Slowing Down Pension Indexing: The Foreign Experience

by Daniel Wartonick and Michael Packard*

Between 1975 and 1983, Canada, Finland, Sweden, the United Kingdom, and the Federal Republic of Germany—countries faced with immediate or long-term financing difficulties in their social security systems—modified their social security pension adjustment procedures. These changes in pension adjustments very often were made in conjunction with other restrictive measures such as increased contribution rates and/or contribution ceilings, or tightened criteria for eligibility of benefits. Four types of changes, applied separately or in combination, were made to slow down the rate of pension growth: (1) changing to a different index or modifying the index in use (Finland, Sweden, and the United Kingdom); (2) delaying implementation of pension adjustments (Finland and Sweden); (3) capping annual pension increases (Canada and West Germany); and (4) changing the index review period (the United Kingdom). Generally, these changes have had the desired effect of reducing pension growth. Finland, however, changed its indexing procedure in 1977 only to find that the new index grew faster than the old index for both 1978 and 1979. Since 1980, however, Finland's new pension adjustment index has been growing less rapidly than its old index.

In the past 8 years, a number of countries modified the way they index publicly administered retirement benefits. The motivation for these changes was generally to alleviate a financing problem. Many of the changes implemented to remedy these problems seem temporary but have permanent effects on real pension values. For example, in 1979, 1980, and 1981, the Federal Republic of Germany imposed a "cap" or upper limit on pension increases. Pension increases after 1981 have been applied to a lower pension base than would have occurred without the cap. Thus, the temporary cap on pension increases led to a permanent reduction in pension levels in West Germany. A permanent reduction in benefit expenditures will help reduce anticipated long-run financing problems in the public pension system.

Often, modifications in a country's indexing procedures were made in conjunction with other changes in the pension systems. Actions taken to reduce short-term financing problems also included increasing contribution rates and/or income ceilings and tightening eligibility criteria for some types of pension benefits. Although this article mentions some of these other actions, it emphasizes the indexing adjustments.

The study looks at five countries—Canada, Finland, Sweden, the United Kingdom, and West Germany—that have recently modified the way they index retirement benefits. An overview of the changes is presented, followed by a brief country-by-country description of each social security program, current indexing procedures, and changes in these procedures since 1975.

Overview

The countries under study made changes to their pension adjustment mechanisms, primarily to cope with social security financing problems resulting from the economic difficulties of the 1970's. Four types of changes, applied separately or in combination, were made to slow down the rate of pension growth due to in-

* Comparative Studies Staff, Office of International Policy, Office of Policy, Social Security Administration, and Program Analysis Staff, Office of Research and Statistics, Office of Policy, Social Security Administration, respectively.

dexing of benefits: (1) Changing to a different index or modifying the index in use (Finland, Sweden, and the United Kingdom); (2) delaying implementation of pension adjustments (Finland and Sweden); (3) capping annual pension increases (Canada and West Germany); (4) changing the index review period (the United Kingdom).

Changing or Modifying the Index

Finland and the United Kingdom changed their pension-adjusting indexes in ways that were expected to limit pension increases, although in Finland, the change did not immediately have the anticipated results. In 1977, Finland altered its pension adjustment mechanism for its employment-related pensions from a wage index to an index based on the average increase in wages and prices. The new index was expected to slow the rate of pension growth because, in most years before 1977, prices had risen more slowly than wages. In both 1977 and 1978, however, prices increased faster than wages, and for these 2 years, employment-related pensions rose faster than they would have had they remained indexed to wages alone. After 1978, the price index did rise more slowly than wages, and this trend is expected to continue over the long run.

In 1980, the United Kingdom changed to a price index system from a system that used the higher of the increase in wages or prices. The November 1980 benefit adjustment was lower than it would have been under the old system because prices for that adjustment period rose less rapidly than wages. However, since price increases were greater than wage increases in the 1981 adjustment period, the percentage increase in the November 1981 adjustment was the same as it would have been using the higher of the increase in prices or wages under the old system.

