2 years (Table 5-13), there was an increasing trend in retirement methods toward mandatory retirement and continuous hiring systems.

Table 5-13. Retirement Methods by Company Size in the Past 5 Years and within the Past 2 Years, 2007

	Company		Early Retirement (%)		Preferential Benefit Retirement (%)		Mandatory Retirement (%)		System of Continuous Hiring (%)		None (%)	
	Past 5 Years	2 Years	Past 5 Years	2 Years	Past 5 Years	2 Years	Past 5 Years	2 Years	Past 5 Years	2 Years	Past 5 Years	2 Years
Total	2,375	2,375	1.8	1.9	1.3	2.6	1.3	6.2	3.9	11.0	92.3	80.8
Company Size (# of Employees)												
<4	1,136	1,136	2.0	1.9	0.4	2.0	1.0	6.3	2.3	9.4	94.8	82.1
5–29	1,095	1,095	1.2	1.7	1.2	2.7	1.6	6.2	5.1	12.5	91.1	79.9
30–49	58	58	4.9	3.8	3.9	6.3	1.62	3.5	4.0	12.0	89.1	80.4
50–199	66	66	1.6	2.9	5.2	3.1	0.6	6.3	11.1	11.4	83.8	78.3
200–499	13	13	10.2	9.2	34.7	30.5	3.5	3.5	12.4	15.1	50.0	51.9
>500	6	6	4.5	2.4	24.4	10.4	1.64	1.6	15.7	4.9	64.6	85.4

Source: Employment Policies of Public Companies and Needs among the Aging Society (2007), Council of Labor Affairs, Executive Yuan, ROC.

CHALLENGES AND IMPACTS OF POPULATION AGING ON ECONOMY AND PRODUCTIVITY

Trends in the Labor Force

According to the data in Table 5-14, the number of workers aged 55 and above increased from 58,900 in 1979 to 1.19 million in 2009 as the population aged over the past three decades. On the other hand, the ratio of population aged 15–24 (young) to the total population in the ROC significantly declined, over the past 30 years, from 22.3% in 1979 to 13.9% in 2009, due to a sizable decline in the total fertility rate. In the same period, the labor force aged 15–24 decreased from 1.83 million to 0.88 million. One possible reason for the decline in percentage in the labor force of young people is that young individuals enter the labor market later due to the larger numbers continuing their higher education. By contrast, the number of older workers increased from 1979 through 2009.

Table 5-14. Labor Force among Total Population and Population Aged 15–24 and Aged 55 and above, 1979–2009

Unit: thousands

Year	Total	15–24	55–59	60–64	65+
1979	6,515	183	342	182	65
1985	7,695	169	440	240	92
1993	8,874	134	432	305	142
2000	9,784	128	419	270	145
2005	10,371	106	485	258	158
2009	10,917	88	723	276	194

Source: Labor Force Statistics (2010), Council of Labor Affairs, Council of Labor Affairs, Executive Yuan, ROC.

Trends in Labor Participation

The data in Table 5-15 show that the labor participation rate among the population aged 60–64 fell from 57.5% in 1979 to 50% in 2009, although the labor force for this age group increased (see Table 5-14). In addition, the labor participation rate among the population aged 55–59 fell from 57.5% to 50% and declined from 9.3% to 8.1% among the population aged 65 and above from 1979 through 2009. Moreover, the rate of decline in labor participation was greater in the 55–59 and 60–64 age groups than in the age group 65 and above and lower than that in the average labor participation rate. One possible explanation was the trend toward early retirement in the ROC. In this case, policies to raise the labor participation rate among the population aged 55 and above and to extend the retirement age will be helpful in increasing the labor supply and relieving the impact of a declining labor force.

Table 5-15. Labor Participation Rate among Total Population and among People Aged 55 and Above, 1979–2009

Year	Total	55–59	60–64	65+
1979	58.7	57.5	42.5	9.3
1985	59.5	58.1	41.1	9.7
1993	58.8	50.1	41.6	9.8
2000	57.7	50.5	35.7	7.7
2005	57.8	48.8	32.5	7.3
2009	57.9	50.0	31.8	8.1

Source: Labor Force Statistics (2010), Council of Labor Affairs, Executive Yuan, ROC.

The trends in labor force participation indicate that the working population reaches a peak at approximately 45–50 years old—i.e., the labor force has an inversed U-shape. The current age structure changes and labor participation behaviors may hurt economic growth due to the decline of the labor force, *ceteris paribus*. The aging labor force can cause a decline in productivity if the policies designed to increase the elderly labor force do not work or are not adopted. In addition, labor participation behavior changes are accompanied by population aeing and are also significantly affected by the needs of employers and the institutional age discrimination of the labor market. The explanation is that employers in the ROC will reduce their willingness to hire new workers or to continue to hire current older workers when seniority is the main basis for the wage system or if productivity and wages for the oelder workers are disproportionate. On the other hand, hiring behaviors in the labor market are not age-free—i.e., there are age preferences and even age-based discrimination. Therefore, it is important for policy makers to provide incentive programs that encourage ROC employers to hire older workers and to deal with age discrimination and other obstacles.

Labor force participation cannot be changed with trends in population changes alone. Effective policies, such as extension of working lives and raising effective retirement ages, need to be involved (OECD, 1998:124). Relevant revisions of the law in the ROC have already started to expand the retirement age and to have an impact. For example, labor participation among people aged 55 and above has gradually increased, from 57.68% in 2000 to 57.9% in 2009 (Table 5-15).

Population trends alone are insufficient to determine labor force trends. If labor participation rates continue to evolve differently at different ages, the labor force will not age in lock-step with the total population. In particular, the extent to which population aging will result in older labor forces depends critically on the future evolution of the effective retirement age, which is uncertain.

In most OECD countries, it appears that pensions and social security programs will be adjusted so that possibilities for early retirement will be more limited or less attractive, and that workers will respond to these changes in incentives by seeking to delay retirement (as in the ROC example). Hence the trend among men toward younger retirement ages could be ceased or reversed.

Aging and Labor Productivity

In looking at productivity, researchers often analyze individual productivity (or productivity at the micro level) and aggregate productivity (productivity at the macro level). In fact, there are some other aspects, such as team productivity and organizational productivity (or productivity at the meso level). It can also be helpful to promote intergenerational exchange and cooperation of mixed-age teams or groups through the promotion in team productivity and organizational productivity. Based on literature reviews estimating the influence of age on individual productivity in different ways, Skirbekk (2003) suggested that productivity followed an inverted U-shaped profile in which significant decreases were found after the age of 50. The Survey from the Employment Policies of Public Opinions and Needs among the Aging Society showed that half of the employers were willing to hire middle-to-aged workers. The top two reasons were (a) an increased appreciation by employers of older workers' experience and abilities (32.9%) and (b) lower labor mobility and greater loyalty (26.4%).

It appears clearly that older individuals are more valued in the performance of tasks that take advantage of their experience and the skills they have accumulated with age. On the other hand, younger individuals are more valued in the performance of tasks that require learning new knowledge/skills and that require more physical strength. It is thus suggested that the "mixed-age group principle" and "job redesign practice" can be used in organizations to create higher labor productivity and to facilitate the transfer of skills to

succeeding generations in aging societies (Chou, 2008b). The false attribition of a decline in performance to age may occur at any age; however, "training practice" might mitigate skill obsolescence (Auer and Fortuny, 2002). Ji (1995) pointed out that a more active method is job redesign to adjust occupations to better fit middle-aged and elder people in order to increase labor participation and productivity. Job redesign needs to be proposed by the people who are in direct touch with productivity and who know the quality of the job very well. Job redesign must increase productivity at the lowest cost in order to achieve the greatest effectiveness.

One of the causes of large productivity differences within age groups, namely poor health, is significantly related to age. The risk of poor health and disability rises with age, and the onset of health problems affects the timing of retirement for a significant number of older workers. However, recent increases in longevity appear to have been accompanied by a significant reduction in the incidence of disability at older ages, suggesting that the extent to which poor health reduces the productivity of workers at any given age is trending downward. The shift of employment away from manual occupations may also diminish the significance of age-related health problems for job performance.

Aging and the Dependency Ratio

Table 5-16 shows the dependency ratios of children and the elderly as well as the index of aging from 1961 through 2056. The index of aging reflects the aging of the population and low fertility rates. The index of aging in the ROC in 2008 was 64.1, meaning that the ratio of the population aged 65 and above to the population aged 0–14 was about 1.6 to 1. Both the population aged 014 and that aged 65 and above are projected to reach approximately 3.14 million (index of aging = 100) by 2016 due to low fertility and population aging. After that, the population aged 0–14 will continue decreasing, but the population aged 65 and above will continue to increase. The index of aging will reach 369.7 by 2056—that is, the ratio of population aged 65 and above to population aged 014 will be approximately 0.3 to1.

Another significant factor for laborers is the dependency ratio. The dependency ratio is defined as the ratio of economically active workers to inactive ones—i.e. the ratio of population aged 0–14 and 65 and above to the population aged 15–64. In general, the dependency ratio includes a child dependency ratio and an elderly dependency ratio. A high ratio means that those in the working age group of 15–64 face a greater burden in supporting the aging population. As Table 5-16 shows ,the total dependency ratio was about 37 persons in 2008 and was projected to increase to 53 persons by 2028 and then to 91 persons—approximately 2.4 times the current ratio. In addition, the child dependency ratio was about 23.5% in 2008 and was projected to decrease to 18.6% by 2028 and then expected to increase slightly to 19.4%. The elderly dependency ratio was about 14.4% in 2008 and was projected to significantly increase to 34.5% by 2028 and then expected to increase to 71.8%. In other words, the ratio of producers (those aged 15–64) to retirees (those aged 65 and above) is projected to decline from 7:1 in 2008 to 3.2:1 by 2026 and then to 1.4:1 by 2056. In sum, the burden of the working population caused by the child population is slowing down, but the burden of supporting the elderly population is gradually getting heavier. It is important to deal with this challenge posed by low fertility and an aging population. It is noteworthy to mention that "working age" is generally considered to be 15–64 years old. However, according to the data in the ROC, the actual burden of the working population is bigger due to the extension of the years children are spending in school and the trend of early retirement.

Table 5-16. Dependency Ratios of Children, the Elderly, and Index of Aging in the ROC, Medium Variant, 1961–2056

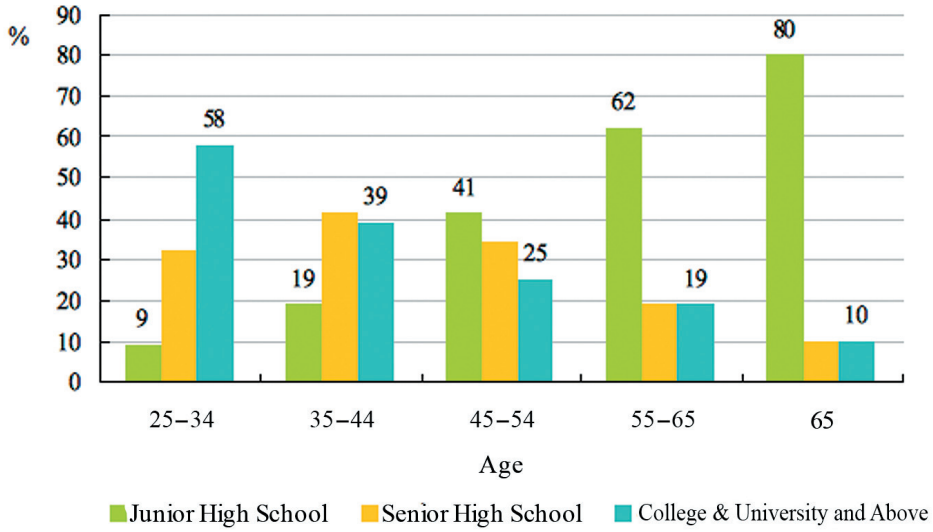
Year	Total (%)	Children (%)	The Elderly (%)	Ratio of Producers to Retirees	Index of Aging
1961	93.6	88.8	4.8	20.7:1	5.4
1981	56.3	49.4	6.9	14.5:1	13.9
1991	48.9	39.2	9.7	10.3:1	24.8
2001	42.1	29.6	12.5	8.0:1	42.3
2008	37.8	23.5	14.4	7.0:1	61.4
2013	35.3	19.6	15.7	6.4:1	80.3
2018	38.3	17.9	21.4	4.9:1	113.4
2023	45.1	18.3	26.8	3.7:1	146.7
2050	84.8	18.4	66.4	1.5:1	360.4
2056	91.2	19.4	71.8	1.4:1	369.7

Note: Child dependency ratio = (Population aged 0–14 / Population aged 15–64)*100; Elderly dependency ratio = (Population aged 65 and above / Population aged 15-64)*100; Producer = Population aged 15–64; Retiree = Population aged 65 and above; Index of Aging = (Population aged 65 and above / Population aged 0–14)*100

Source: Population Projections for Taiwan Areas (Medium Variant): 2008–2056 (2008), Council for Economic Planning and Development, Executive Yuan, ROC.

