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SOCIAL SECURITY IN THE UNITED STATES

Moderator: ROBERT J. MYERS. Panelists: GEOFFREY N. CALVERT, K. ARNE EIDE, WILLIAM C. L. HSIAO, A. HAEWORTH ROBERTSON

1. Salient factors of the Report of the 1974-75 Advisory Council on Social Security.
2. Problems of stabilizing the relative OASDI benefit level.
3. Solutions to the financing problems of OASDI
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MR. ROBERT J. MYERS: This Concurrent Session will deal with the broad subject of Social Security in the United States and will consider a number of different important aspects thereof. The general method of procedure will be to have one of our panelists present detailed views on each of the six topics listed, and then to have extemporaneous remarks from the panelists. The stage for the discussion will be set by first considering the recommendations made by the 1974-75 Advisory Council on Social Security, which is a statutory body established every four years under appointment by the Secretary of Health, Education, and Welfare. This group was primarily concerned with the financing situation of the OASDI program, although it did make a number of significant recommendations about other areas of OASDI. The Council, however, did not concern itself particularly with the Medicare program or with proposals to broaden that program into national health insurance. The next two items are closely concerned with the current financing problems of OASDI. Their solution first requires stabilizing the relative benefit level and then providing such additional financing

necessary. Several sources of additional financing are possible, and which ones are chosen can have a significant effect on the future development of the program as well as on the very structure of how total economic security can be provided to the people of the United States -- or, in other words, what share will be the responsibility of the private sector. There is great necessity for the actuarial profession to be active in the current and coming discussions of OASDI financing problems. All sorts of figures are being tossed around by the general public with regard to the magnitude of these problems. Some people say that the system had a deficiency as of mid-1974 of $2.4 trillion, which is under the "closed-group" concept. Still others use a figure of $1.3 trillion under the "open-group, 75-year" concept. Just recently, a prominent accounting firm in a report indicating what it believed should be sound financial reporting of the Federal Government stated that the deficit under GAAP was $416 billion. This figure was developed on a very arbitrary, even capricious, basis, and like all of the foregoing figures, is of questionable significance. In my view, the only proper long-range analysis of OASDI costs should be performed in terms of percentages of taxable payroll. Moreover, such tremendous dollar figures could all melt away as the snow in the bright spring sunshine if Congress were merely to increase sharply the scheduled tax rates for distant future years. Next the panel will take up certain OASDI benefit matters. Of particular importance in this International Women's Year are non-discrimination considerations. Then other important benefit elements, such as the retirement or earnings test, and the minimum retirement age will be taken up. Finally, examination will be given to the recent unfavorable disability experience, its causes, and possible remedies. Such experience has paralleled that under insurance company contracts, and there is a question of whether both experiences were caused by independent factors or whether the insurance company experience was caused by the OASDI experience.

MR. A. HAEWORTH ROBERTSON: Section 706 of the Social Security Act requires appointment every 4 years of an Advisory Council on Social Security consisting of a chairman and 12 other members representing the general public, the self-employed, and organizations of employers and employees. The appointment of the sixth Advisory Council on Social Security was announced by the Secretary of Health, Education, and Welfare in April 1974. The Advisory Council on Social Security, according to the law, is required to review the status of the four Social Security trust funds (Old-Age and Survivors Insurance, Disability Insurance, Hospital Insurance, and Supplementary Medical Insurance) in relation to the long-range commitments of the Social Security program, the scope of coverage, the adequacy of benefits, and all other aspects of the program, including its impact on public assistance programs under the Social Security Act. The Committee on Ways and Means of the House of Representatives also directed this sixth Advisory Council to "consider the role of the social security program in providing an adequate level of benefits in addition to an equitable benefit based on individual earnings." In addition, the Social Security Boards of Trustees suggested that this Council be asked to study the causes and "ways of dealing with the emerging

long-range actuarial status of the trust funds." In addition to its thirteen members, the Council used the services of eight Consultants (five economists and three actuaries - two of whom were former Chief Actuaries of the Social Security Administration). To facilitate its work the Council divided into a task force and several subcommittees, some of which issued separate reports. Several of the Council members issued separate statements, individually or in small groups, in order to clarify their position, to dissent from the majority view, or to expand on certain questions. All of these separate reports and individual statements are published as part of the Advisory Council Report. The Advisory Council made its report in March 1975, less than one year after its appointment in April 1974. This is a shorter period than is normally available to Advisory Councils and was generally considered by the Council to be an inadequate period to do justice to its assigned task. The Council's primary focus was on the Old-Age, Survivors, and Disability insurance programs. Medicare was considered only incidentally and in relation to the question of overall financing of the programs. These points are made in order to emphasize that although the Council, including its Consultants, consisted of highly qualified persons, and although the Council's mandate was comprehensive, the findings and recommendations of the Council should be reviewed carefully and not considered as the last word on how to perfect the Social Security program. In some cases the Council and/or its Consultants were divided in their viewpoints, in some cases there was not adequate time to study the subjects thoroughly, and for some, if not most, of the questions considered, there is not an obviously right or wrong answer. Let me summarize the major findings and recommendations of the Council.

A. Cash Benefits

1. Purpose and Principles

The earnings-related OASDI program should remain the nation's primary means of providing economic security in the event of retirement, death, or disability. It should be supplemented by effective private pensions, individual insurance, savings, and other investments; and it should be undergirded by effective means-tested programs. Future changes in OASDI should conform to the fundamental principles of the program: universal compulsory coverage, earnings-related benefits paid without a test of need, and contributions toward the cost of the program from covered workers and employers.

2. Benefit Structure--Replacement Rates

The provisions of present law for computing average monthly earnings on which benefits are based, and for adjusting the benefit table in the law to changes in prices may result over the long range in unintended, unpredictable, and undesirable variations in the level of benefits. The benefit structure should be revised to maintain the levels of benefits in relation to preretirement earnings levels that now prevail. Benefits for workers coming on the rolls in the future should be computed on the basis of a revised benefit formula using past earnings indexed to take account of changes during their working lives in the average earnings of all covered workers. As under present

law, benefits for people on the rolls should continue to be increased as price levels increase.

3. Retirement Test

The provisions of the present retirement test should be modified so that beneficiaries who work can retain more of their benefits. Instead of reducing benefits by one dollar for every two dollars of earnings above the exempt amount of earnings, as under present law, one dollar of benefits should be withheld for every three dollars of earnings between the exempt amount and twice the exempt amount, and one dollar for two dollars above that level. Also, the provision under which a full benefit may be paid for any month in which a beneficiary earns less than one-twelfth of the annual exempt amount should be eliminated, except for the first year of entitlement to benefits. The test should be based on annual earnings.

4. Treatment of Men and Women

The requirements for entitlement to dependents' and survivors' benefits that apply to women should apply equally to men; that is, benefits should be provided for fathers and divorced men as they are for mothers and divorced women, and benefits for husbands and widowers should be provided without a support test as are benefits for wives and widows. At the same time, the law should be changed, effective prospectively, so that pensions based on a person's work in employment not covered by social security will be subtracted from his social security dependents' benefits. Other provisions of the social security program which are the same for men and women but which are criticized because they appear to have different average effects on men and women (or different average effects on the married and the unmarried) should not be changed.

5. Other Recommendations

(a) Universal compulsory coverage.--Although social security covers over 90 percent of workers, the gaps that remain often result in unwarranted duplication of benefits. Social security coverage should be applicable to all gainful employment. Ways should be developed to extend coverage immediately to those kinds of employment, especially public employment, for which coordinated coverage under social security and existing staff-retirement systems would assure that total benefits are reasonably related to a worker's lifetime earnings and contributions.

(b) Minimum benefit.--Partly because of the gaps in social security coverage, the minimum benefit is frequently a "windfall" to those, such as Federal retirees, who are already receiving a pension based on earnings in employment not covered by social security. Almost all workers who have worked in social security employment with some regularity become entitled to higher than minimum social security benefits. The minimum benefit in present law should be frozen at its level at the time the new benefit structure recommended under number 2 above goes into effect and the new system should not pay benefits exceeding 100 percent of the indexed earnings on which the benefit is based.

(c) Definition of disability.--The definition of disability should be revised to provide disability benefits for workers aged 55 or over who cannot qualify for benefits under present law but who are so disabled that they can no longer perform jobs for which they have considerable regular experience. These benefits

should be 80 percent of the benefits for those disabled workers who qualify under the present law.