Sweden temporarily modified its price index from 1981 to 1982 by removing, for pension adjustment purposes only, several items—indirect taxes, import duties, and energy prices—from its consumer price index (CPI). Indirect taxes and import duties were increased by the government in the mid-to-late 1970's to help reduce Sweden's balance of trade problems. Energy prices increased after 1974 because of the higher costs of imported oil. Increases in these three items are a primary reason why prices in Sweden rose faster than wages in the late 1970's. Removing these three items from the pension adjustment index resulted in smaller pension increases for the past 2 years than otherwise would have occurred.

Delaying Pension Adjustments

When Finland changed the index for its earnings-related pension in 1977 it also changed the frequency of adjustments from once a year to twice a year. To partially offset the unexpected increase in benefits resulting from using the new index, however, the Finnish government subsequently decided to postpone the scheduled July 1978 pension increase until January 1979. This was the only occurrence of Finnish benefit increases not being implemented on schedule.

Sweden also delayed pension adjustments, but in a somewhat different way. Starting in January 1982, instead of adjusting pensions every time the price index changed by at least 3 percent, pensions were adjusted once a year. This change delayed the effects of benefit increases that otherwise would have occurred throughout the year.

Capping Pension Adjustments

West Germany, which uses a wage index, also limited the size of pension increases in 1979-81. In 1978 pensions were not increased. The increase was limited to 4.5 percent in 1979 and to 4 percent in 1980 and in 1981. As a result, current benefit levels were reduced approximately 11 percent below what they otherwise would have been.

Canada, which has both a universal pension system and an earnings-related pension system, implemented caps on the adjustment of the universal, flat-rate Old Age Security pension of 6 percent for 1983 and 5 percent for 1984. These caps are considerably lower than the average annual rate of price increases of 9.4 percent over the past 5 years. No proposals have been made for capping benefit adjustments in the second, earnings-related layer of the Canada Pension Plan.

Changing Review Period

The United Kingdom succeeded in slowing pension increases by changing the index review period in 1976 from a retrospective, or backward-looking method, to a prospective, or forward-looking method. The retrospective method used the actual index change that occurred during the preceding reference period (April–April) as the basis for adjusting pension levels. The prospective method bases the pension adjustment on a "best estimate," usually made in April, of what the index change will be in November when pension adjustments are implemented. Often, however, estimates of future increases turned out to be lower than the actual increase in the index. Usually the difference was made up in the next year's pension adjustment.

Canada

The Canadian double-decker system provides a flat-rate, universal pension—the Old Age Security (OAS, implemented in 1952)—and an earnings-related pension—the Canada Pension Plan (CPP, implemented in

1966) or the Quebec Pension Plan (QPP, implemented in 1966 for Quebec residents only). Beneficiaries with limited income may also qualify for the income-tested Guaranteed Income Supplement (GIS, implemented in 1967).

Both earnings-related and universal pensions are payable at age 65. The OAS benefit has a 10-year residence requirement. In 1980, the combined OAS and CPP pensions replaced 34 percent of the average wages in manufacturing for a single pensioner and 49 percent for a couple. The flat-rate OAS constitutes a major portion of the combined pension; OAS alone represents almost half of the benefit for a single pensioner and more than half for a couple.

Employer and employee contributions of 1.8 percent of earnings each finance the earnings-related layer. General revenues cover the entire cost of the universal and income-tested benefits.

Current Pension Adjustment Procedures

OAS pensions were increased on an ad hoc basis between 1952 and 1972. In January 1972, automatic adjustments based on annual changes in the consumer price index (CPI) were implemented for OAS and GIS pensions. Since January 1974, the adjustments have been made quarterly, based on CPI changes for the quarter ending 2 months before the adjustment date. Thus, adjustments for the January-February-March benefit quarter reflect changes in the CPI for the 3-month period ending October 31—a lag of 2 months.