Educational Levels among Different Cohorts of Elder Workers

On the other hand, according to the statistical data (Figure 5-8), 8.7% of the population aged 65 and above had some college education, and the percentage increased to 20.2% for those aged 50–64. It even climbed to 35.5% among the population aged 35–49. Population aging will continue increasing due to medical and technological advances leading to longer life expectancies as the baby boomers gradually enter to the old-age stage. Although 8.7% of the current population aged 65 and above have some college education, the middle-aged and prime working population is gradually aging. The utilization of highly educated older workers has become an important issue. It is necessary to expand the retirement age so that the manpower of the middle-aged and elder people can contribute their talents to the societies.



Source: Ministry of Interior, ROC, 2009.

Figure 5-8. Educational Levels among Different Cohorts of Elder Workers in the ROC, 2009

Pessimistic, Optimistic, and Non-Deterministic Views of Population Aging

Researchers have three main different views of population aging, including pessimistic, optimistic, and non-deterministic perspectives. The pessimistic perspective focuses on the negative impact of changes in the labor market, such as the decrease in labor force size, trends in productivity, and increased social security expenditures. Non-deterministic perspectives suggest that the positive or negative impacts of labor market changes depend on how the economy and society respond to the population aging process (Phang, 2010). By contrast, the main points of emphasis for the optimistic perspective are technological advancement and human capital investment. Young individuals would be better at accepting new technology than elder individuals. However, the young labor force is shrinking in size due to low fertility rates and population aging in recent years in the ROC. In addition, according to government statistics, the number of workers among the population aged 15–29 declined from 2,705,000 persons in 2000 to 2,514,000 persons in 2009 in the ROC. Continuing education is part of the reason for the decline in the young labor force. Therefore, the overall view of the aging population in the ROC tends to be more pessimistic than optimistic.

According to the pessimistic view of the aging population (Phang, 2010), the driving forces behind aging (low fertility and longer life expectancy) have negative impacts on economic growth through the following mechanisms:

(a) Decline in labor input results from low population growth and aging. According to medium variant population projections, population growth was low (3.6% in 2008, decreasing to –8.4% by 2050) in the ROC, and the country was facing rapidly aging (the index of aging is projected to increase from 64.8% in 2009 to 88.6% by 2050). These data show that population aging in Taiwan could have negative effects on growth through decreasing labor input due to low population growth and aging.

(b) Decline in saving rates and capital accumulation results from the rise in the dependency ratio and the social cost of long-term care. According to medium variant population projections, total dependency ratios will increase from 38.44% in 2007 to 84.8% by 2050 in the ROC. This indicates that population aging in Taiwan could have negative effects on economic growth through a rapid rise in the dependency ratio.

(c) Decreasing investment in the human capital of the young generation results from the increase in social welfare cost. According to the social security expenditure data from National Statistics, welfare service costs for the elderly increased from TWD6,017 million in 2000 to TWD8,992 million in 2006. Although the government has not released projections for social welfare costs, the ROC is expected to have increasing social welfare costs in the future as the elderly population is growing rapidly and longer life expectancies are predicted. Therefore, population aging could have negative effects on economic growth through an increase in social welfare costs.

Phang (2010) has pointed out that Scarth (2007) expected material living standards to rise, not fall, although researchers are concerned about too few people producing the goods and services needed by an aging population (fewer workers and more people in retirement). Scarth (2002) also suggested that flexible working arrangements for older workers or retirees and an increase in immigration might limit the predicted labor shortage accompanying the aging population. However, Phang (2010) also noted that the assumptions regarding future developments in economies and societies with aging populations should be based on empirical findings through time and history. The overall impact of population aging on economy and productivity in the ROC also relies on multiple factors which are not easily judged; however, some directions can still be identified, through this report, for evaluation.

According to this report, several negative signs from population aging can indeed be perceived, including faster population aging beginning in 2017, very low fertility rates since 2006, decreasing working population starting in 2016, zero population growth

beginning in 2025, baby boomers leaving the labor market between 2011 and 2029, and increasing dependency ratios. However, on the other hand, there are several positive effects waiting to be evaluated, including the expectation of a significant increase in labor participation among elder workers and the possibility that the working years for baby boomers can successfully be extended, that the higher educational levels of future older workers can properly be used, and that employability can be maintained or enhanced for older workers by training and lifelong learning. Therefore, the overall effect of population aging in the labor market is really un-determined. Government policy interventions in company recruitment, retention, and retirement policies will play a pivotal role.

CURRENT PROGRAMS AND POLICIES AND FUTURE POLICY SUGGESTIONS

In general, population aging indeed has deep impacts on economic development and productivity. However, the total extent of the impacts depends on what model assumptions are used. The ROC does not have projection reports available regarding the effects of population aging on the labor market and the economy, although it currently has population projections for up to 2056. Therefore, this study focuses on the possible impact of population aging on the labor market and productivity. It also look at the trends of changes in population and labor force over the past three or four decades and analyzes the relationship between age and gender structures. This study helps to better understand the trend of changes in population aging in the ROC and the implications of proposed policies.

At a conference convened by the Ministry of Interior in November 2004 to examine the problems of population aging and to propose policy solutions, the Ministry proposed to implement the government's White Paper on Population Policies by March 2005 in order to promote the relevant policies for the government. Four main directions discussed at this conference included the impacts of birth, raising children, and immigration on age structures; the impacts of age structures on the development of educational resources; the establishment of fair and rational social security nets; and the optimal use of manpower in a time of population aging. There were three consensuses, including the achievement of sufficient labor supply through population aging and manpower use, the promotion of labor force quality, and the promotion of manpower use for middle-aged and older people (Summary Report of the Population Aging Conference, Council for Economic Planning and Development, ROC, 2004).

The Council of Labor Affairs, Executive Yuan, also asked the author of this article to implement the White Paper on the Employment Policies. The author then joined the "The Aging Society Approaching: Integration Research for Taiwan Society Plans 2025" interdisciplinary research team headed by Professor Wan-I Lin and funded by the National Science Council (NSC), which is one of the biggest research funders in the area of social science. The author also served as the convener of the manpower resource group. The purpose of this project was to transform the study results into specific policy plans.

Currently, there is no special law, in the ROC, to deal with and adapt to the employment of older workers in an aging society. In the employment service, the main law is the second provision of Article 24 in the Employment Service Law, stipulating: "The government institutions need to designate plans and develop employment for the middle-aged and older people who have job abilities and are willing to work." The Employment Service Law was passed in 1992, and the government implemented the "Measure for the Promotion of Employment for the Middle-Aged and Elder People" in 1994 based on the provisions of the Employment Service Law. The main focal points included the promotion of re-employment, developing job training resources, providing employment, etc.

Recent Reforms in Employment Policies and Employment Laws

A revision of the Labor Standard Act (passed 25 April 25 2008) aimed to expand the retirement age for laborers and to protect basic income in the retirement years based on the third clause of the White Paper on Labor Policies. The revision was to delay the mandatory retirement age of laborers to 65 years old, to inspect and revise personal accounts in the retirement system, and to strengthen the profit-making potential of retirement fund markets. In addition, the revision was to ensure the retirement pensions of laborers plus their labor insurance pensions and to achieve a replacement rate of basic retirement income of 70% and over (websites of the presidential candidates Ma Yingjiu and Xiao Wanchang, 2008).

The reasons stated by the party caucus of Legislative Yuan R.O.C. for drafting the revision of the 54th article of the Labor Standard Act are as follows:

1. Many countries are facing the common problems of low fertility and population aging, and are using increasing numbers of workers from overseas, female employment, and continued working for the elderly to counter the impact of a declining labor population due to low fertility and population aging.

2. The average life expectancy of ROC citizens is over 75 years, and the trend is toward an extension in the age of the working population. The mandatory retirement age for laborers in the original provision of the 54th article of the Labor Standard Act should be revised to 65 years old in order to promote the manpower resource use of older workers and to protect jobs and life security for middle-aged and older laborers. The revision will extend the retirement age in order to substantiate the productivity of the ROC (Legislative Yuan Bulletin, 2008 (18): 47-52).

The development of new policies and revision of current policies in order for the government to adapt to the aging population is summarized in Table 5-17.

Table 5-17. Development of Current Labor Policies and Law Reform for an Aging Workforce, ROC

2004.06.11	New Labor Pension Act: From Defined Benefits to Defined Contribution
2007.05.23	Employment Services Law: Prohibition of Age Discrimination Added to the Law
2007.07.20	Passed the National Pension Act and Started to Implement It on 1 October 2008
2007.10.31	Drafted and Completed the White Paper on Labor Policies to Adapt to Aging Society by Dr. Chou
2008.02.18	Passed the Simplified White Paper on Labor Policies to Adapt to Aging Society by the Executive Yuan
2008.04.25	Labor Standards Act: Extended Mandatory Retirement Age from 60 to 65
2009.04.21	Employment Insurance Law: Expanded Employment Insurance Coverage from 60 to 65 and Increased Unemployment Insurance Benefits for Middle-ages and Older Workers from 6 to 9 Months

Policy Suggestions on Employment of the Elderly

In this section, policy suggestions on elderly employment based on the different perspectives of several countries and regions including the OECD and the ROC are discussed.

From the economic perspective, the OECD emphasized "Three Ps" for the employment policies of aging societies, as every country's GDP per capita is mainly affected by *population*, *productivity,* and *participation* (OECD, 2006:25). In order to reduce the impact of population aging on economic growth, policies can be aimed in these three directions. For the factor of *population,* the working population can be increased through a rise in fertility rates and increased immigration. However, a great deal of effort is needed to fully assimilate immigrants into the economy and the society in the middle to

long term. For the factor of *productivity*, the negative impact of the reduction in population posed by population aging on economic growth can be relieved if labor productivity can be increased. Nevertheless, expenditures for the societies may be increased as higher wages are paid to laborers. Therefore, taxes may be raised due to the increases in public spending when the increase in productivity leads to the rise of overall incomes. For the factor of labor *participation*, it can be helpful to reduce the economic dependency ratio, to improve public finance, and to increase economic growth by fully increasing the labor participation. Moreover, there is still space to increase labor participation for middle-aged to older people and expand their disability-free life expectancy. Therefore, the increase in labor participation by the middle-aged and elderly will have positive effects on economic growth and public finance are more significantly, even though the working population aged 20–49 is dramatically declining.

According to the OECD's 2001 survey of financial spending related to population aging for 2000–2050, average annual economic growth will decline to 1.9% from 1.75% by 2050. In public spending, 40–60% of public spending is related to the age structure. The average annual growth of elderly pension spending will be 3–4% by 2050. The average current medical and long-term care spending is 6% of GDP. In general, the spending related to age is 6–7% of GDP. If it is expected that the financial pressure will be reduced through increased employment participation, it will be necessary to make more efforts 10 years and 20 years down the road (2015 and 2025 vs. 2005). Therefore, it is important to act in a timely way to adapt to the aging of the middle-aged and the elderly population since it will be more cost-effective.

OECD pointed out that the extension of the retirement age and the increase in labor participation for middle-aged and elderly people are helpful measures for relieving the burden of population aging. The postponing of retirement and continuing in employment by older workers will increase their resources for productivity and consumption. Public finance could be improved through income tax revenues and reduced social security fees (OECD, 2002). OECD used sensitivity analyses to estimate that increasing the labor participation rate of middle-aged and older people by 10% could reduce 0.6% of GDP related to expenditures on old-age pensions between 2000 and 2050. However, the drawback of this method is that the extension of retirement results in other costs, such as retraining costs for middle-aged and older laborers. Therefore, the development of suitable labor markets and employment policies is necessary (OECD, 2002:144).

