Social Security in Germany and the United Kingdom

The United States is not alone in its difficulties with social security finances. The problems faced by the U.S. system—disproportionately high benefits relative to contributions, as well as unfavorable demographic developments and the impact of simultaneously high rates of inflation and unemployment—plague the social security systems of all industrial countries.

The European experience with social security is instructive for the United States because many solutions proposed for this country have received a trial abroad. The social security financial crisis now faced by the United States began in Europe during the 1970s. All four major countries (Germany, France, Italy, and the United Kingdom) made fundamental reforms or substantial adjustments to their social security programs.

Efforts to limit the growth of social security in Germany and the United Kingdom—the focus of this article—are of particular interest to the United States. In Germany, the authorities viewed the financial problem as essentially short term. Therefore, they employed short-term measures such as interfund transfers and temporary limits on the increase in benefits. In contrast, the authorities in the United Kingdom viewed their problem as one of long-term inadequacy in the existing system. They undertook a comprehensive reform to shift a large part of the burden of old-age pension provisions from the public to the private sector.

Both countries still face questions about the solvency of their systems. The German pension funds are threatened in the near term; they may deplete their liquid reserves by early 1984. In the United Kingdom, the security of social security finances as the reform is phased in over the longer term remains unclear.

This article provides historical perspective on the difficulties of the social security systems in Germany and the United Kingdom, describes what was done, and suggests what kind of lessons can be drawn.

Social security abroad

Social security systems vary widely among industrial countries in organization, coverage, benefits and their adjustment, as well as funding.[1] Social security systems in Europe are generally more comprehensive than in the United States. Social security there includes extensive health and disability insurance, unemployment compensation, and family allowances in addition to the old-age pension program, the predominant element in the U.S. social security system. Most important is the far larger public-sector role in providing health care and health insurance in major European countries. European unemployment and disability benefits also tend to be more generous.

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[1] This section draws heavily on the excellent *Social Security Programs Throughout the World,* a biannual publication of the U.S. Department of Health and Human Services, Social Security Administration, Office of Policy, Office of Research and Statistics, Research Report No. 58.

Table 1

Old-Age Pension Insurance Systems

Date of first law indicated in parentheses

Earnings related	Dual system
Belgium (1924)	Canada (1927)
Germany (1889)	Sweden (1913)
Italy (1919)	United Kingdom (1908)
Japan (1941)	
Switzerland (1946)	
United States (1935)	

Source: See footnote 1 in text.

There are two main models for old-age pension insurance (Table 1). A social insurance system, where contributions and benefits are based largely, if not entirely, on earnings, is found in the United States and Germany. The second model, a dual system which provides a basic benefit to all contributors regardless of earnings *and* an earnings-related benefit, is found in the United Kingdom. A few countries have old-age pension insurance systems fitting into neither category. France, for example, combines a social insurance system with a mandatory private pension program. In addition to the main systems, there are frequently special funds for certain occupational groups: miners in Germany, for example, or farmers in France.

Comparability of social security finances across countries is also complicated by accounting differences. In Germany, pension, unemployment, and health insurance form separate and identifiable funds, much as they do in the United States. In the United Kingdom, however, a single social security contribution covers all programs and all programs are part of the central government budget.

The size of social security contributions and spending varies across countries. As Table 2 shows, total social security contributions in Germany are much higher relative to GNP than in the United States or the United Kingdom.[2] When a broad definition of social security expenditures is used, spending is also higher as a share of GNP in Germany. In all three countries, social security spending currently accounts for around a third of overall government expenditures.

Funding

Sources of funding vary considerably across countries but differ from the U.S. system in two important ways. First, tax rates for total social security programs are generally much higher abroad and social security contributions from employers are often larger than those from employees. Contribution rates for old-age, survivors', and disability insurance—rates roughly comparable to the U.S. social security tax—are also generally higher abroad (Table 3).

Higher social security contribution rates reflect the higher level of social security expenditures relative to GNP in many countries, including Germany. A smaller tax base, however, not greater expenditures, accounts for higher contribution rates in the United Kingdom. The ceiling on covered wages in the United Kingdom is low relative to average income when compared with the United States, and contributions are optional for those with incomes below a floor.

When the focus is narrowed to old-age and survivors' pensions alone, the relationship between contributors and beneficiaries also explains higher contribution rates. Data on the ratio of all workers of all ages to nonworkers over 65 (the dependent elderly) suggest that the United States faces a more favorable balance between workers and "dependents" than Europe (Table 4). The difference in the ratios is expected to narrow in the 1980s, as the U.S. ratio continues to decline, while those of Germany and the United Kingdom should rise somewhat. The relatively favorable U.S. situation reflects the higher U.S. birth rate and the impact of immigration.

Second, in every European country except France, the social security system relies on some funding from the general revenues of the central government. In Germany, general revenues in principle fund only that part of social security which consists of payments to noncontributors. In practice, the Germans have found it difficult to hold the subsidy within that bound. In the United Kingdom, the government's grant from general revenues in 1982 amounted to 13 percent of social security expenditures, a share recently lowered from 18 percent.

European social security systems, like the U.S. system, operate on a pay-as-you-go basis. In the postwar period, virtually every industrial country has operated its social security system on a pay-as-you-go rather than on a funded basis, especially since high rates of inflation dissipated whatever reserves there were in

[2] Comparisons of government spending across countries are sometimes difficult because the organization of government differs across countries. The most useful comparison, therefore, is of spending at all levels of government, that is, the total spending of Federal (central), state (regional), and local governments plus the social insurance funds. Social security spending includes social assistance (welfare benefits and housing allowances, for example), which accounts for about a third of the figure for the United States and the United Kingdom and only a fifth of the figure for Germany. Germany still has relatively higher spending if social assistance is eliminated.

