



Working Paper No. 500

Economic Perspectives on Aging

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The Levy Economics Institute of Bard College

May 2007

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ABSTRACT

The aging of the U.S. population will be a critical public policy issue in the years ahead. This paper surveys the recent literature on the economics of aging, with a special emphasis on government spending on the aged. The U.S. Census Bureau projects that the proportion of the elderly in the total population will increase while the proportion of the working-age population will decline. This demographic shift implies a significant growth in the number of beneficiaries of major federal entitlement programs. Existing rules and escalating health care costs are expected to lead to fiscal pressures and to pose challenges for economic growth. The paper offers the author's assessment of the forces that determine government spending on retirees. It also examines how the retirement and health care of older citizens might be financed, and measures the potential impact of different reform proposals. Finally, it provides an introduction to an edited volume, *Government Spending on the Elderly*.

Keywords: Economics of Aging, Retirement and Health Care Programs, Government Spending on the Elderly, Fiscal Pressures of Entitlements

JEL Classifications: J26, J14, H41, H55, I38, E62

The aging of the U.S. population over the decades ahead will affect our society and economy, and be one of the primary domestic public policy issues. The U.S. Census Bureau projects the fraction of the elderly in the total population to increase from its 2002 level of 12.5 percent to 16.3 percent by 2020. Concomitantly, the fraction of working age population (20–64) is projected to decline from its current level of 59 to 57.2 percent in 2020. Alternatively, as Kotlikoff and Burns (2005) prefer to put it, in 2030 there will be as many as 77 million baby-boomers hobbling into old age—twice as many retirees as there are currently—but only 18 percent more of potential workers. What this means is the ratios of the number of people eligible to retire to the entire population and to the projected workforce would both be higher (Bernanke 2007). These trends are in sharp contrast to those observed during 1970–2002, when the proportion of the working age population in the U.S. actually grew by about 5 percentage points. These demographic changes certainly imply a significant growth in the federal entitlement programs. Apart from the growth in the number of beneficiaries, existing benefit rules and rapidly escalating health care costs are expected to lead to fiscal pressures on the federal budget and pose challenges for economic growth. Federal expenditures for Social Security, Medicare, and Medicaid (via payments for long-term care) together represented almost 40 percent of the federal budget, or about 8.5 percent of GDP, in fiscal year 2006. The Congressional Budget Office’s (CBO) long-term projections suggest that by 2015, Social Security, Medicare, and Medicaid (for long-term care payments) will increase by about 2 percentage points of GDP, totaling 10.5 percent, while by 2030, according to CBO, these expenditures will be as high as 15 percent of GDP.¹ This, pundits warn, will create a “generational storm” and a “fiscal crisis” as the United States, unable to afford the expense of caring for its aged, will be forced to institute “skyrocketing taxes, drastically lower retirement and health benefits” and experience “high inflation, a rapidly depreciating dollar, unemployment, political instability” and be, all in all, in “desperate trouble.”²

The impending demographic change is due to the post-World War II decreasing rates of fertility and the increasing life expectancies. Moreover, demographers project stability of the current rates of fertility into the foreseeable future, while forecasts on life expectancy show a

¹ These projections represent the Congressional Budget Office’s (2005) intermediate expenditure scenario, which Fed Chairman Bernanke suggested may be too optimistic, especially for Medicare, based on the past 25 year experience (Bernanke 2007).

² See Kotlikoff and Burns (2005).

positive trend (Bernanke 2006). The anticipated growth of the aged (65 and older) is not only due to the simple fact that they would retire, but also due to the fact that over the next several decades, America's population is expected to progressively grow older and remain so, even as the baby boomers disappear from the scene (Bernanke 2006).

The United States is not alone in confronting this demographic transition—the aging baby boomers with higher life expectancies and low fertility rates—and facing the challenges posed by it. In fact, in most countries with advanced economies, the problem is far more severe (Papadimitriou 2006). In Germany, for example, the share of the elderly in the total population was already 16 percent in 2000, the level that the United States is expected to reach in 2020. Most western European countries, including Australia and Japan, have more generous government programs for the elderly and most already have higher rates of taxation, especially payroll taxation, as compared to the United States, leaving them with harder choices. A detailed study of nine industrialized countries³ showed that, as a percentage of GDP, old-age pension spending in the United States (4.4 percent) was the lowest among these countries (OECD 2001). In Italy, Germany, Sweden, Finland, and Japan, the ratio of old-age pension spending to GDP is at least twice as much as that in the United States.

However, this favorable international comparison does not suggest complacency in the United States, and the challenges of coping with an aging population require action in the near term to forestall more difficult choices in the long term. Thus, an assessment of the forces that are driving and will continue to drive government spending on the elderly is absolutely essential. Such assessment will need to examine how retirement and health care for the elderly might be financed and measure the potential impact of different proposals for reform. Even though the coming demographic change is real, its effects on each entitlement program are different. The Social Security problem, if there is one, appears to be of manageable size, and a number of commentators have suggested that as a program it has been run responsibly, has made adjustments⁴ to prepare for an aging population, and is a sustainable system (Baker and Weisbrot

³ The countries included are Canada, Finland, Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, and United States.