For the ROC, two future policy goals are suggested in the White Paper on Employment Policies in the Coming Aged Society in order to maintain and enhance the productivity of an aging workforce. One goal is to create an age-friendly job market for the elderly, and another is to create multiple job opportunities for the elderly. In order to achieve these goals in the future, four strategies and eleven key plans are proposed and can be summarized as the follows:

Strategies:

1. The reform of institutions
2. The mechanism of employers' incentives and the satisfaction of labors' needs
3. Cooperation between the government and non-government actors
4. Focusing on the careers of laborers and the satisfaction of their employment needs

Key Plans:

1. Planning for newly added and amended relevant legislation and conducting relevant research to provide robust foundations for policy changes

2. Examining current retirement and pension policies and working toward an age-friendly environment
3. Examining the current pension systems and working to promote social fairness
4. Planning for eliminating age discrimination to create age-friendly job environments
5. Encouraging incentive mechanisms that encourage continued working
6. Making efforts to increase the willingness of employers to hire middle-aged and older persons
7. Providing multivariate job training channels to increase laborers' working skills
8. Establishing convenient and universal "silver human resource centers" and integrating the information channels that serve seniors
9. Encouraging current public and private employment services that help workers to develop diverse choices
10. Creating flexible and various job opportunities to fit the life styles and needs of middle-aged and older persons
11. Promoting lifelong learning, career planning, and lifelong education for retirement preparation

In conclusion, increases in elder labor participation and productivity are helpful to promote economic growth and productivity. These phenomena also have some social impacts, including the promotion of social participation, the promotion of health and economic security, the implementation of generational justice, and the enhancement of the quality of life for individuals and societies. An increased economic role for the elderly is helpful for the sustainable development of the economy and the society through the pursuit of economic and social goals. Getting old does not mean being worthless if society can encourage self-actualization and productivity in the elderly. Not only can the elderly live longer and maintain their health, but they also can participate, make social contributions, and have valuable and meaningful lives.

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CHAPTER 6.

HOW TO MANAGE AGING PROBLEMS: JAPANESE EFFORTS TO MAKE THE SOCIETY MORE PRODUCTIVE

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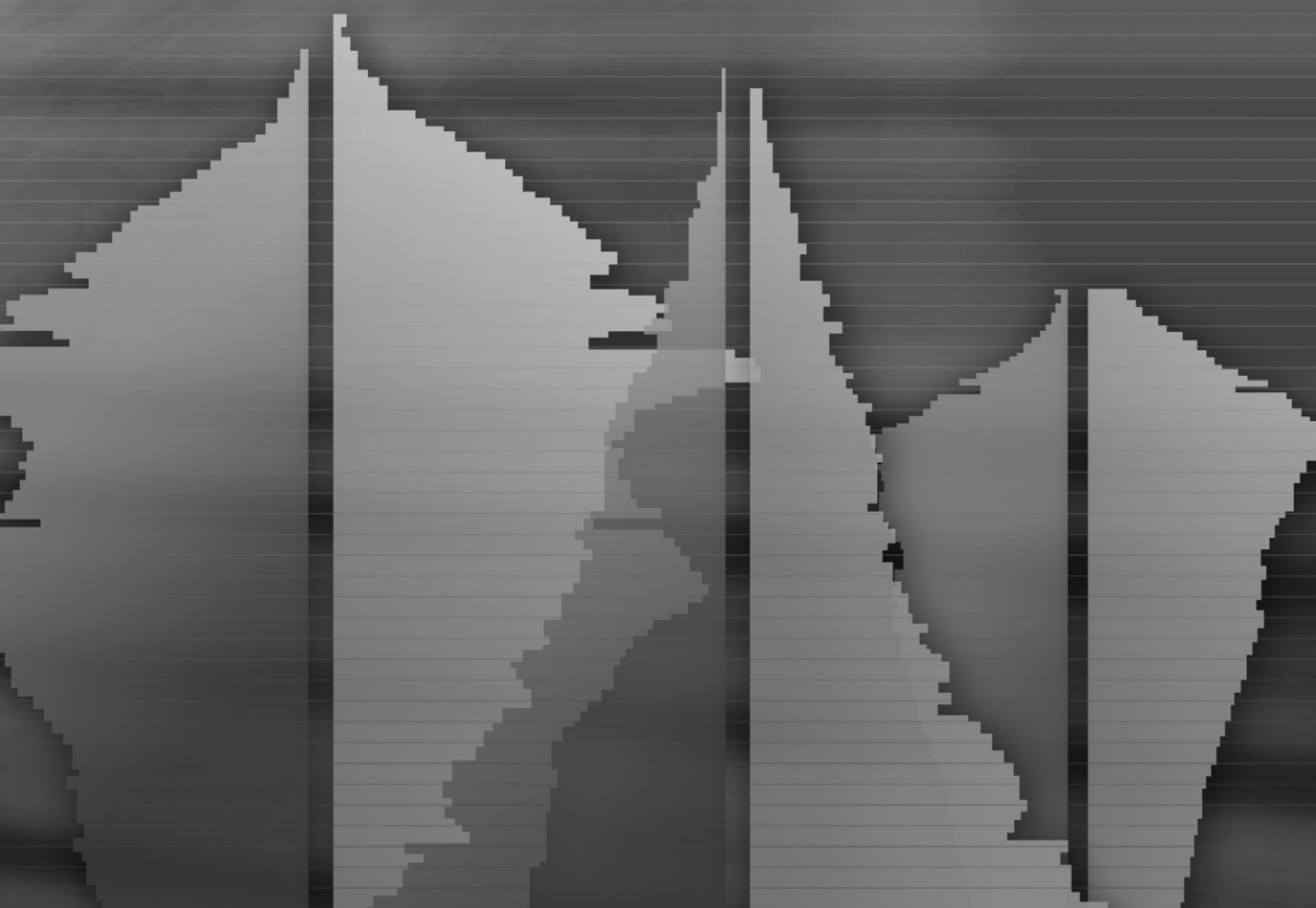
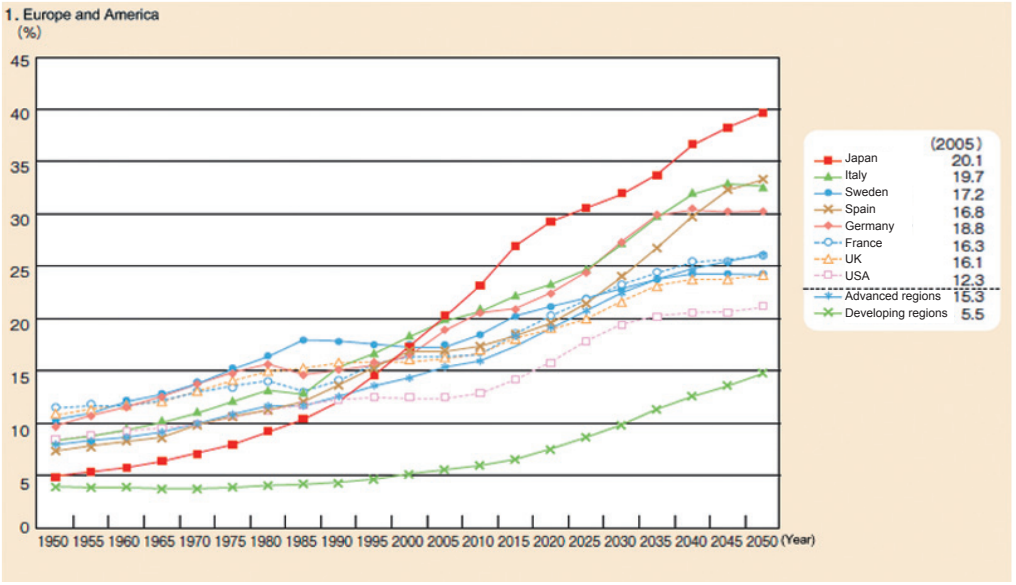


INTRODUCTION

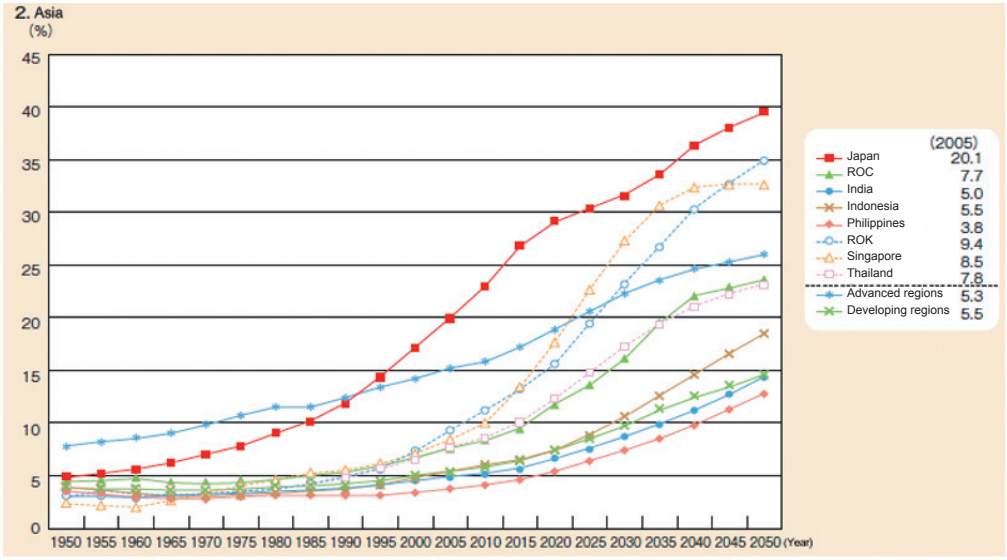
Japanese society faces serious problems of population aging. Both the number and the percentage of the people 65 years old and over are getting higher. The ratio of age 65+ was 17.3 % in 2000, but the estimation of the National Institute of Population and Social Security Research shows that the ratio will become 28.7% in 2025 and will reach 40% in 2050.

One important feature of aging in Japan is its speed. As is shown in Figure 6-1, the speed of aging in Japan is extraordinarily high in comparison with European countries. But the high speed of aging can also be observed in other Asian countries. Figure 6-2 shows estimations in eight Asian countries including Japan. The aging ratio of Japan is still highest, but when we focus on the speed of aging, Singapore and the ROK may exceed Japan.



Source: Cabinet Office (2009): Annual Report of Aging Society 2009.

Figure 6-1. Trends in Ratio of Aging in Europe and the USA, 1960–2050



Source: Cabinet Office (2009).

Figure 6-2. Trends in Ratio of Aging in Asian Countries, 1960–2050

Japanese society deals with aging problems in various ways, and there have been both successes and failures. Japan's experiences will be useful for other countries which are following almost the same path of aging as that in Japan.

This report consists of four sections. In the first section characteristics of aging problems in Japan are discussed. Actual situations of employment and lives of the aged are introduced. The second section analyses government policies to deal with aging problems. The Japanese government is trying to solve aging problems by encouraging the elderly to work longer. Promotion of "enterprises you can work at until 70 years old' is discussed. In the third section a rehiring system and two cases of specific Japanese firms are described. These enterprises are good at utilizing the aged. Their experiences are interesting for those who are planning to hire the elderly. The last section discusses how to solve the aging problems. It is shown that a continuous training program could be one of the most important ways to keep older workers productive.

AGING PROBLEMS IN JAPANESE SOCIETY

Population Decline

Japanese society has entered a new era of population decline. This is a totally new event which other developed countries have never experienced. Since the Meiji Restoration of 1868, Japanese society has developed its economic structure assuming that the population would increase. The population decline means that the country's economic system, with a more than 140-year history, does not function well. This is a very big change for Japan. It is estimated that the population of Japan will be less than 120 million in 2025, and will fall below 100 million in 2046. At this moment, Japan is the world's tenth biggest country in terms of population, but it will hand over that position to other countries in the near future.

