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ECONOMIC IMPLICATIONS OF AN AGING SOCIETY

A Review of *Can We Afford to Grow Older?* Richard Disney, The MIT Press, Cambridge, Massachusetts, 1996.

The industrialized nations of the world are aging rapidly, as a result of declining birth rates and increasing life expectancies. In 1960, only 9 percent of the population of the OECD countries was aged 65 or older. Today, the proportion is approaching 14 percent, and by 2030, when the last of the baby-boomers will have just turned 65, nearly 23 percent of the OECD population is projected to be 65 or older (OECD, 1996, Table A2).

At the same time that people have been living longer, they have been retiring earlier. Labor force participation rates of men aged 55 to 64 have dropped, and often significantly, in nearly all of the OECD nations over the past two decades (*ibid.*, Charts 4.1, 4.2). These aging and early retirement trends will create fiscal pressures as public pension expenditures increase.

Table 1 shows summary demographic, labor supply and pension expenditure data for selected OECD countries. (The same points could be made with almost any of the other OECD nations.) The changes in the age distribution are dramatic, with increases in the percent of the population aged 65 or older on the order of one-third to one-half between 1960 and 1990, and further increases on the order

TABLE 1 SELECTED DATA, OECD COUNTRIES

Percent of the Population Aged 65 or Older[a]	Canada	Germany	Netherlands	U.K.	U.S.
1960	7.6	10.8	9.0	11.7	9.2
1990	11.3	14.9	13.2	15.7	12.6
2010	13.8	20.2	16.4	17.0	13.6
2030	23.1	28.1	26.0	23.0	21.9
Labor Force Participation Rate, Men 55–64[b]					
1970	84.2	80.2	80.6[e]	[f]	83.0
1975	79.4	69.8	72.2	[f]	75.6
1985	70.4	60.1	47.0	69.0	67.9
1995	58.9	58.3[d]	42.3	62.4	66.0
Public Pension Expenditure as a % of GNP[c]					
1995	5.2	11.1	6.0	4.5	4.1
2010	5.3	11.8	6.1	5.2	4.5
2030	9.0	16.5	11.2	5.5	6.6

[a] Source: OECD (1996), Table A2
[b] Source: OECD Labor Force Database
[c] Source: OECD (1996), Table 2.3
[d] 1994 data
[e] 1971 data
[f] Not Available

of 50 to 100 percent between 1990 and 2030. The labor force participation rates of men aged 55 to 64 are equally remarkable—down sharply in all of these countries since 1970. (The most notable exception to this trend is found in Japan, where participation rates for this age group are nearly constant.) Finally, one measure of the fiscal implications of the aging phenomenon is included. The OECD has forecast public pension expenditures as a percent of Gross Domestic Product under current rules, including reforms already announced. With the exception of the United Kingdom, the other countries in Table 1 anticipate increases in this ratio on the order of 50 to 90 percent between 1995 and 2030. Nearly all of this increase occurs after 2010, when the baby boomers begin to retire.

These trends and their financial implications have generated a climate of challenge, at best, or crisis, at worst. Many analysts question whether the industrialized nations will be able to handle the economic burdens associated with such dramatic changes in the age distributions of their populations. After analyzing the effects of aging on public pensions, health and long-term care expenditures, labor markets, national savings and capital markets, the OECD declared:

> Action is needed. Locking in an increasing proportion of national wealth to support increasing amounts of time in leisure near the end of life is simply bad social and economic policy. Failure to make needed changes, whatever the preferred path, will greatly restrict the freedom of coming generations to make their own decisions on how to spend national resources. Moreover, the sooner reforms are implemented, the less drastic the changes need be (OECD, 1996, 97).

Richard Disney has a different perspective. In his very ambitious and comprehensive book on the economic implications of aging, entitled "Can We Afford to Grow Older?" Disney argues that there is no "crisis of aging," despite the fact that dramatic changes in the age distributions of the developed nations of the world are occurring, and the fact that these demographic changes can be expected to have wide-reaching economic implications throughout these societies.