Table 2

Social Security Contributions and Expenditures*

In percent

Country	1965	1970	1975	1980	1982
			Contributions as a share of general government receipts		
Germany	26.4	29.0	32.8	36.1	36.9
United Kingdom	14.2	12.8	16.1	15.4	16.3
United States	16.1	19.5	23.6	24.3	26.4
			Contributions as a share of GNP/GDP†		
Germany	9.3	10.9	13.4	15.5	16.2
United Kingdom	4.7	5.2	6.5	6.2	6.9
United States	4.4	5.9	7.2	7.7	8.4
			Expenditures as a share of general government expenditures		
Germany	30.6	29.1	31.5	34.1	34.6
United Kingdom	19.5	20.8	19.9	26.0	29.5
United States	19.2	24.0	32.0	33.2	33.9
			Expenditures as a share of GNP/GDP†		
Germany	10.6	10.5	14.3	15.3	16.2
United Kingdom	6.9	7.9	9.1	11.3	13.3
United States	5.4	7.8	11.4	11.1	12.0

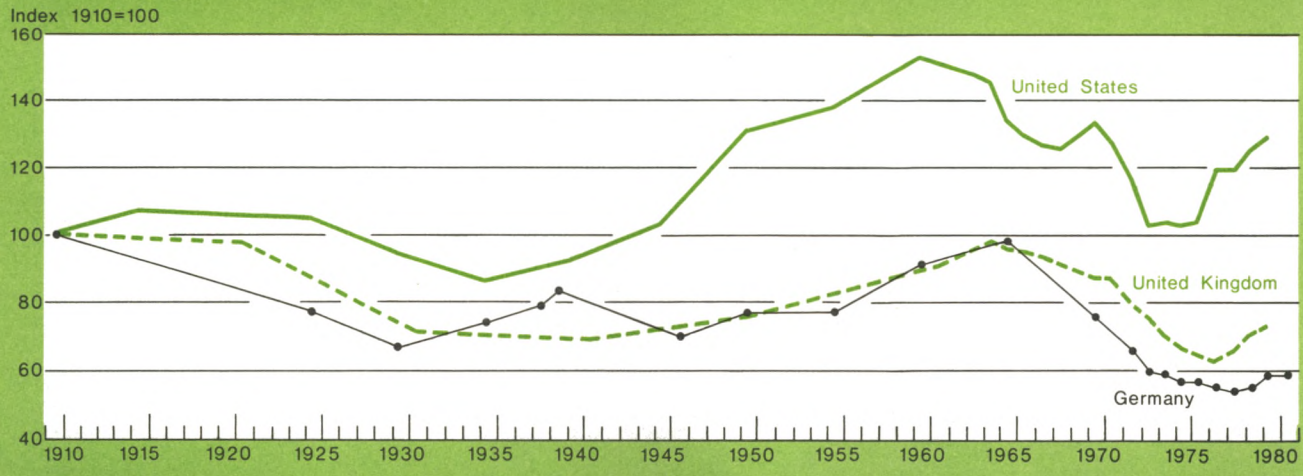
*Social security revenues and expenditures are broadly defined. See footnote 2 in text.

†GDP=gross domestic product; GNP=gross national product.

Sources: Office for Economic Cooperation and Development (OECD), *National Accounts 1963-1980*, and staff estimates for 1982.

Chart 1

Index of Live Births



Sources: Bureau of the Census, Statistical Abstract of the United States; Federal Statistical Office, Statistical Yearbook of the Federal Republic of Germany, and the United Kingdom Central Statistical Office, Annual Abstract of Statistics.

Table 3

Sources of Old-Age Insurance Funding

Country	Contribution rate in percent* Employee	Employer	Government	Contribution for:
Belgium	7.00	8.86	Annual subsidies (about 20 percent in 1982)	Old age and survivors
†Canada	1.80	1.80	Cost of universal pension, any deficit, some income-tested benefits	Earnings-related benefit
France	4.80	8.20	None	Old age and widows
Germany	9.00‡	9.00‡	Annual subsidy (about 14 percent) plus contributions of workers on maternity leave or unemployment	Old age, disability, death
Italy	7.15	17.16	Lump-sum subsidy plus cost of means-tested benefits	Old age, disability, death
§Japan:				
Employee insurance:				Old age, disability, death
Men	5.30	5.30	20 percent of benefits	
Women	4.55	4.55		
National insurance	¥5,220 monthly		33⅓ percent of benefits	—
Sweden	0	21.15	30 percent of universal pension benefits	Old age, disability, death
Switzerland	4.70	4.70	20 percent of old-age, 50 percent of disability, plus some means-tested benefits	Old age, disability, death
United Kingdom	9.00‖	11.95‖	13 percent of costs plus full cost of means-tested allowances	Old age, disability, unemployment, sickness, death
United States	5.40	5.40	Cost of means-tested benefits**	Old age, survivors, disability

*1981 contribution rates still in effect or more recent rate, where available. Except for Italy, Belgium, and Sweden, every country has a ceiling on covered earnings.

†The rate is low because the system is young and has a large accumulated surplus.

‡Rises to 9.25 percent for employer and employee in September 1983.

§Earnings-related scheme can be contracted out (see United Kingdom discussion in text) if private benefits meet social security benefits. The employee contribution then falls to 3.7 percent for men, 3.0 percent for women, and the employer contribution falls to zero.

‖The employer contribution includes 1.5 percent national insurance surcharge. The surcharge is scheduled to fall to 1 percent in August 1983. If the earnings-related portion is contracted out (see United Kingdom discussion in text), the employee rate drops to 6.9 percent on all but the first £32.50 a week of covered earnings. For the employer, the rate falls to 7.9 percent on all but the first £32.50 a week.

**Supplemental social security.

the years following World War II.[3] An old-age insurance program of some sort had been in effect in most countries before World War II. In practice, such programs were never more than partially funded.[4]

The role of private pensions

Social security pension plans also vary across countries in the degree of integration with private pension plans. In the United States and Germany, social security and private pension systems are not formally integrated. About 50 percent of workers in the United States and about 60 percent in Germany are covered by private pensions.