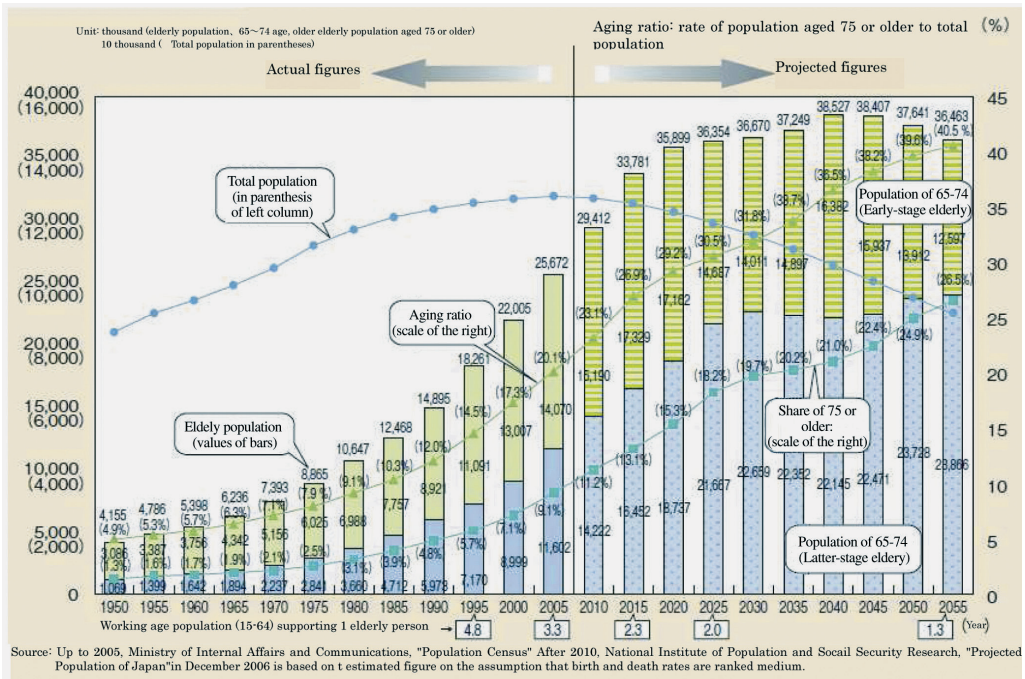
Today's population of more than 100 million is surely a big market. However, we do not know how to manage the national economy during a process of decreasing population. We will face many unexpected problems and must proceed by trial and error to find the best ways to solve them.

A decline in the birthrate is the main cause of the population decline. The average number of births per woman was relatively stable at around 2.1 between the mid-1950s and the mid-1970s. However, it then started declining, to 1.91 in 1975 and to 1.46 in 1993. The birth rate of 1.26 in 2005 was the lowest number recorded; subsequently a small rise was observed, to 1.37, in 2008.

While the number of births fell, the number of deaths increased. Eventually, the number of deaths exceeded the number of births. In 2008, the number of births was 1.091 million and the number of deaths was 1.142 million.

The fall in the birth rate brings an increase in the old-age population, both in terms of the ratio and the number. As is shown in Figure 6-3, the number of elderly people 65 years and over will increase until about 2040, when it will become approximately 38.5 million. In addition, the ratio of people 65 years and over will continue rising, to 40.5% in 2055.

It is foreseen that such a huge number of elderly people will generate a big problem for the social security system. When we calculate how many economically active people (aged between 15 and 64) are required to support elderly people (65 years old and over), we see that 11.2 people supported one elderly person in 1960, 7.4 supported that elderly person in 1980, 3.9 supported him in 2000, and 3.3 supported him in 2005. These numbers will decrease dramatically, and the dependency ratio is expected to become 1.3 in 2055. But if we take people between 15 and 69 years old as economically active, the figures look better: 3.6 in 2015, 2.7 in 2025, and 1.7 in 2055. Needless to say, this calculation does not solve all the problems which the Japanese people will face.



Source: Cabinet Office (2009)

Figure 6-3. Transition and Future Projections of Aging, 1950–2055

At this moment we have to watch the behavior of the baby-boom generation. In Japan people born during the three years between 1947 and 1949 are considered baby boomers. 8.06 million babies were born during these three years. Although their number had decreased to 6.77 million in 2005, they account for 5.3% of Japan's total population.

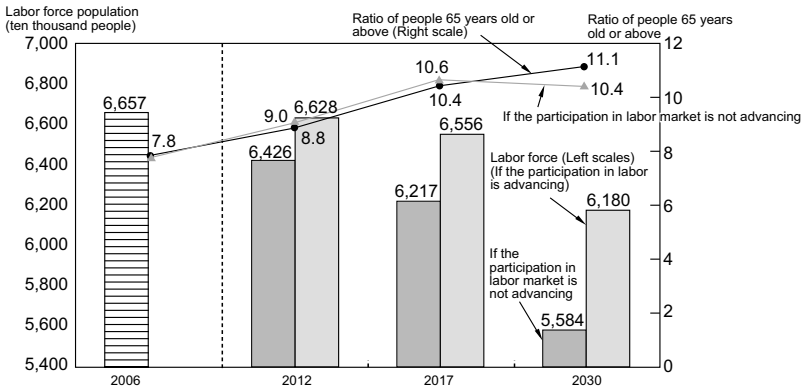
People of this generation have had a big influence on the society and economy of Japan since the 1950s. These people will reach pensionable age in the near future. If all of them become pensioners, it will be a very big burden for the country's pension budget. At the same time, we have to avoid a sudden sharp reduction of the labor force. Therefore the government has started promoting "enterprises where you can work at until 70 years old." The government has appealed to companies to give opportunities to employees who have the ability and will to work until the age of 70.

Even if the government successfully asks companies to keep employees until they are 70 years old, the policy will not succeed if people do not want to work until 70. Fortunately, the baby-boom generation wants to continue working longer than the preceding generation. According to a survey which will be described later, 74.3% of baby boomers want to work until they are 65 years old or older. We may say that this is a social resource for Japan. It is important to consider how to make the best use of elderly workers who have the ability and the will to work as long as possible.

Decrease of the Labor Force

An aging population causes a decrease in the size of the labor force. The decline of the working population of Japan, however, began earlier than its population decline. The decline of the labor force started in 1998 after the working population reached 67.93 million. In 2004 the number of those working had decreased to 66.42 million, but between 2005 and 2007 the number slightly increased. However, it began decreasing again in 2008.

Figure 6-4 shows the results of a study which was conducted by the study of Ministry of Health, Labour and Welfare. The projections indicate that if no policy is introduced to avoid further decreases in the labor force, the number of workers will decline from 66.57 million in 2006 to 64.28 million in 2012, to 62.17 million in 2017, and to 55.84 million in 2030.



Reference source: For 2006, Ministry of Internal Affairs and Communication. Statistics Bureau's *Labor Force Survey* for the labor force after 2012.The Japan institute for Labor Policy and Training's *Estimate of labor force demand and supply (March, 2008)*.
However, the ratio of labor force (65 years old or above) to the total labor force is based on The Japan institute for Labor Policy and Training's *Estimate of labor force demand and supply (March, 2008)* and is calculated on mal trial by the Cabinet Office.

(Note 1) "If the participation in labor market is not advancing" means the case where labor force participation rate, classified by age and gender, is at the same level as the results of 2006.

(Note 2) "If the participation in labor market is advancing" means the case where participation of labor market by youth, woman, elderly people etc. is achieved by talking various employment measures.

(Note 3) Insufficient consideration is given to the inference on labor force demand and supply of the tax and social security system, etc. but it is necessary to note that there is a possibility of a big influence being exerted on labor force demand and supply if the system is changed.

Source: Cabinet Office (2009)

Figure 6-4. Prospects for Workforce Population and Workforce, 2012, 2017, and 2030

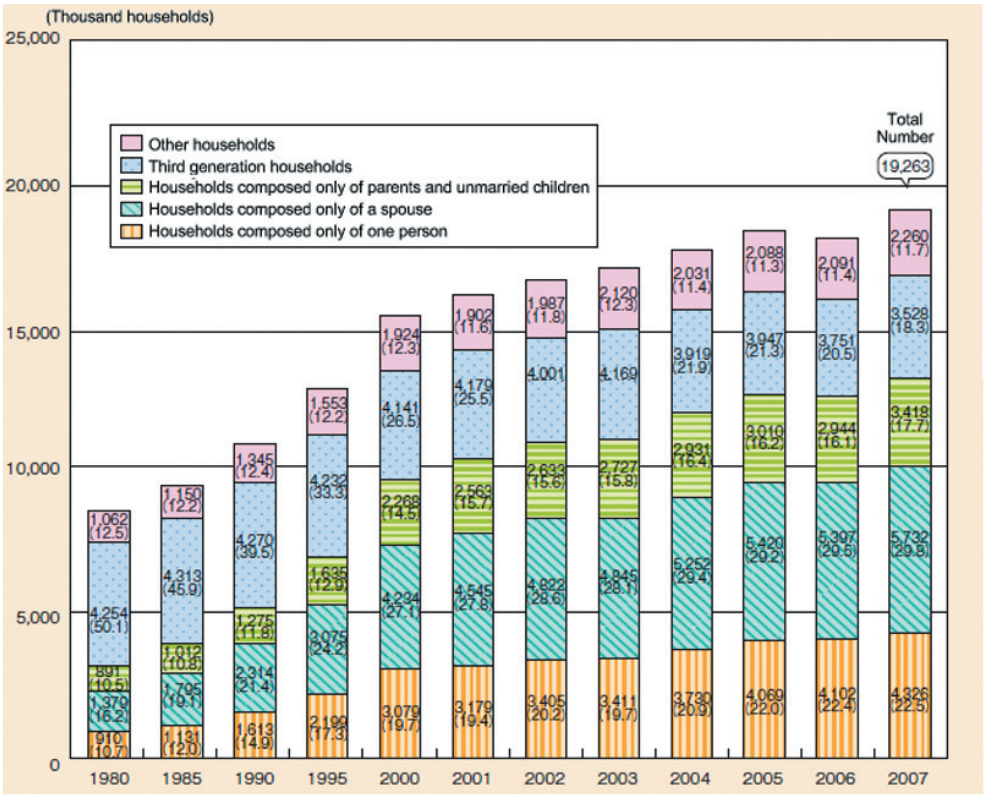
A long-term decrease in the labor force is not avoidable in Japan. However, if the government carries out policies to encourage elderly people to work as long as possible and to promote female workers to continue working after childbirth, the decrease will be moderate. The number of workers in that case would be 61.80 million in 2012, 66.28 million in 2017, and 65.56 million in 2030. One possible solution to the declining labor force is to open the Japanese labor market to workers from other countries. It is true that many foreigners have already worked in Japan, but their percentage in the total labor force is still low. As there is serious disagreement about whether the government should or will open the labor market, an effort to keep elderly people active is considered the most reliable solution to the labor shortage. And the first target is the baby-boom generation. The Japanese government started a campaign to increase the number of "enterprises you can work at until 70 years old" in 2007. The details of this campaign will be examined in the next section.

The Lives of Elderly People

Number of "Living Alone" Households Is Increasing

A survey of households with elderly people over 65 years old (see Figure 6-5) showed that the number was 19.26 million in 2007, making up 40.1%of the total number of households (48.02 million). These households with at least one person over 65 are classified into four categories: "living alone," accounting for 4.3 million (22.5%), "married couple only," 5.7 million (29.8%), " parent(s) and unmarried child(ren)," 3.4 million(17.7%), and "three generations" 3.5 million (18.3%). Of these households with elderly people, the number of "living alone" or "married couple only" households continues to increase.

The number of households in which elderly people live with their children is declining. In 1980 69.0% of the elderly in households were "living with children," but this percentage fell to 59.7% in 1990, 49.1% in 2000, and 43.9% in 2006. Although the incidence of "living with children" decreased, 53.2% of elderly people say their children are persons who give them mental support. The number of households in which the elderly person lives with "spouse or partner" was the second most numerous with 64.0%.



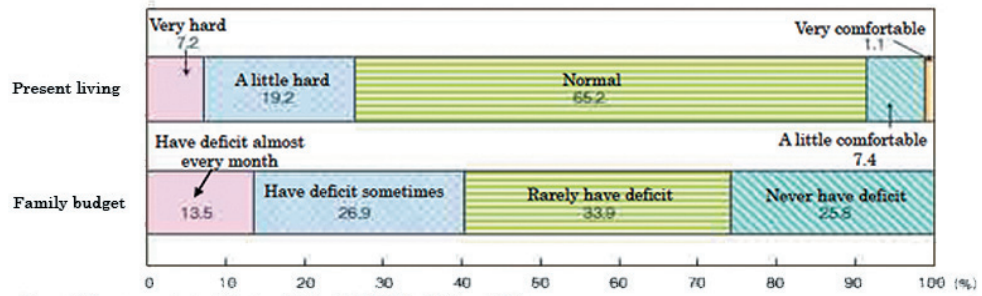
Source: Reference Figures for 1985 and before are from the MiniStry of Heath, Labour and Welfare's Basic Survey of Health and Welfare Public Administration; and for 1986 and after, the Ministry of Health, Labour and Welfare's Comprehensive Survey of Living Conditions
(Note 1) The numerical values for 1995 exclude Hyogo Prefecture
(Note 2) The figure in ( ) is the percentage against the total number of households with 65 year olds and over

Source: Cabinet Office (2009)

Figure 6-5. Number of Households with a Member 65 Years Old or Older and Their Percent Distribution (Classified by Structure of Household), 1980–2007

Economic Conditions of Elderly People

Figure 6-6 shows the economic conditions of elderly people. 26.4% of them answered that their present living situation was hard (summing up "very hard" 7.2% and "a little hard" 19.2%). As for family budget, 13.5% of them said that they had a deficit almost every month, and 26.9% of them had deficits sometimes.