The fundamental reason for Disney's optimism is his great confidence in adaptive behavior—the ability of people and societies to anticipate the future and to react to it in a timely manner. In his view, socioeconomic trends are not set in stone. Rather, they are subject to change, influenced both by automatic feedback mechanisms (such as people deciding to work longer because they anticipate declines in public pension benefits, or housing starts reacting to expected future price fluctuations) and also by discretionary policy changes.

Disney advocates an economist's dynamic, forward-looking, life-cycle view—one that, for once, is not dismal at all. I think that Disney's perspective is basically correct. Aging, like any other change, presents a series of problems and challenges. The problems do not lead inevitably to crisis, although they could do so with sufficient inattention. With appropriate policy changes, however, these economies can afford the inevitable aging that lies ahead.

Disney's goal is to describe and analyze the economic consequences of population aging in modern, industrialized societies on a wide range of interrelated topics, including public and private pension systems (Chapters 4 and 5), educational attainment, wages and economic productivity (6), retirement (7), consumption and savings (8), health care expenditures (9) and voting behavior on public

expenditures (10) . He does not analyze the determinants of population aging itself, but rather takes these demographic trends as given—a wise decision given the broad scope of the volume already.

This book is not primarily original scholarship, although Disney does utilize his own considerable contributions in several areas, primarily concerning the British pension system. Rather, the volume provides surveys of the literature on a number of topics related to aging and related to each other. This is very useful, despite the fact that it is not possible to do justice to any of these issues in a single chapter. Many of the topics could easily be (and have been) the subjects of entire volumes on their own. (One can expand on Disney's selective and sometimes slightly out-of-date bibliography by utilizing the references in the most recent articles he cites on a particular topic.)

Disney adopts an explicit economic framework, outlined in Chapters 2 and 3, which emphasizes a life-cycle, overlapping-generations view of the world. He rejects as inadequate the simpler and more typical static analysis of the burden of dependency—for example, the ratio of economically active (working age) to economically inactive (children and the elderly) citizens at a point in time. (It is interesting to note, nonetheless, that rising elderly dependency ratios in the OECD nations in the near future will be partially offset by falling child dependency ratios. In several countries, including the United States, the overall dependency ratio (the populations aged 0 to 14 and 65 and over as a percentage of those aged 15 to 64) will be no higher in the year 2030 than they were in 1960, when the baby-boomers were young (OECD, 1996, Table A3).) A primary objection to these transfer burden forecasts is that they ignore the many adaptive behavioral responses, by individuals and by policy-makers, that are likely to occur in the interim.

Disney's central and very enlightening contribution is his view that an anticipatory life-cycle perspective is the key to understanding the true economic implications of aging. He also emphasizes the fact that economies are complex, interrelated general equilibrium systems, and therefore that changes in any one component (for example, Social Security rules) are likely to have implications in many other dimensions (for example, employer pension policies, and individual saving and retirement decisions.) In some cases, feedback mechanisms may dampen the impacts of the initial policy change.

An interesting example of this in the United States concerns the work disincentives (or conversely, the retirement incentives) implicit in the benefit calculation rules of public and private pension schemes. Social Security is in the process of reducing the work disincentives that have existed; that is, encouraging more work late in life (see below). At the same time, however, many defined-benefit employer pensions send a different message, and continue to penalize workers who remain on the job past some age, often the earliest age of pension eligibility. An important question is how employers will try to respond to the new Social Security environment. Will they attempt to restructure their pension rules to reduce their work disincentives as well, or maintain or even increase the financial incentives to retire at specific ages, in order to make up for the loss of the Social Security retirement incentives? The answer could have a significant impact on retirement patterns in the future.