(d) Miscellaneous.--Further study is needed on three matters: the effects of the social security program on different racial and ethnic groups, ways of simplifying the social security program and its administration, and the frequency of cost-of-living adjustments in benefits. In addition, a general study of social security should be made by a full-time non-Government body, covering such matters as funding vs. pay-as-you-go, possible effects of social security on capital formation, productivity, the proper size of the trust funds, the incidence of payroll taxes, and other basic questions.

B. Financing

1. Actuarial Status

The cash benefits program needs a comparatively small amount of additional financing immediately in order to maintain the trust funds levels. Beginning about 30 years from now, in 2005, the program faces serious deficits. Steps should be taken soon to assure the financial integrity and long-range financial soundness of the program.

2. Tax Rates

(a) Employee-employer.--No increase should be made beyond those already scheduled in present law, in the total tax rates for employees and employers for cash benefits and hospital insurance. However, the OASDI tax rate should be gradually increased, as OASDI costs increase, and the increases should be met by reallocating taxes now scheduled in the law for part A (hospital insurance) of the Medicare program. Income lost to the hospital insurance program by the reallocation should be made up from the general funds of the Treasury. Hospital insurance benefits are not related to earnings, so should be phased out of support from the payroll tax.

(b) Self-employed.--The present 7 percent limitation on the tax rate for the self-employed should be removed. The self-employment OASDI tax rate should be the same multiple of the employee contribution rate as was fixed at the time the self-employed were first covered--150 percent.

3. Retirement Age

The Council recognized that under current demographic projections there will be a sharp rise in the number of people who will have reached retirement age relative to the working age population in the first several decades of the next century. Although the Council is not recommending an increase in the age of eligibility for social security retirement benefits, the Council does believe that such a change might merit consideration in the next century, when the financial burden of social security taxes on people still working may become excessive. In reviewing the

recommendations of the Council with respect to financing, it should be noted that the Council report was issued in March 1975 and was based upon the 1974 Trustees Reports. Later Trustees Reports, published in April 1975, portrayed a less favorable financial picture with respect to the short-range as well as the long-range projections of the Old-Age, Survivors, and Disability trust funds.

MR. MYERS: Mr. Robertson has given an excellent summary of the recommendations of the Advisory Council on Social Security. Somewhat more detail would be desirable on one point--namely, the recommendation for liberalizing the definition of disability. In view of the facts that the disability experience has been getting worse in recent years and that the Advisory Council did not have sufficient time to study the matter, it is indeed surprising that such a recommendation was made. But it should be noted that several members of the Council opposed this recommendation, including the one actuarial member.

MR. GEOFFREY N. CALVERT: I will deal with this subject today by describing what happens under the basic Social Security benefit formula, why it happens, what is being said about it, what is being done about it, what needs to be done, and what we can do now.

What Happens Under Basic Benefit Formula? If the consumer price index were to advance at about one-half or 55 percent of the rate of the average wage index, the income replacement ratios (i.e. the ratio of primary benefit at award to gross taxable earnings in last year before retirement) emerging under the Social Security system would remain stable. If the consumer price index were to advance at less than one-half of the rate of the average wage index, then replacement ratios would fall, and the system would fail to provide the intended level of benefits, even though the economy would be very healthy and the burden could easily be carried. For example, if wages advance at 5 percent annually and prices at 2 percent, this table shows the ratio of the primary benefit at retirement to earnings in the year before retirement:

Year of Retirement	Earnings Level: Maximum	Median	Low
1975	.292	.423	.606
2000	.265	.355	.511
2025	.247	.318	.489
2050	.237	.300	.445

The largest shrinkage is at the lowest pay levels where it could least easily be borne. If, on the other hand, the consumer price index were to rise at more than 55 percent of the rate of increase of the wage index, which is the situation we have now and seem likely to have in the future, then these critical replacement ratios will rise automatically, and the system will provide benefits more liberal and more costly than intended even though the economy would be laboring and not doing well, with real wages advancing slowly if at all. Again using the example of wages advancing at 5 percent annually, but with consumer prices rising this time at only 4 percent annually, these would be the replacement ratios:

Year of Retirement	Earnings Level		
	Maximum	Median	Low
1975	.296	.430	.615
2000	.429	.585	.843
2025	.541	.770	1.299
2050	.627	.916	1.647

When the spouse's benefit of one-half the primary benefit is added, and it is remembered that the whole package is indexed and tax-free, the growing absurdity of these benefits and the impossible cost burden that they imply become very evident.

But this is not all. If inflation invades the economy, all of these benefit ratios and consequent tax rates rise even further. For example, if wages rise at 7 percent annually and consumer prices at 6 percent (which are lower rates than we have seen recently), the income replacement ratios automatically determined by the present formula become:

Year of Retirement	Earnings Level		
	Maximum	Median	Low
1975	.301	.436	.624
2000	.484	.675	1.031
2025	.676	.997	1.782
2050	.824	1.254	2.399

Meantime, the tax rates required to support these fantastic and obviously impossible benefits would have to have risen progressively to 43 percent of the covered payroll by the end of the period shown. Now it is obvious that with a degree of sensitivity - a tendency to magnify small changes in economic trends into large, irrational swings in benefit and cost levels - like those shown by these figures, the present formula cannot be allowed to continue. It is a danger looming over the whole economy, all financial relationships, all private pension plans, the process of capital formation and all living standards everywhere. It was not intended to be that way when the present automatic system was adopted in 1972. It is the result of an error in design.

Why Does the Formula Act the Way It Does? This is because it is overescalated. Not only are the benefits already accrued by current and future workers in respect to each level of earnings adjusted upwards without limit by action of the CPI; the very wage base on which benefits are computed is also adjusted upwards as wages increase. Benefits thus grow twice from the same inflation, feeding the very inflation that first gave rise to the increase.

What Is Being Said about This? A great deal is being said about this, not enough of which is being recorded in actuarial literature. Some of the many quotations may be of interest: From the Report of the Subcommittee on Finance of the 1974-75 Advisory Council on Social Security:

> "Replacement ratios can move capriciously, either up or down and they can move in a broad range depending upon the movements of prices and wages, two factors over which the system has no control. This is a very undesirable characteristic in the system and was probably never intended."

This Subcommittee was advised by a group of consultants comprising three actuaries (Robert Myers, Charles Trowbridge, and Howard Young) and two economists (Phillip Cagan and Martin Feldstein).

From the Report of the Panel on Social Security Financing to the Senate Finance Committee:

> "We find that the present benefit formula responds irrationally to changes in the rate of inflation, and can produce patterns of replacement ratios inconsistent with the generally understood purpose of the Social Security system."

> "We believe that any general changes in the level or pattern of replacement ratios are of such fundamental importance to a social insurance program that they should be made only as a direct result of conscious policy decisions by the U.S. Congress."

This panel consisted of four actuaries (Meyer Melnikoff, Ernest Moorhead, Walter Shur, and William Hsiao) and two economists (Peter Diamond and Edmund Phelps).

From Technical Analysis Paper No. 3, Office of Income Security Policy, Department of Health, Education, and Welfare:

> "In Technical Analysis Paper No. 1, Lawrence Thompson demonstrates that the automatic adjustment features... cause replacement rates ... to fluctuate capriciously over time, potentially leading to highly undesirable results." - John L. Palmer, Director

> "As a result of the automatic adjustments contained in present law, the relationship between future benefit levels and future wage levels is determined mainly by the chance interaction of economic events and not by any conscious policy direction." - Lawrence Thompson, Staff Economist

From House Ways and Means Subcommittee Hearings on Social Security, May-June, 1975:

> "The benefit adjustment mechanism under present law is extremely sensitive to the movement of prices and wages. Under reasonable projections of rising wages and prices over the long range, benefits in the future could replace a much larger proportion of preretirement earnings than they now do, and consequently increase the costs of the program substantially. The Trustees recommend in their Report (as did the 1975 Advisory Council on Social Security) that the system be modified so as to maintain a planned, constant, and predictable relationship between benefit levels and the preretirement earnings on which the benefits are based. Modification of the benefit structure in this way holds a great deal of promise for helping to deal with the long-range financial deficit in the program.