Since 1966, CPP pensions have been adjusted automatically each January to price changes through a pension index. The pension index is the average of the changes in the consumer price index over a 12-month period. Before 1974, the 12-month period ended on June 30 of the preceding year, creating a lag of 6 months between the end of the index reference period and the time benefit adjustments were made. From 1974, the 12-month period has ended on October 31, reducing the indexing lag to only 2 months.

Proposed Changes to Adjustment Procedures

In 1982, a large budget deficit and the beginning of one of the worst post-World War II recessions in Canadian history prompted the government to propose cuts in federal spending. In June 1982, the government proposed voluntary wage and price controls and a cap on civil service wages and pensions, as well as on OAS pension and family allowance benefit adjustments. No change is proposed in the earnings-related CPP and QPP or in the income-tested GIS benefit.

In February 1983, the government imposed a ceiling of 6 percent in 1983 and 5 percent in 1984 for OAS pension and family allowance benefit adjustments. For beneficiaries receiving the income-tested GIS benefit to supplement the OAS pension, the GIS benefit adjustment is increased additionally to offset the loss in the OAS pension adjustment. Thus, low-income beneficiaries are not adversely affected by the ceiling. Similarly, those low-income families receiving both family allowances and a tax credit for children receive an additional increase in the tax credit for children to offset the cap on family allowance adjustments.

Over the past 5 years, OAS pensions, fueled by quarterly adjustments based on a rapidly rising CPI, have been growing steadily. Since 1977, annual adjustments gradually increased each year—from 6.4 percent in January 1977 to 12.7 percent in January 1982. The average annual increase over this period was 9.4 percent. With a cap of 6 percent in 1983 and 5 percent in 1984, pension increases will be considerably less than those in previous years. The government anticipates a combined savings of Can$260 million from these indexing changes.

Finland

Retirement benefits in Finland are provided by two pension systems: The National Pension system and an employment-related pension system. The National Pension system, initiated in 1939, provides a flat-rate benefit to all permanent residents aged 65 or older. It also provides supplemental allowances on a means-tested basis. The means test for the supplemental allowance will be phased out by 1985. Benefits under the National Pension system are not currently taxable but will become fully taxable by 1985. Tax deductions for pension income will be introduced to partially offset the increase in tax liability.

The employment-related pension system was introduced in 1962 as a supplement to the National Pension system. It is available to those aged 65 or older who are retired. Benefits under the employment-related system are based on the pensioner's years of coverage and final salary.[1] The maximum employment-related pension will be 60 percent of the pensioner's final salary when the system fully matures in 2002. In 1982, the maximum pension was 40 percent of final salary. The minimum was 37 percent. (Most current pensioners receive the minimum pension.)

The combined benefits from the National Pension and employment-related pension generally cannot exceed 60 percent of final salary. Exemptions are made for workers with low earnings. A worker with average

[1] Final salary is computed as the average earnings of the 2 median earnings years during the last 4 years of employment. Earnings beyond age 63 are not considered when determining final salary. The pensioner receives 1.5 percent of final salary for each year of employment between the ages of 23 and 63. Each year of service before July 1962, however, increases the pension by only 0.5 percent.

earnings and no supplemental allowances who retired in 1982 can expect the combined pensions to replace about 45 percent of final salary.

Financing for the National Pension comes from employee contributions of 2 percent of taxable income, from employer contributions of between 4.625 percent and 5.625 percent of total payroll (depending on firm size and the level of deductions for capital depreciation), and from government general revenue appropriations. The employment-related pension is financed solely by employers. In 1980, they contributed an average of 13.3 percent of payroll. The employment-related pension funds are administered by private insurance companies, pension foundations, and pension funds.

Current Pension Adjustment Procedures

Benefits from the National Pension system are linked to the Finnish cost-of-living index. The flat-rate benefit and any means-tested supplemental benefits are adjusted each time this index changes by 3 percent.