This book is a rich combination of economic theory and institutional detail. It includes case studies of the public pension systems in Australia (which has a means-tested system), Italy, Japan, the United Kingdom and the United States, as well as the frequently cited privatization of the public pension system in Chile. Although the specific modeling of Social Security finances (Chapter 2) and overlapping-generations economies (Chapter 3) may not be enlightening to non-technical readers, the intuition of the life-cycle approach is clear. It pervades the volume and lies behind many of the themes and conclusions.

A key point of the book, very much in the Richard Easterlin tradition, is that the age distribution of the population has important implications throughout the economy, not just in obvious areas like pension and health care expenditures. For example, if a relatively large cohort of workers enters the labor market, as was the case with the baby-boomers, their entry level wages could be depressed (Chapter 6). Disney concludes that in fact they were, although the evidence is more ambiguous on whether these pay differentials have persisted as the cohort aged. How much the initial wages of a large cohort are affected depends how close substitutes they are for similarly skilled workers in other age cohorts. (The closer they are, the more the effects of the bulge are dampened by the number of similar workers in other age cohorts.) Disney argues that low-skilled workers are closer substitutes for each other than are high-skilled workers, and therefore that the wage dampening effects should be higher for the high-skilled. (To complicate matters, however, there are also demand-side shocks at work, which have tended to increase the pay differential between low and high skilled, and which may help explain the continuation of this trend even after the entrance of the much smaller baby-bust generation. For more on these issues, see Danziger and Gottschalk, 1995, Chapter 7.) Since new, inexperienced workers tend to earn less than older workers anyway, the pay decline for the entrants can accentuate inequalities in the income distribution. Lower earnings opportunities then influence choices about educational attainment, labor supply, marriage, and child-bearing, which in turn affect the age distribution of the population, aggregate productivity and economic growth long into the future.

Disney's general equilibrium and multi-generational framework is central to his discussion of the influence of the age distribution on personal consumption and saving decisions as well. The life-cycle hypothesis suggests that optimizing individuals should borrow while young, save (to repay the earlier debts and then to accumulate for the future) during peak earnings years, and then dissave in retirement. The aging of a population should increase the relative number of older dissavers, and thereby lower the aggregate saving rate. However, that is not the end of the story—the next generation may respond to the saving decisions of their parents. If elderly parents do dissave, thereby decreasing expected bequests, their children may decide to save more. On the other hand, if parents do not dissave (and researchers in the United States have had difficulty finding this dissaving behavior at the end of the life-cycle), the children, anticipating bequests, may offset their parents' decisions by consuming more. Perhaps that's where some of the missing savings of the baby-boomers are—still in their parents' bank accounts!

Similarly, in his discussion of population aging and asset prices, Disney describes predictions in the literature of dramatic declines in future housing and

other asset prices (sometimes ominously referred to as "asset meltdown") as aging baby-boomers unload their accumulated assets in retirement—the reverse of the substantial real-estate price increases in the U.S. in the 1970s and 1980s. In his forward-looking framework, however, these cohort-driven changes in supply and demand should be anticipated, and will therefore affect decisions about future housing starts, which in turn should dampen, although probably not eliminate, long-run fluctuations in housing prices. To repeat an earlier theme, to the extent that the asset prices do respond to demographic change, this affects not only the behavior of the owners of the assets (disproportionately, the elderly), but also that of the younger generations, both as purchasers of these same assets and as potential heirs.

A methodological point that I found very interesting—introduced in conjunction with consumption behavior, but certainly of more general relevance—is the extent to which differences in behavior are age-related or cohort-specific. As mentioned above, the elderly in the U.S. do not appear to dissave as much as the life-cycle theory would predict. How much of this is due to the specific events witnessed by those who are elderly today; for example, the Great Depression and the large real increases in Social Security benefits and housing prices? Is the behavior of today's elderly a good guide for what to expect from future cohorts of elderly, who will have had very different personal histories? The importance of disentangling cohort and age effects is a strong argument for continued data collection and research, even on topics that we think we understand.