> "As you know, the President has endorsed the general concept of a restructuring of social security benefits so as to provide a stable and predictable replacement of preretirement earnings." - James B. Cardwell, Commissioner of Social Security

> "The present OASDI system contains an unintended flaw which should be corrected as soon as possible. This flaw can cause replacement ratios to fluctuate widely, either up or down, depending on future movements of wages and prices. Since replacement ratios are an important criterion of a wage replacement system, uncontrolled changes therein are very undesirable. The Advisory Council made its strongest recommendation that the method of computing benefits be changed so as to eliminate the flaw. That recommendation is virtually uncontested and is as close to noncontroversial as any aspect of this subject can be...The correction can be approached in a completely nonpartisan way, because it is a technical correction that is in the best interests of everyone."

"Under the present system replacement ratios can vary widely; they can double or they can be cut in half, depending on what happens to wages and prices, factors over which neither the Congress nor anyone else has much control. So it was the unanimous recommendation of the Council that this flaw be eliminated."
- J. W. Van Gorkom, Chairman, 1974-75 Finance Subcommittee, Advisory Council on Social Security

"Congress should take early action to shore up the funding of the plan. As an importantly related matter it should also deal with the problem recently brought forward in several quarters concerning the erratic, inconsistent, and seemingly capricious results by applying the present benefit formula under varying conditions.

"The mechanics of the benefit formula for determining the Primary Insurance Amount (PIA) should be revised to make its results more stable and consistent in relation to wages."
- J. Henry Smith, Member, 1974-75 Advisory Council on Social Security

"The provisions of present law...may result over the long range in unintended, unpredictable, and undesirable variations in the level of benefits. The benefit structure should be revised to maintain the levels of benefits in relation to preretirement earnings levels that now prevail."
- Report of 1974-75 Advisory Council on Social Security

"The current benefit formula would not stand the first serious test, and it should be eliminated quickly - before that test comes. Once a realistic future benefit structure is established, the solvency uproar will subside, and the discussion can return to how, rather than whether, benefits will be financed.

"Even if rates of inflation are reduced to the 4-5 percent level, benefits for many 20th century retirees could exceed the highest wage they ever earned. The taxes would be intolerable;...the costs of such unrealistic benefits...are the main source of concern about financing." -John A. Brittain, Economist, Brookings Institution

"Among the causes for the impending deficit are the automatic escalation of benefits tied in with the Consumer Price Index and taxable wage base escalators. In 1969 we thought and still think it is impossible to design workable automatic formulas. There is no substitute for periodic review by Congress of both benefits and financing. However, if you do not find it feasible to end the escalator provisions, then we feel that the noncontroversial so-called decoupling approach recommended by the advisory council will bring results more stable and consistent in relation to wages." - James Hallett on behalf of Council of State Chambers of Commerce

"Any increases that go beyond keeping up to date with wages should not be the accidental result of the movement of wages and prices under the automatic provisions, but should be a deliberate congressional action." - Robert M. Ball, Former Commissioner, Social Security Administration

"The decoupling proposal of the Advisory Council would guarantee that protection for current workers be kept up...We consider this to be an improvement over the happenstance of the present provision...Unlike most improvements, decoupling would save money, substantially reducing the actuarial imbalance of the system." - Nelson Cruikshank, President, National Council of Senior Citizens

"There is one thing that should be done now that would significantly hold down costs in the next century, and yet would not undermine commitments already made. That would be to "decouple" Social Security benefit levels...Workers do not expect benefits higher than their wages when they retire, and certainly do not want to be taxed for such an anomalous objective. What they do want is the assurance that the benefits they receive will be fairly related to their earnings before they retire...The AFL-CIO therefore regards the present formula, which creates uncertainty as to ultimate benefit levels, as an unanticipated technical flaw which we are fully prepared to have removed from the law and, indeed, we strongly urge that this be done." - Andrew J. Biemiller, Director, Dept. of Legislation, AFL-CIO

What Is Being Done to Correct the Flaw? Apart from the original recognition, testing, verification, and diagnosis of the serious flaw in the basic benefit formula, and the creation of a widespread awareness of this problem, which occurred mainly in late 1973 and the early part of 1974, there have been at least these serious efforts made to design a satisfactory substitute formula:

1. Early proposals to reconstruct the present benefit formula on the basis of a sensible replacement ratio; or failing this to place a cap on the replacement ratio under the present formula, or alternatively a limit on the recognition of growth in the CPI to no more than 55% of the growth in the wage index.
2. Specific redesign work done by the consultants to the 1974-75 Advisory Council, who first introduced the concept of a "decoupled" formula based on an average wage derived from an earnings history updated by application of a wage index to past earnings.
3. Testing and design work done by Lawrence Thompson in the Office of Income Security Policy, Department of Health, Education and Welfare, leading toward a suggestion to index prior earnings by the consumer price index rather than a wage index.
4. Development and testing of specific formulas, based on the average wage-indexed monthly earnings (AIME), by Robert Myers, leading to his development of the specific formula submitted eventually by him in June, 1975, to the House Ways and Means Committee, which is as follows:

100% of the first $131 of AIME, plus
29% of the next $800 of AIME, plus
10%* of all AIME above $931

with the figures $131, $800 and $931 being adjusted to reflect future changes in earnings levels, and with transition arrangements to eliminate the possibility of benefit reductions in the next few years. (*corrected from figure of 20% as shown in Record of Cincinnati meeting, page 583)

5. Work currently in progress by a study group of actuaries and economists retained by the Library of Congress on behalf of the House Ways and Means Committee and the Senate Finance Committee.

While I am not in close touch with the current thinking of this last-mentioned group, it does seem to me that Robert Myers' carefully developed formula shown above would do a very adequate job of stabilizing the Social Security system.

<u>What Needs to be Done</u>? The development of a new formula and transition arrangements do not end the action. These still have to be embodied in legislative proposals and must come through the legislative process. Further, public education and awareness have to be provided. In view of all of the statements already made and quoted earlier, I believe that broad public acceptance will be forthcoming and that there will be widespread satisfaction with the stabilizing of the system. In thinking about this whole situation, I feel we must all be aware of the vast issues that are involved, the mammoth size of the money flows, the tremendous damage to the economy that would result from a failure to accomplish this basic correction, the gradual destruction of private pension plans, the slow distortion of values, the rising inflationary pressures, and the creeping debilitation of the economy through a drying up of capital formation. It is a sickening and unreal picture. <u>We must see this thing through</u>. Until this great problem of the basic benefit formula is removed from the Social Security system, there can be no rational cost estimates or benefit forecasts, and the design and indeed the very existence of private pension plans, and all the work related to ERISA, can only be looked at as highly tentative. We cannot assume that Congress will automatically understand this whole technical matter, or will think it is easy to make fundamental changes, even though we know very well that what has to be done is the removal of a very dangerous error from the system. It seems to me that we are faced with the highly responsible task of assisting Congress to reach a decision on this tremendously important matter. In view of the extreme political sensitivity of the Social Security program, on the one hand, and the enormous sums that are involved and widespread impact on the U.S. economy on the other hand, it would seem that:

(a) The actuarial profession, since it is able to view this matter objectively and with understanding, is in a natural position to assist Congress greatly in the task of deciding to act on this matter, by <u>expressing its opinion as a profession</u> both as to the nature and gravity of the issue that is involved, and the need for and nature of the appropriate corrective action; further

(b) The actuarial profession has a unique responsibility to the nation to make such an expression of opinion and to provide such assistance.

The Society of Actuaries now has within its Constitution the provisions for making such an expression. It was my basic purpose, in coming to this meeting, to ask and to urge the members of the Society of Actuaries to take this step in the interests both of the Social Security system itself, and in a broader sense, in the interests of this nation.

MR. WILLIAM C. L. HSIAO: Simply put there are dark clouds on the horizon for the Social Security program. According to the 1975 Annual Report of the Board of Trustees of the OASDI program, the retirement, survivor and disability insurance programs face some serious financial difficulties ahead, both in the short range and in the long range. No student of the Social Security system disputes this diagnosis. A special outside panel of technical experts appointed by the U.S. Senate, composed of leading actuaries and economists, made a similar finding at the beginning of 1975. Beginning in 1975 and continuing into the future, the expenditures of the OASDI program are projected to exceed the income. The amount of this deficit increases each year. According to the latest estimates, prepared by the Office of the Actuary of the Social Security Administration, submitted to the U.S. Congress, the OASDI trust funds will be depleted by 1980. Meanwhile the long-range financing of the program is even more serious. Over the next seventy-five years, which is the valuation period for the OASDI program, the actuarial balance will be -5.32 percent of the taxable payroll. (In 1975, one percentage of taxable payroll equals approximately 7 billion dollars.)