Source: "Survey on Actual State of Living" (2008) by Cabinet Office
(Note) Survey was conducted with males and females aged 65 or older.

Source: Cabinet Office (2009)

Figure 6-6. Living Status of Elderly People, 2008

Division	Average income			
	Income per household			Per person in the household (Average number of persons in the household)
Elderly people's households	Aggregate income	3.063 million yen		1.955 million yen (1.57)
	Operational incom	0.562 million yen	(18.4%)	
	Public pension / Pension	2.094 million yen	(68.4%)	
	Property income	0.230 million yen	(7.5%)	
	Social security Benefits other than pension	0.025 million yen	(0.8%)	
	Remittance and other income	0.152 million yen	(5.0%)	
All households	Total income	5.668 million yen		2.071 million yen (2.74)

Source: "Comprehensive Survey of Living Conditions" (2007) by Ministry of Health, Labor and Welfare (Income for the year 2006 in this survey)(Note) Elderly household means a household that is composed of persons aged 65 or older only or one with unmarried persons aged less than 18 added.

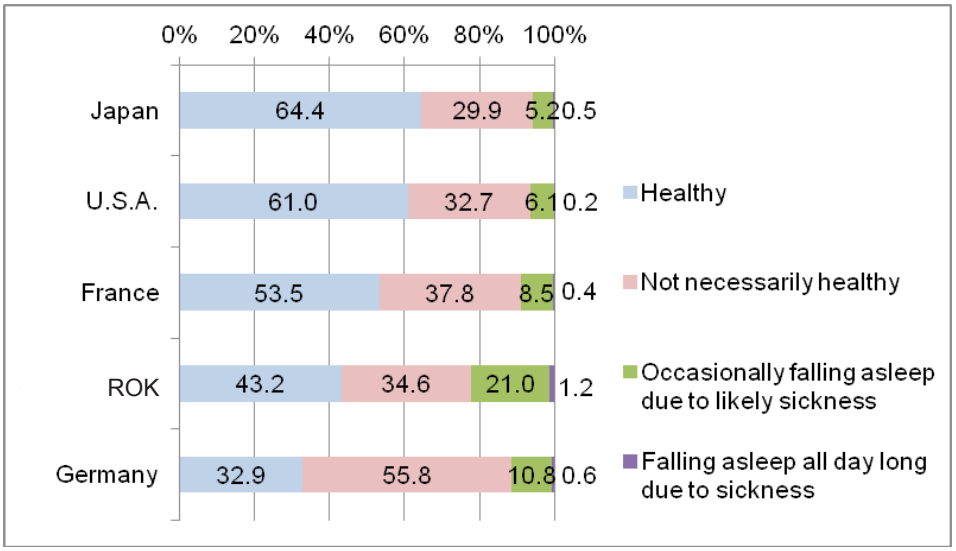
Figure 6-7. Incomes of Aged Households, 2006

The annual income (average income in 2006) of elderly people's households (i.e., households composed of only persons aged 65 or older or those with unmarried persons aged 18 or less also) is JPY3.063 million, which is a little higher than half the average income of all households. However, the income per capita of an elderly household is similar to that of all households, JPY1.955 million and JPY2.071 million, respectively. The major source of income for elderly households is a public or private pensions, which on averge is JPY2.094 million, or 68.4% of gross income. 18.4% of income comes from job (operational income).

The life of an elderly household is not easy at all. It is not necessary for the elderly to have full-time jobs, but some of them have to earn money through part-time jobs. From this point of view, it is an important task for the government to secure working places for elderly people.

Health Conditions of Elderly People

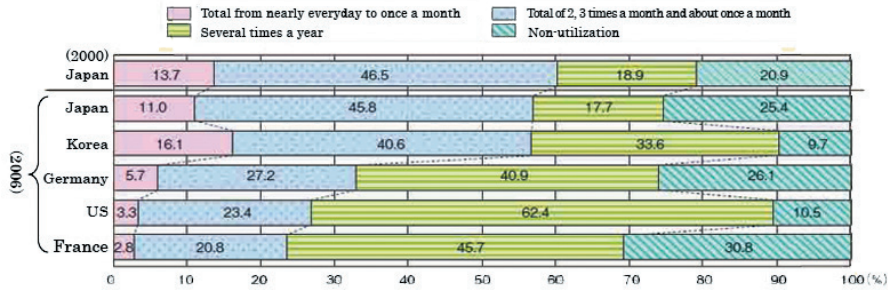
Japan has not only the world 's longest average life expectancy, but also the longest healthy life span (the age to which one can live independently and healthily). Comparing elderly people in four countries who consider themselves healthy (the United States, Germany, France, and the ROK), Japan has the highest ratio of people who consider themselves healthy, at 64.4%. The second highest is the U.S., with 61.0%, followed by France (53.5%), ROK (43.2%), and Germany (32.9%).



Source: Cabinet Office (2008)

Figure 6-8. Awareness by the Elderly (Aged 60 or Older) of Their Health (International Comparison), 2008

Although about two thirds of Japanese elderly people consider that they are healthy, they make use of medical services more frequently than people in Germany, the U.S., or France. Elderly people in the ROK use medical services with almost the same frequency as those in Japan. When Japanese and ROK elderly people feel unwell, they easily consult a doctor. We may attribute this to the fact that health insurance systems function well in both countries.



Source: Cabinet Office, "International Comparison Survey Concenring the Daily Life and Awareness of the Elderly" (in 2000 and 2006)
(Note) The survey was conducted with males and females aged 60 or older.

Source: Cabinet Office (2008)

Figure 6-9. Utilization of Medical Services, 2000–2001

These data concerning health conditions show that Japanese elderly people keep themselves relatively healthy. It is necessary for the health care system be maintained to keep Japanese society more productive.

Working Conditions

As is shown in Table 6-1, the labor force participation ratio of Japanese elderly

people has been high. More than 70% of males aged 60–64 have participated actively for the past 20 years. Slightly fewer than 40 % of females have been active in the same period, and the labor participation ratio became 44.6% in 2009. About 50% of males 65–69 years old are still active.

Table 6-1. Labor Force Participation Ratios, 1989–2009

	Male				Female			
	60–64	65+			60–64	65+		
			65~69	70+			65~69	70+
1989	71.4	35.8	53.4	26.0	39.2	15.8	26.7	10.3
1990	72.9	36.5	54.1	26.3	39.5	16.2	27.6	10.4
1991	74.2	38.0	56.8	26.6	40.7	16.6	28.7	10.6
1992	75.0	38.2	56.5	26.6	40.7	16.7	29.3	10.7
1993	75.6	37.7	55.3	26.3	40.1	16.0	28.0	10.1
1994	75.0	37.6	54.7	26.2	39.4	15.9	27.5	10.4
1995	74.9	37.3	54.2	26.1	39.7	15.6	27.2	10.3
1996	74.5	36.7	53.1	26.1	39.0	15.4	27.0	10.1
1997	74.5	36.7	53.3	26.2	39.8	15.4	27.2	10.2
1998	74.8	35.9	52.9	25.4	40.1	15.2	26.5	10.4
1999	74.1	35.5	52.6	25.3	39.7	14.9	26.2	10.1
2000	72.6	34.1	51.1	24.3	39.5	14.4	25.4	9.8
2001	72.0	32.9	50.1	23.0	39.5	13.8	24.4	9.4
2002	71.2	31.1	48.1	21.8	39.2	13.2	24.0	9.0
2003	71.2	29.9	46.7	21.2	39.4	13.0	23.8	8.8
2004	70.7	29.2	45.6	20.9	39.7	12.9	24.0	8.7
2005	70.3	29.4	46.7	21.1	40.1	12.7	24.0	8.7
2006	70.9	29.2	47.6	20.7	40.2	13.0	25.1	8.7
2007	74.4	29.8	48.5	20.9	42.2	12.9	25.8	8.4
2008	76.4	29.7	49.6	20.4	43.6	13.1	26.0	8.5
2009	76.5	29.4	49.4	19.9	44.6	13.1	27.0	8.3

Source: Ministry of Internal Affairs and Communications, *Labor Force Survey*

When we compare the ratio, Japanese men continue working more than in other countries. Labor force participation ratios of men 60–64 years old in 2008 were 76.4% in Japan, 59.9% in the U.S., and 46.6% in Germany. For men 65–69 years old the ratios were 49.6%, 35.6%, and 9.9% respectively.

Research has also been done to analyze the opinions of the baby-boom generation about work[1]. First, they were asked until what age they want to work. Table 6-2 shows that 42.5% of all baby boomers answer that they want to work until they are 65 years old, and 23.9% want to work until the age of 70. Those who want to work until 65 or over are 74.3% of the total, 79.4% for men and 66.6% for women. The difference between men and women is about 13 points. When we focus on type of employment, the self-employed expect to work longer than the employed. This tendency is much stronger for men. The

male self-employed answer that 44.7% of them want to work until they are 70 years old. On the other hand, 9.5% of men and 19.8% of women desire retirement at age 60 or before.

Table 6-2. Baby Boomers Say Until What Age They Want to Work, 2007

		Younger than 60 years old	60 ears old	61–64 ears old	65 ears old	66–69 ears old	70 ears old	71 and ver	N.A	Average age
Total		1.2	12.4	9.4	42.5	2.1	23.9	5.8	2.6	66.1
Males	Total	0.5	9.0	9.2	42.1	2.6	27.4	7.3	1.8	66.7
	Employees	0.6	10.3	11.8	46.9	2.5	22.9	4.3	0.8	66.0
	Self-employed	0.3	4.6	2.3	23.7	3.3	44.7	1.8	4.3	69.5
Females	Total	2.3	17.5	9.6	43.3	1.4	18.5	3.4	3.9	65.1
	Employees	3.3	18.2	13.7	44.6	1.6	14.1	2.1	2.4	64.5
	Self-employed	1.8	7.3	0.0	43.6	0.0	25.5	12.7	9.1	67.6

Source: Japan Institute of Labor Policy and Training (2007)

These data show that members of the baby-boom generation desire to continue working until they are 65 or 70 years old. This is one reason the government is promoting its campaign to increase the number of "enterprises you can work at until [you are] 70 years old."

We can examine the reasons why the baby-boom generation wants to continue working. As is shown in Table 6-3, the most important reason is "to get income" with 77.8%, and the second most important reason is "to make use of my working ability" with 54.2%. "To keep myself healthy" is chosen by 30.1% of the baby boomers.

The difference between men and women is not so big. Men choose reasons of "to earn money" and "to keep myself healthy" more than women. A characteristic of the self-employed is seen at relatively high percentage of "to take working as a natural activity." 40.8% of male and 41.8% of female self-employed choose this reason.

Table 6-3. Reasons Why Baby Boomers Want to Work, 2007

		To earn money	To make use of my working ability	To keep myself healthy	To take working as a natural activity	To spend time outside my house	Others	No specific reasons	N.A.
Total		77.8	54.2	30.1	24.6	1.8	3.4	2.2	3.9
Male	Total	80.0	53.9	33.7	26.6	2.5	2.1	2.1	2.4
	Employees	80.9	56.1	31.9	21.5	3.1	2.0	2.0	2.5
	Self-employed	78.9	47.7	40.1	40.8	0.3	3.0	1.3	2.3
Female	Total	74.5	54.7	24.6	21.6	0.7	5.4	2.3	6.1
	Employees	79.0	59.5	23.8	18.9	0.6	4.5	1.0	6.0
	Self-employed	65.5	45.5	47.3	41.8	0.0	3.6	3.6	5.5

Source: Japan Institute of Labor Policy and Training (JILPT) (2007)

It may be difficult for Westerners to understand why so many Japanese people believe that to keep working is useful in order to stay healthy. Those who have a job must get up early in the morning, prepare themselves to go to their workplaces, and expose themselves to many inputs through work, all of which are good for the brain. Working is a type of social activity. When you have a job, you have colleagues with whom you share the same purpose. You can feel that you are a team member and that you are not alone. Such kinds of feeling are important for health.

