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In the 21st century, both social security and private pension systems in industrialized countries will face a number of challenges, including workers' growing job mobility, increased labor force participation of women, and the impact of aging populations.

International Benefits: Part Two—Retirement Income

- All industrialized countries have developed multifaceted retirement income systems that provide protection for residents through a combination of social security, means-tested assistance, employer-sponsored retirement plans, and individual retirement savings incentives.
- An increasing number of industrialized countries are providing individual retirement savings incentives similar to IRAs in the United States. Often these programs are designed to increase saving among lower earners who have little or no employer-sponsored retirement support.
- In many industrialized countries, workers are retiring at earlier ages, while at the same time, the federal governments are trying to raise the normal retirement age under social security and encourage employment of older workers to control costs that will be incurred as a consequence of aging populations.
- Australia is the only country using a strict income and asset test to determine eligibility for social security benefits.
- In most industrialized countries, social security benefits are financed through a combination of employer and employee payroll taxes and general revenues. Generally, flat-rate pensions, means-tested supplements, and administrative costs are met by general revenues, while contributory taxes usually pay for earnings-related pensions.
- In anticipation of a declining ratio of contributors to beneficiaries, many governments have chosen to build partial reserves in their social security trust funds, while others are planning a decrease in benefits or an increase in contribution rates.

◆ Introduction

In today's global economic environment, the labor practices and policies of other industrialized countries are of great interest to U.S. managers, academicians, and public policymakers as business expands abroad and the United States strives to remain economically competitive.

The structure and level of retirement benefits from social security[1] programs and private pension plans vary considerably among countries. This *Issue Brief* is the second of a three-part series that discusses public and private benefits in nine industrialized countries—Australia, Canada, France, the Federal Republic of Germany, Japan, the Netherlands, Sweden, Great Britain, and the United States. Part one was devoted to health care benefits, and part two focuses on retirement income systems, while part three will discuss income replacement programs for non-age-related absence from work, including long-term disability insurance, sickness insurance and maternity leave, and unemployment insurance.

Near the end of the 19th century, workers began to demand public protection from loss of earnings due to disability or old age. The German government responded in 1889 by developing a comprehensive retirement income scheme that served as a model for the development of other nations' social security schemes in the early 20th century. Since that time, simple public schemes have evolved into multifaceted systems providing protection—at different levels—for low-income workers, high-income workers, and nonworkers. In most countries, elderly persons with little or no earnings history are covered by either universal pensions or means-tested assistance. Retiring low-income workers are covered by earnings-related social security pensions, while retiring middle- and high-income workers are generally covered by a variety of sources, including social security, private pensions, and personal savings. It is therefore more important to discuss the range of coverage and the integration of schemes than to look at social security and private pensions separately.

Public retirement income schemes entail direct government involvement and a substantial financial commitment that varies from country to country. Generally, social security pensions are based on residence, employment, or both. Universal pensions provide the same level of benefits for all aged residents (flat rate) and are usually designed to eliminate poverty among the elderly. Employment-based social security schemes generally require a contribution from employees, employers, or both and provide benefits based on a percentage of preretirement earnings, up to a ceiling. Such policies help workers maintain a standard of living in retirement comparable to their preretirement level.

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Private pensions were originally offered only to key employees in large companies. Since World War II, coverage has been extended to a larger number of workers at all levels and has grown among smaller firms (Gordon, 1988). In most countries, federal legislation played a central role in the expansion of coverage by providing tax incentives to firms establishing pension plans. Pension plans are generally offered by either single employers or multiemployer groups, and benefits are provided on either a defined contribution or defined benefit basis. Defined benefit plans, in which future benefits are determined by formulas based on a combination of earnings and length of service, are most

[1]In this discussion, the term *social security* is used to refer to the social insurance scheme in each country. When capitalized, however, it refers specifically to the U.S. scheme.

common. These plans often specify separate benefit formulas for salaried and hourly workers. In the United States, and to a lesser extent in other countries, defined contribution plans, in which benefits are based on a predetermined contribution, are becoming more common (Charles D. Spencer & Associates, 1990). Some governments also offer tax relief or bonuses to individuals to encourage personal retirement savings.

◆ Coordination of Social Security and Private Pensions

This section introduces the variety of programs that constitute the retirement income system in each country, concentrating on coverage as well as on the qualifications for and level of benefits. The countries are grouped according to the structure of their social security scheme (that is, whether it covers residents, workers, or both) and their private pension plans (primarily voluntary or compulsory), as follows (table 1):

- employment-based social security, voluntary private pensions;
- residence-based social security, voluntary private pensions;
- residence- and employment-based social security, voluntary private pensions; and
- residence- and/or employment-based social security, compulsory private pensions.

Where individual retirement arrangements play a role in the composite retirement income system, they are also introduced. The discussion is limited to regulated, tax-qualified private pension plans and does not include public pensions provided by federal or local governments to supplement or replace social security benefits.[2]

Employment-Based Social Security, Voluntary Private Pensions (United States and Germany)

In the United States and Germany, social security retirement income schemes only cover workers, providing benefits linked to average lifetime earnings up to a ceiling. Individuals with short earnings histories or no employment are not covered by this system but instead may receive means-tested assistance under a separate system (Supplemental Security Income in the United States). Private pension plans are established by both

[2] In this discussion, benefit levels and limits apply only to single workers, assuming no dependents.

Table 1
Composite Retirement Income System

	Social Security		Private Pensions		Individual Retirement Savings Incentives
	Residence based	Employment based	Voluntary	Compulsory	
Australia	✔	—	✔	✔	✔
Canada	✔	✔	✔	—	✔
France	—	✔	—	✔	—
Germany	—	✔	✔	—	✔
Great Britain	✔	✔	✔	—	✔
Japan	✔	✔	✔	—	—
Netherlands	✔	—	✔	✔	✔
Sweden	✔	✔	—	✔	—
United States	—	✔	✔	—	✔

Source: Selected documents (see bibliography).

single employers and multiemployer groups at the employer's discretion or through the collective bargaining process. Both countries also offer individual retirement savings incentives to workers.

United States

Social Security covers private-sector workers, self-employed persons, military personnel, and federal employees hired after December 31, 1983.[3] Benefits are related to the average earnings on which a worker makes contributions during his or her working life indexed to changes that have taken place in the national average earnings over the worker's career years. Benefits are higher (relative to indexed preretirement earnings) for persons with low average earnings than for persons with high average earnings. Workers receive a full benefit if they retire at age 65 and have completed 40 quarters of covered employment (10 years). The maximum benefit for a fully insured worker retiring at age 65 in 1990 is $11,700 (table 2). Reduced benefits are payable to workers as early as age 62, and increased benefits are payable if the receipt of benefits is postponed until after age 65. In 1988, nearly 68 percent of all persons collecting Social Security benefits were receiving a reduced benefit due to early retirement (U.S. Department of Health and Human Services, 1989). Social Security benefits for pensioners under age 70 who work are reduced by $1 for every $3 of earnings above $9,360 (during 1990).

Most private pension plans in the United States are single-employer based and are established at the initiative of the employer, although many plans are collectively bargained. Multiemployer plans are primarily established through the collective bargaining process between unions and employers. Single-employer plans offer both defined benefit plans and defined contribution plans, while multiemployer plans tend to offer only defined benefit plans. Although defined contribution plans have grown rapidly in recent years, particularly those structured as salary reduction arrangements, defined benefit plans remain the most common type of plan.

Most private pension plans in the United States are single-employer based and are established at the initiative of the employer, although many plans are collectively bargained.

Forty-eight percent of full-time private-sector workers participated in an employment-based pension scheme in 1988. Plan participation was higher among workers earning more than $50,000 (79 percent) and among workers in firms with more than 250 employees (68 percent). Only 16 percent of full-time workers in firms with fewer than 25 employees participated in a pension plan in 1988 (Piacentini, 1990). In firms with more than 100 employees, average replacement rates for defined benefit plans, when integrated with Social Security, range from 89 percent for a worker with 40 years of service and final annual earnings of $15,000 to 56 percent for a worker with 40 years of service and final average earnings of $55,000. Although the most common normal retirement age among defined benefit pension plans is still 65, the average retirement age appears to be decreasing as early retirement opportunities increase. In 1989, 97 percent of defined benefit plan participants were in plans allowing for early retirement, most often at age 55 (U.S. Department of Labor, 1990).

The Employee Retirement Income Security Act of 1974 (ERISA) established incentives for individuals to save toward their own retirement through individual retirement accounts (IRAs). Incentives were first

[3]Federal employees who joined the government before this time are covered only on a voluntary basis. About 10 percent of these workers chose to be covered under Social Security. In addition, state and local government employees are covered under Social Security on a voluntary basis, although once they choose coverage, they cannot later withdraw from the system.