In the United Kingdom, private pensions are an alternative to the earnings-related social security pension, which serves as a minimum standard. Around 45 percent of workers are covered by private pension plans through the contracting-out option described on page 24.

By contrast, private pensions are mandatory for around 80 percent of workers in France. In a plan that resembles the dual social security system described above, the social security fund in France provides a flat-rate benefit and the private pension an earnings-related benefit. Switzerland is considering a similar plan.

Private pension benefits are generally not indexed, although German employers are required by a 1974 law to review pensions every three years and adjust them for at least half the loss in purchasing power. In France, some indexation occurs through the practice of *répartition*.[5]

In all three countries, private pensions replace between 10 and 20 percent of average wages. Thus, they are an important supplement to social security benefits, pushing overall replacement rates toward 70 percent in Germany and France and toward 50 percent in the United Kingdom. Replacement rates in the United Kingdom and France are expected to rise further as the private pension plans mature over the next decade.[6]

Table 4

Ratio of Workers to Dependent Elderly, 1950-90

Country	1950	1960	1970	1980	1990
United States	7.15	5.51	5.15	4.95	4.70
Germany	5.95	5.09	3.71	3.46	3.87
United Kingdom	5.22	4.56	4.05	3.66	3.73

The dependent elderly are nonworkers over age 65.

Source: International Labor Organization (ILO), *Labour Force Estimates and Projections, 1950-2000* (second edition).

A comparison of the European situation with the United States.

In Europe, the picture of social security funding problems frequently offered has been analogous to the standard portrayal of the U.S. situation. That portrayal contends that:

- the present temporary solvency problem was caused by uncontrollable factors like the recession,
- no problem exists in the medium term as scheduled tax increases restore solvency, and
- a long-run solvency problem exists because of unfavorable demographic factors.

The belief that social security faced only a short-run crisis may account for the belated response in many countries to persistent social security problems.[7]

The timing of the three stages of the funding problem in the standard portrayal differs significantly between Europe and the United States. The short-term crisis which has beset Europe since the mid-1970s is believed to be the result of the sharp slowdown in economic growth after 1974-75 and unfavorable developments in the age structure of the population. Over the period 1950-75, the population over 65 grew 2 to 3 percent in the major European countries, while the working population aged 15 to 65 years increased only slightly.

Relief from the short-term crisis was anticipated to

[3] Canada, Japan, and Sweden have accumulated large surpluses because their systems are fairly young, but even these countries do not operate their systems on a funded basis.

[4] In Germany, for example, reserves ranged from coverage of ten years in 1917 to essentially no coverage in 1924.

[5] Max Horlick, "Private Pension Plans in West Germany and France" (Research Report No. 55, Social Security Administration, Office of Policy), October 1980. Under *répartition*—a version of pay-as-you-go—pension fund revenues are redistributed to pensioners according to the number of "pension points" accumulated, points being determined from earnings and length of service. Partial indexation occurs as wages rise, provided no serious imbalance between pensioners and contributors develops.

[6] Leif Haanes-Olsen, "Earnings-Replacement Rate of Old-Age Benefits, 1965-75, Selected Countries", *Social Security Bulletin* (January 1978).

[7] A discussion of trends in social security over the 1970s in a large number of countries is contained in Ilene R. Zeitzer, "Social Security Trends and Developments in Industrialized Countries", *Social Security Bulletin* (March 1983).

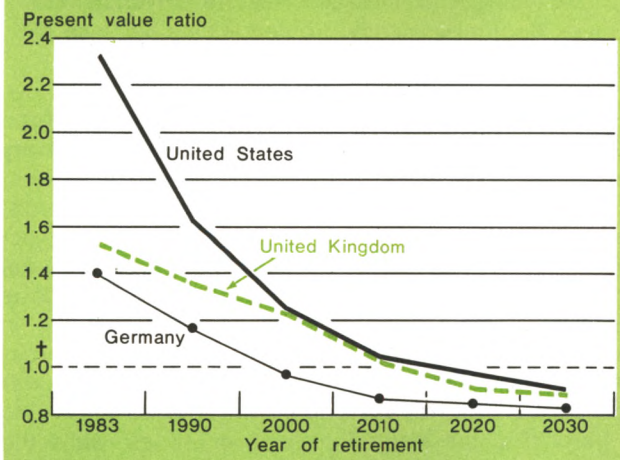
come by the 1980s at the latest. A slowdown in the growth of the elderly population to a rate matching that of the working-age population was expected to stabilize social security finances. War and depression in the first half of the century had thinned the generations retiring after 1975. The postwar baby boom in Europe—delayed relative to the United States by the economic dislocation after World War II—would just be entering the labor force (Chart 1).

This medium-term relief was expected to be followed by a serious crisis in the next century. The eventual retirement of the baby boom generation combined with the low birth rate in recent years would lead to a new and serious funding problem.

In reality, the short-term crisis has not passed in many countries. The medium-term outlook is clouded, even gloomy. In part, the continuing crisis results from the return to recession after the second oil-price shock. But it also reflects the failure to perceive the problems of the mid-1970s as more than temporary imbalances.

Chart 2

Ratio of the Present Discount Value of Benefits to Lifetime Contributions Plus Interest*



*Estimates computed for a 65-year-old single male retiree with average lifetime earnings. The U.S. estimates are an update of those presented in Capra, Skaperdas, and Kubarych (Autumn 1982 issue of this Review). The calculations for Germany and the United Kingdom are described in a memorandum which can be obtained from the author.

†When ratio is 1.0, the present value of expected benefits equals accumulated employer-employee contributions plus interest.

The imbalance between benefits and contributions

In a recent article, Capra, Skaperdas, and Kubarych (Autumn 1982 issue of this *Review*) questioned the standard portrayal of the U.S. social security system's financial troubles. In their view, the fundamental problem is that retirees can expect to receive benefits far in excess of lifetime contributions plus interest.