Industrial physicians think that elderly people who continue working are likely to be healthy. At the 82nd meeting of the Japanese Society of Occupational Health held in Fukuoka in May 2009, the main topic of discussion was how elderly people can keep working as long as possible.

GOVERNMENT POLICIES TO PROMOTE EMPLOYMENT OF THE AGED

Promotion of Employment for the Elderly

The Japanese government has been wrestling with the issues of elderly employment from a long-term viewpoint. Most large Japanese companies set the retirement age at 55 years old in the early years after World War II. Because the pensionable age was 60, it was necessary for those who worked in large companies to earn money to cover their living costs after reaching the retirement age.

The "Special Law for the Promotion of Employment of the Middle-aged" was enacted in 1971, and the first steps for prolonging the mandatory retirement age were taken. Through the 1970s, the government advised enterprises to change their mandatory retirement age to 60 years old. It did not establish a new law which forced companies to set their mandatory retirement age at 60, but it showed Japanese companies of the need for postponing retirement age and expected them to change their retirement ages voluntarily.

In the 1980s large companies began to change their mandatory retirement ages to 60 years old, and the government changed the name of the above-mentioned Special Law to "Law for Promotion of Job Security for the Aged." The law required Japanese companies to set their mandatory retirement age at not less than 60 years old. It included no penalties, but encouraged companies to keep their employees until age 60. The Law was amended in 1998 to say that if a company sets a mandatory retirement age, it must be 60 or over. Thus, the government spent nearly 30 years changing the mandatory retirement age from 55 to 60 years.

However, it became difficult to maintain the public pension age at 60 years old because aging in Japan was progressing rapidly. In the mid-1980s discussions began about amending the public pension scheme to raise the pensionable age to 65 years old. A revision that raised the pensionable age to 65 years old was adopted in 2001; it provided for a gradual process over approximately 20 years to make age 65 the public pension age.

Along with this pension policy revision, the government started a campaign to promote employment after 60 years old. In the mid-1980s the Ministry of Labor gave a subsidy to 47 prefectures to organize research teams in which managers, trade union officers, and scholars investigated ways to promote employment after 60 years old. Possibilities and difficulties were discussed, and managers and trade union officers recognized the importance of employment after 60 years old.

A 2006 amendment to the Law for Promotion of Job Security for the Aged requires companies to prepare to provide jobs for their employees until they are 65 years old. The amendment shows three possible ways to secure jobs until 65: abolishing mandatory retirement systems, prolonging the mandatory retirement age to 65 years old, and introducing a rehiring system for employees up to age 65. Japanese companies are asked to provide jobs for their employees step by step—until age 63 old by 2007, until age 64 by 2010, and until age 65 by 2013. Here we can also see a moderate policy of the

Japanese government to promote employment of the aged.

In 2007, the campaign called "enterprises you can work at until 70 years old" began. This campaign aims to encourage the first generation of baby boomers to continue working after 65 years old, as the first of them turn 65 in 2012. As shown in the previous section, one fourth of them want to work until age 70. The government has a plan to ease financial pressure on the public pension fund by postponing the retirement of baby boomers.

Enterprises You Can Work at Until 70 Years Old

In April 2007 the Japanese government amended the Basic Policy on Job Security for the Aged, in which it declared the aim of realizing an "age-free" society in Japan. As a first step, a campaign to promote "enterprises you can work at until 70 years old" began. According to a Report of the Ministry of Health, Labour and Welfare announced in October 2009, the ratio of "enterprises you can work at until 70 years old" was 16.3% in June of that year. The ratio is higher in small- and medium-sized firms (17.0%) than in large firms (10.0%). In comparison with the previous year these ratios were 2–3 points higher.

If a small- or medium-sized company provides the opportunity to its employees to work until age 70, the government will give financial aid to the company in the amount of JPY800,000 or JPY1,600,000 based on its number of employees. This system will encourage small- and medium-sized companies to keep their employees until they are 70 years old.

When the author interviewed several top managers of small- and medium-sized companies, they said that there were some obstacles to specifying job security until age 70 in their working regulations, even though several workers over 65 years old already have jobs in their companies. The main reason they gave was that, if they wrote some kind of job security for the aged into their regulations, it would be difficult to cancel job contracts with workers. It is known that job security for regular employees is strong in Japan, but sometimes it disturbs some good practices. We have to reconsider what kind of job security is necessary for an aging society such as Japan.

COMPANY PRACTICES

Rehiring Systems

Japanese companies are coping with the Amendment to the Job Security Law by introducing rehiring systems for mandatory-retired employees. According to an October 2009 Report of the Ministry of Health, Labour and Welfare, 2.0% of the surveyed companies had abolished mandatory retirement systems, and 12.8% of them had raised their retirement age to 65. The largest number, 85.1% of companies, established rehiring systems.

In the most prevalent type of rehiring system, an employee reaching age 60 finishes his labor contract with a company as a regular employee, and on the next day he enters into a new contract with the company. Under a new contract, a company hires a retired person with different working conditions; usually a one-year contract as a non-regular employee, at a much lower wage level than before retirement. The wage level of a rehired person is generally about JPY3 or 4 million per year, which is half or less than half of his wage level before retirement. The low wage level is one of the incentives for companies to rehire retired employees.

There are several objections to this kind of wage system: first, that it is not fair for a company to avoid paying appropriate compensation for the work which a rehired employee performs; and second, that a rehired employee's motivation will be low and this will be a bad influence on other employees.

If a retired person is not satisfied with the wage that is offered to him by his original employer, he is not obligated to accept it; he can look for a job in another enterprise with better conditions. We can see several examples of such workers in the shipbuilding industry. Highly skilled shipbuilding workers are receiving offers from Chinese and South Korean shipbuilders with annual salaries of JPY10 million. Highly skilled Japanese workers who have to earn money in order to cover living costs such as school fees for children, house loans, etc., are accepting jobs in which they train Chinese or Korean workers to become skilled shipbuilders. As a result, some Chinese and Korean shipbuilding enterprises can gain competitiveness and threaten Japanese shipbuilders.

The other problem with a rehiring wage system is motivation reduction among the rehired. It is understandable if a rehired worker cannot keep his motivation for work if he receives half or less than half of his salary before retirement. In order to solve this problem, an introduction of a job-based salary system is being discussed. Under a rehiring system a worker enters into a one-year contract. This enables a company to decide his wage based on what kind of job he does and how he contributes to the revenue of the company.

A typical wage system for regular employees is based on the concept that they will work in the company for a long period and that a seniority-based wage system is more acceptable for them. In this type of system it is possible for a senior worker to receive a higher wage than what he contributes to the company's profit. A job-based wage system would be suitable for a rehiring system.

Such kinds of problems can be seen mainly in large firms. Small- and medium-sized companies have extensive experience in hiring elderly people, because those companies have had difficulty hiring younger workers. On the other hand, large enterprises have little experience in using the aged. Over the past ten years they have been proceeding by trial and error to learn how to utilize elderly workers. It takes time to become able to make the most of the abilities of the aged, both for companies and for elderly people themselves.

The Experience of Daikin Industries Ltd.

Daikin Industries Ltd.[2] is very famous for its good practices of hiring elderly people. Daikin has a long history of using retired employees. It maintains a system of mandatory retirement at age 60, but provides opportunities to all retired employees to continue working under a rehiring contract. In 1991 Daikin expanded its rehiring system to age 63 for those who retired from the company. This was one of the earliest examples of a rehiring system for all retired employees. At that time some enterprises had a rehiring system, but they limited it to those who were chosen by the companies. In 2001 Daikin prolonged the period of rehiring until age 65. The ratio of the rehired employees to the retired is around 85%. Those who did not choose to participate in the rehiring system had other duties such as helping with a friend's company, working farmland that was inherited from parents, etc.

An outstanding feature of the rehiring system in Daikin is that its top management recognized the importance of hiring retired employees from 20 years ago and introduced a rehiring system in which all those who want to continue working were able to get a work contract. The decision-makers in top management were very keen to have a good rehiring system, in spite of the obstacles to introducing it. Generally speaking, elderly people are not good at coping with new technology; they have difficulty reading small letters; it becomes difficult for them to keep up with an assembly line, etc. It would be very easy to emphasize the troublesome aspects of hiring retired older employees. However, Daikin's top management made the courageous decision to conduct corporate responsibility in the aging society.

Another characteristic of Daikin is that most employees do not see mandatory retirement as the end of their working life, but as the starting point to another working life. It is natural for employees of Daikin to continue working after the mandatory retirement

age, because many retired people work with the younger generation and younger employees can imagine how they themselves can work after the mandatory retirement.

Daikin has a unique system for retired employees. Those who have decided to participate in the rehiring system can take unpaid leave for one to three months. This leave plays a very important role in resetting the way of thinking of the rehired. In most Japanese companies it is not customary for an employee to take a long vacation of more than one month. After 40 years of service, the retired have a desire to "relax a little." Daikin's management understands such feelings and provides opportunities for refreshment.

After more than a one-month leave, most of the retired workers have a desire to go back to the company, to meet their colleagues, and to work. Their way of thinking about employment has changed. Even though their wage level is half or less of what they had before retirement, they do not mind the difference, because they understand that they have entered a different stage. Most Japanese companies have not introduced this kind of system but many of them notice its effectiveness.

The Experience of Mayekawa Manufacturing Company

Mayekawa Manufacturing Company[3] also has a long experience in employment of the aged. Even though Mayekawa maintains a mandatory retirement age of 60, there is no age limitation for employees who participate in a rehiring system. All employees who retire from the company and want to continue working are accepted in the rehiring system.

According to Mayekawa's personnel manager, there are several employees over 70 years old. One of them is an R&D engineer who is engaged in developing a certain technology. Since entering the rehiring system he has been very active in filing patents. One of his patents is used in the NASA Space Shuttle. Mayekawa does not hire the retired because the government requires it, but because these workers contribute to the competitiveness of the company. Rehired employees agree with the goal of the company—to be the top runner in the field of freezing and compression technology—and participate in realizing its vision.

Another Mayekawa practice is to hire older workers who have retired from other companies. It is necessary for a company to develop continuously, and innovation is aided by employees who have the ability to break through fixed ideas. If a company sees a lack of manpower, it hires a new worker from outside. Mayekawa does not set any age limitation for hiring new workers from outside, which is unusual for a Japanese company. It is true that age is an indicator of some ability, but it is unacceptable to estimate the ability of a person only based on age. If a company sets an age limit for hiring, it loses some opportunities to get highly talented people.

The top management of Mayekawa has declared that older workers are a treasure for the company because they have a great deal of experience which is useful for promoting the competitiveness of the company. When Mayekawa recruits experienced workers from outside, many highly qualified senior workers apply. Mayekawa can choose appropriate workers from among the applicants. Its personnel manager said that an age limit for hiring was not a reasonable policy, if a company really aims to recruit the best people for developing competitiveness of the company.

HOW TO MAKE THE AGED PRODUCTIVE

Aging is an unavoidable reality for Japanese society. It is necessary for us to encourage elderly people to participate in social activities in order that the society can maintain its standard of living and high-level infrastructure. If elderly people want to get jobs with good wage, they are required to cope with technological development. If they cannot use computers, it is hard for them to find a good job. At the end of this report the actual situation of human resource development for the aged is analyzed.

Necessity of Continuous Training for Workers Over 50 Years Old

Most Japanese people are required to earn money to cover their living costs at least until they are 65 years old. Even if a person has a high skill level today, a new technology may make his skills obsolete and threaten his job tomorrow. We have seen many such examples. If demand for a working person's skills declines, that person can suffer wage reduction or unemployment. In order to avoid this, continuous training is necessary.

The Ministry of Health, Labour and Welfare carried out a survey of conditions of the middle-aged in November 2005. Figure 6-10 shows the responses to a survey of people in their 50s: they were asked, "What kind of training did you have this year?". Among men 50–54 years old 36.0% had received some training. Only 16.9% of women aged 55–59 answered that they got some training. It is very difficult to say that older workers in their 50s can continue to work until they are 65 years old with such kind of poor training.