Table 2
Coverage, Qualifying Conditions, and Maximum Benefit Levels for Public Retirement Income Schemes in Nine Industrialized Countries

		Qualifications		
Country	Coverage	Age[a]	Years of insurance[b]	Maximum Benefit[c]
Australia	All residents	65 (60)	10	$7,342 April 1990
Canada				
OAP	All residents	65	40	$4,118
CPP/QPP	Private sector and self-employed	65	47 (from ages 18 to 65)	$6,925 April 1990
France	All workers not covered by a special system	60	37.5	$11,375 July 1990
Germany	Private sector and "nonofficial" public sector	63 65	35 5	$25,142[d] July 1990
Great Britain				
OAP	All residents	65 (60)	90% of working life	$4,065
SERPS	All workers	65 (60)	20	$3,952[e] April 1990
Japan				
NP	All residents	65	25	$4,682
EPI	Private sector not covered by a special system	60 (55)	35	$15,297[f] April 1990
Netherlands	All residents	65	40	$8,654 April 1990
Sweden				
AFP	All residents	65	30	$4,651
ATP	All workers	65	30	$18,896 January 1990
United States	Private sector and post-1984 federal employees	65	10	$11,700 January 1990

Source: Selected documents, including Charles D. Spencer & Associates, *International Benefits Information Service* (Chicago: Charles D. Spencer & Associates, Inc., 1990) and William M. Mercer Fraser Limited, *International Benefit Guidelines, 1990* (New York: William M. Mercer Fraser Limited, 1990).

[a]Age at which normal (unreduced) benefits are paid. (Ages for women are in parentheses if they differ from mens'.) The normal retirement age in Germany is 63 with 35 years of insurance and 65 with 5 years of insurance.

[b]Years of insurance refers to residence requirements where the scheme covers residents and years of contribution where the scheme covers workers, except in Japan, where unemployed residents are required to contribute to NP, and in the Netherlands, where only workers are required to contribute.

[c]All dollar figures refer to the maximum benefit payable to a fully insured single worker retiring at the normal retirement age. National currency was converted into U.S. dollars using exchange rates as of January 15, 1990.

[d]In Germany, only 5 years of compulsory contributions are required, but the maximum benefit requires 45 years of insurance.

[e]The maximum SERPS benefit in 1989 is based on only 12 years of contributions because the scheme did not begin until 1978.

[f]Although EPI benefits commence at age 60, the maximum benefit shown begins at age 65 (see text for explanation).

offered only to workers not covered by employer-sponsored retirement plans. Subsequent legislation, the Economic Recovery Tax Act of 1981, extended the availability of IRAs to all workers (including those already covered by employer plans). Later, the Tax Reform Act of 1986 (TRA '86) restricted the deductions for these workers. Currently, workers who are not covered by an employer plan may fully deduct contributions to an IRA up to $2,000, while workers who are covered by an employer plan may fully deduct contributions up to $2,000 only if their annual incomes are less than $25,000.[4]

Germany

The German social security scheme is similar to the one in the United States in that it provides benefits to workers based on their earnings and work history. Both public- and private-sector employees are covered under the system, although government officials are covered under a more generous benefit program. Benefits are based on the ratio of a worker's earnings to the national average earnings each year (up to a maximum of two to one). A full benefit is payable at age 63 to persons who have at least 35 years of insurance (table 2).[5] Pensioners are not required to stop working to receive a benefit. Women may receive unreduced benefits as early as age 60 if their income is below a certain level and they meet other special requirements relating to years of insurance and days worked per week.[6] Similarly, workers are entitled to increased benefits if they postpone the receipt of benefits until age 67.

On July 2, 1990, East Germany and West Germany underwent economic, monetary, and social union. On this day, most of the world focused on the one-to-one exchange of currency between the two countries; however, substantial changes also occurred in the social security system. Basically, East Germany assumed the existing West German labor law and social security scheme. East German employers and employees will now make social security payroll contributions at the same level required under the West German scheme. In addition, social security pensions will be indexed each year, and pensions in payment will be adjusted to West German levels. West Germany will give financial assistance to East Germany during an interim period when contribution income will not cover expenses (Lang, 1990). Some analysts believe that in the long run, the influx of a large number of young East German workers will positively affect the age structure of the German social security scheme, which is currently facing a declining ratio of contributors to beneficiaries (William M. Mercer Fraser Limited, 1990).

Private pension plans in Germany are widespread among large firms. A study commissioned by the German government in 1984 showed that 89 percent of companies with 1,000 employees or more offer a pension plan (Charles D. Spencer and Associates, 1990).[7] Another study covering firms with 20 or more employees in 1988 showed that 72 percent of employees in "industry" and 26 percent of employees in "commerce" were covered by a pension plan (Dailey and Turner, 1989). Pension plans are primarily single-employer based and can be either defined benefit or defined contribution, although analysts estimate that fewer than 10 percent of plans are defined contribution. A typical defined benefit pension plan is designed to replace between 60 percent and 65 percent of gross

[4] A worker earning between $25,000 and $35,000 who is covered by an employer plan may make partially deductible contributions, but a covered worker earning more than $35,000 may not make any deductible contributions.

[5] The German social security scheme makes a distinction between compulsory contributions (those made when the employee is actually employed) and years of insurance (includes years in which compulsory contributions were made as well as any contributions made under previous pension systems, periods of disability, unemployment, military service, or school after age 16). Unreduced benefits are also payable to workers who retire at age 65 with five years of compulsory contributions. Recent social security reform will restore the normal retirement age for men and women to age 65 by the year 2025.

[6] Reform of social security will change the early retirement age from 60 to 62 for women born after October 1952 and from 63 to 62 for men for men born after 1943.

[7] Employer-sponsored plans may not include all employees in the company.

final earnings when integrated with social security. Normal retirement age for private pension plans is usually 65, although many employees retire much earlier. The Ministry of Labor reports the average retirement age is now approximately 58 (Horlick, 1990).

Workers earning less than $14,118 are encouraged to pursue long-term savings (more than six years but not necessarily for retirement) through employee savings accounts. These workers may contribute up to $551 in after-tax income to an account each year.[8] The employee receives a tax rebate of between 16 percent and 33 percent to compensate for the fact that contributions are made from after-tax income. In addition, the government supplies workers with a tax-free bonus that varies with the investment vehicle chosen (maximum 23 percent). The bonus must be paid back if contributions are placed in an unauthorized account or if assets are withdrawn before six years have passed. Among highly compensated employees, there are no individual retirement savings incentives similar to IRAs in the United States, although some employers sponsor voluntary capital accumulation plans.

Residence-Based Social Security, Voluntary Private Pensions (the Netherlands and Australia)

In both Australia and the Netherlands, social security schemes cover all residents, regardless of their employment status. Even though coverage is universal, the benefit is small relative to preretirement earnings, especially for middle- and higher-income workers. Private pension schemes and individual retirement savings supplement social security benefits for these workers.

The Netherlands

All residents of the Netherlands receive retirement income benefits under the federal General Old Age Insurance Act (AOW). Benefits are adjusted biannually, with changes in the minimum wage after income and social security taxes have been withheld. Pensions vary only with years of insurance, not with earnings.[9] An individual who has been a Dutch resident for 40 years is eligible to receive the maximum benefit of 70 percent of the minimum wage (table 2). Residents are not eligible to receive old age pensions before age 65 and must continue contributing to social security at a level related to their previous salary until they reach age 65.

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All residents of the Netherlands receive retirement income benefits under the federal General Old Age Insurance Act (AOW).

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Relatively low flat-rate social security benefits created a need among workers to supplement these benefits with private pensions. High income and corporate tax rates, coupled with tax incentives for pensions, encouraged employers to adopt plans. In addition, the Industrial Pension Fund Compulsory Participation Act of 1949 gave the Minister of Social Affairs the power to require employer participation in industrywide pension funds. Currently, opting out of industrywide funds is only allowed if an employer offers a plan with benefits at least as good as those in the industrywide fund. Approximately 50 percent of pension participants are covered under industrywide plans, while the remaining 50 percent are covered under voluntary single-employer schemes. More than 77 percent of private-sector employees between the ages of 25 and 65 were covered by private pension schemes in 1985, according to the Dutch Pension Chamber, a government body that investigates the need for mandatory pension legislation.

[8]All numbers in U.S. dollars are converted from national currency figures using exchange rates as of January 15, 1990.

[9]"Years of insurance" refers to years of residence for nonworkers or low-income workers and years of contributions for workers. To be fully insured, workers must contribute every year when they are aged 15–64.

Pension benefits typically begin at age 65, replacing approximately 70 percent of preretirement earnings after integration with social security. A new voluntary preretirement benefit (VUT) system has allowed employees to retire as early as age 59, however. VUT plans bridge the gap between early and normal retirement. The plans typically provide 80 percent of preretirement earnings until regular pension benefits commence. A 1987 survey by the Central Statistics Bureau found that 47 percent of private-sector companies offer VUT plans (Hazejager, 1990).

Individual retirement saving is encouraged through tax incentives in the Netherlands. Individuals may deduct a maximum of $8,961 from their taxable income in 1990 if it is used toward the purchase of a retirement annuity contract. Deductions are the same for all workers—no restrictions are placed on high-income workers or participants in an employer-sponsored plan (Charles D. Spencer & Associates, 1990).

Australia

The Australian social security scheme provides retirement pensions to all residents whose income and assets are below certain thresholds. Benefits begin at age 65 for men (age 60 for women) who have been residents of Australia for a continuous period of 10 years or more. The maximum benefit is payable only to persons who have annual earned income less than $1,651 (including pension income) or assets less than $76,190 (table 2).[10] Strict income and asset restrictions have created a strong financial planning market for retirees. Often, by restructuring their assets, retirees can qualify for a social security pension. Although benefits are means tested, 76 percent of men and 79 percent of women aged 65 and over were receiving either the old age or the veterans' pension in 1989 (Larum, 1990).[11] Although theoretically workers are not required to withdraw from the labor force to receive a pension, earnings reduce the level of the social security pension, thereby discouraging employment among older workers.