The critique of the standard portrayal applies to Europe as well as the United States.[8] A comparison of the ratio of benefits to combined employer-employee contributions for representative pensioners in the United States, Germany, and the United Kingdom illustrates some common elements as well as some differences in U.S. and European social security problems (Chart 2). The hypothetical individual in all three countries is a single male with average income throughout his working lifetime.[9]

Current retirees in all three countries appear to be treated relatively favorably. The present discounted value of the benefits received by a retiree at the start of 1983 is more than twice the value of his lifetime contributions with interest in the United States and about 1.5 times his contributions in Germany and the United Kingdom. Relatively higher contribution rates and real interest rates in the past account in large part for the lower benefit to contribution ratios in Europe. The ratio for the United Kingdom is also relatively high because current retirees made no contributions before the start of the current system (1948) and the basic benefit increased sharply in 1975.

In the longer run, the ratios show a decline in every country, although those of the European countries stabilize at a level somewhat below that of the United States. The U.S. ratio declines rapidly and stabilizes after 2030 at 0.90. Germany's ratio falls more slowly and remains around 0.85 after 2010. In the United Kingdom, the ratio declines still more slowly, a result of the gradual phasing-in of the 1975 reform, until it falls below 0.90 around 2025.

[8] In an analysis similar to Capra, Skaperdas, and Kubarych, evidence that current retirees in Germany receive larger benefits than their contributions is found in Klaus-Peter Koppelmann, *Intertemporal Income Distribution in the Statutory Pension Insurance of West Germany, Studies in Applied Economics and Statistics,* volume 8 (van den Hoeck & Ruprecht, Goettingen, 1979).

[9] In the United Kingdom, the representative individual elects to remain in the social security system. The British situation differs in another important respect. Unlike the United States and Germany, social security contributions include unemployment, sickness, and disability insurance as well as old-age pension insurance. For an individual who remains in the social security system, it seems reasonable to compare the benefits to contribution ratio to the long-run share of pension outlays in total National Insurance Fund expenditures. In the 1971-81 period, this share was 70 percent. The lower expected United Kingdom ratio is taken into account in Chart 2.

The imbalance between benefits and contributions plays a major role in the short-term and the medium-term financial difficulties of social security in all three countries. This problem of imbalance is especially important and persistent in the United States. In the longer run, however, the imbalance is eliminated as the ratios fall below 1. By then, other factors, primarily unfavorable demographic conditions, threaten the solvency of all three old-age retirement systems.

Reasons for the difficulties abroad

To a large extent, the current imbalance between benefits and contributions in Europe reflects the generous policies of the late 1960s and early 1970s. The changes in those years moved social security increasingly away from a program in which benefits were related to contributions to a program which extensively redistributed income. The introduction of minimum pensions and the extension of benefits to those whose contributions were too low to qualify for regular pensions are examples of such changes.

Benefits to contributors were also increased sharply in the early 1970s, especially through early retirement programs in Germany and through the adoption of a generous inflation adjustment standard in the United Kingdom. Contribution rates, while high, failed to rise sufficiently to compensate.

Inflation's effects on private savings, especially private pensions, have also played a role. Since private pensions are usually not indexed, they tend to lose real purchasing power. Moreover, interest rates on savings instruments abroad, while not limited by ceilings like Regulation Q, have at times been low relative to inflation. This problem has been more acute in the United Kingdom, where inflation has been higher. The erosion of the real value of pensions and other forms of saving has no doubt increased the pressure on governments to improve social security benefits.

To a lesser extent, the difficulties are the result of an unanticipated increase in life expectancy, especially an increase in the probability that large numbers of workers will live long enough to retire. Around 1930, life expectancy for men at age 20 was roughly 67 years in both Germany and the United Kingdom. It had reached 70 years by 1950 and nearly 71.5 years by 1978, owing in part to a considerably reduced death rate among those aged 45 to 60.[10] Gains in life expectancy for women have been even more substantial as the risks of childbearing have declined.

Social security problems have been greatly aggravated by weaker economic growth after 1973. Both Germany and the United Kingdom experienced a greater slowdown than the United States after the bout of inflation and recession resulting from the first oil shock in 1973. The problems that the slowdown produced in the two countries, however, have been different. In Germany, slower growth was accompanied by a lasting rise in the unemployment rate but relatively low inflation. In the United Kingdom, the slowdown produced a later, but swift, rise in unemployment, and a continuation until 1982 of the relatively rapid inflation experienced since the 1960s.

Germany

The source of the German social security problem lay in the rapid expansion of benefits in the early 1970s. The scope of the social insurance program was increased, reaching housewives, the handicapped, and other low contributors to the system. Germany introduced a minimum pension for those over 65 whose contributions were too low to qualify for a regular social security pension. In 1972, the German government moved forward the adjustment of pensions for inflation by six months.

The expansion of benefits did not immediately drive the old-age pension fund into deficit. It did lead to a rapid rise in real pension benefits per recipient between 1968 and 1972 (Chart 3).

The benefit change having the largest effect, however, was early retirement with full benefits. In 1973, the German government began to offer early retirement to a broader class of workers, a possibility formerly available only to workers in especially hazardous occupations. Germany offered full retirement benefits to men with thirty-five years of service from age 63 on—two years before the statutory retirement age. The offer of full retirement pensions at age 63 was considerably more liberal than the newly introduced early retirement option in the United States. U.S. workers aged 62 and over could retire early, but with an actuarially reduced pension.