The United States may provide an example of Disney's central hypothesis, that individual foresight and public policy initiatives can result in changes appropriate for an aging society. (See Aaron, Bosworth and Burtless, 1989; Steuerle and Bakija, 1994; and the Advisory Council on Social Security, 1997, for a variety of educated opinions on further initiatives that should be undertaken.) The post-war early retirement trend among American men has been dramatic. In 1950, nearly half of all American men aged 65 and older still worked; a half-century later, only 1 in 6 do, despite better health and significantly longer life expectancy. In just two decades, between 1964 and 1985, the labor force participation rates of men aged 60 to 64, 65 to 69 and 70 or older declined by 30 percent, over 40 percent and nearly 50 percent, respectively.

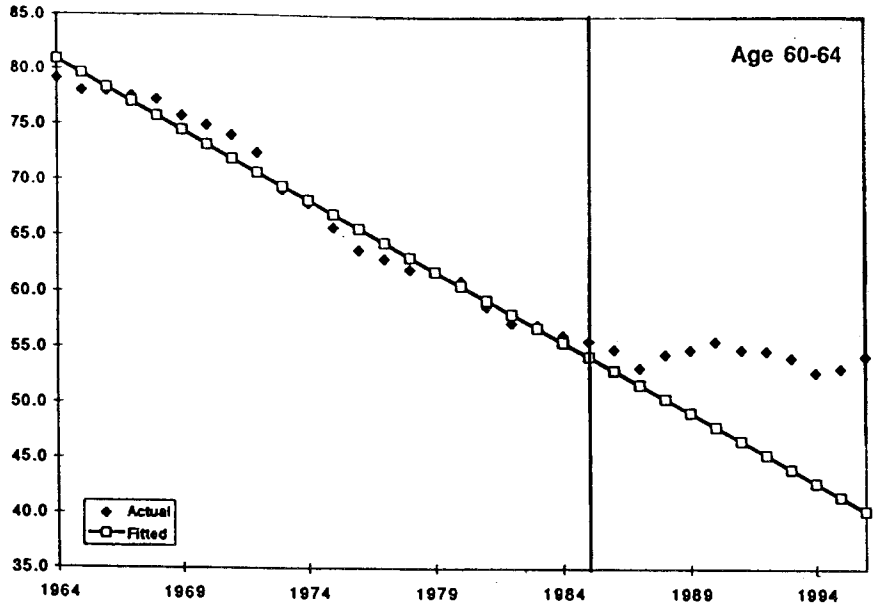
There were many reasons for these significant declines, and considerable debate about their relative importance (Quadagno and Quinn, 1997). The windfall gains to early generations of Social Security recipients—the intergenerational redistribution possible in a maturing system—increased their lifetime wealth, and permitted the purchase of more "goods," one of which was leisure late in life. The benefit calculation rules of the Social Security system and of many defined-benefit employer pensions encouraged early departure from career jobs, and in many cases, from the labor force as well. Society made normative statements about the appropriate age to retire, first by setting the normal retirement age and permitting mandatory retirement provisions at age 65, and later by allowing the early receipt of Social Security benefits at age 62 (in 1956 for women and in 1961 for men). The results have been noted—work beyond age 65 is now the exception, not the rule, and initial acceptance of Social Security benefits at age 62 has become the norm.

The combination of these labor supply trends and the demographic aging of the population has led to some dire predictions about the future. U.S. Social Security outlays [excluding health (Medicare) benefits] are projected to increase by over 40 percent (as a percent of GDP) by 2030, when the last of the baby boomers reach age 65 (Board of Trustees, 1997, Table III.C1, intermediate projections.) The year 2030 is also when Social Security's old-age, survivors and disability trust funds are scheduled to be depleted, under current tax and benefit rules, leaving the program unable to meet its future obligations in full (Quinn and Mitchell, 1996; Advisory Council, 1997). The recent Bipartisan Commission on Entitlement and Tax Reform (1995, Chart I) forecast that by 2030, total Federal entitlement spending in the U.S. will consume over 20 percent of GDP, well in excess of the 18 percent that the Federal government historically commands from all revenue sources. And according to the most recent report of the Council of Economic Advisors (1997, 97), expenditures on Social Security, Medicare and Medicaid alone could consume all of government revenues by the year 2050. Although this scenario violates Herbert Stein's dictum, "If it can't possibly happen, it won't," it does illustrate a sobering trend nonetheless.