Private pension plans in Australia, called superannuation plans, are either defined benefit or money purchase defined contribution plans. Generally, superannuation schemes for staff (salaried) employees provide lump-sum benefits approximately equal to about six times a worker's final average salary after 40 years of service. The normal retirement age is 65 for men and 60 for women, in accordance with social security. Hourly paid workers sometimes receive lower lump sums, although recently such policies have become less common as a result of union pressure. In September 1985, the Australian Council of Trade Unions and the federal government agreed in a bargaining session that 3 percent of wages would be given up in exchange for new or improved superannuation benefits.[12] By December 1989, approximately 77 percent of private-sector wage and salary workers were covered by superannuation schemes (most with only 3 percent employer support required by the collectively bargained agreements).[13] Benefits are typically paid in a lump sum because they can be converted into assets that are exempt from the social security means test.

A new policy that encourages individuals who are not covered by employer-sponsored superannuation to save for retirement began in July 1990. Self-employed workers and employed persons not covered by superannuation (as well as employees with a low level of employer support) are now able to contribute to a personal superannuation fund up to a level necessary to fund benefits at the reasonable benefits limit. They can

[10]The asset test does not apply to the principal residence and is only used if it produces a lower pension than the income test. The limits shown are for homeowners; a higher level of assets is allowed for nonhomeowners.

[11]Although veterans' benefits are not part of the basic social security system, this statistic shows that many people receive some retirement pension, which may be due at least in part to careful financial planning.

[12]Because trade unions in Australia tend to follow patterns set in prior collective bargaining agreements, this agreement established an important precedent for awarding superannuation benefits at the bargaining table.

[13]A total contribution of 6 percent of salary, paid over an average worker's career, will fund only about one-half of his or her retirement income needs.

claim a tax deduction for the first $2,381 plus 75 percent of any contribution in excess of that amount. Part-time workers who are employed at least 10 hours per week are also eligible to contribute to a personal superannuation scheme with a tax deduction. Finally, individuals who have left the paid work force can continue their superannuation contributions for up to two years. These changes will have a substantial impact on the coverage of women (Larum, 1990).

Residence and Employment-Based Social Security, Voluntary Private Pensions (Canada, Great Britain, Japan)

In Canada, Great Britain, and Japan, social security schemes provide two levels of retirement income. All residents receive a flat-rate benefit, while qualified workers also receive a supplementary earnings-related benefit. Both Canada and Great Britain developed flat-rate universal pensions in the early 20th century to protect residents from poverty in old age and then later supplemented these benefits with an earnings-related scheme. Until the Japanese social security reform in 1986, the system covered only workers: the Employees' Pension Insurance Program, for employees of firms with more than five workers, and the National Pension (NP) for self-employed workers and workers in small firms. The 1986 reform merged the two schemes and expanded NP coverage to all residents. Canada and Great Britain both encourage individual retirement savings through tax incentives. Although the Japanese encourage individual savings, there are no federal programs that target retirement savings specifically.

Canada

All elderly Canadian residents receive flat-rate pensions based on their years of residence in the country. Anyone with at least 10 years' residence receives the basic benefit, which increases with every additional year of residence up to 40 years. Means-tested pension supplements are provided to elderly residents whose income falls below a specified level. Together, the federal Canada Pension Plan (CPP) and the provincial Quebec Pension Plan (QPP) provide supplemental earnings-related pensions to both private-sector workers and self-employed persons (Glashan, 1989). To receive a full pension from CPP or QPP, a retiree must stop working and have credited contributions for all years between the ages of 18 and 65. Although the normal retirement age is 65, a reduced benefit is payable at age 60. The full benefit is approximately 25 percent of a worker's average earnings, subject to an indexed annual maximum of $24,914 in 1990 (table 2). Up to 15 percent of the years in which a worker experienced lower earnings are dropped to produce a higher pension benefit, provided the total number of years in the average does not drop below 10.

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All elderly Canadian residents receive flat-rate pensions based on their years of residence in the country.

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Private pensions are an important source of retirement income in Canada. Statistics Canada, a government-supported research organization, found that approximately 55 percent of full-time employed workers participated in a private pension plan in 1985 (Dailey and Turner, 1989). Although most private-sector plans are single-employer based, an increasing number of industrywide plans (typically covering all workers on a defined contribution basis) have appeared in the private sector as a result of collective bargaining. Plan design tends to follow patterns set by government regulations at the provincial and federal levels. Although defined benefit and defined contribution plans are both used, the majority of plans are defined benefit. Small employers tend to use defined contribution plans, however, because regulations affecting these plans are less complex. Pension plans generally replace 60 percent to 70 percent of final earnings after integration with social security.

In addition to private pension plans, a variety of capital accumulation plans are available to workers. In general, there are four types of plans: the Employees' Profit Sharing Plan (EPSP), the Deferred Profit Sharing Plan (DPSP), the Employee Benefit Plan (EBP), and the Registered Retirement Savings Plan (RRSP). The RRSP is the only individual retirement savings plan, however; the others are employer sponsored. In 1989, employees were allowed tax-deductible contributions of up to 18 percent of earnings, subject to a maximum of $7,328 (Daily, 1987). Under new tax legislation enacted in June 1990, however, contribution limits will apply to combined employee and employer contributions to all retirement arrangements (defined benefit plans, RRSPs, DPSPs, EBPs, and EPSPs). The maximum deductible contribution will still be 18 percent of salary, up to a combined maximum of $13,362.[14]

Great Britain

The social security system in Great Britain covers virtually all residents, including both public- and private-sector workers, self-employed persons, and nonworkers. The first level of social security provides a flat-rate benefit to all residents based on their age at retirement rather than on their earnings. To qualify for a full benefit, each individual must have contributed to National Insurance for at least 90 percent of his or her working life. The second level of social security, the State Earnings Related Pension Scheme (SERPS), provides an earnings-related benefit based on both the continuity and level of contributions since 1978, when the scheme began. No benefits are payable prior to the normal retirement age. SERPS provides a benefit equal to 25 percent of earnings between $3,920 and $30,333 for the 20 highest earning years (table 2). Normal retirement age for both the old age pension and SERPS is currently 65 for men and 60 for women; however, a recent ruling by the European Court of Justice (*Barber v. Guardian Royal Exchange Assurance Group*) may compel both public and private pension plans to adopt equal retirement ages for men and women (The Wyatt Company, 1990).[15] Prior to October 1989, pensioners were required to stop working in order to receive a pension, but these regulations have since been repealed.

The Social Security Pensions Act of 1975 required every employer with a retirement scheme to decide whether to "contract out" or participate in SERPS. By contracting out, employers and employees could reduce their National Insurance contributions, but, in return, the employer scheme was required to provide a guaranteed minimum pension (GMP) equivalent to the part of the state scheme that was given up. An employee receives the same total benefit under a contracted-out scheme as under SERPS; any difference between the GMP and the SERPS benefit is paid by the social security scheme. Beginning in 1988, personal pensions and defined contribution employer plans were also permitted to contract out of SERPS (Goldman, 1989-1990).

Private pension plans in Great Britain are primarily single-employer based partially because officials have been reluctant to give tax approval to multiemployer plans. A survey by the government actuary in 1983 estimated that approximately 40 percent of the private-sector work force is covered by private pension plans. A 1988 survey of the National Association of Pension Funds reported that 79 percent of all private-sector schemes are contracted out (Charles D. Spencer & Associates, 1990). Therefore, the majority of plans are designed to meet the regulations of contracted-out schemes. Typically, pension plans are structured on a defined benefit basis and specify a normal retirement age of 65 (60 for women). Recent legislation that extended the option to contract out to both defined contribution and personal pension plans will probably increase the prevalence of these plans over the next few years (Goldman, 1989-1990). Salaried employees are generally covered under an employer pension plan,

[14]For more information about the new law, refer to the discussion of recent reforms in the final section.

[15]Article 119 of the Treaty of Rome requires that men and women receive equal pay for equal work. The ruling established benefits paid after termination of employment as deferred wages.

while manual or hourly paid employees are slightly less likely to be covered and, when covered, tend to receive less liberal benefits. Salaried employees with 40 years' service typically receive an annual retirement benefit of two-thirds of final salary after integration with social security. (Up to 25 percent of the benefit is usually taken in a lump sum.)

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There are several individual retirement savings options in Great Britain: personal pensions, additional voluntary contributions, and free-standing additional voluntary contributions.

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There are several individual retirement savings options in Great Britain: personal pensions, additional voluntary contributions (AVCs), and free-standing additional voluntary contributions (FSAVCs). In 1988, personal pension eligibility was extended to all employed individuals regardless of whether they participated in an employer-sponsored plan. Workers covered by an employer-sponsored pension scheme that has contracted out of SERPS may choose to terminate their membership in the plan and establish their own contracted-out personal pension. Workers covered by a scheme participating in SERPS have four options: they may opt out of their private scheme and set up a personal pension; they may opt out of their private scheme and not set up a personal pension (leaving only social security coverage); they may continue to participate in the private scheme and contract out of social security through an FSAVC;[16] or they may remain in the private scheme and in social security (maintain the status quo). In addition, all private pension schemes must give employees the option to supplement their standard pension benefits by making regular AVCs.