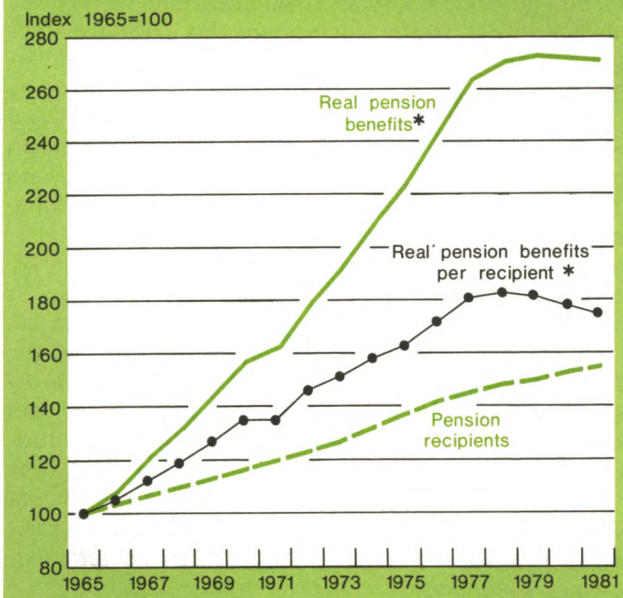
Another measure to facilitate early retirement was included in 1974 legislation tightening regulation of private pensions. The new law permitted private pension plans to offer flexible retirement benefits from age 63 on. Thus, it provided an additional inducement to early retirement for the 60 percent of workers covered by private pensions.

The German authorities apparently expected the possibility of elective early retirement to have little impact on the work effort of older workers. The prediction proved to be incorrect. The number of pension recipients continued to grow rapidly between 1974 and 1977 (Chart 3), even though the number of persons

[10] The comparable numbers for the United States are 64 in 1920, 66 in 1950, and 68 in 1978.

Chart 3

Real Pension Benefits in Germany



* Deflated by the consumer price index.

Sources: Federal Statistical Office, Statistical Yearbook of the Federal Republic of Germany; Deutsche Bundesbank, Monthly Report.

aged 65 declined. As Table 5 shows, labor force participation rates among men aged 55 and over dropped quickly in the 1970s.

The surplus in the pension funds for wage and salary earners disappeared in 1975, when the effects of benefit changes and the 1974-75 recession began to appear. Depressed revenues, the result of the elimination of nearly 2 million jobs in the recession, and unabated growth of expenditures quickly dissipated the reserves of the combined wage and salary funds set by law at one year's outlay.

Further strain on the system resulted from the rapid rise in unemployment among older workers, a group facing special difficulties in finding new employment without retraining or accepting large wage cuts. Beginning in 1976, older workers could retire as early as age 60, or up to five years early, provided they met certain requirements on length of employment and period of unemployment.[11] Indeed, it is possible if not sanctioned for workers to leave their employment voluntarily at age 59, collect unemployment benefits for a year, and thus qualify for full pension benefits at age 60. In addition, more generous interpretations of early retirement provisions for those with health or disability problems contributed further to a rapid decline in labor force participation by older workers.

Encouraging older workers to leave the labor force was in part motivated by rising youth unemployment. Unemployment among both older and younger workers reflects a more general structural unemployment problem. Because older unemployed workers are often low skilled or possess obsolete skills, they may compete directly with younger workers for unskilled jobs.

Early retirement has proven to be an expensive way to solve the problem of structural unemployment. It not only adds to the current pension burden but to the future burden as well, as early retirement provisions are likely to be difficult to remove.

The wage inflation of the early 1970s, aggravated by the oil-price shock in 1973, haunted the German social security system later through the long lags built into the benefits adjustment scheme.[12] The calculation of social security benefits involves two kinds of adjustment. To determine the initial level of benefits, past earnings are revalued to present-day levels. Revaluation is necessary because incomes from past years have low purchasing power today, even at modest rates of inflation. Germany revalues an individual's past earnings according to the growth of average wages. Then, to maintain the purchasing power of benefits in subsequent years, increases in benefits are tied to the rate of growth of average wages over a period of 2½ to 3½ years earlier, depending on the particular fund.

The lagged relationship to wage increases was intended to smooth out fluctuations in aggregate demand, but in 1976 it had unforeseen negative consequences. The rapid growth of wages in 1973 and 1974 (around 10 percent) spilled into the social security system just as wages began to decelerate sharply in the German economy. The system's reserves fell $2.5 billion or 15 percent in 1976 and continued to fall in 1977. With reserves falling at such a rapid rate, the financial problems could no longer be ignored.

[11] A more complete discussion is contained in Martin B. Tracy, "Flexible Retirement Features Abroad", *Social Security Bulletin* (May 1978), pages 18-36.

[12] The Germans distinguish between benefits adjustment (*Dynamisierung*) and indexation (*Indexierung*). In Germany, increases in pension benefits are linked to increases in wages, but each year's increase must be approved by parliament through passage of a Pension Adjustment Law (*Rentenanpassungsgesetz*). Indexation, which is prohibited in Germany by the 1948 Currency Law, implies automatic increases as the price level rises. In the United States, for example, social security benefits increase automatically without Congressional action.

The United Kingdom

Like the United States and Germany, the United Kingdom experienced an expansion of social security benefits in the early 1970s. Many features of the expansion in the United Kingdom resemble those in Germany. For example, in the early 1970s, the United Kingdom introduced a minimum pension for those over 80 who had work experience too short or income too low to qualify for a social security pension.

Unlike Germany, however, the expansion did not result largely from a sense of considerable prosperity and overoptimistic predictions of continued rapid growth. The expansion in the United Kingdom had its roots in the growing disparity between the well-being of those retired and those still working.

The old-age pension system in the United Kingdom had struggled for over two decades before the 1975 reform with inadequate pension provisions, little inflation protection, and a growing government share in support for the aged. The system in effect from the early 1960s until 1975 consisted of two tiers: a flat-rate benefit provided by the government to all and an earnings-related benefit intended for those not covered by a private pension plan. These benefits provided one of the lowest earnings-replacement rates in Europe.[13]

The problem became painful by the late 1960s. The government's review of public pensions for inflation adjustment every two years was too infrequent. Real social security pension benefits per recipient stagnated between 1965 and 1971 (Chart 4), despite average real growth of 2.5 percent in the economy. Inflation had depleted the purchasing power of savings and private pensions, which were not indexed. With both public and private pensions unable to provide adequate support for the elderly, some expansion of pension benefits seemed inevitable, but the role of the public sector was unclear.