In my opinion, the 1975 Trustees Report may still understate the potential deficit, because it uses certain optimistic assumptions. One important example of optimistic assumptions is the fertility rate assumptions used in the estimate. The Trustees Report assumes the fertility rate will continue to decrease from its current level to a level of 1.7 children per woman in fiscal year 1977. It reaches a trough at that level and then increases slowly to a zero population growth fertility rate of 2.1 children per woman by the year 2005. The Panel on Social Security Financing appointed by the U.S. Senate studied the trends in fertility rate. The Panel recognized the uncertainties in forecasting this factor. Nevertheless, after analyzing the most recent fertility data, the social trend toward family planning, better birth control methods and major changes in life-styles of some segments of our society, the Panel concluded there is no indication that this downward trend is likely to be halted in the near future. In its cost estimate, the Panel assumed the decreasing trend in the fertility rate will continue for the remainder of this decade, reaching 1.6 in 1980, then slowly increasing, reaching 2.1 in the year 2010, then remaining constant. A longer period of declining fertility rate and a lower rate at the trough have significant impact on the cost estimates. It increases the amount of deficit. The optimistic fertility rate assumptions, along with certain optimistic economic assumptions for the next five years, produces a

result of an actuarial deficit of 5.32 percent of taxable payroll in the 1975 Trustees Report. My own rough calculation shows a more realistic and reasonable estimate might yield an actuarial deficit around 6 percent of the taxable payroll.

Before discussing the major viable financing methods to restore the OASDI program back to good financial health, I would remind you that approximately one-half of the long-range actuarial deficit arises from a technical flaw in the benefit formula under the present law. The present Social Security benefit formula, legislated in 1972, provides automatic adjustment of benefits to reflect changes in the Consumer Price Index. Also the maximum taxable earnings base rises according to increases in average wages under covered employment. However, the operation of these automatic provisions is such that it may respond irrationally to changes in the rate of inflation. When the rate of inflation increases, the future benefit amounts increase by a greater proportion which may lead to increases in replacement ratios. Of course this phenomenon increases the cost of the program. This technical flaw in the present benefit formula can be corrected only by legislation. If a more rational benefit formula is adopted, the actuarial deficit of the program can be reduced by approximately 50 percent, to 3 percent of taxable payroll.

There are numerous ways to restore the actuarial soundness of the Social Security program. The choices are not easy. Perhaps there are as many opinions as to which method is the best one as there are taxpayers in the United States. In essence, various alternatives can be grouped into two broad classifications: increase revenues or reduce expenditures. Currently the few major options to increase the revenue are: raise the tax rate, raise the maximum taxable earnings base, introduce general revenue financing into the system, and tax one-half of the social security benefits as ordinary income and allocate this tax revenue to the social security program. On the other hand, the benefits of this program can be reduced to reduce the expenditures. In this paper I am limiting my discussion to the different ways to provide additional income to the Social Security system to restore the actuarial balance.

Using the actuarial estimate from the 1975 Trustees Report, Table 1 provides a summary of the actuarial balance for selected years over the next 75 year period.

Table 1

Estimated Tax Income and Expenditures of the OASDI Program
For selected years[1]
As a percent of taxable payroll[2]

Calendar Year	Tax Income	Expenditures	Difference
1976	9.90	10.90	-1.00
1985	9.90	10.93	-1.03
1995	9.90	11.64	-1.74
2005	9.90	12.76	-2.86
2015	11.90	16.07	-4.17
2025	11.90	20.45	-8.55
2035	11.90	22.20	-10.30
2045	11.90	22.12	-10.22
Average as a percent of taxable payroll			
1975-1999	9.90	11.16	-1.26
2000-2024	11.02	15.12	-4.10
2025-2049	11.90	22.09	-10.19

1/ The information, other than for 1976, was obtained from p. 60 of the 1975 Trustees Report. 1976 data were computed from information contained in a memorandum submitted to the House Ways and Means Committee, dated September 24, 1975 from the Office of the Actuary, SSA.

2/ 1 percent of taxable payroll equals approximately $7 billion in 1975.

Table 1 shows that the actuarial deficit in the next decade is approximately 1 percent of taxable payroll. This deficiency can be made up by a number of financing alternatives, including raising the maximum taxable earnings base. On the other hand, the deficit increases rapidly after 1985. Only raising the payroll tax rates or introducing general revenue financing (or a combination of the two) can provide adequate additional revenue to the program. There are numerous combinations of payroll tax rates, maximum taxable earnings base, and other tax schemes that can be put together to restore the actuarial soundness of the program. However, that's not an actuarial decision. It's a political decision. Instead, our professional role is to provide an impartial analysis of the potential impacts of each alternative on the total economy and on the Social Security program. This technical information provides a basis for the decision-makers to draw their own conclusions. Each financing alternative of the Social Security program has varying degrees of impact on employment, on division between private versus public provision of retirement income, and on capital formation and public support of the program. We will examine each one of the four major alternatives in turn.

When the payroll tax rate is increased, the take-home pay for the workers would be reduced by the portion paid directly by the employees. The number of hours a person is willing to work and also how hard he works on a job depends partially on the net wage rate he receives. When workers' net earnings are reduced by a payroll tax, some will reduce their work efforts. Studies have been able to demonstrate that lower paid workers have more sensitive responses to the change in net pay.

An increase in the payroll tax rate has a direct impact on the employers. In the short run, employers have to pay out more for every additional employee they hire. If they have a choice between hiring a new employee or using a piece of new machinery, they might find it less costly to use a piece of equipment in substitute for labor, after taking into account the additional payroll tax they have to pay on their wage bills. Economic studies have shown that in the short run, some employers do substitute equipment for labor and that the total number of jobs is reduced due to an increase in payroll tax rate. On the other hand, employers may also elect the option to increase their prices to recover this additional cost of doing business. An increase in prices will further aggravate the current inflation rate. In summary, any rise in the payroll tax rate to finance the Social Security deficit will have adverse effects on work efforts, the employment rate and inflation rate.

There are two approaches to raising the maximum taxable earnings base, and they have different effects. Under one approach, the maximum taxable earnings base can be raised for both employer and the employee. Under another approach, the maximum taxable earnings base can be raised for the tax paid by the employers only, while keeping the employee's maximum taxable earnings base unchanged. In the first case, when the taxable earnings base is raised for both the employer and the employees, additional revenue will be generated to the program in the early years. However, this higher taxable earnings base will enter into the calculation for the benefits in later years which will produce a higher benefit amount. But that is not a one-to-one relationship, due to the graduated benefit formula. Nevertheless, in the long run there will be only a small increment in revenue provided through the alternative of raising the earnings base for both employers and employees. Another impact of a higher taxable earnings base is the impact on private pension plans. If the benefit calculation of the Social Security program is extended to higher earnings, it is likely that the employers will reduce the benefit amount provided by private pension plans. This reaction will reduce the savings channel through the private pensions and in turn it will reduce the amount of capital available for investment in the United States. Meanwhile, an increase in the maximum taxable earnings base will reduce the net earnings of higher salaried employees. As explained above, a reduction in net wages tends to decrease the amount of work effort a person is willing to supply. Also, raising the maximum taxable earnings base for both the employers and the employees could produce windfall benefits in the early years for the survivor and the disabled beneficiaries. For the higher paid younger workers who die or become disabled, the short averaging period allows them to use the higher earnings base to

compute the benefits. Meanwhile, they have made very small contributions to the program. The employers are also affected by an increase in the maximum taxable earnings base. Their total payment for the social security program will be increased. An employer may find it less costly for his operations to replace the higher salaried laborer with capital equipment. Again, on the margin this may well reduce employment opportunities in the United States.

Therefore, we see that any raise in the maximum taxable earnings base for both employers and employees has many adverse effects. It produces very little additional revenue in the long-run. This financing alternative reduces employment opportunities, work incentives for higher paid workers, and also savings. In addition, it produces windfall benefits.