⁴ Revisions in benefits and revenues were made in 1977 and 1983 that fundamentally changed the Social Security program from pay-as-you-go to advance funding or accumulation of reserves. It was believed that benefits could be supplemented from the reserves when Social Security revenues begin to fall short of expenditures.

1999; Papadimitriou and Wray 1999a; Krugman 2005). Medicare and Medicaid spending, however, is neither a function of the demographic problem nor is it driven by rising prices for existing medical procedures; instead, and to a much larger extent, its level of expenditures reflects advances in medical innovation that dramatically increase the opportunity to extend and save lives (Krugman 2005).

Every adult, irrespective of the country of residence, has heard cries of alarm that the country's retirement systems are poised on the brink of a financial crisis, precipitated by the swelling numbers of retirees relative to workers. However, there are marked differences in the forecasts. To set priorities and form strategies, policy makers need to have a set of clear ideas about the dimensions of the emerging problem and the uncertainties surrounding the projections. In the United States, the Trustees of Social Security and Medicare, for example, are required to report the financial health of the programs in purely accounting terms that need not reflect the economic costs, that is, the proportion of future GDP required for public spending on the elderly (Centers for Medicare and Medicaid Services 2003; Social Security Administration 2003). The forecasting of the costs in accounting and economic terms involves making assumptions about crucial variables, such as future earnings growth, productivity growth, inflation (including the price of medical care), and the age profile of the overall population and the working population (Papadimitriou and Wray 1999a). It is important for policy makers to have an assessment of the reasonable range of available forecasts (for example, is government spending for the elderly likely to grow to be 10 percent or 15 percent of GDP in 2030?) and the relative importance of the various sources of uncertainty (for example, is the uncertainty about the growth of immigration more important than that about fertility rate?).

The natural inclination to be conservative when making projections over periods of 75 years or even longer is understandable, but relatively minor adjustments to the assumptions lead to very different assessments that are especially important for Social Security's long-term financial soundness. These adjustments and their impact on the Trustees' calculations have been analyzed in detail elsewhere (Papadimitriou and Wray 1999a, 1999b); suffice it to say, however, that small changes in the values of variables included in the projections, such as fertility rates, growth of the labor force, increased longevity, net immigration flows, growth of real wages, proportion of taxable wages, real interest rate, the disability incidence rate, and the disability termination rate can yield significant changes in the actuarial results. The uncertainty of the

future trends of these variables casts doubt on the Trustees' calculation of actuarial balance 75 years later. Consequently, one must be cognizant about proposing major reforms to correct problems that may never unfold.

Most analyses, including the ones conducted by the Trustees and CBO, confuse the difference between *financial* provisioning and *real* provisioning for retirees in the future (Papadimitriou and Wray 1999a, 1999b; Wray in Chapter 3, *Government Spending on the Elderly*). If the problem is the financial soundness of the Social Security Trust Funds, its resolution may require only relatively simple adjustments in accounting procedures (Friedman 1999) instead of raising taxes now or lowering benefits in the near future or even running budget surpluses now (Papadimitriou and Wray 1999a). If the problem is the real provisioning for retirees with sufficient quantities of resources in the future, this can only be resolved by increasing productive capacity in the future, thus ensuring that a sufficient share of resources will be transferred to the elderly of the future. These can be achieved by increasing the rate of private and public investment together with revisions in taxation at the time the baby boom generation is well into retirement.

There remains, then, the question whether there is, in fact, a looming crisis or whether the economy can “grow itself out of the problem” (Papadimitriou and Wray 1999a). As it was mentioned earlier, if the problem is *real*, it requires a fiscal policy stance to be biased toward increasing productive capacity. If, on the other hand, the problem is *financial*, the options to be considered may include the following: (1) changing the composition of the budget to meet the spending for the elderly while keeping the overall size of the budget (relative to GDP) within specified limits, necessitating reductions in the share of discretionary spending; (2) decreasing benefits by means testing or altering the benefit formulas; and (3) raising payroll and/or income taxes. Clearly, the implications of the various options for long-run macroeconomic performance and the political feasibility of the options are to be very carefully considered.

While the impact of aging on fiscal balances has been investigated frequently, an equally important, but less-studied issue is whether future retirees will be able to maintain a decent standard of living (OECD 2001; Wolff 2002). This turns out to be dependent on the assets they can accumulate during their working life, the type of private pensions available to workers, and the adequacy of public pension and medical benefits. Recent trends in the United States raise concerns as to whether the soon-to- retire population (those aged 47–64) might face a resource-

inadequacy crisis when they retire. Estimates by the Federal Reserve showed that during the 1990s, debt burden faced by the elderly had grown substantially, and that the percentage of elderly that owned their homes (the main asset for an average family) outright had declined (Aizcorbe, Kennickell, and Moore 2003). Anecdotal evidence also points to the elderly being increasingly mired in debt, often as a result of soaring medical bills and providing financial assistance for their grown-up children (Bayott 2004). While the majority of workers in the soon-to-retire age group are covered by employer-provided pension plans, the structure of such plans has changed most dramatically: defined-contribution plans have overtaken defined-benefit plans and pension wealth has become increasingly concentrated at the top, favoring better-paid workers among the soon-to-retire (Wolff 2003). The shortfall of resources available to the elderly can, apart from aggravating their material hardship, also increase strains on the Medicaid program (for long-term care) and other means-tested assistance programs.