In recent years, however, there have been some interesting developments on the labor supply front, as public policy has finally begun to encourage later, not earlier, retirement (Bass, Burkhauser and Quinn, 1995). Mandatory retirement was first delayed from age 65 to age 70 (back in 1978) and then outlawed altogether for the vast majority of American workers (in 1986). Social Security work disincentives at age 65 are being reduced, and the system will soon be close to age-neutral, meaning that, on average, expected lifetime benefits will no longer decline with continued participation in the labor force (Quadagno and Quinn, 1997). The amount of money that recipients aged 65 to 69 can earn each year without losing Social Security benefits is being increased from $13,500 to $30,000, and the benefit loss associated with a dollar of earnings over the exempt amount has been reduced from $0.50 to $0.33. In addition, in the private sector, there has been a gradual movement toward defined-contribution pension plans, which do not contain the strong age-specific retirement incentives found in many defined-benefit plans. Also good fortune never hurts—the American economy and therefore labor demand have been very strong of late, with the aggregate U.S. unemployment rate now under 5 percent for the first time since 1973. This has generated increased opportunities for older Americans who want to continue to work.

A glance at the labor force participation patterns for older Americans over the past decade reveals a remarkable change. Figure 1 shows participation rates for men aged 60 to 64 and 65 to 69—along with linear extrapolations from 1985 to the present of the time trends that existed from 1964 through 1985. The early retirement trend in America is over. After a long and steady decline, elderly male participation rates in the U.S. have leveled off and perhaps even reversed.

For American women aged 60 to 64 and 65 to 69, the declines before 1985 were much more modest (Figure 2). Since 1985, however, the change relative to the prior trend is the same—older Americans, men and women, are working much more now than the pre-1985 trends would have predicted. The same patterns relative to trend are found for men and women slightly younger (aged 55 to 59) and older (70 and above).