[16]FSAVCs allow members of employer-sponsored schemes to enhance their retirement benefits through individual contributions, similar to IRA contributions but cover only participants in an employer plan.

Japan

The Japanese social security system covers residents and employees on different levels. Legislation enacted in 1986 merged two previously separate schemes into a single scheme with two levels of coverage. The first level provides a basic flat-rate benefit or National Pension (NP) based on the former National Insurance Program but expanded to cover all residents. The second level, the Employees' Pension Insurance program (EPI), provides an earnings-related benefit (as well as a flat-rate benefit for workers who retire before age 65) and covers most private-sector employees.[17] Over the next 20 years, annual benefits under both levels of the new scheme will be reduced, and the number of years required to qualify for the minimum benefit will increase from 25 to 40; both changes are an attempt to control costs. NP benefits are available to individuals only when they reach age 65, while EPI benefits can begin as early as age 60 for men and age 55 for women. Between the ages of 60 and 65, EPI provides both the flat-rate and earnings-related pensions. During this time, however, the earnings-related benefit is lower and the flat-rate benefit is higher than the benefits available at age 65 if the pensioner continues to work. When a retiree reaches age 65, the EPI flat-rate benefit is replaced by the NP benefit and the restrictions on the earnings-related pension for workers are lifted (table 2).

Like employers in Great Britain, Japanese employers are given the option of contracting out of the earnings-related part of social security. However, this option is only available to employers with more than 500 employees or multiemployer groups within the same industry who employ more than 3,000 workers. Plans choosing to contract out must provide funded benefits

[17]EPI excludes farmers, private school teachers, employees of agricultural and fishery cooperative associations, and public-sector employees who are covered under special systems.

at least 30 percent higher than those funded by EPI. In addition, at least 50 percent of affected employees must vote to change their existing scheme to a contracted-out scheme. However, any pension increases made as a result of changes in EPI (indexing or other adjustments) are paid by the social security scheme rather than by the contracted-out employer plan.

Private pension plans in Japan are affected by the Japanese system of lifetime employment and salary progression based on seniority. Although the system traditionally covers only full-time male workers in larger firms (approximately one-half of the total labor force), in recent years the privileges have been increasingly extended to women (Charles D. Spencer & Associates, 1990). Covered workers and their employers have a mutual understanding that the traditional relationship will end when the employee reaches his or her "age limit," which is usually lower than the social security retirement age. At that time, the employee generally receives a lump-sum benefit but does not necessarily stop working. He is often reemployed by the same firm or through a government-sponsored Silver Human Resource Center, an organization helping older workers find part-time or temporary jobs.

There are three types of Japanese private pension plans: unfunded severance benefit plans, tax-qualified pension plans, and Employees' Pension Funds (EPFs). All three are tax-qualified defined benefit plans. Unfunded severance benefit plans provide lump-sum benefits on termination of employment for any reason (retirement or other) and are the only type of tax-preferred plan available to employers with fewer than 15 employees. Employers with more employees can establish tax-qualified retirement plans. These plans must be funded and structured to pay benefits as annuities although employees may, and usually do, elect to receive lump sums. EPFs are reserved for large employer or multiemployer plans contracted out of the earnings-related part of the social security program. Although only 36 percent of the private-sector labor force is covered by a funded pension plan (tax-qualified plans and EPFs), many private-sector workers are covered by unfunded plans. A 1985 Japanese Ministry of Labor survey that included both funded and unfunded plans reported that 89 percent of all companies with 30 or more employees had plans that paid a lump-sum benefit at retirement (Daily and Turner, 1989).

Residence and/or Employment-Based Social Security, Mandatory Private Pensions (France, Sweden)

In all of the countries discussed thus far, voluntary private pension schemes supplement social security retirement benefits, especially for middle- and high-income workers. Voluntary schemes are regulated by federal legislation and encouraged by tax incentives, but are generally established by employers on a voluntary basis or through the collective bargaining process (some of these are mandatory in Australia and the Netherlands). In France and Sweden, however, private pension plan participation is mandatory for both employers and employees. France has also instituted mandatory profit-sharing plans for larger employers.

France

The social security scheme in France, like those in the United States and Germany, is employment based. The system covers all private-sector workers except those covered by systems for specific occupational groups. Participation in social security is mandatory for all persons working in France whether or not they are French nationals. A full pension is payable at age 60 with $37\frac{1}{2}$ years of coverage, although benefits increase if retirement is postponed. Workers are given social security insurance credits during periods of disability, maternity, and unemployment. A social security pension recipient is not required to stop working to receive benefits and may take a partial pension if he or she is aged 60 or over and continues to work. A full pension equals 50 percent of a worker's average salary in his or her 10 highest earning years, adjusted for inflation (table 2).

Virtually all workers in France are covered by the mandatory private pension system, which became compulsory after amendments were made to the French labor code in 1972. Industrywide collective agreements between employer associations and representative unions determine the scheme's benefits and contribution rates. Employers participate in a network of private pension funds under two umbrella organizations: ARRCO and AGRIC. ARRCO covers earnings up to the social security contribution ceiling for *cadres* (managers, supervisors, and higher-paid white collar workers) and *noncadres* (blue collar and lower-paid white collar workers). AGRIC covers earnings from one to four times the social security ceiling but only for *cadres*. *Cadres-sureriors* (executives) must also contribute to AGRIC on earnings from one to eight times the ceiling. Benefits are based on the number of pension points accrued by contributing to the system. Although full benefits are payable at age 60, a reduced pension is available as early as age 55. Unlike social security, AGRIC requires workers to stop working altogether to qualify for a full pension. A partial pension benefit, reduced 30 percent to 70 percent, is available for persons aged 60 or over who work reduced hours (Carbonel, 1990).

A mandatory profit-sharing law requires all companies with more than 100 employees to set aside one-half of their annual earnings after allowing for a 5 percent return on capital and payment of income taxes. Each employee is allocated a share of these funds proportional to the ratio of his earnings to the company's total payroll (subject to a maximum of four times the social security ceiling, or $91,000). Each employee's share is placed in a special profit-sharing reserve account that can be invested in company stock or joint investment funds. The shares may not be withdrawn for five years except in the case of marriage, death, total disability, home purchase, or retirement. Some workers also participate in voluntary employer-sponsored company savings plans or stock option plans. Although legislation enacted in 1986 was designed to unify different types of savings plans and encourage more companies to adopt them, few companies have actually done so because many of the legal requirements are unclear (Charles D. Spencer & Associates, 1989).

Sweden

In Sweden, the social security system provides two levels of retirement income benefits: one for all residents and one for all workers. Benefits are calculated using the "base amount," which is adjusted annually for inflation. The first level provides a basic flat-rate pension (AFP) for all Swedish citizens, equal to 96 percent of the current base amount at age 65. The second level provides an earnings-related supplementary pension (ATP) for employed persons who have earned income beyond the base amount during at least three years. The benefit is based on the number of pension points accrued on earnings between the base amount and 7.5 times the base amount during the worker's highest earning years. A full pension is available at age 65 with 30 years of service (table 2). Retirees may choose to receive both their AFP and ATP pensions between the ages of 60 and 70 with a corresponding reduction or increase. Pensioners are not required to withdraw from the labor force to receive benefits and may choose to receive a partial pension after reducing the number of hours worked. Approximately 40 percent of all eligible individuals elect the partial pension option.

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In Sweden, the social security system provides two levels of retirement income benefits: one for all residents and one for all workers.

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Collective bargaining agreements between the Swedish Employer's Confederation (SAF, an organization of private-sector employers) and both the PTK (an organization of salaried employee unions) and the LO (an organization of blue-collar employee unions) have established extensive private-sector pension benefits. Virtually all salaried (including management) and hourly paid employees are members of trade unions and most private companies, including multinationals, are members of SAF. Nonmembers tend to follow patterns set by collective agreements negotiated by the SAF. Therefore, private pension coverage is nearly universal in Sweden, because all employees covered by collective bargaining agreements must be covered by pension plans, and other firms follow the example set by collectively bargained plans.

Separate pension schemes exist for salaried employees (ITP) and hourly employees (STP). Both plans allow workers to move freely between jobs and from one plan to another without forfeiting any benefit rights. Normal retirement age is 65, although reduced benefits are payable as early as age 55 and increased benefits as late as age 70.[18] Workers may take a partial pension with reduced work hours, an option similar to that available under social security. The full pension requires 30 years of contributions and provides 10 percent of earnings up to 7.5 times the base amount, 65 percent of earnings between 7.5 times and 20 times the base amount, and 32.5 percent of earnings between 20 times and 30 times the base amount. Under a 1976 agreement, a voluntary money purchase plan, known as ITPK, was introduced to complement the ITP pension. Employers make contributions to separate accounts for each employee. Capital accumulated in these plans may be used to purchase supplemental retirement benefits or, if an individual retires before age 65, to pay the required ITP and ITPK contributions until he or she reaches age 65.