The employment-related pension is indexed to the average of a cost-of-living index and a wage index. Employment-related benefits are changed twice a year, in January and July. The July change is a prospective adjustment equal to 40 percent of the estimated January-to-January movement in the employment-related pension index. The actual change in the index is calculated in January of each year, and the benefit adjustment that month is equal to the difference in the actual January-to-January movement and the adjustment implemented the previous July.

Recent Changes in Adjustment Procedures

Only the earnings-related pension indexing procedures have been changed recently—in 1977. Previously, employment-related benefits were indexed to wage changes alone, and benefits were increased only once a year.

The primary reason for changing the method of indexing was that by the mid-1970's the benefits of many pensioners were higher than the earnings they received while working.[2] A major cause of the high benefits was the steeply rising wage index used to adjust employment-related benefits. Average wages were about 3.8 times as high in 1975 as in 1962, the year the employment-related system began. Over this same period, prices rose only 70 percent as fast as wages.

To reduce the growth rate in employment-related pensions, Finland shifted the pension adjustment mechanism from a wage index to the average of the increase in wages and prices. This change was effective January 1977, and for the next 2 years prices rose faster than wages. As a result, employment-related benefits were about 2 percent higher in 1978 and in 1979 than they would have been had they been indexed to wages alone. The Finns moderated the growth in these pensions somewhat by postponing the July 1978 adjustment until January 1979. Wages increased substantially faster than prices in 1979 and slightly faster in 1980 and in 1981. Consequently, employment-related benefits for 1980, 1981, and 1982 have been almost exactly the same as if they had been tied to wage increases alone. In the long run, wages are expected to increase faster than prices, and pension costs are expected to be lower under the next indexing scheme.

Sweden

The Swedish national pension system, a two-tiered system, is made up of a flat-rate benefit and an earnings-related benefit. The flat-rate benefit, introduced in 1914, is available to all Swedish citizens aged 65 or older domiciled in Sweden. The earnings-related benefit dates from 1960 and is available to all Swedish residents aged 65 or older whose earnings before age 65 satisfy certain conditions.

Benefit levels for both the flat-rate benefit and the earnings-related benefit are tied to a common "base amount," currently 19,700 kronors (about $2,650) or about 25 percent of average earnings in Sweden. The flat-rate benefit is set at 95 percent of the base amount for an aged individual and 155 percent for an aged couple. The earnings-related benefit is based on earnings above the base amount but below 7.5 times the base amount and is designed to give the pensioner 60 percent of his average earnings in this range. These two benefits combined currently replace 68 percent of average wages in manufacturing for a single worker and 83 percent for an aged couple.

The flat-rate benefit is financed by employer contributions of 9.95 percent of total payroll and by government appropriations equal to approximately 3 percent of total payroll. The earnings-related benefit is financed by employer contributions of 9.6 percent of total payroll. Employees do not contribute to either pension.

Current Pension Adjustment Procedures

In 1948, Sweden became the first country to index the benefits of its pensioners. Currently, benefits are indexed once a year to what is known as the base amount

[2] Another reason sometimes given for the changes was that the pensions of many workers who retired in the 1960's were higher than the pensions of those who retired from similar jobs in the 1970's. This result should only occur in those industries and jobs in which wages were rising less rapidly than average wages. Workers with jobs in which wages were rising more rapidly than average would be expected to have higher pensions if they retired in the 1970's than if they retired earlier. On average, one would expect pensions to have increased about as fast as wages since pensions were indexed by the growth in average wages.

index. This index is a modified consumer price index that currently excludes such items as indirect taxes, the price of energy, and import duties. Beginning in 1984, indexing will again be based on the general consumer price index.