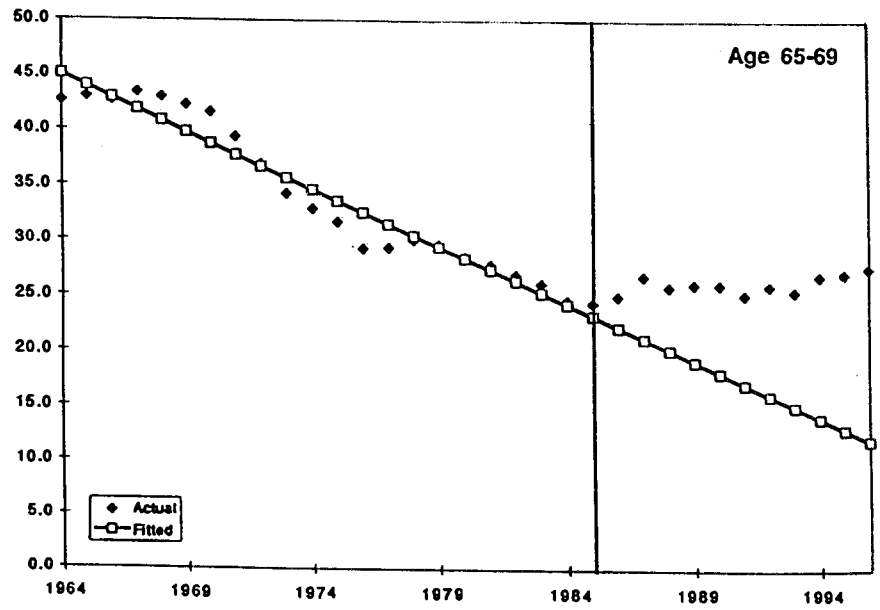
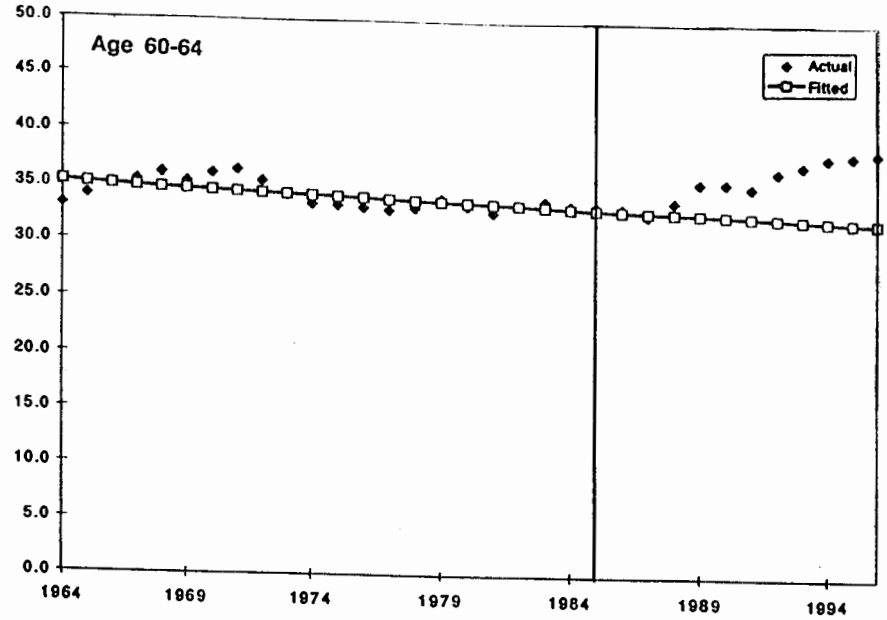


Figure 1. Labor Force Participation Rates, Males by Age, 1964–96
Source: U.S. Bureau of Labor Statistics *Employment and Earnings*, January Issues



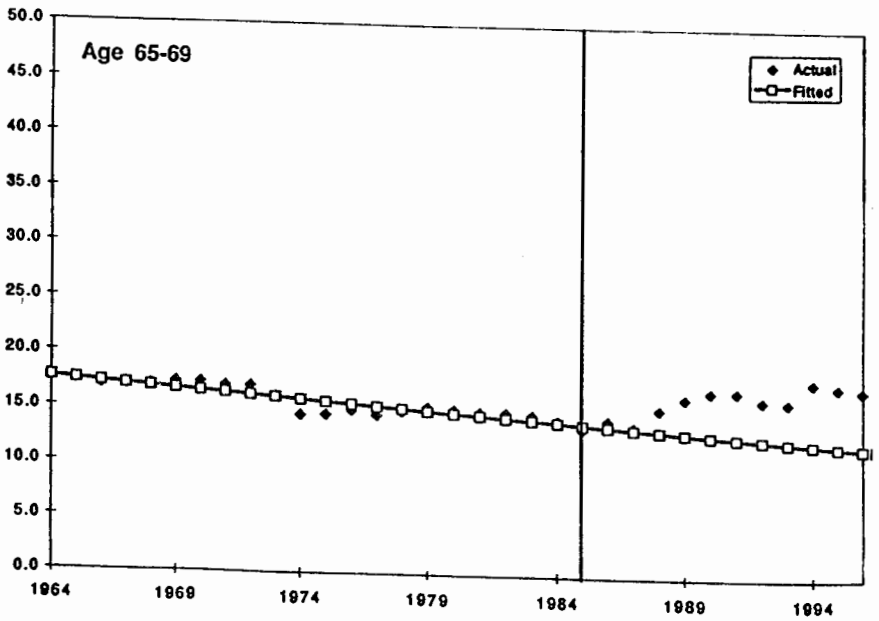


Figure 2. Labor Force Participation Rates, Females by Age, 1964–96
Source: U.S. Bureau of Labor Statistics *Employment and Earnings*, January Issues

Of course, correlation does not imply causation, and the impacts of individual policy changes and other factors have not been isolated. The point here is that something has been very different during the past decade, and that the differences in retirement trends observed are consistent with explicit changes in economic incentives and signals that society has sent.