Despite the comparatively low social security benefits in the United Kingdom, the common view of Conservative and Labor governments alike was that the public sector was being asked to bear too large a share of the pension burden. The heavy reliance on social security pensions and the slow spread of private pension plans led to a search for social security reform. This view held even though the social security system as a whole (excluding health) had usually been in surplus.

While long-term reform plans were being drawn, accelerating inflation spurred changes in the procedures by which initial benefits were calculated and then increased in subsequent years. In the United Kingdom, social security benefits were not and still are not indexed automatically. Instead, they are reviewed and, if necessary, adjusted in a discretionary fashion as part of the budget process. The United States adjusted pensions for inflation in the same way until 1975. In 1973, the United Kingdom increased the frequency of reviews from every two years to every year. Pensions were to rise by the higher of the increase in the wage index or the price index, a generous practice by international comparison that added an estimated 10 percent to pensions between 1973 and 1976. Real benefits per recipient rose rapidly over this period (Chart 4).

Methods to alleviate financial difficulties

The methods used to alleviate the financial difficulties of social security once the crisis arrived will be familiar to those following the social security discussion in the United States:

- In both countries, social security taxes have been raised. The rise in Germany has been modest, amounting to only ½ percentage point. In the United Kingdom, the overall contribution rate has risen more substantially.

Table 5

Labor Force Participation of the Elderly

In percent

Country	1960	1970	1975	1980*
United States:				
Ages 55-64	60.1	60.5	56.8	55.9
Male	84.7	80.8	74.7	72.1
Female	37.0	42.2	40.7	41.5
Ages 65 and over	19.1	16.0	13.1	12.5
Germany:				
Ages 55-64	52.1	52.0	45.4	44.7
Male	82.0	82.2	71.8	67.8
Female	27.8	29.9	27.3	28.5
Ages 65 and over	14.1	11.7	6.9	4.6
United Kingdom:				
Ages 55-64	†	63.8	61.6	64.0
Male	†	91.2	88.3	88.4
Female	†	39.1	37.6	41.4
Ages 65 and over	13.1	11.0	8.2	7.7

*Actual numbers for 1979 for the United States and OECD estimates for the United Kingdom.

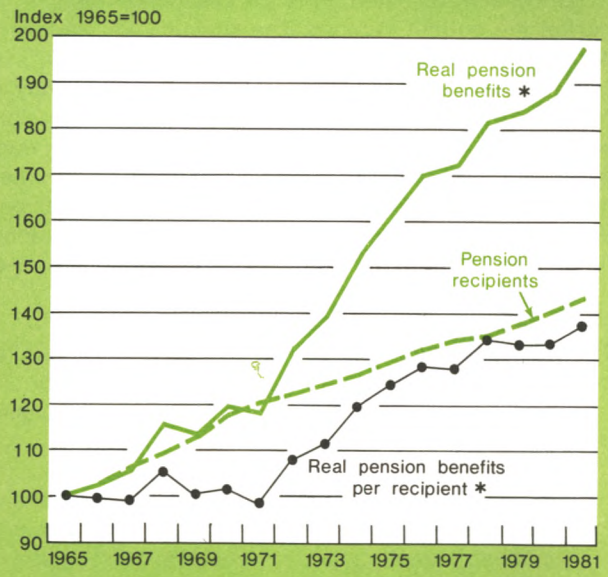
†Not available.

Sources: OECD, *Demographic Trends 1950-1990* (1979); recent data: ILO, *Yearbook of Labour Statistics.*

[13] Jonathan Aldrich, "The Earnings of Replacement of Old-Age Benefits in 12 Countries, 1969-80", *Social Security Bulletin* (November 1982), page 5. Moreover, unlike Germany and the United States, social security benefits are taxable in the United Kingdom.

Chart 4

Real Pension Benefits in the United Kingdom



* Deflated by the consumer price index.

Sources: United Kingdom Central Statistical Office, Monthly Digest of Statistics and National Income and Expenditure.

- Both Germany and the United Kingdom have also moved to limit the inflation adjustment of benefits. In Germany, this has taken the form of temporary, but very effective, measures. In the United Kingdom, adjustment has been permanently set by legislation to a lower path.
- Finally, the United Kingdom has embarked on an ambitious program to shift the burden of pension provision from the public sector to the private sector, with the government providing protection against inflation.

Germany

Following the rapid rundown of reserves in 1976 and 1977, the government took a number of measures to restore balance in the social security funds in 1977 and 1978. The measures taken reflected the widely held view that the funding problems of the mid- to late 1970s were temporary. Economic growth was expected to return to its long-term trend, bringing a reduction of unemployment. Short-term demographic developments would turn in Germany's favor by the late 1970s as the less numerous generations born in the 1920s began to retire and the postwar baby boom came of age. Therefore, the solutions were temporary in nature or easily reversible.

The most important action was to place ceilings on the increase in pensions for 1979, 1980, and 1981 of 4.5 percent, 4.0 percent, and 4.0 percent, respectively, well below the scheduled increases of around 6 percent. Pensions rose over the three years less than the cumulative rate of price increase. The cap on benefits increases was, however, understood as strictly temporary, and a return to benefits adjustment on the basis of wage growth occurred as planned in 1982.

In other measures in 1977 and 1978, the government postponed the date of inflation adjustment by six months, reversing the 1972 change. It transferred responsibility for some contributions from the pension fund to the health fund. It also scheduled an increase in the pension contribution of ½ percentage point to 18.5 percent in 1981.