Recent Changes in Pension Adjustments

Until January 1981, Sweden used its general consumer price index to adjust pension benefits. This index rose more rapidly than wages between 1975 and 1980. A large portion of the increase was due to the high cost of imported oil and to government actions undertaken to reduce Sweden's balance of trade problem. Because prices rose faster than wages and because pensions were indexed to the full CPI, the income of pensioners rose faster over this period than the income of workers. This different rate of income growth was deemed undesirable. To slow the relative growth in pensions, items that over the 1975–80 period had a large effect on prices but a relatively small effect on wage rates—import duties, energy prices, and indirect taxes—were removed from the index used to adjust the base amount. Their removal was expected to slow the benefit growth rate. The removal of these items was also believed to make the base amount index a more appropriate standard-of-living index than the formerly used CPI.

As of January 1982, the base amount was 0.6 percent lower than if the old indexing system had been used. Since benefits are tied directly to the base amount, 1982 benefits were also 0.6 percent lower.

In a move designed to reduce pension expenditures, the Swedes made one other change in the way they index their base amount: Effective January 1982, the base amount is adjusted only once a year. Between January 1957 and December 1981, the base amount was adjusted whenever the price index changed by 3 percentage points from the last adjustment. Restricting the adjustment to once a year is expected to save some 2 billion kronor (about $270 million) per year.

In September 1982, a new government that pledged to reinstate the old indexing system came into power. As a result, the general CPI will again become the basis for benefit changes beginning in 1984. To offset the past effects of the modified index, the government, in 1983, raised the base amount by 300 kronor over what it would have been using the modified index. The change to once-a-year adjustments of the base amount, however, has not been rescinded by the new government.

United Kingdom

The National Insurance Act of 1946 is the foundation for the present social security system in the United Kingdom. The old-age, survivors, and invalidity insurance program is one segment of the National Insurance (NI) system that also includes unemployment, sickness, maternity, and work injury benefits. Old-age pensions consist of a flat-rate, universal benefit tied to a base amount and an earnings-related benefit calculated on earnings between the base and seven times the base.

The combined flat-rate and earnings-related pension is payable to women at age 60 and to men at age 65. A retirement test is in effect for women until age 65 and for men until age 70. In 1980, the old-age pension replaced 28 percent of earnings for a single worker with average wages in manufacturing and 42 percent for an aged couple.

The earnings-related portion of the pension may be contracted-out of the government-operated program through an approved private pension plan, provided the earnings-related pension is as high as that under the government program. About 50 percent of the labor force is covered by contracted-out pension plans.

The old-age pension program, along with other NI benefits, is financed from employer contributions of 11.95 percent of payroll and from employee contributions of 9 percent of wages. The government provides a subsidy of 13 percent of the costs of the NI program from general revenues. In addition, the general revenues provide all funding for family allowances and the means-tested Supplementary Benefits program.

Current Pension Adjustment Procedures

As required by law, the government reviews old-age pensions in each fiscal year (April 6–April 5) to determine whether they have retained their value. Before 1973, flat-rate pensions were adjusted on an ad hoc basis. In 1973, the government took on a statutory commitment to review all pensions annually. Between 1973 and 1980, the flat-rate pension was indexed to changes in average earnings or the cost of living as measured by the increase in the General Index of Retail Prices, whichever change appeared to be more advantageous for the pensioner. In 1980, legislation amended the social security law so that only prices are now considered in annual flat-rate pension adjustments. The earnings-related portion is also indexed to annual changes in prices.

The government reviews pensions early in the year, usually in April, and recommends increases expected to keep benefits in line with prices by the time adjustments are implemented in November. The recommendations are submitted to Parliament every year in the form of an annual "Uprating Order" before becoming effective.

The Social Services Minister has discretionary authority to adjust benefits by an amount believed to be adequate to maintain the value of pensions vis-à-vis changes in the retail price index. Thus, at the time of the annual benefit review, the Minister may use index changes from the preceding April to April, a retrospective method, or projected changes from the preceding November to the next November when adjustments are implemented, a prospective method. The practice after 1975 has been to use the prospective method.