Instead of increasing the earnings base for both employers and employees, the other alternative is to increase the base only for employers. Hence, the negative impacts enumerated above on the employees and on capital formation can be alleviated. However, this additional payroll tax to the employer may still induce the employers to substitute capital equipment for the higher salary workers. This will have an adverse effect on employment of higher paid workers. Under this scheme of increasing the maximum taxable earnings base only for the employers, there will be a greater redistributive effect. Higher paid workers may contribute more, but that is not reflected in their Social Security benefits.

In order to analyze the effects of new financing from <u>general revenues</u>, we have to assume that a new surtax is levied on the personal and corporate income tax to provide these additional funds, but that benefits are not changed. Many people advocating this alternative point out there will be a greater redistribution of income from the rich people to the poor people as compared to raising the payroll tax rate. On the other hand, personal income tax reduces work incentive because the take-home pay of the workers is reduced by the amount of the additional tax. Also, the corporate profits are reduced. In the case where the corporations cannot pass on the additional taxes as higher prices, the corporate profit will fall. This will decrease the dividends paid and retained earnings. People will reduce their investments in companies because the rate of return is reduced. Consequently, this will affect the capital formation in the United States. More importantly, an introduction of general revenue financing weakens the relationship between the amount of contribution and benefit. Also, it weakens the awareness of the American public and Congress as to the cost of the Social Security program. When the benefits can be increased without a corresponding change in the payroll tax rates or the earnings base, it is possible that the program can be expanded with less public visibility and less sensitivity to the cost. Yet, eventually, the question will be raised as to why the general revenue funds should be given to people who have adequate retirement income from private pensions and private savings. Under those circumstances, the next logical step is to introduce a means test before a person is eligible to receive benefits. That, of course, will turn the Social Security program into a welfare program. The political history of the United States has

amply demonstrated that welfare programs do not enjoy wide public support. They are constantly subject to legislative changes and cutbacks. The whole stability of the program will be threatened.

The fourth major alternative to raise additional financing to the program is by taxing the Social Security benefits. One approach would be that one-half of the Social Security benefits be subject to the regular income tax. The reason is that one-half of the benefits are paid by the employers during the worker's working lifetime and the employee did not then pay any income tax on that portion. Hence, when he receives the Social Security benefits, that one-half should be subject to the federal income tax. Furthermore, there is another strong support for this scheme. Many people receive windfall benefits from the Social Security program. One large group is federal and state employees who have worked enough quarters to be covered by the program. Their benefit amount will be disproportionately large as compared to the amount they have contributed. Yet they also receive handsome retirement income from their pension plans. There is little social justice in providing a windfall Social Security benefit to this group of people. By taxing one-half of the benefits they receive, some equity is restored. In addition, by taxing one-half of the Social Security benefits, people who are mostly affected by it are the higher-income retirees. During their working lifetime, they have a greater amount of disposable income to save. When their expected Social Security benefit is reduced by income tax, they will likely save more to compensate for this reduction. This will increase the total savings in the United States.

In summary, it is clear that each financing method has a number of positive and negative effects on workers, employers, savings, and the total economy. There are trade-offs between the positives and negatives. The choice is not easy. Our elected representatives have to understand the impacts of each alternative and make decisions to reflect the public views.

MR. K. ARNE EIDE: In the preparation of my discussion, I have reviewed Reinhard A. Hohaus' classic paper, "Equity, Adequacy and Related Factors in Old Age Security" (RAIA, XXVII, 75). In many respects the paper is as timely today as it was when written nearly four decades ago. Social Security is now, has been since its inception, and, in all likelihood, will continue to be influenced and shaped by opposing forces which tend to balance social welfare (need) against individual equity. We in this gathering probably are much more aware of this tug-of-war than is the average citizen who sees only the inequities in many phases of Social Security operations and benefits. For example, we know that if the program is to be socially adequate, lower-paid workers must receive proportionately more in benefits than higher-paid workers; younger workers must subsidize older workers; single workers must live to retirement age or become disabled relatively early in life in order to receive their "share" of contributions; etc. We accept these inequities, although perhaps with reluctance, as being necessary if Social Security is to fulfill its function of providing a measure of economic security for workers and their dependents and/or survivors.

Over the years, Congress has leaned toward the side of adequacy in shaping the Social Security program but, generally speaking,it has not neglected considerations of equity. Today, such considerations are matters of interest and controversy, not only in Social Security but also in almost every aspect of relationships between the sexes and among diverse groups of people.

The 1975 Advisory Council on Social Security considered at some length the treatment accorded men and women under Social Security, reviewing the subject in the light of the proposed equal rights amendment to the Constitution, recent and anticipated court actions involving equal rights for men and women, and the socio-economic changes which have taken place in family structure and earnings patterns. The council gave special attention to provisions of the Social Security law that are different for men than for women, as well as to those that are the same but affect the two sexes differently and thus become the target of complaints that the program is discriminatory.

In 1935, when Social Security was enacted, there may have been some justification for differentiation in the relative treatment of men and women under the Act. At that time less than 25 percent of all women were in the labor force, and married couples in which only the husband was employed comprised a majority of families. Relatively few women were classified as head-of-household. Since the purpose of the Act was to provide economic security to the worker and, after 1939, to the dependent and survivor members of families, it was logical to put emphasis on the man in the household as breadwinner, thus placing wives and children in the status of dependents under the Act. Today the picture is quite different. A trend away from early marriages, which started about 15 years ago, is continuing, and declining fertility rates have resulted in the lowest birth rates in our history. The emergence of two-worker families together with a large increase in the number of non-married individuals who are heads of families have changed the socio-economic structure of the family. Smaller families have reduced the demands on women or on other family members to perform domestic duties within the home. Labor-saving devices have shortened the time required for household work. Thus, domestic duties no longer are a significant bar to outside employment. Today women comprise 45 percent of the labor force--almost double the proportion which existed when Social Security commenced operations.

A revolution has occurred in family structure. Married couples with only the husband working no longer comprise the majority of families. Among the individuals acting as heads-of-households in 1973, 23 percent or 15.4 million were women. Included in this group are many in the lowest-paying occupations. Another indication of the changing family structure is the increasing divorce rate. As of 1970 about 10 percent of all males and 12 percent of all females over 14 years of age had been divorced at least once. Increasingly, one-parent family units occur for reasons other than death of the husband or wife.

No one knows if these trends of socio-economic change will continue in the future, but it is evident that Social Security, as presently constituted, was not designed to handle such drastic family

restructuring. Throughout the years, the Social Security system, as amended, has been based on the principle that it is in society's interest to replace earnings lost by three happenings--retirement, death, and disability. In the future, other decrements causing loss of earnings might possibly be considered as suitable for coverage. Both socio-economic changes and the equal rights movement bring to the forefront considerations of non-discrimination in OASDI benefits. The equal rights amendment to the Constitution could strike down discrimination between men and women by providing that "equality of rights under the law should not be denied or abridged by the United States or any State on account of sex." No more than half a dozen additional states need ratify the proposed amendment for it to become law. If adopted, the amendment would raise serious doubts as to the constitutionality of any provision in the Social Security law which is different for men and women. In a number of cases the courts have been asked to rule on whether such provisions of the Social Security law are constitutional under the due process clause of the Fifth Amendment, and on March 19, 1975, the United States Supreme Court, in the case of Stephen Weisenfeld vs. Weinberger (Secretary, Department of Health, Education, and Welfare) ruled that section 202(g) of the Social Security Act is unconstitutional in that it provides mother's benefits for certain widows (and surviving divorced mothers) of deceased male wage earners, but does not provide "father's" benefits for similarly situated men.

The 1975 Advisory Council, in recognition of the socio-economic changes taking place, the proposed equal rights amendment, and recent court decisions in sex discrimination cases not involving Social Security, recommended that "in general, the provisions of the Social Security law that are different for men and women should be made the same in a way that is consistent with the principles of the Social Security program." They recommended (1) that the one-half support dependency requirement in the present law for entitlement to husband's and widower's benefits be eliminated and (2) that for any category of women entitled to secondary benefits, the corresponding category of men should be entitled to benefits on the same basis. No change was recommended in the other provisions of the Social Security program which are the same for men and women but which are criticized because they appear to have different effects on men and women (or different effects based on marital status).