◆ Regulation of Occupational Pension Plans

Although all countries regulate their occupational pension schemes, the strength and scope of these regulations vary. The Employee Retirement Income Security Act of 1974 (ERISA) regulates private pension plans in the United States. ERISA requires plan sponsors to follow reporting and disclosure rules and minimum participation and vesting standards and sets maximum levels for benefits from and contributions to tax-qualified retirement schemes. In addition, ERISA created a pension insurance agency, the Pension Benefit Guaranty Corporation (PBGC), to protect vested pension benefits if defined benefit pension plans terminate. Most countries set standards and policies in some of these areas. The following section will discuss some of these standards, including vesting (and portability), plan termination insurance, and maximum benefit levels.

Vesting/Portability

In most countries, employees become eligible to participate in an employer-sponsored pension plan after satisfying minimum age and service requirements. Additional service is often required before benefits become vested (nonrevocable). Typically, employer vesting schedules follow the minimum vesting standards imposed by law to reduce labor turnover and costs associated with turnover. Where vesting standards do not exist, employers often require a longer period of service relative to other countries before vesting pension benefits (Schmahl, 1990).

Relatively short vesting standards exist in France, Sweden, Canada, Japan (EPF), Great Britain, and the Netherlands (table 3). For example, Dutch plan sponsors must fully vest employees' benefits after one year of plan participation. Regulations do not specify minimum age or service requirements for eligibility, however. Generally, workers in firms sponsoring single-employer plans become eligible to participate in the plan at age 25 with one to three years of service, while workers covered by mandatory industrywide plans become eligible to participate between the ages of 18 and 21 with no service requirement. Swedish pension plans vest participants immediately after workers reach age 28 and are in "permanent" employment.[19] In Japan, only Employee's Pension Fund (EPF) plans contracted out of

[18]Only the ITP plan is discussed here. The STP plan covers only earnings up to 7.5 times the base amount. It does not offer a money purchase supplement or partial pension option as the ITP plan does.

[19]Individuals employed as substitutes or trainees or for a fixed period of time are covered after one year of service. Part-time employees are covered if they work more than 16 hours per week.

Table 3
Minimum Participation and Vesting Requirements[a] for Tax-Qualified Pension Plans in Nine Industrialized Countries

	Eligible to Participate in a Pension Plan after:			
Country	Age	Years of service	Total Years of Participation before Benefit Becomes Vested	Portability Vehicle
Australia[b]	Any	0	0	New superannuation fund or approved deposit fund
Canada	18	2	2	RRSP
France	Any	0	0	Central administration
Germany[c]	35	12	3	Previous employer
Great Britain	Any	2	0	Previous employer, new employer, or personal pension
Japan (EPF only)	Any	0	0	Central administration
Netherlands	No regulations	No regulations	1	Previous employer or new employer
Sweden	28	0	0	Previous employer or new employer
United States[d]	21	1	5	Previous employer, new employer if the plan accepts rollovers, or cash distribution (used for IRA, annuity, or consumption)

Source: Selected documents, including Charles D. Spencer & Associates, *International Benefits Information Service* (Chicago: Charles D. Spencer & Associates, 1986–1990) and William M. Mercer Fraser Limited, *International Benefit Guidelines, 1990* (New York: William M. Mercer Fraser Limited, 1990).
[a]Represents the most recent vesting regulations, which in some cases do not apply to plans established in earlier years (see text).
[b]Applies only to award superannuation or new employer benefits vested after 1986.
[c]A German worker leaving service at age 35 is vested only if he or she has either 10 years of plan participation or 12 years of service and 3 years of plan participation.
[d]The Tax Reform Act of 1986 (TRA '86 established two vesting options: (1) full vesting after five years' service and (2) 20 percent vesting after three years' service and 20 percent vesting each subsequent year until fully vested after seven years. Multiemployer plans are not subject to the same vesting regulations.

the earnings-related portion of social security are subject to vesting regulations. Although other Japanese pension plans do not have vesting regulations, unfunded severance benefit plans typically provide for full vesting within three to five years.

U.S. law generally requires single-employer plans to fully vest participants after five years' service or to vest them gradually over a period of seven years at the rate of 20 percent after three years' service and 20 percent each subsequent year until benefits are fully vested. In addition, a plan may not restrict participation if an employee is over age 21 and has completed one year of service.[20] A typical pension plan in Germany allows employees to begin participating between the ages of 20 and 25 and fully vests the benefits of participants after 15 years of service. Plans are required to vest the employees' benefits only if they are aged 35 or over and have completed either 10 years of plan participation or 12 years of service and 3 years of plan participation.

After benefits are vested, they may or may not be preserved for employees who leave their jobs before

[20]Plans with immediate vesting may require two years of service before participation.

retirement. In some countries (France, Sweden, industrywide plans in the Netherlands, and EPFs in Japan) there is a central administration that facilitates the transfer of pension credits from one employer or system to the next. In the United States, employees with vested benefits frequently have two options: they can leave the money in the former employer's pension plan and receive a deferred pension annuity or lump sum at retirement or they can take the distribution in cash.[21] With the distribution, they can purchase an annuity; roll the funds into an IRA or into a subsequent employer plan, if that plan accepts rollovers; or use the money for consumption and pay both regular income tax and a 10 percent penalty tax if they are younger than age 59½. The only other country allowing a cash distribution of vested benefits prior to normal or early retirement is Japan. Unfunded severance benefit plans, one of the traditional "retirement" plans, distribute benefits on termination of service for any reason.[22] In past years, low employee turnover rates in Japan made this a viable way to save for retirement. However, increasing labor force participation of women and increasing turnover rates have limited the advantages of these plans. In most countries, retirement benefits are preserved by requiring or allowing workers one or more options: retain benefits with the previous employer, transfer vested benefits to the new employer, or transfer benefits to a portability vehicle similar to the U.S. IRAs (table 3).

Plan Termination Insurance

In 1974, ERISA established PBGC to guarantee the payment of vested benefits if a defined benefit pension plan terminates with insufficient funds to meet current liabilities. Employers sponsoring private defined benefit pension plans are required to pay annual premiums to PBGC to provide a fund from which guaranteed benefits can be paid. Defined contribution plans are not covered by PBGC because the ultimate investment risk is borne by the employee. To terminate a pension plan that does not have sufficient assets, an employer must demonstrate that the firm is financially unable to continue the plan (known as a distress termination).[23] PBGC guarantees the death and disability benefits of beneficiaries as well as participants' vested retirement benefits. Insured benefits are subject to a monthly maximum ($2,165 in 1990) that is adjusted annually in accordance with average wages.

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The laws governing plan termination insurance in Canada and Japan are quite limited compared with those of other countries.

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Four industrial countries (Canada, Sweden, Japan, and Germany) have also implemented some form of plan termination insurance. In Sweden, most employers fully fund benefits, but large employers that can prove they are creditworthy have the option of using book reserves.[24] These employers must contribute to a private insurance company, FPG, which then guarantees the payment of benefits if the employer cannot meet pension liabilities. If the company is having financial difficulties, FPG may partly or wholly cancel the insurance and require the employer to pay the total accrued liability in cash to the insurer (usually over a period of 10 years) to protect the insurance company. If the company declares bankruptcy, however, FPG becomes a general creditor, although pensions that are in the course of payment are given a status above that of general creditor.

[21] If the vested benefit is less than $3,500, an employer has the right to "cash out" the benefit, forcing the employee to take the cash distribution.

[22] Different rates apply for involuntary termination (death, disability, retirement, or discharge) and voluntary termination (employee's resignation).

[23] A second type of termination is a standard termination, in which an employer has sufficient assets to pay all benefits. Only distress terminations are discussed here.

[24] Plans funded by book reserves account for pension liabilities on their balance sheet but do not provide any additional advance funding.

German employers have the option of financing benefits either through an outside insurer or internally through book reserves. Employers who have access to their pension funds (book reserves as well as insured plans that loan money back to the employer) must contribute to PSVaG, an insolvency insurance association that protects vested benefits in the event of a distress termination in which the employer cannot meet liabilities. As in Sweden, the insurer is a general creditor in the event of employer insolvency (Furer, 1979).

The laws governing plan termination insurance in Canada and Japan are quite limited compared with those of other countries. In Canada, the provincial benefit law in Ontario operates a plan termination insurance program. All plans in Ontario, whether or not they have unfunded liabilities, are required to contribute to the Pension Benefit Guarantee Fund (PBGF). In Japan, the Employees' Pension Fund Association (EPFA) provides protection from employer insolvency only to EPF plans contracted out of the earnings-related part of social security and guarantees only 30 percent of the benefit.

Other countries do not offer plan termination insurance. Nearly all plans in Great Britain and the Netherlands are fully funded, limiting the risk of fund insolvency. In France, however, private pension plans are financed on a pay-as-you-go basis, so that current contributions pay for current retirees. Because funds with a surplus subsidize funds with a deficit, a single employer's insolvency will not significantly affect the system's stability.

Maximum Benefit Levels

Laws often restrict the level of retirement income benefits (or contributions) allowed in tax-qualified pension plans. Any benefits provided above these levels will not receive preferential tax treatment. Five countries (the United States, Canada, Great Britain, Australia, and the Netherlands) impose explicit benefit limits. In addition, France and Sweden have limits built into the system's structure because they cover earnings only up to some multiple of the social security ceiling.