The combined effect of the measures taken in 1977 and 1978 and improved economic growth in 1979 and early 1980 led to a return to surplus in 1980 and some modest buildup in reserves in 1980 and 1981. The Deutsche Bundesbank estimates that the measures saved the social security fund close to DM 35 billion in 1981.[14] By 1981, the federal government could cut its grant to the social security fund to reduce its own budget deficit and could rescind the scheduled increase in the contribution rate.

The capping of benefit increases was particularly effective. Real pension benefits per recipient declined between 1978 and 1981, stabilizing real total benefits despite a rising retired population (Chart 3).

The improvement was only temporary, however. The 1981-82 recession produced a dramatic rise in unemployment. Social security revenues stagnated. More fundamentally, the favorable demographic developments expected for the late 1970s were in part offset by a sharp fall in the average age of retirement for men.[15] The Deutsche Bundesbank recently estimated that in 1980, the average age of retirement for men was just under 59 years of age, while the average for women was just above 60.[16] Finally, as wages

[14] Deutsche Bundesbank, "The Finances of the Statutory Pension Insurance Funds Between 1978 and 1981", *Monthly Report* (April 1982), page 15.

[15] Curiously, Germany encourages deferment of retirement with a bonus system more generous than that in the United States. A worker may receive an addition of 7.2 percent of his benefit for each year worked after the age of 65 until the age of 70. The bonus, which was legislated before 1974, appears to conflict with the early retirement programs.

[16] Deutsche Bundesbank, *op. cit.*, page 16.

gradually decelerated, pension benefits increased faster than payrolls under the lagged adjustment process employed in Germany. The pension fund therefore tends toward deficit in periods of wage deceleration.

With unemployment predicted to average between 9 and 10 percent in 1983, the near-term outlook for the combined wage and salary pension funds has deteriorated. The German government again faces grim predictions of depleted reserves, perhaps as early as the spring of 1984. Some measures to tighten social security have already been put in place. Pension recipients will now have to pay part of their own health insurance premiums, a reduction of about 1 percent of pension, with increases in their share scheduled for 1984 and 1985. The date for upward adjustment of benefits has been postponed by six months, for a second time, until July 1983. These modest measures are expected to save the funds around $1.5 billion.[17] In addition, the social security contribution has been raised to 18.5 percent effective September 1983.

In his May 1983 state of the nation address, Chancellor Kohl recommended measures to secure the finances of the social security system in the short and the long term. To relieve the short-term liquidity problems, he suggested broadening the wage base on which pension contributions are paid to include bonuses and sick pay, eliminating the lag in the inflation adjustment of pensions and tightening some qualifications for early retirement.

For a long-term solution, he outlined three broad principles:

- benefits must continue to be related to contributions,
- inflation adjustment should be tied to aftertax rather than pretax workers' incomes, and
- the amount of funding from general revenues should fluctuate less from year to year.

United Kingdom

The long-term structure of the old-age pension system in the United Kingdom was established in the ambitious 1975 reform. Because of the arrangements to determine and adjust benefits, however, questions about the ultimate size of the long-term social security burden remain.

After the recession in 1975, the United Kingdom made some changes in the social security system analogous to those made in Germany. To cope with the rising number of unemployed persons, a new law permitted workers to retire one year early and to receive higher benefits if the job was filled by an unemployed person.

The United Kingdom also scaled back its adjustment of pension benefits, often through changes in the adjustment method. In 1976, the government switched from adjusting pensions for past inflation to adjusting them for projected price increases. This, along with discretionary adjustments, reduced pensions by as much as 10 percent by 1981. In 1980, the government made a general commitment to adjust for price inflation only rather than raising pensions by the higher of wage or price increases. Price changes were to be measured over a two-year period, which would allow the government to adjust pensions to expected inflation in the upcoming (fiscal) year but would also permit the government to correct its forecast errors in the next adjustment. In a move that will incorporate the recent good inflation performance into benefit increases, the 1983-84 government budget announced a return to adjustment of social security pensions for past price inflation.

Unlike Germany, however, the United Kingdom looked for more fundamental reform of its old-age pension system. The search, which was interrupted by changes in government,[18] culminated in a reform bill in 1975. The reform retained the two-tier system of basic benefit and earnings-related supplement but will produce a major increase in the level of benefits when fully in operation, albeit at higher contribution rates.

The basis of the reform was a transfer of more responsibility for providing pensions to the private sector. The reform approached social security as an old-age annuity program which the private sector could provide. The failure of the previous system, which also had allowed employers to substitute private pension insurance for the earnings-related social security benefit, was seen to lie in the inability of private insurers to guarantee the purchasing power of future pensions.[19] The government plan, therefore, called for the continuation of a government-run basic benefit program but offered employers the option to replace the earnings-related social security plan with a private

[17] German Institute for Economic Research, "Expenditure Reductions in the Statutory Pension Insurance", *Weekly Report* 41/82 (October 14, 1982).

[18] Comprehensive reform bills were offered in 1969 and 1973 but were soon withdrawn by new governments.

[19] One proposal to enable private pension insurers to guarantee the purchasing power of pensions would have the government issue indexed bonds to pension funds. The United Kingdom has begun to issue them on a modest scale. See James Pesando, *Private Pensions in an Inflationary Climate; Limitations and Policy Alternatives* (Economic Council of Canada, 1979).

pension plan, that is, to "contract out" of the earnings-related portion of social security.[20] The government would assume responsibility for the inflation adjustment of these private as well as social security pensions.

To contract out of the earnings-related portion of the social security system, a company's pension plan must provide on a funded basis the earnings-related benefits which would otherwise be paid by social security. In return, the firm receives a rebate on social security contributions of 7 percent of covered wages. Of this 7 percent, the company keeps 4.5 percent and returns 2.5 percent to the worker. As foreseen by the British Government Actuary, the rebate will be reduced over the next thirty years from 7 percent to an estimated 4.8 percent. The first reduction, to 6.25 percent, took place in April 1983.