There is general consensus that government spending on retirees reduces overall inequality in annual income because it reduces the incomes of the working population via payroll taxes and increases the incomes of the elderly via transfer payments (Danziger and Weinberg 1994). For example, recent analysis undertaken at The Levy Economics Institute of Bard College shows that nearly two-thirds of the inequality-reducing incremental effect of government transfers was due to Social Security and Medicare in 2000 (Wolff and Zacharias 2006).⁵ Indeed, the progressivity of government spending for the elderly in this sense is a welcome side effect that contributes significantly to public policies aimed at social cohesion and reducing the marginalization of vulnerable social groups.

Several recent studies have examined progressivity from a lifetime perspective (Caldwell *et al.* 1999; Coronado, Fullerton, and Glass 2000; Gustman and Steinmeier 2000; Liebman 2002). However, in the comparisons of lifetime benefits and lifetime contributions, and with respect to the effect of *net benefits* (benefits less contributions) on overall income distribution, studies sometimes arrive at conflicting results. For example, Cohen, Steuerle, and Carasso (2003) find, using a sample based on Social Security Administration (SSA) records, that the Old Age

⁵ The incremental effect refers to the percentage decline that would occur in overall inequality if every household's income from government transfers were to increase by 1 percent, with other things remaining the same.

and Survivors and Disability Insurance (OASDI) system produces internal rates of return⁶ that are relatively higher for those at the bottom of lifetime earnings distribution, while Coronado, Fullerton, and Glass (2000) argue, using a Panel Study of Income Dynamics (PSID)-based sample, that Social Security is slightly regressive under certain conditions. The methods and findings from this strand of research are highly relevant for evaluating the equity aspects of reform proposals, such as that recommended by President Bush’s Commission to Strengthen Social Security, involving the creation of individual retirement accounts (USGAO 2004) or that reportedly favored by the former Fed Chairman Alan Greenspan involving benefit reductions and raising eligibility age for Social Security and Medicare (Henderson 2004).

Another area of research that is important for the evaluation of reform proposals and their implications for public finances is research on retirement behavior. It has been argued that microeconomic models built using individual-level data on crucial labor market and demographic variables in conjunction with detailed modeling of the pension and tax rules can provide valuable insights on why and when individuals retire (for example, Whitehouse 2000). The steep decline in labor force participation rates for men aged 60 to 64—it fell by about 30 percentage points from 82 percent to 53 percent during 1960 to 1996—is probably hard to understand without some discussion of the changing trade-offs between retirement and work (Gruber and Wise 2002). While there is a fairly large literature on estimating incentives to retire, often these models suffer from not being able to separate the effects of Social Security from private pensions, lack of sufficient data, and a host of other specification problems (most importantly, given the nonlinear relationship between Social Security benefits and earnings, not being able to account separately for the effects of earnings and Social Security benefits on the decision to retire; see Krueger and Pischke 1992). The availability of rich microdata from the Health and Retirement study (HRS) starting in the early 1990s has given rise to a new generation of studies on retirement behavior. Recent research based on the HRS and using modeling techniques that overcome some of the limitations of the earlier research has shown that increasing the delayed retirement credit is likely to have as large an effect on postponing retirement as raising the normal retirement age (Coile and Gruber 2000). Admittedly, this result may be substantially modified if the effects of changing social norms regarding the “appropriate”

⁶ The internal rate of return is calculated as an interest rate that workers would need to earn on their lifetime contributions to make this sum equal to the lifetime benefits they receive, in inflation-adjusted dollars.

retirement age are taken into account. A challenge for future retirement behavior research is to assess the policy implications of the effects stemming from the interaction between the formation of social norms and institutional environment.

Most discussions about the potential fiscal imbalances that result from population aging focus on how changes in benefits or taxes on workers can contribute to alleviate the situation, with almost no mention of how changes in employment contracts and global competitive pressures contribute to this process. Just as the gradual substitution of defined-contribution plans for defined-benefit plans has greatly reduced the employers' liability of paying pensions, a similar shift towards reduced employer liability for health care also appears to be under way. According to the HRS data, about 66 percent of male and 50 percent of female full-time workers in the age group 51–61 are covered under some type of employer-provided retiree health benefits (Johnson, Davidoff, and Perese 2003). Indeed, since Medicare covers only about half of the medical expenses of the elderly, employer-provided benefits are a crucial part of the safety net for them. It is estimated that for the nondisabled, nonindigent retired elderly in the age group 65–67 covered by Medicare, 85 percent have supplementary coverage; the majority (56 percent) obtain such coverage via employer or union (Finkelstein 2004).