In the United States, ERISA originally imposed per-participant benefit and contribution limits on both defined benefit and defined contribution plans, and subsequent legislation altered the limits. The Tax Equity and Fiscal Responsibility Act of 1982 introduced new limits and froze them at that level. The Deficit Reduction Act of 1984 continued the freeze on limits, and, finally, the Tax Reform Act of 1986 imposed new benefit limits. Currently, the annual limit for defined benefit plans is the lesser of $102,582 (indexed) or 100 percent of the employee's average compensation in his or her three highest earning years. Annual contributions cannot exceed the lesser of $30,000 or 25 percent of an employee's compensation for defined contribution plans.[25] Additional rules apply to individuals who participate in both a primary employer-sponsored retirement plan and a supplemental savings plan (for example, a 401(k) plan).

Similar rules govern defined benefit plans in both Great Britain and Canada. The 1990 benefit in Canada may not exceed the lesser of $1,478 times years of pensionable service, not exceeding 35 years ($51,730) or 2 percent of the best consecutive three years' average earnings times years of pensionable service. Recent tax legislation enacted in Canada has revised these limits in an attempt to equalize the tax treatment of contributions to all retirement savings vehicles, whether employer sponsored or individual (For more information regarding these changes, refer to the final section on reform.) In Great Britain, defined benefit pensions are limited to two-thirds of final salary. Stricter rules apply to members of schemes set up after March 1989 or new members of old schemes joining after June 1989. Participants in these plans must submit to a maximum earnings limit of $100,000 and to other regulations.

[25]Beginning when the defined benefit limit reaches $120,000, the defined contribution limit will be increased each year to remain at 25 percent of the defined benefit limit.

In Australia, tax preferences are granted to superannuation schemes up to the reasonable benefit limits (RBLs), which have been altered by recent reform. Previously, preferential tax treatment was granted to superannuation plans as long as lump-sum benefits were less than seven times final average salary (or 75 percent of final average salary annually for pensions) regardless of the employee's income. New rules introduced marginal scales that reduce the RBLs for high- income groups and increase the RBLs for low- and middle-income groups after July 1990 (Larum, 1990). Maximum benefit limits in the Netherlands are vague, requiring only that "benefits not be excessive." Plan sponsors have interpreted this to mean that a pension for a retiree with 40 years' service should not exceed 70 percent of his or her earnings after integration with social security (Charles D. Spencer and Associates, 1989).

◆ The Financing of Retirement Income Schemes

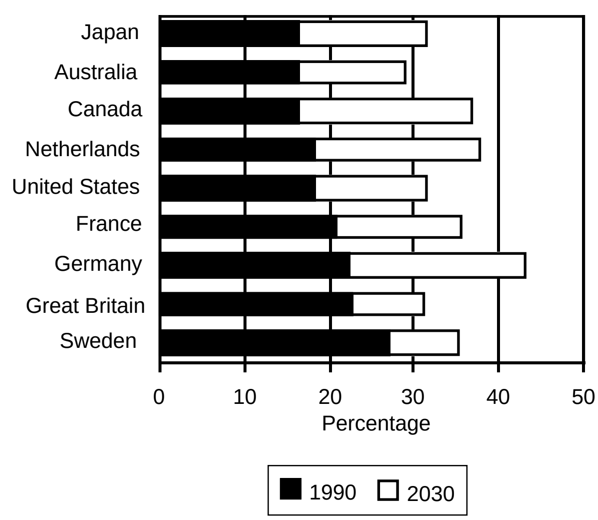
The financing of retirement income schemes affects both benefit levels and adequacy. Because social security schemes and private pensions approach the financing of plans quite differently, each is considered separately. The discussion focuses on plan funding and the relative employer and employee contributions to plan cost.

Social Security Schemes

Generally, social security schemes are financed on a pay-as-you-go basis whereby current contributions provide benefits for current beneficiaries. Benefits are usually adjusted annually in accordance with changes in the price or wage level. Pay-as-you-go schemes were initially adopted on the assumption that as long as social security was mandatory, the ratio of contributors to beneficiaries would remain constant. However, recent demographic projections indicate that increasing life expectancy and decreasing birth rates will radically change the age structure of populations in industrialized countries over the next 40 years (chart 1). In the United States and other countries (Canada, Japan, and Sweden), social security schemes are accumulating substantial reserves in anticipation of increased benefit outlays for their aging populations.[26] Other social security schemes (France and Germany) are facing serious current financial difficulties. For example, in France, the social security pension scheme reported a deficit of almost $3 billion in 1988. Deficits in the pension scheme are due in part to the government's recent reduction of the normal retirement age, which was intended to reduce high unemployment rates among workers aged 60 to 65. Legislation enacted in 1976 reduced the pensionable age from 65 to 60 for all

[26]Critics of Social Security funding in the United States have argued that surpluses will encourage Congress either to spend more money or to raise less tax revenue than it would have otherwise done (see Munnell and Ernsberger, 1989).

Chart 1
Old Age Dependency Ratios: Population Aged 65 and over as a Percentage of Population Aged 15–64, 1990 and 2030



Source: Winfried Schmahl, "On the Future of Retirement in Europe, Especially of Supplementary Pension Schemes," paper prepared for the International Seminar on the Future of Basic and Supplementary Pension Schemes in the European Community—1992 and Beyond (Bremen, Germany, January 1990).

manual workers, and subsequent legislation in 1982 extended the age reduction to all wage and salary workers with 37.5 years of insurance. The government recently imposed a 0.4 percent surcharge on taxable income and an additional 0.1 percent employee contribution to the old age pension scheme to offset the deficit.

Most social security benefits are funded with a combination of employer and employee payroll taxes and general revenues. Generally, flat-rate pensions, means-tested supplements, and administrative costs are met by general revenues, while contributory taxes usually pay for earnings-related pensions. Government revenues, originating in large part from income taxes, therefore fund benefits flowing to lower-income individuals. Employer and employee contributions to social security are usually expressed as a percentage of earnings up to a contribution ceiling (table 4). Most countries require similar contributions from both, although there are some notable exceptions. In Sweden, for example, all contributions to social security old age pension programs are made by the employer and there is no ceiling. This redistributes income from higher-income to lower-

Table 4
Contributions to Public Retirement Income Schemes in Nine Industrialized Countries

	Payroll Contributions[a]			
Country	Employer	Employee	Maximum 1990 Earnings Subject to Contributions	General Revenue Contribution
Australia	none	none	n.a.	Total cost
Canada	2.2%	2.2%	$24,914 annual (first 10% exempt)	Total cost of basic pension and supplements
France[b]	8.2%	7.6%	$22,750 annual	None
Germany	9.35%	9.35%	$44,471 annual	Approximately 15% of total cost
Great Britain[c]	5%–10.45% (based on earnings)	2% on weekly earnings up to $77; 9% thereafter	$583 per week (no ceiling for employer)	Full cost of income tested allowances plus 5% of gross contributions
Japan	7.2%	7.2%	$3,642 per month	Administrative costs and 33% of benefit costs for NP
Netherlands[d]	5.85%	28.85%	$22,054 annual	Cost of benefits for those with low income or who were disabled from childhood
Sweden	20.95%	none	No ceiling for contribution purposes	25% of the ATP program
United States	6.2%	6.2%	$51,300 annual	Cost of supplemental security income

Sources: Selected documents, including U.S. Department of Health and Human Services, Social Security Administration, *Social Security Programs Throughout the World—1989* (Washington, DC: U.S. Government Printing Office, 1990).

[a]Payroll contributions finance old age pensions, survivor supplements, and long-term disability benefits for all countries except where indicated.

[b]In France, long-term disability benefits are financed through contributions to the health insurance program.

[c]In Great Britain, the contribution rates shown include all social security programs, including pensions, health, disability, and unemployment.

[d]In the Netherlands, payroll contributions include the same programs as in all other countries. However, the employer only contributes to the separate long-term disability program.

income workers more effectively than systems with relatively low ceilings. In Great Britain, there is a ceiling only for employees' contributions to National Insurance; employers' contributions are based on full salary. Finally, in the Netherlands, only employees contribute to the social security old age pension program, and all contributions are collected through the income tax system rather than through an explicit payroll tax.

Private Pensions

Private pension plans can be managed on a pay-as-you-go (book reserves) basis but are usually funded (through self-insurance, an insurance company, or a trust fund). Typically, plans choose to fund their pension plan in a way that provides the most favorable tax treatment. In the United States, ERISA requires defined benefit plans to be funded and plan assets to be held separately from the employer's general assets in order to qualify for tax-preferential treatment.[27] Plans may be funded through a trust agreement with a bank or other financial institution, an agreement with an insurance company, or a combination of both. ERISA established minimum funding standards to ensure that plans have sufficient funds to pay benefits to participants when they retire. In addition, ERISA requires plan administrators to act in the best interest of participants and beneficiaries and act as a "prudent man" would in similar circumstances. Defined contribution plans are also required to hold plan assets separately, but because the investment risk is borne by the employee rather than by the employer, they are not subject to the other ERISA funding regulations.