Recent Changes to Adjustment Procedures

Since the mid-seventies, both Labour and Conservative governments have slowed down the indexing mechanism for annual pension adjustments in an attempt to deal with adverse economic conditions. Although they saw a need for pensions to accurately reflect the nation's standard of living, they also realized that they had to deal with tremendous price inflation. In addition, the economic recessions of the seventies reduced aggregate wages, the basis for the contributions that finance the social security program. Two basic changes were made to the pension adjustment mechanism to control program costs.

First, in 1976, the Labour government changed the period of wage and price reviews. Before 1976, the reviews took place before June. The government used actual changes in the index over the previous accounting year (that ended in April) to recommend the amount of pension adjustments to be implemented the following November. Starting in 1976, the November pension adjustments have been based on projections made in March of price or wage increases from the previous November to the following November.

This change has usually resulted in smaller adjustments. The projections have usually underestimated wage and price increases and, in some instances, the shortfall in benefit adjustments has not been fully made up. For example, projected wage increases in 1978 fell short of actual wage rises by 1.9 percentage points. The 1979 adjustment compensated for this shortfall, but projected wage rises once again underestimated the actual increase—this time by 1.5 percentage points. The 1979 shortfall, however, has not been reimbursed.

The overall effect of changing the adjustment review procedure from backward- to forward-looking has been to slow down benefit increases between 1976 and 1981. In table 1, when a March index (the amount by which benefits would have increased if adjusted on an historic basis) is compared to the November projections (the actual amount by which benefits were adjusted, which includes ad hoc adjustments for previous errors in projections), the rate of benefit increase using the March increases is much higher. If the government had not shifted to a prospective method in 1976, the rate of pension increases would most likely have been greater over the succeeding years.

Second, in 1980 the Conservative government changed the basis for pension adjustments from the higher of wage or price increases to price increases only. This change was made for two reasons. First, when the

Table 1.—Pension increases based on different indexing mechanisms (United Kingdom)

Basis for pension increases	Annual cumulative percentage increase						
	1975	1976	1977	1978	1979	1980	1981
Prospective change (November projections and ad hoc adjustments) [1]	100	115	132	147	175	204	222
Retrospective change (March index) [2] ...	100	121	141	157	180	216	243

[1] Represents actual pension increases as based on November projections including ad hoc adjustments.

[2] Represents pension increases that could have taken place, in year-on-year changes in a March index (using the higher of wages or prices in 1976–79 period, and just prices in 1980 and 1981).

Source: **The Employment Gazette**, various issues, Department of Employment, United Kingdom.

higher of either a wage or a price index is used in adjustments, pensions are "ratcheted" upward more rapidly than either index increases separately. For example, prices outpaced wages in 1976 and 1977, but in 1978, 1979, and 1980, wage increases were greater. Pensions increased faster than either wages or prices over the 1975–79 period because the higher of these indexes was used to adjust pensions. Indexing pensions to prices alone removes this "ratchet effect." Second, on average, wages have risen faster than prices since 1946. Based on this experience, the government believes that prices should rise more slowly than wages over the long run. Consequently, price-indexed pensions should rise more slowly than wage-indexed pensions.

Federal Republic of Germany

The old-age program provides an earnings-related pension based on years of service and average lifetime earnings that are revalued according to national average wages. The old-age pension is calculated as 1.5 percent of revalued average lifetime earnings times the number of years the retiree had social security coverage. Coverage years include credited periods of incapacity, unemployment, and schooling after age 16, as well as years of covered employment.

The pension is payable under a "flexible retirement age" system. The long-term unemployed or disabled person may retire at age 60. The normal retirement age varies: age 63 or 64 with a retirement test, age 65 with no retirement test, and ages 66 and 67 with pension increments for working longer. The rate of earnings replacement in 1980 was 49 percent of the average wage in manufacturing for both the single pensioner and the aged couple. The program is financed by employer and employee contributions of 9 percent of earnings each and a government subsidy from general revenues that covers approximately 18 percent of the total cost.