However, soaring health care costs over the past decade have brought about a substantial decline in the percentage of employers who are offering these benefits to new retirees. At the same time, the employers are also passing on an increasing proportion of the cost increases to the retirees. Both trends are likely to accelerate in the near future, putting pressures on the physical and economic well-being of the elderly. It appears that the new Medicare prescription drug plan might offer some relief to those who have no supplementary coverage, but the existing drug plans available under most existing retiree health plans are superior to the Medicare plan (Kaiser/Hewitt Survey 2004). While there is plenty of anecdotal evidence about how soaring health care costs in the United States are hurting the competitiveness of U.S. based production, there is need for more systematic study.⁷ It is also worth exploring the potential of innovative

⁷ In the crucial automobile industry, about half of all United Auto Workers (UAW) are expected to retire within five years. A spokesman for General Motors has recently stated that the company is at a competitive disadvantage, especially with producers in countries where health care is paid for by the government (Garsten 2004). The combination of threat to the bottom line of major U.S. corporations and health security of ordinary people may prove to be a potent catalyst to fundamental reform in the health care system.

types of employment contracts that will lower the costs to business in the long run and maintain a reasonable level of benefits for employees (for example, Ghilarducci 2003).

An adequate examination of policy options has to be based on a sound assessment of the economic well-being of the elderly. The most widely used measure of economic well-being in considering the gaps in economic well-being between elderly and nonelderly households and the deprivation of the elderly is gross money income. However, as several studies have pointed out, noncash transfers (for example, Medicare) and wealth play a crucial role in shaping the economic well-being of the elderly (for example, OECD 2001). Additionally, the U.S. Census Bureau, the publisher of the official scoreboard on the level and distribution of economic well-being of American households, has recently started publishing what it previously called “experimental measures” on par with the standard gross money income measure (DeNavas-Walt, Cleveland, and Webster 2003). Noncash transfers, crucial for well-being and making up at least 40 percent of government transfer payments, are excluded from the official measure of gross money income. The economic advantage from wealth ownership is reckoned in the money income measure as actual property income (dividends, rent, and interest). A more complete measure of income from wealth has to take into account the advantages of home ownership (either in the form of imputed rental cost or annuity on home equity) and the long-run benefits from the ownership of nonhome wealth (for example, in the form of an imputed annuity; see Moon 1977; Caner and Wolff 2004). By means of such a comprehensive measure, policy makers gain better insights into the relative importance of different income sources in sustaining the economic well-being of the elderly and forces shaping inequality among the elderly.

The equity considerations mentioned previously regarding the distribution of benefits from social insurance programs were confined to individuals differentiated solely according to their earnings. Among other things, differentials in mortality rates among demographic groups, variation in family types (for example, single retiree vs. elderly couple), and gender differences in the number of years of earnings contribute to the observed patterns of redistribution. The differences in economic security among population subgroups are also of interest in themselves. A crucial demographic feature of the elderly population, due to gender differences in life expectancies, is that 60 percent of that population is women (as compared to 50 percent in the nonelderly population), and women’s share increases as we move to higher age groups among the elderly. There are huge gaps in living arrangements (40 percent of elderly women live alone,

compared with only 16 percent of elderly men), which has a negative impact on resource availability, and women rely to a much greater extent on social insurance than men to sustain their economic well-being (Lee and Shaw 2003). The growth of female-headed households and relatively high divorce rates among the baby boom generation imply that a greater percentage of women will be entering retirement in the coming years without being eligible for the spousal benefits under Social Security (Smeeding, Estes, and Glasse 1999). Research also indicates that a significant proportion of women with low lifetime earnings will not be able to take advantage of provisions to protect low-wage workers because they will not have a sufficient number of years with covered earnings (Hungerford 2004). The implicit model of the typical family that existed at the conception of the Social Security program was the “male breadwinner model.” Reform proposals must be evaluated in light of the changes that have taken place in women’s relation to paid work and changes in household structure and composition.

The generosity of each country’s welfare system toward the elderly has profound implications for the composition of government budgets. We can distinguish three types of generosity of social security schemes: average generosity, generosity toward early retirement, and generosity toward the poor. On the basis of some theoretical predictions, an examination of the statistical correlations among those types of generosity can be observed. In Europe, for example, the statistical findings can be interpreted in relation to the evolution of the process of integration (Lefèbvre and Pestieau 2006). The cross-country differences in the composition of government budgets beg the important question whether spending on the elderly crowds out spending on the young. Has spending on the nonelderly declined in major public programs (for example, education) and/or have tax rates on the nonelderly increased as a result of the increasing expenditure burden of entitlement programs devoted to the elderly?