Most countries require tax-qualified private pensions to be funded, although there are some exceptions. In France, for example, the compulsory private pension system is financed on a pay-as-you-go contributory basis like the social security scheme. To protect themselves against insolvency the member funds of ARRCO and AGRIC pool their resources so that funds with a surplus subsidize those with a deficit. This protects the interests of pensioners who participate in funds with a declining number of contributors. Other countries (Sweden, the Netherlands, Japan, and Germany) allow preferential tax treatment for plans with unfunded benefits. In Japan, for example, unfunded severance benefit plans are the only option that employers with fewer than 15 employees have for establishing a retirement plan. These employers may take a tax deduction for unfunded benefits budgeted through book reserves or when the benefit is paid out. German pension plan sponsors may also choose unfunded benefits by using the book reserve method, which is afforded specific tax advantages. In Sweden, book reserve plans must have a contract with an insurance company to protect vested benefits and pensions in payment. In the Netherlands, plans must be funded, although not-yet-funded past service liabilities may be accounted for through book reserves. Some countries also regulate pension funds' investments. For example, federal regulations require Canadian pension plans to invest at least 90 percent of their funds in Canadian assets.

In the United States, virtually all defined benefit plan participants in private establishments with 100 or more employees (96 percent) were not required to contribute to their employer-sponsored retirement plan in 1989. However, more than 60 percent of defined contribution plan participants in these firms were in plans requiring an employee contribution (U.S. Department of Labor, 1990). Private pension plans in most countries (except Germany, Japan, and Sweden) usually require employees to share at least part of the cost of providing retirement benefits with their employer. For example, in France, as well as in contracted-out plans in Japan and Great Britain, employees share the cost with employers through direct payroll taxes. Employer pension plans in Australia, Canada, the Netherlands, and Great Britain typically receive contributions of approximately 5 percent of salary from employees and fund the remaining benefits themselves.

Reasons for the prevalence of noncontributory plans differ. In Sweden, for example, nationwide collective

[27]Preferential tax treatment depends on other factors as well.

agreements built the private pension system and designed it in part after the social security system, which requires no employee contributions. In Japan, paternalism played an important role; employees of large firms typically do not inquire about their benefits, assuming that the company will take care of their needs. In Germany and in the United States, employees generally do not contribute to defined benefit plans because employee contributions are not given the same tax advantages as employer contributions.

◆ Indexation of Private Pension Plans

Unlike social security systems, private pension schemes generally do not grant regular postretirement increases in benefits unless there are regulations mandating them. Therefore, an annuity awarded to an employee at retirement will often remain at the same level, and over the next 10 to 20 years its purchasing power will decline substantially. Only the mandatory private pension systems in Sweden and France automatically increase pensions in the course of payments each year. In Sweden, pension benefits are expressed as a percentage of earnings relative to the base amount. Benefits increase automatically as adjustments are made in the base amount. In France, pension benefits are based on the product of total pension points and the value of a pension point, which is adjusted annually by both AGRIC and ARRCO.

Other countries (Germany, Great Britain, and Canada) require some indexing of pensions, although the requirements are less stringent than those in the mandatory occupational systems. The 1974 Pension Law in Germany requires employers to review pensions in the course of payment at least once every three years to determine whether the benefits' purchasing power has been maintained. Because the obligation does not apply to lump-sum payments, however, many German employers have begun providing lump sums rather than take on the administrative burden of adjusting benefits every three years (Charles D. Spencer & Associates, 1990). Postretirement indexing regulations in Great Britain are limited in scope, applying only to the GMP portion of contracted-out schemes relating to years of service after April 1988. These pensions must be increased annually by the lesser of the increase in the retail price index or 3 percent. Recent legislation requires all employers to increase the preserved pension of an employee who left his or her job, in line with inflation, up to a 5 percent maximum (Charles D. Spencer & Associates, 1990). Only pension funds with a surplus are required to revalue benefits accrued prior to the new law, however. In Canada, pension plans are regulated by either federal or provincial pension laws and most provinces (except Alberta and New Brunswick) require some postretirement indexing. Recently in Ontario, a government-appointed task force recommended that all private pensions be indexed annually according to the Consumer Price Index.

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The United States, Japan, and the Netherlands do not require pension plans to index pension benefits after retirement.

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The United States, Japan, and the Netherlands do not require pension plans to index pension benefits after retirement. In the United States, it is uncommon for employers to grant regular increases to pensions in the course of payment, although some employers award ad hoc increases if funds are available. In 1989, 22 percent of full-time defined benefit plan participants in private establishments with 100 or more employees were in plans that granted at least one postretirement increase between 1984 and 1988 (U.S. Department of Labor, 1990). Postretirement indexation is uncommon among Japanese pension plans, in part because the majority of retirement benefits are taken in the form of lump sums rather than annuities. There is no legislation in the Netherlands mandating postretirement indexing, although if benefit increases are granted to one group of employees, the law requires employers to give an equal increase to all employee groups.

◆ Taxation of Retirement Income Schemes and Payout Provisions

Preferential tax treatment for pensions has played a significant role in the expansion of advance-funded private plans in the latter half of the 20th century. Tax incentives allow employers to provide employees with deferred wages without immediate taxation to the individual. When contributions are tax deductible, the ultimate retirement benefits tend to be taxable, but because pensioners commonly have lower income during these years, the net tax may be lower than if the contributions were taxed. Generally, employer contributions to private pension plans are tax deductible. Employee contributions are often deductible or made from pretax income as well. In the United States, employers are allowed to deduct contributions to Social Security as well as contributions to tax-qualified private pension plans up to the maximum benefit levels, as they would if they were paying only cash wages. Employee contributions to 401(k)-type plans are allowed from pretax income (Employee Benefit Research Institute, 1990).

Only two countries (Australia and Germany) do not allow employers to fully deduct contributions to private pension plans (subject to limits) (table 5). Historically, employer contributions to Australian superannuation plans were both deductible and tax exempt to the employer, and benefits were taxable when paid to the participant. A number of changes have occurred in the tax treatment of superannuation plans since 1983, however. Currently, employer contributions are still deductible, but the superannuation fund is taxed at a rate of 15 percent for these contributions. Investment income earned by the fund is taxed at a rate of 15 percent after changes made in 1988. Superannuation funds can now use dividend imputation credits to offset the effects of the investment tax if investments are made in Australian companies (Ezra et al., 1990). The taxation of benefits was reduced by 15 percent to compensate for the increased tax on contributions and investment income. The tax deductibility of personal superannuation contributions was expanded in July 1990 as well. Self-employed workers and employees without employer-supported superannuation may deduct $2,381 from taxable income for contributions to a personal superannuation plan.[28] In Germany, there are four alternative methods of funding pension plans: direct insurance, trust funds, book reserves, and support funds (in which funds may be loaned back to the employer). Each method is treated differently for tax purposes. Generally, employer contributions to directly insured plans or trust funds are deductible to the employer and considered taxable income to the employee (with the tax liability usually assumed by the employer), but benefits are tax free when paid. On the other hand, employer allocations to book reserves or contributions to support funds are generally tax free to the employee, but the ultimate benefit is taxed.

Although public retirement income schemes usually provide benefits in the form of lifetime annuities to protect the elderly from poverty, private pensions sometimes offer benefits in the form of lump-sum distributions. The benefit's structure is usually based on its relative tax treatment. In the United States, up to one-half of Social Security benefits are taxable to persons whose income exceeds certain thresholds, and all private pensions are taxed as regular income. The enactment of TRA '86 reduced the tax incentives to take benefits as lump sums.[29] However, the number of persons taking at least part of their benefit as a lump sum is increasing, which may be a result of the increasing numbers of defined contribution plans.

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[28]Employees may also deduct up to $2,381 if the employer contributes only the required 3 percent under a collective bargaining award. Awards are made by a judicial commission established by the government and are the basis for collective bargaining around the country. The first such superannuation award was in 1985.

[29]Before TRA '86 became law, pre-1974 lump sum distributions were taxed as long-term capital gains (only 40 percent subject to tax), while post 1973 lump-sum distributions were allowed 10 year forward averaging (also minimized tax on lump sums). Although there are some phasing-in rules for individuals who were age 50 as of January 1, 1986, lump-sum distributions are now allowed only a one-time five-year forward averaging.

Table 5

Taxation of Contributions[a] to Public and Private Retirement Income Schemes and Pension Fund Investment Income

Country	Employer: Public pensions	Employer: Private pensions	Employee: Public pensions	Employee: Private pensions	Private Plan Investment Income
Australia	None	Deductible (taxed 15%)[b]	None	Deductible up to $2,381 for employees with little or no employer coverage	Taxed 15%
Canada	Deductible	Deductible combined contributions up to lower of 18% of earnings or $13,362	Deductible	Deductible same as employer	None
France	Deductible	Deductible combined contributions up to 19% of 8 times social security ceiling (approximately $34,580)	Deductible	Deductible same as employer	
Germany (public)	Deductible		Not deductible		
Book reserves, support funds:		Deductible		Not allowed	None
Direct insurance, trusteed plans		Deductible contributions above $184 are included in the employee's taxable income		Taxed on contributions above $184	None
Great Britain	Deductible	Deductible	Nondeductible contributions made from after-tax income	Deductible up to 15% of gross salary or $15,000	None
Japan (public)	Deductible		Deductible		
EPFs		Deductible		Deductible up to $344	
Tax qualified pension plans		Deductible		Deductible up to $344	Taxed 1.173%
Unfunded severence benefit plans		Deductible		No contribution	
Netherlands	Deductible	Deductible if the plan provides lump-sum benefits, employee is taxed on the contribution	Deductible	Deductible	None
Sweden	Deductible	Deductible	No contribution	No contribution	None
United States	Deductible	Deductible	Nondeductible	Deductible some contributions from pretax income	None

Sources: Selected documents, including Charles D. Spencer & Associates, *International Benefits Information Service* (Chicago: Charles D. Spencer & Associates, 1990) and William M. Mercer Fraser Limited, *Interrnational Benefit Guidelines, 1990* (New York: William M. Mercer Fraser Limited, 1990).