Current Pension Adjustment Procedures

Introduced in 1957, the "dynamic adjustment" increases pensions annually in line with the national average wage, known as the computation base for benefit purposes. The computation base is a moving average of covered earnings between two 3-year periods closest to the adjustment year. For example, in adjusting the computation base for 1982, the percentage increase in average wages is calculated as the average increase in 1979-81 over the average increase in 1978-80. Pensions are then adjusted in accordance with movements in the computation base. This procedure results in a time lag between current wage rates and pensions of 2-3 years.

Although the calculation of changes in the computation base takes place automatically every year, Parliament must review and approve any pension increase. Before the review, an advisory council (the Social Insurance Council) submits to Parliament a proposal to adjust pensions. The council considers national productivity and income and the financial stability of the social security system before recommending a specific rate of pension increase. Historically, the recommended and approved increase has been equal to the change in average covered wages.

Recent Changes to Adjustment Procedures

In 1978, West Germany implemented legislation suspending its indexing mechanism in favor of small ad hoc increases to deal with financing difficulties in social security. These difficulties were caused by two factors: The economic recession of the mid-1970's, with its high unemployment, and the rapidly increasing benefit costs.

West Germany was caught in the two-pronged vise of a persistent recession and an unfavorable demographic pattern in the 1970's. The unfavorable demographic situation—small working-age cohorts resulting from low birth rates during the two world wars and the depression of the 1920's—was accompanied by a stubborn international recession in the 1970's. Consequently, both unemployment and the relatively small working-age population combined to reduce the wage base and lower contributions. Pension costs, on the other hand, were increasing due to a rapidly aging population and the introduction of a flexible retirement age in 1973. Lower revenues and increasing benefit costs resulted in financing difficulties for the German social security system.

After much advertisement and discussion of the problems and possible solutions, the government proposed in 1978 to (1) increase contributions for old-age pensions, (2) require contributions from pensioners for health insurance coverage, (3) tighten eligibility criteria for orphaned students and dependent children, and (4) impose a temporary cap on pension adjustments. The government had the full backing of both coalition parties—the Social Democratic Party (SDP) and the Free Democratic Party (FDP)—when the legislation was implemented in 1979.

The 1978 legislation capped increases in the computation base for the period 1979-81. The base was not increased in 1978. The January adjustment to the base was limited to 4.5 percent for 1979, 4 percent for 1980, and 4 percent for 1981. In January 1982, the adjustment cap was lifted.

These steps, taken to ease the financing difficulties, had two effects. First, pension indexing was slowed-down temporarily for the 3 years the caps or limits were imposed. For example, pension increases were 4.5 percent in 1979 when full indexing would have called for a 6-percent increase. Second, since increases were capped for the computation base, benefit levels were permanently lowered in relation to what they would have been under full indexing. In table 2, the computation base under the modified indexing method is compared to the base under full indexing. In 1981, the computation base was 11 percent below what it would have been under full indexing. Moreover, since the computation base was capped during 1979-81, pensions in the future will be based on a somewhat lower computation base than would otherwise have been the case.

Table 2.—Computation base, annual percentage increase, and cumulative increase under two indexing mechanisms (Federal Republic of Germany)

Indexing method	Annual base change 1977	1978	1979	1980	1981
	Base increase (in Deutsche marks)				
Regular	20,161	21,566	22,930	24,268	25,673
Modified [1]	20,161	20,161	21,068	21,911	22,787
	Percentage increase				
Regular	10	7.0	6.3	5.8	5.8
Modified	10	0	4.5	4.0	4.0
	Cumulative percentage increase				
Regular	100	107	114	120	127
Modified	100	100	105	109	113

[1] The adjustment factor for 1982 is the percent change in average annual earnings between the 1978-80 period (21,566 + 22,930 + 24,268) and the 1979-81 period (22,930 + 24,268 + 25,673). This adjustment factor is applied to 22,787.