The major inducement to contract out resulted from a rise in the social security contribution rate combined with the rebate for contracting out. In addition, if a firm found the advantages of contracting out smaller than anticipated, the employer could "buy back" into the social security system at favorable terms anytime in the first five years of the new plan until March 1983. Since the method of calculating the buy-back differed from the actuarial method used to calculate the 7 percent tax abatement, many contracted-out employers could reenter the state scheme for less than the accumulated 7 percent abatement. New terms effective April 1983 are less favorable.

Another major inducement to contract out was that contributions made by members to a private scheme are tax deductible, while social security contributions are not. Further, if an employee leaves a firm before being vested in the company pension plan, his contributions can be used to buy back into the social security system. Thus, the new system provided "portability", the ability to accumulate pension benefits despite changing employers. Lack of portability contributed to a low average level of pension benefits by penalizing those who changed jobs frequently.

Contracting out was initially very popular. In April 1978, when the new scheme began, 10.3 million out of 11.8 million pension scheme members (44 percent of the work force) were contracted out of the new earnings-related component.[21] Virtually all firms in the public sector and nationalized industry contracted out as did most large companies. By contrast, most smaller firms elected to join the government's earnings-related plan.

The success of contracting out as a means of preventing a rise in the social security burden will hinge on the United Kingdom's success in controlling inflation over the next few decades, especially since the government will bear the burden of adjustment of pensions after retirement.[22] The effect of recent and future reductions of the contracting-out rebate and less favorable buy-back provisions on employers' decisions to contract out are still unclear.

Hemming and Kay feel that the government's obligation to make up the gap between the social security benefits formula and the formula used in computing pensions granted by firms is a substantial, but hidden, burden. Benefits under the earnings-related portion of social security are based on the best twenty years of earnings revalued to today's wages. Benefits to be paid out by the private contracted-out pension plan are required to be based only on average lifetime earnings, revalued to today's wages. The government will make up the difference between social security and private benefits.

In the first twenty years of the plan, social security benefits and private benefits will be identical since only the years after 1978 count in computation of benefits under the reformed system. As the system matures, however, the benefits will diverge. If earnings grow significantly over the typical work career, the social security system will once again be burdened by large unfunded liabilities, precisely the situation that the British government had sought to avoid.

The reform program in the United Kingdom raises a number of interesting questions about the nature of social insurance pensions and the distribution of the burden of their cost. The United Kingdom program appears to be based on the belief that the role of government pension insurance today is to enforce a minimum standard for pension coverage, to cover those workers who cannot efficiently be covered by the private pension system, and to protect the purchasing power of future pension benefits from erosion by inflation. In doing so, it appears that the United Kingdom also intends to make the long-run funding of the pension system more secure by forcing private accumulation. If successful in its aims, the 1975 reform will substantially increase the burden on the generation currently working relative to past and future generations, because today's workers will be financing their own as well as the previous generation's retirement.

[20] The basic benefit would provide approximately 100 percent of earnings up to a lower earnings limit (currently £1,690 per year), while the earnings-related component is equal to 25 percent of earnings between the lower earnings limit and seven times this level.

[21] Wyatt International Newsletter, "Contracting-out of U.K. Social Security—Time for a Change?" (June 1981).

[22] R. T. Hemming and J. A. Kay, "The Costs of the State Earnings-Related Pension Scheme", *Economic Journal* (June 1982).

Conclusion

The experiences of Germany and the United Kingdom offer valuable lessons for the United States. Moreover, their experiences have much in common with those of other major European countries. Briefly summarized:

- The short-term financial problems have not ended as expected because of much weaker than anticipated economic growth and the resulting transfer of some of the burden of unemployment to the social security pension fund through early retirement.
- The adoption of short-run palliatives as a solution to the financial problems of the 1970s has not shown more than temporary success, and delays in reforms have made necessary fundamental revision more difficult.
- While not exactly alike, the German experience with benefit adjustment on the basis of wages has been no more favorable than the U.S. experience with price indexing in the last eight years. Both Germany and the United Kingdom have moved to reduce the generosity of inflation adjustment.
- Even longer term reforms carry with them considerable uncertainty, since the potential costs of providing for a sizable elderly population are so large.

The significance of the success or failure in controlling social security deficits extends far beyond the problems of annual financing. Because of their size, rescuing social security programs from insolvency can significantly affect a government's overall fiscal policy stance. This is clear from the large share of social security contributions and expenditures relative to general government receipts and expenditures (Table 2). Since social security's difficulties are exacerbated by slow economic growth, a funding crisis is likely to occur at an inopportune time. For example, increases in social insurance charges in Germany in 1981 blunted some of the expansionary impact of the January 1981 income tax reduction.

One strength of the United Kingdom reform is that it is set out in a unified way to secure adequate pension provision for the elderly from combined private and public insurance. In the United States, the social security retirement fund, the safeguards on funding introduced in the Employee Retirement Income Security Act of 1974, and the development of the Individual Retirement Account are trying to meet this goal separately. The situation in Germany is similar to that in the United States.

There may be limits on the private-sector role, however. A conservative view of social security is that it should provide protection from risks against which private markets cannot insure. In the late nineteenth and early twentieth centuries, when the financial stability of both firms and financial institutions was less than it is today, social security provided a commitment to future payment no private pension plan could have offered.[23] One social security system that has had to make good on that commitment is the German system, which survived the 1923 hyperinflation and the 1948 currency reform. To the extent that this purpose still has relevance today, there will be a limit to the increase in the role of the private sector.

[23] Of course, a sufficiently diversified portfolio of assets may have in some cases avoided the problem. This may have required investment in real as well as financial assets. Pension fund investments, however, may be restricted to financial instruments. See the article beginning on page 1 of this *Review* for a discussion of foreign pension fund investments.

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