Benefits for a wife or widow without specific test of support are based on implied dependency. Under the present law, however, a husband or widower must establish that he was actually supported by his wife if he is to obtain benefits. One way of removing the discrimination in the law would be to require both women and men to prove dependency. This would result, however, in innumerable detailed investigations and determinations of dependency, and the Advisory Council did not favor this equitable but, in all likelihood, highly unpopular change. Instead, they made the two recommendations mentioned earlier. In so doing they were obliged to add a counteracting recommendation in order to avoid giving large windfall benefits to a sizable group of retirees--those not working in employment covered by Social Security. Under present law, a wife in non-covered employment may retire on full pension

based on her non-covered work plus the full amount of a wife's (or widow's) benefits based on her husband's earnings under Social Security. Men usually cannot obtain this windfall because of the one-half support requirement. Elimination of this requirement for men would open the gates for unearned benefits. Accordingly, the Council recommended that effective prospectively, pensions which are based on non-covered employment should be subtracted from any Social Security dependents' or survivors' benefits for which the person might be eligible. This would have no effect on eligibility for, or the amount of, a worker's primary Social Security benefit. Regardless of age, the wife of a worker entitled to old-age or disability benefits (and the widow or surviving divorced wife of a deceased worker) is entitled to a mother's benefit if she has in her care a child who is under 18 years of age (or over 18 if disabled and entitled to child's benefits on the basis of the worker's earnings). There is no similar provision for men. The Council recommended that benefits be provided for fathers on the same basis as benefits are provided for mothers. Under present law the earnings test applies to mothers and, under the Council's recommendation, would also apply to fathers. It is expected that because of this test, only about 15,000 men would qualify at present for fathers' benefits. The Council's recommendations were made before the Supreme Court ruling in the Weisenfeld case.

Under certain circumstances an aged divorced wife or aged or disabled divorced widow can obtain a wife's or widow's benefit based on her former husband's earnings. There is no similar provision in the law for the payment of husband's or widower's benefits to divorced men in like circumstances. The Council recommended that benefits be provided for men on the same basis as benefits are provided for divorced women. The impact would be small--only about 2,000 men might be expected to qualify when these benefits first become payable.

An interesting example of discrimination has been the different number of computation years used for determining the Average Monthly Wage (AMW) and, consequently, the monthly benefit for male and female workers who retire. The 1950 amendments to the Social Security Act established the computation period as one running from 1951 to (but not including) the year of attainment of age 65. A few years later (in the 1954 and 1956 amendments), the period was shortened by permitting exclusion of the 5 years of lowest earnings. However, the 1956 amendments also lowered the upper age limit used in the computation to 62 for women, but retained the age 65 for men. This continued to be the case until the 1972 amendments lowered the upper age limit for men to age 62, with a phase-in period to run for three years. Males who attain age 62 in 1975 will come under the new amendments: those born in 1910 or before remain under the old law and those born in 1911 and 1912 come under the phase-in rules. The Council considered the question of recomputation of AMW's for men who had reached age 62 before 1975 but decided against such recommendation on the basis of cost--more than $1.5 billion yearly for the next ten years.

An extremely troublesome area in the consideration of discrimination is encountered when making comparisons among groups that include (1) the single worker, (2) the working wife, and (3) the

wife who is not in the labor force. Mention was made earlier of the single worker, who, if he or she dies before retirement, has no Social Security benefit payable to his or her estate other than a lump-sum death benefit of $255, regardless of the AMW recorded in the worker's record. However, once again, one must remember the social adequacy concept of OASDI. Valuable and costly retirement and disability benefits are available to the single worker. The positive social good that results from providing adequate family benefits must be weighed against the fact that the cost is borne in part by single workers.

In considering Social Security benefits and taxes, the Council apparently struggled with the problem of equity between the married couple both of whom worked and the couple where only one member worked. The Council's Subcommittee on the Treatment of Men and Women recommended a proposal that would assure that two-earner couples with significant attachment to the labor force would always receive at least as much in benefits as single-earner couples with comparable covered earnings. The Council, however, did not endorse the principle of providing benefits based on a married couple's combined earnings. Among reasons cited for their decision were that in an earnings-related social insurance system, benefits are not directly proportional to contributions (the same argument that applied to single workers); that there is a point beyond which it is difficult to justify adding complex exceptions to the law in the interest of providing benefits in direct relation to contributions for special groups; that the proposals entail a substantial cost; and that such a proposal would treat a married couple more favorably than two single workers who have the same amount of covered earnings as the married couple and, in so doing, would further widen the gap in equitable treatment of single and married workers.

The question of the value of homemakers' work has come in for some attention in recent months, primarily because of various proposals that have been advanced to include credits for imputed earnings for homemakers' services under Social Security or to permit payment of Social Security taxes with respect to such work in order to obtain credits. Obviously, an economic value attaches to such work and the death or disablement of the homemaker causes a loss. However, there is no loss of earnings, as is the case when a wage earner dies, becomes disabled, or retires. The Advisory Council came to the conclusion that since Social Security is an earnings-related program it would be contrary to its nature to provide for the payment of Social Security benefits in cases where no loss of earnings occurs. The Council also indicated that serious questions of equity might arise and that there would be problems as to administrative feasibility.

It has been stated that if the importance of a Social Security provision could be measured by the volume of mail pertaining to it that is received by Congress and the Social Security Administration, the retirement test would rank near the top. This test is a center of controversy and is widely regarded by laymen as being highly inequitable. The Council noted that it had received many letters urging the liberalization or elimination of the retirement test. One of the most frequently voiced criticisms of the test is that

it does not take into account a beneficiary's income from such sources as dividends, interest, rents, and the like. As the Council Report indicates, "if the test took account of income other than earnings from work, it would no longer be a retirement test but an income test." As such it would become a test of need, contrary to the "earned right" concept underlying Social Security benefits. Another commonly discussed concept is that which treats Social Security retirement benefits as synonymous with staff pensions--that a person attaining age 65 should receive the benefit whether he continues to work or not. Obviously, Social Security benefits are not the same as staff pension benefits. Another argument used against the retirement test is that the country is losing the services of experienced, willing workers by penalizing those who would continue to work beyond age 65 were it not for the "confiscatory" nature of the retirement test. This may be partially true but removal of the test would enable those who do not really need the income to receive tax-free Social Security benefits while still working.

The Advisory Council did recommend a liberalization of the annual retirement test. Under their proposal, three levels would be established. The first level would include earnings up to the annual exempt amount as defined in the present law ($2,520 in 1975). No benefits would be withheld on earnings below the limit of the exempt level. The second tier would include earnings between the annual exempt amount limit and a level twice that amount ($2,520 to $5,040 in 1975). In this band, $1 would be withheld for each $3 earned. The third level would include all earnings above the second band, and $1 would be withheld for each $2 of such earnings. The provisions would adjust automatically with operation of the escalator clause on the exempt amount, thus retaining a stable relationship among the levels in future years as the general level of earnings rises.

In another part of the retirement test, the Council recommended a deliberalization. The monthly measure of retirement test would be eliminated except for the first year in which a cash benefit is received, so that a beneficiary could receive benefits beginning with the first month of retirement, regardless of annual earnings prior to retirement. This recommendation was the result of the Council's feeling that the monthly test is subject to abuse, particularly by higher paid workers who have some control over the periods of the year in which they work and also by those who might work on a fee-for-service basis.

The Council, not without dissenting opinion, recommended no change in the age 72 limit above which the retirement test does not apply. The Council also declined to recommend reduction or elimination of Social Security taxes on earnings of those who continue to work beyond age 65. Under present law, a worker retiring at age 65 with an AMW of $76 per month--a figure that denotes relatively little attachment to the labor market--receives a minimum monthly benefit, one third greater than his AMW. The Council was concerned that if their proposed restructuring of the benefit formula became law, the minimum benefit would be out of line. Accordingly, they recommended that the minimum benefit in the present law be frozen at its level at the time their proposed new benefit structure would go

into effect and that the new system not pay benefits exceeding 100 percent of the indexed earnings on which the benefit is based. The Council also considered the special minimum benefit of $9.00 per year of coverage over 10 and up to 30, or at most $180 per month. This provision was designed to give a benefit somewhat higher than the regular minimum to those individuals who have worked in covered employment for a long period of years but at low wages. No change was recommended since it was felt that the benefit will be rendered obsolete as wages gradually increase and AMW's rise.