Data for men aged 55 to 64 in other OECD nations illustrate a wide variety of recent patterns relative to pre-1985 trends. Graphs analogous to Figure 1 for Australia, the Netherlands, Norway and Portugal, for example, look just like that of the United States—a trend of at least two decades' duration appears to have come to an end. In Canada, France, Ireland and Spain, in contrast, the post-war early retirement trends are continuing. It would be interesting to know what factors are responsible for these very different experiences in similarly developed and often neighboring countries.

In the future, workers and retirees will consume the goods and services being produced at that time. Each society will decide how to allocate the output among its working and non-working citizens, through its tax and transfers systems, including old-age pensions. Whatever the allocation rule, the decisions will be easier if the pie to be allocated is larger. Continued labor supply by older, experienced, productive workers is one relatively straightforward way to increase the size of that future pie.

Countries differ considerably in the labor market participation of their older citizens, and have had very different recent experiences in turning around their post-war, early retirement trends. The elderly in various countries also differ dramatically in their ability to mix work and the receipt of retirement benefits. In the Netherlands, the United Kingdom and West Germany, for example, only 7, 14 and 18 percent, respectively, of household heads aged 60 to 64 who received retirement income around 1990 also had some earnings. In the United States and Sweden, in contrast, the percentages were 34 and 59 percent (Smeeding and Quinn 1997, Table 7). The differences are even starker after age 65, still the "standard" age of entitlement to public pensions in the OECD countries (OECD, 1996, Table 2.1). In the Netherlands, the United Kingdom and West Germany, only 1, 6 and 3 percent of household heads aged 65 to 74 with retirement income also had earnings, compared to 19 and 25 percent of those in the United States and Sweden.

Individuals and countries can adjust to the demographics of the future, and some are doing so already. One important adjustment concerns the implicit societal definition of who is elderly and what is the appropriate retirement age. Complete labor force withdrawal at ages 55, 60 and 62 may not make sense in societies with life expectancies at birth of 75 to 79 years, and still rising (U.S. Bureau of the Census 1992, Figure 3-1), and abrupt labor force departure (directly from full time work to complete retirement) may make little sense at all. The OECD (1996, 23, 78–80) has urged its member nations to make their pension schemes consistent with demographic trends by eliminating work disincentives late in life, by encouraging smoother transitions from work to retirement (e.g., through gradual retirement schemes, more flexible hours opportunities and more options to combine work with retirement benefits), and by generally assisting and encouraging able-bodied older workers to maintain their workforce attachments.

Richard Disney is to be commended for the breadth of this volume, and for his ability to combine the economic theory that sets the stage with the institutional detail that provides much of the script. The price we pay for the scope of this work is that experts in any one area may find the book's treatment of their literature incomplete. Disney's main messages are important and enlightening—that the demographic changes underway will have wide-ranging implications throughout modern economies, but that individuals and societies, through feedback mechanisms and explicit policy changes, can adjust to and deal with these implications. Some already are. Talk of a "crisis of aging," he correctly concludes, is overblown.

Many interesting natural experiments are now underway, as nations plan for the aging and retirement of their baby boom cohorts. The recent retirement experiences of the OECD countries exhibit considerable variation, and a major challenge to the research community is to analyze the links between institutional arrangements, explicit changes in public policy and the eventual labor supply, saving and consumption decisions. These will be key to determining the economic welfare of these aging developed nations in the future. Richard Disney has provided an ambitious, insightful and provocative guide to the many economic dimensions of our aging societies.

JOSEPH F. QUINN
Boston College

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