A new volume to be published, *Government Spending on the Elderly* (Papadimitrou 2007) includes a compilation of essays on the subject of retirement wealth and the overall well-being of the elderly in the United States and around the world. The volume begins with Chapter 2, in which Axel Boersch-Supan attempts to answer the questions raised above regarding trends in spending of the entitlement programs on the elderly versus those on the nonelderly. Given the more pronounced trends of population aging and lower fertility rates across the countries, the implications are clearly a dramatic growth of expenditures toward the elderly (pensions, health care, long-term care) and *a fortiori* toward the young and/or employed. How would this affect

the longevity of the welfare state and what are the consequences of its survival? Boersch-Supan's analysis, using aggregate statistical data from Eurostat and Organization for Economic Cooperation and Development (OECD) and individual data from Survey of Health, Aging, and Retirement in Europe (SHARE), determines the correlations among the different dimensions of welfare state generosity. He compares the respective generosity between the aged and nonaged, and assesses policy outcomes—economic (unemployment, poverty, and inequality in wealth, income, and consumption) and noneconomic (health and longevity). The author's main focus of research is in determining the correlation between the spending share for the elderly and the young, which he finds to be positive for the EU15 countries. In addition, he examines the evidence for convergence among the EU15 in light of the accelerated integration and the adoption of a single currency and whether a new "European welfare state model" can be created and concludes that no such case can be made. The commentary that follows Chapter 2 by Sergio Nisticò suggests, however, that there are many reasons to expect that "a new European welfare state model" may become a reality so as to ensure that expenditures toward the elderly will not endanger its continuation and survival.

An interesting perspective that can inform public policy toward the elderly is to examine demographic trends of past, current, and future periods as these relate to age and gender distributions, employment/population ratios, labor-participation ratios, and dependency ratios (aged, youth, total). This is precisely the focus of Chapter 3 by L. Randall Wray, who links global demographic trends with mostly what he calls *real* provisioning to the elderly at the time it will be needed. Wray provides detailed demographic transitions for the United States and other developed, developing, and emerging economies and the world as a whole. By paying particular attention to the dependency ratios for all these countries, he suggests that the demographic alarm for the global economy may be exaggerated. He returns to the topic of previous research (Papadimitriou and Wray 1999a, 1999b), reaffirming the crucial importance of dependency ratios—especially for social security systems, as well as the distinction between financial and real provisioning for the elderly both playing significant role in policy design. He insists that the primary concern of policy makers that would alleviate the aging burden should be increasing productivity and employment for those that are able and willing to work in most countries, but especially in Europe. Other suggestions for policy options that Wray proposes include changing immigration laws that can help forestall a country's workers rising burdens, childcare support

systems that encourage mothers to enter and continue in the formal labor markets, and further advances for efficient health care delivery. Richard Startz's commentary following Chapter 3 reinforces Wray's findings and brings to the fore the role of saving in the further development of a nation's capital stock—a theme that echoes the words of the current Federal Reserve Chairman (Bernanke 2007).

Government expenditure and taxes are known to have an equalizing effect on economic well-being between the aged and the nonaged. The gap in well-being between the two groups is then dependent on the types of expenditures and taxes that are considered, as well as the income concept used to calculate economic well-being. The recently developed Levy Institute Measure of Economic Well-being (LIMEW) and its associated microdatasets offer a comprehensive view of the level and distribution of economic well-being in the United States during the period 1989–2000 (Wolff and Zacharias 2006). The main components of the LIMEW are earnings, pensions, and income from wealth, transfers, public consumption, taxes, and household production. In Chapter 4, using the database developed for the LIMEW, Edward N. Wolff, Ajit Zacharias, and Hyun Kum determine the disparities between retirees and nonretirees, the structure of inequality among the elderly, and the extent to which government spending on the aged has an equalizing effect on the overall distribution of economic well-being. They carefully document the relative importance of various sources of income in sustaining the living standards of the elderly and then contrast their results with the “experimental” measure of extended income published by the U.S. Census Bureau. Their results differ significantly from those of the Census Bureau in that, based on the LIMEW, the elderly appear to be better off in relation to the nonelderly, contrary to the official measures. The difference in the measures, they explain, is mainly due to much higher calculated values of income from wealth together with higher net government spending toward the elderly. Wolff, Zacharias, and Kum offer other measures among population subgroups within the elderly—male/female, white/nonwhite, and single/married—noting again the differences from those of the Census Bureau. Robert Haveman, commenting on Wolff, Zacharias, and Kum, accepts the importance of the comprehensive nature of the LIMEW measures, but raises valuable and constructive questions relating to imputation procedures included in the LIMEW datasets.