In conclusion, a word about minimum retirement age. Today the trend definitely is toward early retirement. Political pressure is being exerted to lower the early retirement age under Social Security from 62 to, say, 60 or even age 55. A glance toward the future, however, brings an entirely different picture into view. Thirty years from now the number of persons retiring under Social Security will increase drastically and fewer workers, relatively, will be available to shoulder the tax burden supporting the benefits. The Advisory Council made no recommendation on the subject but did call attention to the need for consideration of the problem and suggested that after the year 2005 the retirement age might well be increased.

MR. ROBERTSON: Today there is growing interest among actuaries in the Social Security disability insurance program. There is presented here some of the historical experience with respect to the incidence and termination rates. The history of the long-range cost estimates of the disability program is briefly reviewed. Some approaches to stabilizing program operations are set forth.

I. The concept of incidence rate.

The Social Security Act requires that a worker be <u>insured for disability</u> in order to be eligible for disability benefits. The term <u>insured for disability</u> is defined by means of the concept of <u>quarter of coverage</u>, which is a calendar quarter in which a worker has been paid at least $50 in earnings. In order for a worker to be <u>insured for disability</u> there is a requirement of recent connection to the labor force in addition to a minimum amount of coverage under the system. The latter minimum requirement is referred to as <u>fully insured</u> and to fulfill it a worker must have one quarter of coverage for each year elapsing after attainment of age 21 (or the year 1950 if later) and prior to onset of disability. For recent connection to the labor force a worker is required to have 20 quarters of coverage out of the 40 calendar quarters ending with the calendar quarter of disability onset. For a worker who is under age 31 at onset of disability there is a special, more liberal requirement in which he must have been covered in no less than half the calendar quarters elapsing after the calendar quarter of attainment of age 21 (but not less than 6 quarters of coverage of the last 12 quarters). The population insured for disability represents the pool from which new beneficiaries can come (except for those who are already disabled and receiving benefits). The <u>disability incidence rate</u> experienced in a calendar year Y is defined as the ratio of: (1) the number of disability onsets in

that year that sometime later result in a benefit award, to (2) the number of workers insured for disability on July 1 of year Y (excluding those individuals who are receiving disability benefits).

II. Experience with incidence rates and awards.

This definition of disability incidence rates described above requires a significant amount of specialized data (particularly when the analysis is done by age and sex, as it should be) which generally are not readily available or which become available with considerable time lapse. However, it is possible to obtain a good indication of the overall trends in these rates by simplified procedures which yield what could be regarded as "gross incidence rates." These simplified procedures can be applied to more readily available data to obtain a more updated indication of the trend. These procedures were used in the attached Table 1, the substance of which also is presented in the Ways and Means Committee Staff Report on the Disability Insurance Program. This table compares the actual number of disability awards with the number that would be expected according to the experience in calendar years 1965-66. From column 3 it may be observed that during the 1965-74 period the number of awards increased by 111 percent (536 as compared to 254), while from column 2 it should be noted that the number of insured increased by only 50 percent (81.20 as compared to 54.16). These yield an increase in the gross incidence rate (column 4) of 41 percent (6.60 as compared to 4.69).

I draw your attention to the last column in the table, which measures the relative increases in the incidence rate during this period. It should be noted that the ratio in this column increased by 62 percent during the nine-year period. This is higher than the 41 percent increase discussed in the preceding paragraph (which was based on data unadjusted for changes in the law, or changes in age-sex composition of the insured population).

Various reasons for the increase in incidence rates during this period can be postulated. Administrative changes have occurred during the period. These include eliminating preadjudicative review in the central offices of the initial disability determination made by the State Agencies. Some analysts believe that the business cycle affects incidence rates, in that some impaired individuals will apply for disability benefits only when they lose their job; however, the business cycle by itself clearly cannot explain the long-term trends observed in Table 1. Another postulated reason is the high level of disability benefits, as measured by the replacement ratio, (the ratio of benefits to pre-disability earnings) especially for the family of a disabled worker, as shown in Table 2. These high benefits make many individuals more eager to file a claim for disability benefits, and much more persistent in appealing a denied claim.

It may be worthwhile to digress somewhat to examine Table 2 further, and to point out additional economic advantages involved in being a disability insurance beneficiary. The present benefit formula produces very high replacement rates for _all_ young disabled worker _families_ (worker, spouse and child; see Table 2), regardless of

Table 1.

Increases in Disability Incidence Rates, 1965-74

Calendar Year	Number[1] Insured for Disability (millions)	Number of Awards (thousands)	Gross Incidence Rate[2] (3)÷(2)	Adjusted[3] Number of Awards	Expected Number of Awards[4]	Ratio (5)÷(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1965	54.16	254	4.69	266	272	.98
1966	55.36	278	5.02	292	285	1.02
1967	56.28	301	5.34	316	291	1.09
1968	63.48	323	5.09	325	298	1.09
1969	71.24	345	4.84	345	303	1.14
1970	73.43	350	4.77	350	310	1.13
1971	75.32	416	5.52	416	315	1.32
1972	76.98	457	5.94	457	322	1.42
1973	79.10	492	6.22	492	329	1.50
1974	81.20	536	6.60	536	337	1.59

1/ Computed as the average number of workers insured for disability at the beginning and end of the calendar year.

2/ The "gross incidence rate" is defined as the number of awards per thousand workers insured.

3/ For years prior to 1969 the number of awards are adjusted upward to reflect the estimated number of additional awards that would have been made if present law had been in effect during the period.

4/ The number of awards that would have been made if incidence rates (on an age-sex specific basis) had remained at the 1965-66 level.

Table 2.

Replacement Ratio[1/] for Newly Awarded Disability Benefits: Illustrative Benefits for July 1975 Compared to 1974 After-Tax Earnings.

Case	1974 Earnings		Age at Onset of Disability					
			55		40		Under 30	
	Pre-tax	After-tax	Monthly Benefit	Replacement Ratio	Monthly Benefit	Replacement Ratio	Monthly Benefit	Replacement Ratio
WORKER ONLY								
Maximum	$13,200[4/]	$9,749	$341.70	.421	$380.60	.468	$485.00	.597
Median	7,681[2/]	5,970	288.20	.579	311.10	.625	384.20	.772
Low	3,733[3/]	3,066	185.20	.725	198.60	.777	233.80	.915
WORKER, SPOUSE AND CHILD								
Maximum	13,200	10,442	619.90	.712	668.80	.796	848.80	.975
Median	7,681	6,415	533.20	.997	575.50	1.077	673.20	1.259
Low	3,733	3,365	277.80	.991	298.00	1.063	386.40	1.378

1/ Replacement ratio means here the ratio of the annual benefit rate in the year of first receipt of disability benefits, to the annual rate of after-tax earnings in the year prior to onset of disability. For illustrative purposes, we have assumed that onset does not affect earnings prior to the onset date, which is assumed to occur on January 15, 1975. Taxes included in this calculation are federal income tax, Social Security tax (fica), and state income tax.

State income tax for this table was computed as follows. States were first ranked by order of population. Then, for each of the top 18 states (which contained 73% of the population) and for every fifth state for the remaining 32 states, the state income tax was computed for each of the six examples (maximum, median, low; worker only or worker, spouse and child) and divided by the income to express the tax as a percent of gross income. From these state rates a national state tax rate was computed by a weighted average method. For the 18 top states, the population was the weight. For the 6 low-population states the population of each state was multiplied by the ratio of (1) the population in all 32 low-population states to (2) the population of the 6 states actually computed.

2/ Actual data on covered earnings for all male wage and salary workers.

3/ Earnings for 1974 are based on the federal minimum wage, which was $1.60 per hour for the first four months of the year, and $2.00 per hour thereafter. Prior years were indexed by the median series to give corresponding low levels.

4/ Assumes worker earned maximum taxable earnings in each year after attainment of age 21.

the earnings level. Even in the case of middle-aged disabled workers the vast majority of families have disability insurance benefits which exceed the worker's prior take-home pay.