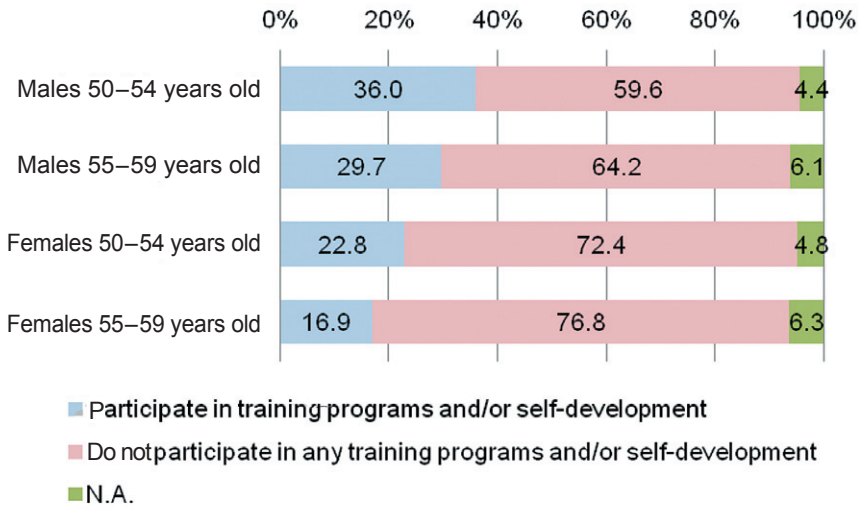


Figure 6-10. Participation in Training Programs and/or Self-development, 2005

Figure 6-11 shows the contents of the training programs in which these workers participated. The most frequent response was "to participate in training programs which my company provided." Each age group chose this answer, at a rate of almost 60%. The second most frequent answer (about 45%) was that the workers read books which were related to their jobs. Those who participated in seminars and lectures organized by universities or vocational schools were a minority, accounting for fewer than 10%.

If employed workers retire at age of 60 and become pensioners, continuous training for them during their 50s may not be necessary because they can survive technological changes during that decade. But most employees must continue to earn money by holding jobs at least until age 65. Continuous training for them is unavoidable. It is said that the speed of technological change is high and that elderly people cannot follow most changes. The case of Mayekawa shows that, if an elderly person tries to cope with new technology, it is not impossible for him or her to acquire the knowledge to use new technology.

A 50-year-old employee has 15 years until his pensionable age. This period is almost half the length of his years of experience (assuming he has worked from 20 years old to 50). He could work on two or three new projects until he is eligible for a pension. Some Japanese companies have noticed the importance of continuous training. It is

expected that the result of the next survey of the middle-aged will show some improvement in workers' use of continuous training.

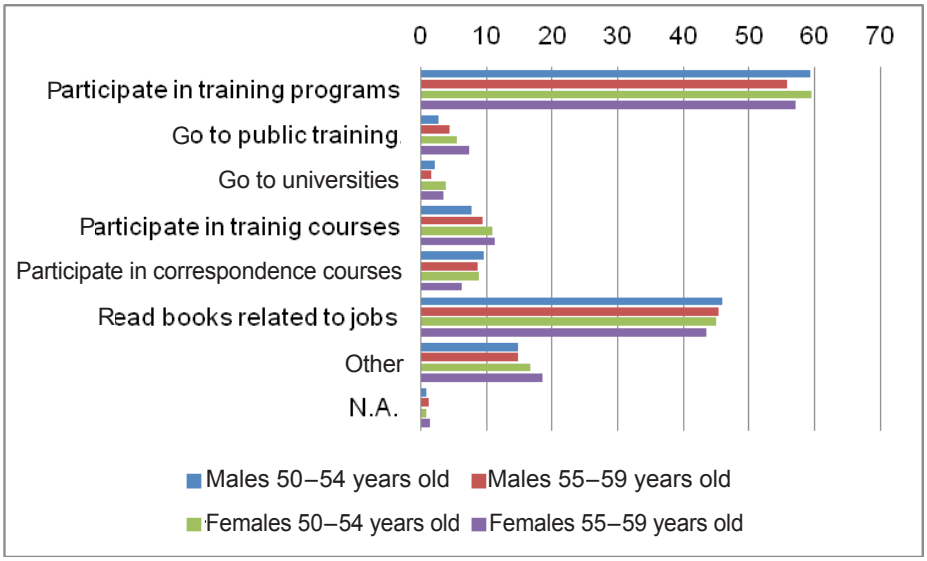


Figure 6-11. Types of Training and/or Self-development, 2005

Expected Efforts to Develop the Skills and Knowledge of the Aged

Both companies and employees must make efforts to cope with technological changes. Companies should prepare continuous training programs and encourage their employees to participate in such programs to manage new technology. Training opportunities for employees in their 50s are especially important.

Employees have no room to hesitate in accepting the challenge of developing their knowledge of new technologies. They are required to continue working at least until they are 65 years old. If possible, they are expected to work as long as they can. Each person is responsible for maintaining his health. If a person wants to work until age 70, his health condition is very important. Nobody can maintain good health except oneself.

Japanese society faces a big challenge of aging. There surely are solutions to the problems predicted, if the Japanese people believe in their abilities and their wisdom.

NOTES

[1] This survey was conducted in October 2006, just before the first generation of baby boomers became 60 years old. Three thousand baby boomers who were economically active were sampled, and 2,722 of them (90.7%) returned the questionnaires. 1,648 men and 1,074 women answered.

[2] Daikin Industries Ltd. was established in 1924. The company's main field of production is air-conditioning and refrigerator technologies. It has about 6,500 employees.

[3] Mayekawa Manufacturing Company was established in 1924. The company's main field of production is freezing and compression technologies. It has about 2,200 employees.

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CHAPTER 7.

CONCLUSION

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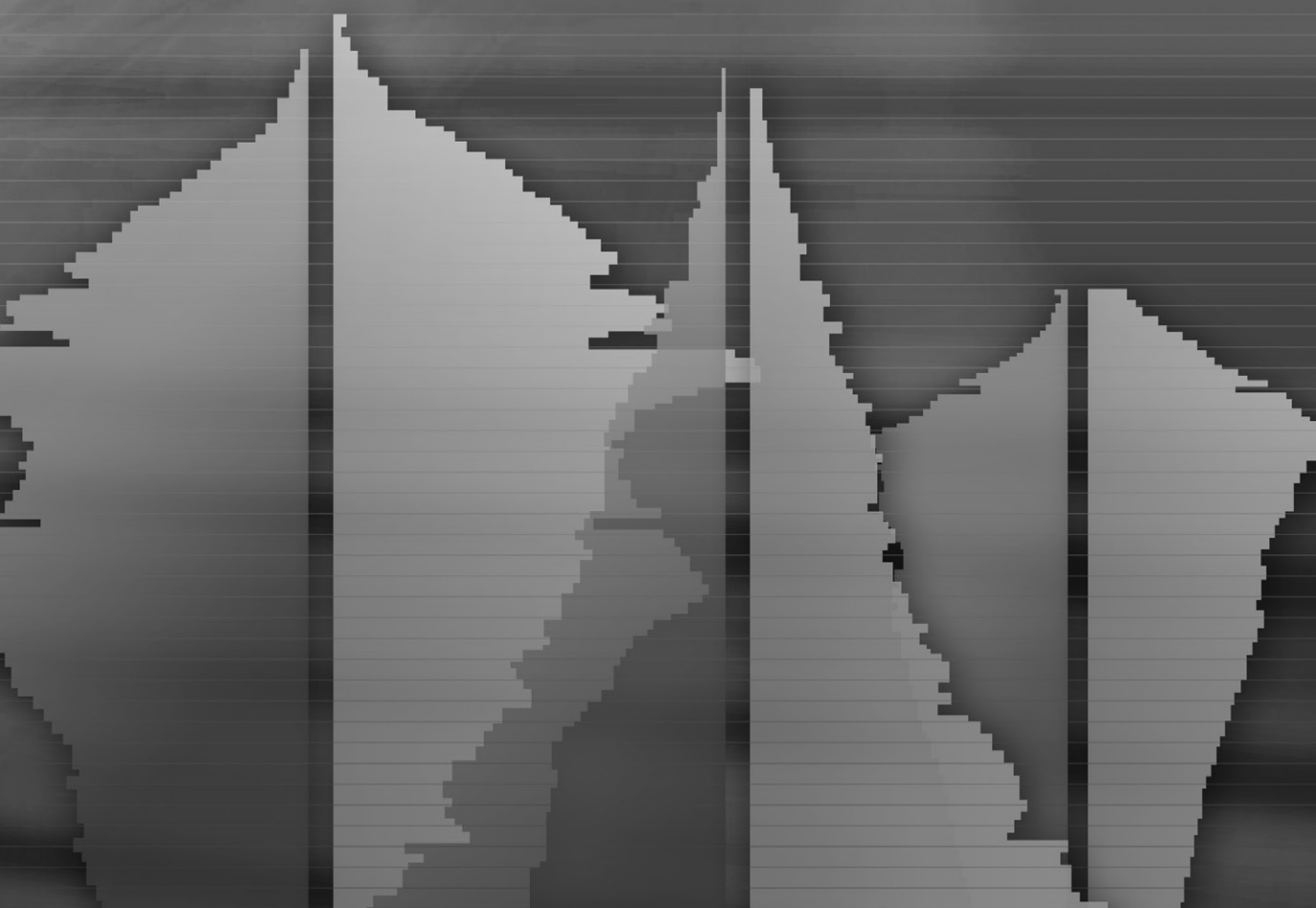


GLOBAL TRENDS OF AGING AND THE EAST ASIAN CASE

Global aging will be a major determinant of long-run economic and social development in industrial and developing countries. The speed of the demographic changes in East Asian countries is dramatic and will deeply affect the future of labor markets, social security, and welfare in the region. The expected strain on public budgets and especially on public pensions for old-age incomes has already received prominent attention. But population aging poses many other economic challenges that will threaten productivity and growth if they remain unaddressed.

While population aging is a global megatrend, there are considerable differences in the speed and pattern of the aging processes across countries. These differences are likely to generate different issues and challenges and therefore policy responses. Aging in the Asian region is most prominent in the more developed countries like Japan, ROK, Singapore, Hong Kong, and ROC—the countries that experienced rapid economic and social development in the 20th century. The speed and extent of the aging process in those countries is so dramatic that their economies and societies are facing pressing challenges in terms of economic growth, labor productivity, and social welfare.

This APO research project commissioned national experts from the APO members to undertake an in-depth examination of the key issues in the productivity of aging societies in order to create a comprehensive understanding of aging and its long-term effects on the members and their economies. In particular, the participating experts were commissioned to examine and evaluate long-term trends and prospects of population aging in their countries and its implications for economic growth and social well-being in the future. To that end, experts agreed to address the issues and challenges facing productivity in their home countries from three perspectives: 1) the supply side—i.e., issues of elderly workers' motivation to remain in the job market and continue working; 2) the demand side—i.e., the willingness of employers to continue hiring elderly employees and the implications for employers and employment in general; and 3) the policy side—i.e., the relationship between public policies on the employment of older persons and productivity.

To accomplish the research mission, each country report described long-term aging trends (over the period of roughly 1960–2009) and prospects (for roughly the years 2010–2050) for both the population and the workforce in each member and discussed related labor market issues and challenges, if any, from both the supply and the demand side. In particular, national experts introduced relevant retirement policies and regulations and discussed how they affect continued employment and active status of the old-aged in each country. And then in each country report participating experts addressed and discussed productivity issues and challenges in the context of aging population and workforce. In conclusion they addressed public policies and measures aimed at maintaining and enhancing the productivity of aging workforce (such as targeted job training and/or life-long learning programs and policy incentives) in each member.

ISSUES AND CHALLENGES

As Allen noted in her chapter on the United States, those who study global aging and productivity commonly cite the challenges and opportunities related to the promise and pressures of an aging society. Among the challenges facing the United States, for instance, are concerns about the demographic changes that portend a shortage of replacement workers along with a burgeoning population of "unproductive" retirees, the changing nature of pension coverage among old-aged workers, the health care of an aging society, and lower economic growth. Opportunities that may be emerging include a fundamental shift in the very nature of retirement, a growing embracing of the notion of civic engagement, and an older population that brings heretofore unknown health, energy, and vitality to its

senior years (Allen, in this volume). Also well noted in this report is that being old should not be equaled to being unproductive. Productivity should be viewed in a wider spectrum than it has been in the past. And it should be considered in the organizational and societal context where individuals actually work and produce. Moreover, old-aged workers can bring experience and skill into the workplace even when their physical strength is weak and their adaptability to new technology is lower. This signifies that aging could open up a new window of opportunity if individuals, organizations, and society are rightly adapted to changes and challenges that aging brings in.