A substantial body of research has been carried out of late in studying gender gaps in earnings and working conditions. Gender disparities in economic security during old age are, in contrast, a relatively new area of research that has yielded some valuable insights. Higher life

expectancy combined with disadvantaged earnings histories might make the net lifetime benefits for women higher relative to that for men, yet a much larger fraction of older single women (age 75 and over) live in poverty as compared to men. Moreover, the relatively higher lifetime benefits for women also reflect gender disparity in earnings, as well as women's greater role in caring for the family—unpaid work. Lois B. Shaw's Chapter 5 makes an invaluable contribution in the economics of aging by examining government spending toward elderly women. Shaw offers detailed demographic data pertaining to women, paid and unpaid work, and the limited options available during old age. She reports, for example, that in the United States, 60 percent of wives over the age 55 are caregivers to spouses and almost 25 percent of daughter caregivers are over 60 years of age, and many of them are employed. Women are, to a much larger extent than men, confronted with the conflict between paid and unpaid care-giving work to children, spouses, and elderly parents. Finally, she assesses the implications of the strategies for major policy reforms regarding Social Security, Medicare, and especially Medicaid for longer-care, and offers her own proposals for effective policies that address the particular concerns of elderly women. Rania Antonopoulos comments positively about what Shaw writes in the chapter, but encourages that one should consider the recommendations for policy reforms by recounting Eaton's (2005) perceptive contributions to the existing debate on elderly care in the United States.

The solvency of the U.S. Social Security System is the focus of the modeling exercises offered by Barbara A. Butrica, Karen E. Smith, and C. Eugene Steuerle in Chapter 6. Using the Urban Institute's Dynamic Simulation of Income Model (DYNASIM3 model), they explore a number of scenarios of delaying retirement and/or benefit cuts to assess the impact on the solvency of the Social Security Trust Funds. The model's simulations in delaying retirement by one to five years improve the solvency problem but do not completely eliminate the Trust Funds' deficit. The simulated options of delayed retirement also impact individual-level outcomes in terms of total net wealth, consumption, and retirement (annuitized value) benefits. The five scenarios derived from the DYNASIM3 model offer "a useful and informative comparison of outcomes," but it is a rather open question if any of them can be considered "a Good Retirement." In the commentary that follows the chapter, Lucie G. Schmidt raises a number of thoughtful procedural questions for improving the simulations and clarifying the results.

An important area of inquiry relating to the economics of aging is the relationship of a benefit increase in Social Security with the level of bequeathable wealth, whether planned or accidental. This line of inquiry is based on the assumption that at times of retirement, an increase in retirement benefits does not necessarily cause an equivalent increase in consumption and thus, it may lead to augmenting net wealth. This, then, leads to some fraction of the benefit increase being bequeathed back to the younger generations. Li Gan, Guan Gong, and Michael Hurd look at this relationship in Chapter 7 and attempt to quantify this intergenerational transfer via an estimation of a life-cycle model about consumption by singles. The simulation results for several instances reveal that the relationship does not hold or at least not substantially. Daniel L. Thornton, in the commentary that follows Chapter 7, brings up a number of the life-cycle model's limitations. He raises questions whether such models can lead to effective policy responses and concludes that they most likely cannot.

Employers have been substantially involved in shaping the structure of old-age benefits to their workers. Several studies have documented dramatic changes in employer-provided plans over the recent years. The erosion of unionized employment has affected the retirement security of workers. Assessing and designing realistic policy options that promote a more active involvement by employers for old-age benefits is paramount since these can, in turn, reduce fiscal pressures. The evolution of employer pensions, the relative merits of the socialization of costs of providing for retirees, and the combination of public and employer provisioning of benefits form the theme of Teresa Ghilarducci's contribution in Chapter 8. In it, Ghilarducci analyzes the changing role of employers pension plans and their impact on retirees, especially those belonging in the lower end of the income distribution. Her findings can be simply stated: (1) There is tax favoritism and tax expenditures in the current U.S. employer-pension system; (2) The shift from Defined Benefit (DB) plans to Defined Contribution (DC), apart from its heavy subsidization, has not improved coverage, has not increased participation (besides its claims to the contrary), but has made participants in the DC plans more insecure by subjecting them to substantial risks they are not qualified to assume and manage; (3) Only 50 percent of the labor force is covered; (4) The participation and coverage are skewed to higher income workers and not toward the middle-class workers; (5) Younger workers are most likely to be worse off with DC (401[k]) plans than the DB plans because 401(k) plans are used as severance plans rather than pension plans; and (6) Employer-based pension plans should be maintained for many good

reasons. Ghilarducci covers a lot of ground in this chapter. She successfully documents the evolving structure/shift of employer-provided pensions, the resultant utility to employers and disutility to workers, and participation rates and cites a number of well-known firms that pioneered the transformation of pensions from DB to DC plans. The message of this analysis is that appropriate government pension policy should be implemented so that the goals of adequacy, efficiency, horizontal and vertical equity, voluntary working, and contribution to economic growth can be attained. This can only come to pass by expanding pension coverage to lower income workers and ensuring retirement income security. The commentary by Zvi Bodie supplements Ghilarducci's suggested policy prescriptions by encouraging a larger role of the government to further augment the efficiency of a pension system. His policy proposals include, among others, truthful advertising in investment vehicles and introduction of lesser risk-burden assets offered by strong financial institutions employing state-of-the art financial technology.