[a]If contributions are deductible and no limits are specified, the same limits that apply to benefits under tax-qualified plans apply here (see text section on maximum benefit limits).

[b]Employer contributions to superannuation are tax deductible up to the reasonable benefits limits. The investment fund is taxed on all contributions at a rate of 15 percent.

Generally, private pension plan benefits are taxed as regular income, although often a part of the benefit is tax exempt. In some countries (Japan, Australia, and Great Britain), lump-sum retirement benefits from private retirement plans are more common because of their tax treatment (table 6). In Australia, the popularity of lump-sum benefits relates to the income and assets test imposed by social security. By taking lump-sum benefits from their private retirement plans, retirees may be able to qualify for social security pensions. Despite recent government efforts to encourage employers to provide annuities, lump sums still enjoy the most favorable tax treatment. Beginning in 1992, lump-sum benefits for persons over age 55 are tax free up to $51,190 (indexed) and then taxed at a rate of 15 percent; transitional rates are in effect until 1992. Although both Japan and Great Britain require employers who have contracted out of the earnings-related part of social security to pay that portion of the benefit as a lifetime annuity, other pension plans may provide either lump-sum benefits or annuities. Most often, retirees take at least part of the benefit as a lump-sum because the total tax burden is lower. The Japanese government has encouraged employers to provide annuities by requiring tax-qualified pension plans to structure their benefits as annuities, although employees retain the option of choosing lump sums.

◆ Recent and Proposed Reforms

A number of countries have recently altered their social security schemes to deal with rapidly aging populations (United States, Japan, and Great Britain) or to establish equal treatment for men and women (the Netherlands and Germany). Other countries have modified their private pension systems' tax regulations to increase revenue (Australia, see discussion under taxation, above) or changed their payroll tax structure

Table 6

Tax Treatment of the Most Common Private Retirement Benefit in Nine Industrialized Countries

Country	Private Pension Benefit	Tax Treatment
Australia	Lump sum	Benefit above $51,190 is taxed at 15%
Canada	Life annuity	Fully taxable with a tax credit equal to the lesser of 17% of pensionable income or $147 per month
France	Life annuity	Fully taxable, but 10% of gross beneift is deductible
Germany Support fund and book reserve	Life annuity	60% of the benefit is fully taxable
Direct insurance or trust fund	Lump sum	Tax free if contract in force for at least 12 years
Great Britain	Lump sum	Tax free (annuities fully taxable)
Japan (EPF and tax-qualified pension plans)	Lump sum	One-half of the benefit above $103,079[a] is fully taxable (annuities are taxed after substantial deductions)
Netherlands	Life annuity	Fully taxable (lump sum tax free)
Sweden	Life annuity	Fully taxable
United States	Life annuity	Fully taxable

Source: Selected documents (see bibliography).
[a]The tax-free amount varies with the years of service credited in the pension plan.

to simplify the system (the Netherlands). Finally, recent Canadian legislation equalized the tax treatment of all retirement savings, including employer-based pensions and individual savings.

Social Security Schemes

In 1983, amendments to U.S. Social Security changed the benefit eligibility requirements for U.S. retirees. The normal retirement age will be raised gradually, beginning in the year 2000, until it reaches age 67 in the year 2022. For persons reaching age 62 in the year 2022 or later, early retirement benefits will be reduced to 70 percent of the normal retirement pension from its current level of 80 percent. Payroll tax rates for both employers and employees are also scheduled to increase. These changes are expected to control the increasing costs that will be incurred by the aging population (Employee Benefit Research Institute, 1990).

The second tier of the social security scheme in Great Britain (SERPS) began accepting contributions in 1978. Because the initial analysis did not accurately predict the rapid aging of the population, contribution rates were set too low, and the system will face serious financial problems within this century. The Social Security Act of 1986 addressed these concerns by phasing in a gradual reduction of the full benefit under SERPS from 25 percent to 20 percent of earnings between the year 2009 and the year 2015. The option to contract out of the system was also extended to defined contribution plans and personal pensions, both to encourage personal savings and to reduce the cost of SERPS.

The social security scheme in Japan also underwent changes in 1986 to control costs. The reform merged the two previously separate NP and EPI systems and called for a gradual reduction in benefits and an equalization of contribution rates for men and women. The Ministry of Health and Welfare also wanted to raise the normal retirement age under EPI from 60 to 65 for men and from 55 to 60 for women but could not win approval for the change (Martin, 1989).

In Germany, recent social security reform changed the early retirement age from 60 to 62 for women and from 63 to 62 for men. The reform also provided for greater flexibility in retirement age, created a partial pension, and restored the social security normal retirement age to 65 for both men and women by the year 2005 (Horlick, 1990).

In recent years, the Dutch government has implemented a number of policies to equalize the treatment of men and women. Before 1985, a married woman could not qualify for an old age pension on her own; instead a married couple benefit was paid. Now, the same basic pension is paid to both men and women regardless of their marital status. Unmarried couples also became eligible for the same benefits as married couples in 1987 (Charles D. Spencer & Associates, 1990). In addition, a major reform in the Netherlands attempted to make the tax system simpler and more equitable, while remaining revenue neutral. However, a $2 billion loss actually occurred as a result of last minute changes in personal tax exemptions and other politically motivated changes. Many Dutch tax experts do not feel that the changes simplified the tax system, but rather made it more complicated (Spencer, 1990). The reform requires employees to pay all Social Security contributions (the employer previously paid one-half) but reduces the contribution ceiling from $34,503 to $22,054. Employers are required to "gross up" each employee's salary (up to $35,000) by 10.4 percent to compensate for the changes in contributions. In addition, old age pensions (as well as pensions for widows and disabled persons) were increased because these individuals are required to make larger Social Security contributions. Private plans integrated with social security will use the prereform salary level as the basis of integration.

Private Pension Schemes

Tax reform legislation affecting the Canadian private pension system was enacted in June 1990 and will take effect in January 1991. The new rules revise the maximum annual limits for contributions to tax-preferred retirement savings, including both employer-sponsored plans and Registered Retirement Savings Plans (RRSPs), which are similar to IRAs in the United States. Under the new system, 18 percent of earnings, up to a maximum of $13,362, can be put into tax-sheltered savings toward retirement income. The limit will apply to the aggregate of all defined contribution amounts (including RRSPs) plus the value of accruals under defined benefit plans. The amount of employer contributions that applies against the 18 percent limit is based on benefits accrued in the previous year. In addition, unused RRSP deductions may be carried forward into the following year. The goal of the reform is to equalize the tax treatment of all retirement savings, whether made by an employer or an individual (Kwasha Lipton, 1990).

◆ Conclusion

There are generally three levels of retirement savings. Social security, which normally provides an earnings-related benefit for insured workers, complemented by universal pensions for residents (or means-tested welfare benefits for low-income elderly), provides the basic level of coverage in most industrialized countries. Private-sector employers provide the next level of support through voluntary, advance-funded pension plans on a tax-preferred basis. In addition to these benefits, the U.S. system and an increasing number of systems in other industrialized countries provide incentives for individuals to save toward their own retirement.

In the 21st century, both social security and private pension systems in industrialized countries will face a number of challenges, including workers' increased job mobility, growing labor force participation of women, and, undoubtedly, aging populations. Collectively, the federal governments of industrialized countries passed a plethora of legislation during the 1980s focusing on these issues. Legislation has shortened vesting schedules so that workers who pursue careers in more than one company can preserve their benefits until retirement. Social security and private pensions are equalizing benefit levels and qualifications for men and women, and many countries have also granted social security credits to women (and men) during periods of absence from the labor force. Legislation has promoted individual responsibility for retirement savings in many countries, in part to alleviate the anticipated burden of providing social security and welfare benefits to an increasing number of elderly persons.

Estimated cost increases resulting from the growing elderly population have forced countries to take a closer look at the status of their social security systems, which are generally financed on a pay-as-you-go basis. In anticipation of a declining ratio of contributors to beneficiaries, many governments have chosen to build partial reserves in their social security trust funds while others have been forced to plan a decrease in benefits and an increase in contribution rates. Such changes may also need to be considered in the pay-as-you-go compulsory private system in France as well as in the unfunded benefit plans that are widespread in both Japan and Germany. If governments and employers do not plan for these demographic changes, they may be forced to rescind their promise of benefits or terminate plans, either of which would have important effects on retirees' economic security. Some federal governments have used tax incentives to encourage employers and individuals to increase their retirement savings, in some cases as an alternative to social security. This shift of

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