Low fertility and aging population could lead to labor forces shortage in the future. Then activation and utilization of the old-aged could serve as a viable policy alternative. In that sense, East Asian countries are advantaged. The work attitudes and behavior of the old-aged in the East Asian countries are found to be different from those of the old-aged in European aging societies. More than 40% of the old-aged and retired want to continue working even after they reach the normal retirement age. The main reason they want to keep working is to earn their own living. It could also reflect their unpreparedness to retire completely as their pension rights are often only insufficiently secured, and in that case they would have no other option than to keep working as long as their physical and mental capacities permit.

PRODUCTIVE PARTICIPATION AND EMPLOYABILITY OF THE OLD-AGED

The availability of flexible part-time jobs surfaced as one of the things most needed in order for the old-aged to productively participate in the labor force. Part-time jobs could serve as "bridge jobs" for the old-aged before they finally retire. In many Asian countries, where workers retire from their lifetime jobs earlier than the normal retirement age, flexible part-time jobs could provide work opportunities to these early retirees so that they can stay longer in the labor market and can save more for their after-retirement life. According to the study by Chou (2008), approximately half of middle-aged and older workers in the ROC who had retired preferred part-time jobs for their after-retirement work.

Keeping the old-aged in the labor market through part-time jobs will also contribute to social security systems as these workers remain contributors rather than pensioners. Thus policy initiatives should be taken to create more part-time jobs with flexible work arrangements and jobs with low stress levels and fewer physical demands. In fact, as noted in Thang's chapter in this volume, the HSBC Retirement Research (2006) project found that more than 70% of the respondents in Singapore regarded flexible working as ideal to achieve a balance among leisure, work, and money in later life.

Given those work motivations of the old-aged, there are pressing needs for employers to proactively redesign their workplaces and personnel policies to meet the needs of older workers. Workers themselves, too, need to change their attitudes to accept changes that may come with a new work environment, such as reduced work hours, lower compensation, and active participation in training and retraining programs, as is well noted in Thang's country report.

JOB TRAINING AND PRODUCTIVITY MAINTENANCE FOR AN AGING LABOR FORCE

National experts also noted that job training and lifelong learning systems should be properly set up and should be adapted to an aging labor force. For this, government policy interventions and proper investments are critical. To support training and lifelong learning in the workplace, Singapore, for instance, set up a Skills Development Fund (SDF) in 1979 through the Skills Development Levy contributed by employers. The subsidies provided by SDF help to enhance the skill sets of workers to meet the demand of the changing

employment needs. In the ROK, the employment insurance system runs a Job Skills Development scheme through which workers and firms are supported and subsidized to invest in their job skills and lifelong learning. These are good models that countries with aging populations and labor forces can emulate. But it is also noted that job training schemes need to be reformed to meet the needs of aging labor forces by increasing their accessibility to old-aged workers.

SOCIAL PARTNERSHIP FOR SUSTAINABLE GROWTH

To cope with the issues and challenges that an aging society poses, dialogue and cooperation between social partners are essential. For instance, in Singapore, a Tripartite Committee has been formed to help employers with the formulation and implementation of the Re-Employment of the Old-aged policy by showcasing examples of age-friendly and fair employment practices among Singaporean firms. Social partners participating in the Tripartite Committee are expected to find efficient ways to cope with the aging society and its challenges and cooperate to implement policy measures that are needed for the well-being of their societies.

POLICY MEASURES AND INITIATIVES NEEDED

The general objective of labor force policy in aging societies is to reinforce the potential for sustained economic growth in an aging society. The motto of the policy drive is to set up a labor market environment in which old-aged individuals can keep working as long as they are healthy and strong enough to work.

Reforming Wage and Compensation Systems

In many Asian countries, however, the wage and compensation structure is ”back-loaded,” so that pay is lower than productivity for junior workers and higher than productivity for senior workers. In such a system, as Phang points out, difficulties could arise for future older workers attempting to delay retirement or to change jobs while remaining in the labor market after early retirement, because employers will find it costly to hire older workers who have only a limited period of time during which compensation exceeds productivity. One of the policy tools for insuring the old-aged decent job opportunities until normal retirement age is to develop “wage adjustment option” systems in which employers could negotiate wage increases with their older employees for a period of extended employment over a certain age-limit, as in the ROK.

Reforming Firms' Retirement Policies

In aging societies where future labor force shortages are expected, labor market reform efforts should move in the direction of extending the longevity of employment at the expense of compensation and extending active work-lives for average workers. In many Asian countries, including the ROC, Singapore, Japan, and the ROK, governments are setting up incentive programs to encourage employers to keep older employees longer by extending their firms' retirement ages. In the longer term, it is well recognized that these retirement-age extension efforts need to be further reinforced by measures against age-discriminating layoffs and retirement policies widely practiced at firms so that the length of an employee's tenure is determined not by age but by the individual worker's productivity and ability. That is also the direction of the reforms that are being pursued in many advanced countries. At the same time, many governments are considering a more affirmative measure—drafting an Equal Employment Opportunity Act in which age discrimination in terms of employment and retirement will be more strictly defined, monitored, and regulated.

Subsidizing Wages of Older Workers

Another way of making it more attractive to employers to hire and retain older workers is to subsidize the cost of employing and keeping them. In the ROK, for instance, under the Employment Insurance System (introduced in 1995), four types of wage subsidies are available: to promote over-quota (6%) employment of older workers, to promote newly employing older workers, to promote extended employment of retiring workers, and to promote employment of older workers upon completion of subsidized job training.

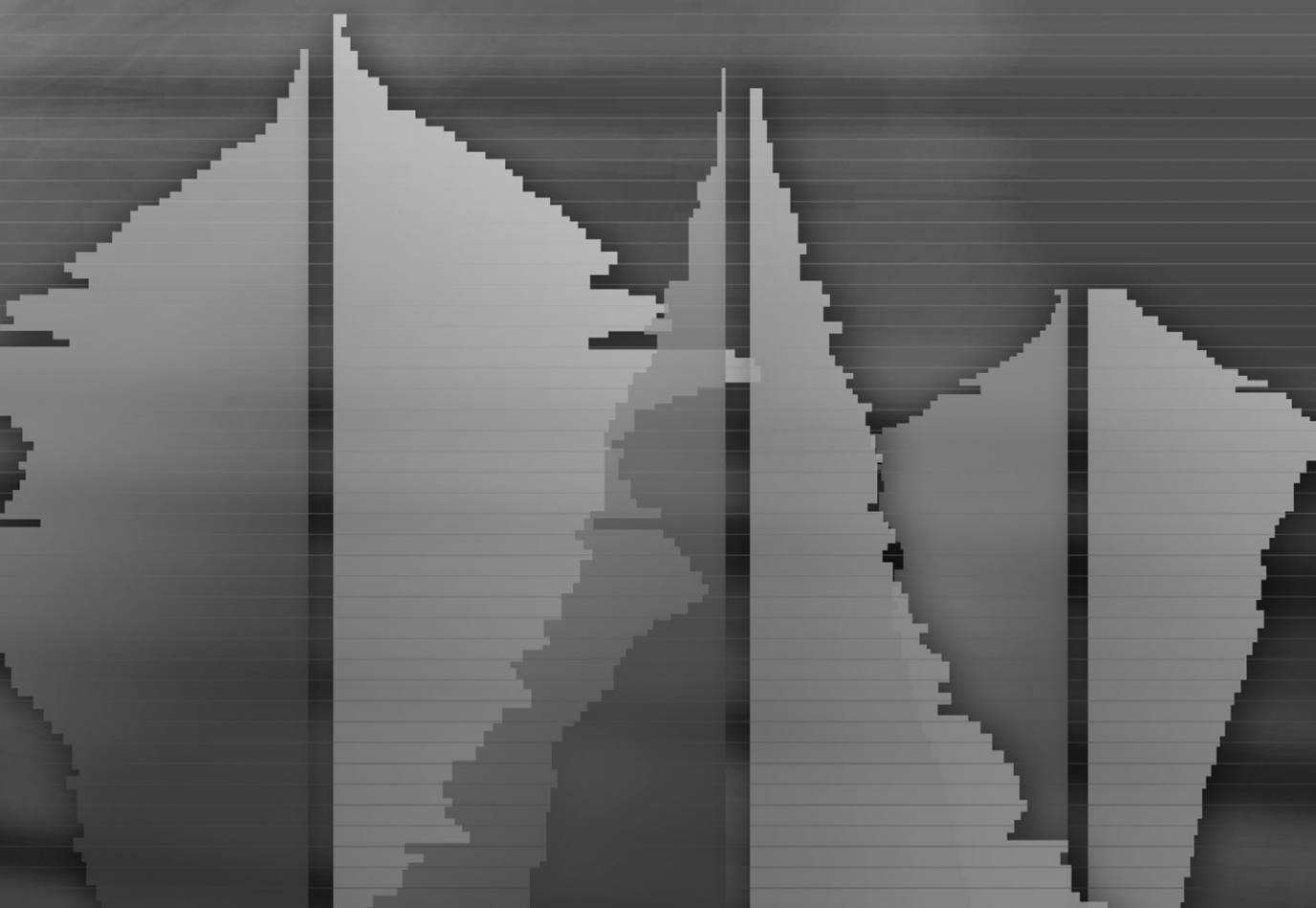
Increasing Labor Force Participation of Women

Currently the labor force participation rates of women in East Asian countries are low relative to other advanced countries. Women's participation has been increasing over the long term, but is still below the 50% level almost everywhere. Thus Asian countries are advised to strengthen their sex-fair policies and lower the threshold to labor market entry so that both first entry (after schooling) and re-entry (after childbearing) to the labor market can be facilitated without much transition cost. Labor market institutions and practices also need to be reformed in a direction that enables working women to successfully harmonize work and family and to develop their work careers more consistently.

Improving Skills and Productivity

The key challenge is keeping older workers productive and employable in a time when the workforce is rapidly getting older. Policy researchers point out that lifelong learning and job training systems need to be reformed in a way that increases older workers' incentive to participate and employers' incentive to provide them with fair training opportunities. On the demand side, employment contracts (including mandatory retirement policies) should be changed gradually to adjust to the aging of the population and of the labor force. On the supply side, workers' initiatives and choices should be directed toward lowering the cost of long-duration employment contracts (such as seniority wages and retirement allowances) so that long tenure (normal retirement) with a productivity-based wage system can gradually replace short tenure (early retirement) with a high wage system. It is strongly advised that governments pursue a wide range of reform policies in a consistent and efficient way, especially reforms in labor market institutions and social welfare systems that can help societies to face rapidly aging populations and labor forces and that can enable East Asian economies to stay on the path to sustainable growth.

Appendixes



LIST OF TABLES AND FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

APO (Asian Productivity Organization)
CET (Continuing Education and Training)
CFS (Centre for Seniors, Singapore)
CPF (Central Provident Fund, Singapore)
DBP (defined benefit pension)
DCP (defined contribution pension)
DGBAS (Directorate-General of Budgeting, Accounting and Statistics, ROC)
EU (European Union)
GDP (gross domestic product)
ICT (information and communications technology)
JILPT (Japan Institute of Labor Policy and Training)
KNSO (Korean National Statistical Office)
KRW (ROK won)
LFPR (labor force participation rate)
MOM (Ministry of Manpower, Singapore)
NPS (National Pension System, ROK)
OECD (Organization for Economic Cooperation and Development)
R&D (research and development)
ROC (Republic of China)
ROK (Republic of Korea)
SDF (Skills Development Fund, Singapore)
SGD (Singapore dollar)
SMEs (small and medium-sized enterprises)
SPUR (Skills Programme for Upgrading and Resilience, Singapore)
TAFEP (Tripartite Alliance for Fair Employment Practices, Singapore)
TFP (total factor productivity)
TFR (total fertility rate)
UN (United Nations)
WDA (Workforce Development Agency, Singapore)
WIS (Workfare Income Supplement, Singapore)
WTS (Workforce Training Scheme, Singapore)

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