Most of the research on the potential fiscal burden imposed by retirees has not paid enough attention to how much of the burden can be relieved by government and/or employers in providing health insurance coverage for retirees, especially those taking early retirement. While for a large number of retirees the main source of health care coverage is from the public sector, private coverage offered by the employer or union is also an important element in ensuring access to quality care and meeting costs for many retirees. Trends in the private provisioning of retiree health benefits are declining, necessitating a reconsideration of Medicare coverage, which can be extended to include early retirees or creating incentives for employers to include retiree health coverage. Data from the HRS provide useful information on the availability of retiree health and pension benefits. Another important database is the Survey of Income Program Participation (SIPP), used in a recent study (Fronstin 2005) that generated estimates confirming the declining trend of expected retiree health benefits to be offered at retirement. James Marton and Stephen A. Woodbury, in Chapter 9, extend and qualify Fronstin's estimates using a sample drawn from HRS. Their estimates show lower levels of employer-provided retiree health benefits and are closer to the percentages of retirees who report actually receiving them. This suggests that workers expectations are unrealized. Another reason they cite for the declining trends in making retiree benefits available is the Financial Accounting Statement (FAS 106), requiring companies to include the expense of these benefits (other than pensions) as liabilities, causing reconsideration of availability and, in many cases, reduction or elimination of these benefits. The

Marton and Woodbury analysis provides the following key findings for workers of ages 51–61 in their sample:

- In 1992, with both employee and retiree health benefits, there was a 55 percent increase in the probability of workers retiring in the next two years than those with only employee health benefit.
- In 1994, with both employee and retiree health benefits for the same group of workers, there was a 29 percent increase in probability of retiring in the next two years than those with only employee health benefit.
- In both cases, spouse coverage is very relevant.

Marton and Woodbury draw the inference that workers with retiree health benefits are more likely to retire when they are relatively young. The implication, however, is that this helps induce experienced workers with several remaining years to retire, creating labor supply reductions. A critical assessment by Barbara Wolfe in the commentary following Chapter 9 cautions that the results may not be as robust as they appear, for the models estimations include unsatisfactory variables. She also suggests that complementary estimates be used of smaller age cohorts, 55–58 and 59–61.

As we have seen before, long-run fiscal implications of the aging population are assessed on the basis of forecasts about demographic trend (mortality, fertility, and immigration), benefits, and economic performance. While traditional methods of forecasting underpinning most of the official assessments is the scenario approach, there have been new developments based on stochastic methods (Lee and Tuljapurkar 2000). The advantage of using a probabilistic framework is that it yields estimates of the potential margin of errors in the forecasts and forces the analyst to specify the assumptions about demographic and economic processes carefully (an example can be the use of a structural model of fertility rates based on historical data for forecasting). Probabilistic forecasts (of expected values and probability bounds) are generated from many random sample paths that describe a large number of possible trajectories, including high and low trajectories. These high and low trajectories for the key inputs to the forecast (that is, fertility rates, low mortality, and so on) create scenarios about the future population size or growth rate in addition to the preferred forecast. Differences between the two approaches have

significant implications for the design of long-run fiscal policy. Shripad Tuljapurkar, in Chapter 10, using stochastic population forecasts shows how these can be used to test the sensitivity of various policy changes to bring government spending toward the elderly into fiscal balance in the long-run. He projects demographic rates, mortality, fertility, and immigration using probabilistic forecasts, which combined, make stochastic forecast of population number and composition. Tuljapurkar's rigorous analysis provides estimates of policy proposals and their probabilities in achieving actuarial balance. For example, solvency of the Social Security Trust Fund would be improved by about 40 percent with a tax increase of 1 percent. If, in addition, 20 percent of the trust fund is also invested in the stock market, the solvency probability improves to 60 percent. There are other policy changes that are projected, including revisions in the Normal Retirement Age (NRA), that unsurprisingly improve the actuarial balance over the long range. The query still remains, however, as to how forecasts, even those with the highest degree of sophistication, can incorporate future unpredictable and uncontrollable events, increasing uncertainty in the future path of a nation's economy. This is the issue that Clark Burdick illustrates in his thoughtful and meticulous response to the analysis articulated in Chapter 10.

Views of Social Security's long-term financial condition and the implication it might have on the economy and the government's budget vary. As was mentioned earlier, the program's long-range actuarial imbalance is based on projections of demographic and economic variables that are subject to uncertainty and very sensitive to even the smallest of errors (Papadimitriou and Wray 1999a; Wray, Chapter 3 of *Government Spending on the Elderly*). Chapter 11 is yet another contribution to the growing literature of Social Security's long-term solvency. Andrew G. Biggs and Jagadeesh Gokhale attempt to link economic and wage growth and the implication these parameters might have on the program's financial condition. Following the Trustees' recent interest in projecting funding balances over the very long-term (perpetuity), Biggs and Gokhale test the proposition that faster economic growth improves the system's funding balance. They also assume that faster economic growth does concomitantly lead to faster wage growth that, in its turn, raises average wages that affect the calculation of retiree benefits. Using the Social Security and Accounts Simulator (SSASIM) actuarial model, Biggs and Gokhale show that the pay-as-you-go structure with a faster wage growth over the infinite time horizon would paradoxically worsen the actuarial balance if the ratio of workers to beneficiaries declines sufficiently, even though the system's 75-year balance would improve. The underlined

assumptions of such modeling exercise are strongly put in question by Stephanie A. Kelton in her commentary to this chapter. She finds little usefulness, if any, in forecasts of the infinite future and also critiques Biggs and Gokhale's analysis framed within static, rather than a more appropriate dynamic, setting. Among the other objections she raises is the assumption of average real wage growth without regard to the differing growth rates between low and high wage earners and the effect of earnings inequality on Social Security's finances.

Another central issue of crucial importance to the soon-to-retire workers—the age group of 47–64—is whether they will have enough resources—private and public—to maintain a reasonable standard of living in retirement. Characteristically, the adequacy of projected retirement income is contrasted to some absolute benchmark, that is, poverty line and preretirement income (“replacement rate”). A comprehensive study (Wolff 2002) utilizing data up to 1998 found that among the households headed by a soon-to-retire worker, the proportion expected to be in poverty or unable to replace at least half their preretirement income rose during the 1990s, in spite of the booming stock market and economy. Edward N. Wolff, in Chapter 12, updates the findings of his earlier study utilizing the 2001 Survey of Consumer Finances and the latest annual Current Population Survey (CPS) income surveys to determine the retirement income security of the soon-to-retire. The new findings show that retirement income did improve between 1989 and 2001. The improvement accounted for 5 percent of heads of households, ages 47 to 64, who expected to have retirement incomes of twice the poverty line—from 40 percent in 1989 to 35 percent in 2001. Moreover, the number of households that hoped to replace at least half of their projected preretirement income at age 65 increased from 49 to 53 percent. These improvements notwithstanding, a substantial share (24 percent) of households in the same age group expected to retire with only the Social Security benefits and without a private pension—a marked cause for maintaining and strengthening Social Security. The absence of private pension plans was a major factor of the pronounced inequality in retirement wealth affecting, to a greater extent, African-American and Hispanic households, and single women. In his own words “African-American and Hispanic households made no progress in closing the large gap with respect to white households in terms of retirement wealth or total wealth... While mean retirement wealth gained 84 percent for whites, it actually lost 1 percent for minorities.” Furthermore, single women fell behind their male counterparts, as well as married couples, between 1983 and 2001. Wolff provides a plethora of statistics and gives many details in the

profiles of the soon-to- retire. The significance of his analysis is his urging that public policy be directed in securing private pension wealth to improve retirement income adequacy for all Americans and their families. As Brooke Harrington writes in her commentary to Wolff's contribution, Social Security needs to become first and foremost secure since, particularly in the absence of private retirement wealth, it helps limit economic inequality among the retirees and the soon-to- retire citizens who are the most vulnerable—women, minorities, and renters. She notes that Social Security is crucial even to homeowners with excessive levels of mortgage debt and high levels of credit card debt as the of late increasing rates of bankruptcy filings exemplify.

The final chapter, Chapter 13, returns to a similar topic as some of the previous chapters have in that it offers an analysis of the redistributive provisions of the present Social Security system as they are presently configured and contrasts them against a minimum benefit. Redistributive provisions to retirees with low lifetime earnings are based on a progressive formula of benefit rates, a limited number of years counted in the benefit formula, and spousal and survivor benefits. Melissa Favreault, Gordon B. T. Mermin, and C. Eugene Steuerle offer an alternative provision that involves a minimum benefit. They contend, as many other studies have concluded (including national and presidential commissions on retirement policy), that a minimum benefit is a more efficient vehicle to effect redistribution. A minimum benefit structure can vary widely, and the most typical forms are summarized in Table 13.1. Utilizing the Urban Institute's dynamic simulation model, they estimate the effects of minimum benefits for a sample of 100,000 individuals drawn from the 1990 to 1993 SIPP. The results of the authors' various simulations are encouraging in that minimum benefits appear to reduce elderly poverty framed in a system reform of cutting benefits to improve the program's financial sustainability. The minimum retirement benefit appears to be central in the current debate in reforming Social Security as Robert K. Triest suggests in his commentary on Chapter 13. He cautions, however, that the trade-off of the minimum benefit for the low lifetime earners with decreasing the benefit of those with high lifetime earnings will entail a substantial welfare cost.

The contributions in this book cover an exceptionally large area of research on government expenditures for the elderly. They present conceptual and empirical studies that identify key issues dealing with various aspects profoundly affecting the aging populations. While many a reader may not agree with every argument and policy strategy made or accept every conclusion drawn, the chapters in this collection are thoughtful and perhaps some of them

provocative. They need to be read and discussed, and their implications considered as we attempt to find better approaches to improve the human condition of our elderly citizens.

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