With respect to the above comparison between Social Security benefits and prior take-home pay, we should also take into account the fact that in many cases the disabled worker can earn up to $200.00 per month without initiating any of the investigative procedures and tests that could result in the termination of his disability benefits. After a two-year waiting period he would have free Hospital Insurance (HI) and low premium Supplementary Medical Insurance (SMI) benefits. In addition, we should consider that the worker's daily expenditures would decrease because he would have no further need for transportation to work, lunches away from home, special clothing, tools, etc. Another factor that could be taken into account is the possibility that the worker's spouse may decide to work and bring additional income for the family while the disabled worker could become a house-husband. A substantial number of disabled workers have disability income protection from private insurance policies. Group coverage is generally offset by the Social Security benefit, but tends to cover some amounts over the Social Security wage base. Individual disability income policies are not at all offset by Social Security benefits and so represent a pure increase in income. In sum, the economic incentives for obtaining Social Security disability income benefits and for staying on the rolls are substantial. In the next section, we shall examine the benefit termination experience.

III. Termination experience as another way to consider the strictness of administration of the disability program: mortality and recovery.

The mortality rate of a group of individuals is related to their state of health. The healthier they are, the fewer will die. From such a basic consideration we may ask what has been the time trend of the mortality experience of disability insurance beneficiaries. A refined answer to this question is not yet available, but some information can be drawn from the aggregate study shown in Table 3.

Column 5 shows the gross death rate experienced in the period. The time trend suggests an improvement in the health of disabled-worker beneficiaries that has been continuous except for the period 1966-69 when mortality experience was level. This could be viewed as offering evidence in favor of the hypothesis that the effective standards for disability determinations have been weakening. Although part of the decline in the gross death rate could be due to an increase in the proportion of younger workers on the beneficiaries' roll, which could be associated with the elimination of the age 50 limitation in 1961, we believe that the bulk of the decline cannot be explained by this factor.

The gross rate of recoveries in Table 3 provides another view of the strictness of administration of the disability insurance program. Column 6 shows that the gross recovery rate increased from 1962 to 1967. This does not surprise us too much in view of the removal of age 50 requirement for disability, of the generally good economic conditions of those years, and of the low relative

level of disability benefits then as compared to today. Much more significant, however, is the consistent and substantial decline in the recovery rate since 1967. The absolute number of recoveries was smaller in 1973 and 1974 than in 1967, in spite of the fact that in the intervening years the rolls increased by 85 percent. With the major social and economic changes that occurred in the period, and the large increases in benefits that were enacted (average disability insurance benefits for disabled workers on the rolls increased from $98 to $206 or by 110 percent from the calendar year 1967 to the calendar year 1974, while the Consumer Price Index increased by only 48 percent and average wages by 52 percent), the process of consistent administration of the program in terminating recovered beneficiaries is probably easier to define than it is to execute.

Table 3.

Disabled Worker Benefit Termination Experience

Calendar Year	Number In Force 1/	Terminations Death	Terminations Recovery	Gross Death Rate 2/	Gross Recovery Rate 3/
(1)	(2)	(3)	(4)	(5)	(6)
1962	684,406	67,020	9,555	.0979	.0140
1963	789,720	73,344	12,931	.0929	.0164
1964	866,702	75,812	16,487	.0875	.0190
1965	948,294	79,823	18,441	.0842	.0194
1966	1,053,265	84,399	23,111	.0801	.0219
1967	1,158,987	92,084	37,151	.0795	.0321
1968	1,258,928	99,924	37,723	.0794	.0300
1969	1,360,423	108,762	38,108	.0799	.0280
1970	1,460,007	105,799	40,802	.0725	.0279
1971	1,586,287	109,883	42,981	.0693	.0271
1972	1,753,554	108,663	39,393	.0620	.0225
1973	1,937,430	117,560	35,411	.0607	.0183
1974	2,141,106	135,083	36,475	.0631	.0170

1/ Computed as the average of the number of benefits in current pay or withheld at the beginning and end of the year.

2/ Computed as the ratio of the death terminations to the number in force.

3/ Computed as the ratio of the recovery terminations to the number in force.

Table 4.

Year	Estimated Long-Range Cost of Disability Insurance Program[1]	Average Monthly Benefit Award for Disabled Worker[2]	Consumer Price Index[2]
	(1)	(2)	(3)
1962	.56%	$ 93	90.7
1963	.64	94	91.8
1964	.64	95	93.0
1965	.63	96	94.5
1966	.67	101	97.3
1967	.85	102	100.0
1968	.95	116	104.2
1969	.98	118	109.8
1970	1.10	140	116.3
1971	1.14	157	121.3
1972	1.18	171	125.3
1973	1.54	197	133.1
1974	1.92	213	147.7
1975	2.97	244	163.2
Ratio 1975:1962	5.30	2.62	1.80

1/ *Obtained from the Annual Reports of the Board of Trustees and* expressed as percent of taxable payroll over ensuing 75-year period.

2/ Annual average for 1962-74. 1975 figure is average of June and July.

IV. History of long-range cost estimates of the disability insurance system.

Table 4 briefly summarizes the history of the estimated long-range cost of the disability insurance program along with the average benefit award for a disabled worker and the CPI (Consumer Price Index). Although it is difficult to separate the various factors which have caused the increase in the estimated long-range cost, it can be stated (from the structure of the long-range cost estimates) that the incidence rates by themselves (that is, if the incidence rates could be changed without the benefit levels or termination rates changing) have a direct, almost proportionate, effect on the estimated cost of the program. The increase in benefit level, to the extent that it exceeds the increase in wages, has the direct effect of increasing the percent of payroll costs, and also the previously mentioned indirect effect of increasing the incentive for beneficiaries to get on the rolls and stay on the rolls. Many other factors may be mentioned in connection with the recent (since 1972) increasing estimated long-range cost of the

disability insurance program. Among these are[1] (1) legislated benefit increases (1973, 1974), (2) the change to an assumption of increasing disability incidence rates in the future, (3) changes in the economic assumptions (1974, 1975) under the dynamic wage and benefit structure of the 1972 Amendments, and (4) changes in demographic assumptions (1974). For a more detailed explanation, the reader is referred to the Annual Trustees Reports.[2]

V. How could a stable incidence rate be achieved?

As long as there is no evidence that the health of workers is deteriorating, we should not expect disability incidence rates to show an upward trend; therefore, increases like those observed since 1970 must be assumed to be due to changes in the effective definition of disability (as a result of changes in the behavior of the claimant himself and/or changes in the administrative process regarding the initial determination and continuation of a condition of disability).

A list of changes in the program which may tend to improve its stability would include the following:

1. Reduce the general level of disability benefits. We have previously discussed the high level of benefits for some disabled worker families and the differential replacement rates by age of the worker at onset of disability. Some reduction in the benefit levels, especially for workers with younger ages at onset, would contribute to a stabilization of the incidence rate. Many of the proposals now being considered for a new benefit formula index wages in such a way that a short computation period would no longer be an undue advantage. This will, to a very large extent, remove inequities between disabled workers of different ages as well as between disabled workers and retirees. We should consider whether it is in the interest of society generally for some disabled worker families to receive Social Security benefits that are as high or higher than the take-home pay the worker had before he became disabled.

2. Strengthen the standards, and the uniformity of application thereof, for making disability determinations. This may require a more direct involvement of the Social Security Administration in making disability determinations than at present.

3. Some knowledgeable lawyers have suggested that some of our decisions now reversed in the courts would not be reversed if we would write into the law a strict medical definition of disability without any vocational escape clauses. Furthermore, it has been suggested that medical standards be written right into the text of the Social Security Act, rather than remain in regulations, as at present.

1/ Years in parentheses show the first Annual Report of the Board of Trustees for which the given reason was effective in the cost estimates.

2/ See the Annual Report of the Board of Trustees of the Old-Age, Survivors, and Disability Insurance Trust Fund. Published each year by the House Ways and Means Committee.

THE FOLLOWING COMMENTS WERE PREPARED FOR THE CONCURRENT SESSION.

MR. CHARLES L. TROWBRIDGE: There is one portion of the 1974-75 Advisory Council Report that has not received the attention it deserves. I refer to the concept that the retirement age might eventually be adjusted upward, as a partial solution to the long-range financing problem. The Advisory Council did not go so far as to endorse this approach, but its Subcommittee on Finance recommended that serious consideration be given to gradually extending the retirement age, starting in 2005. The Report illustrates reductions in payroll tax that might be possible if every six months the retirement age were increased by one month, beginning in 2005 and ending in 2023. By the latter year the retirement age would have increased to 68 and the "early" retirement age to 65.

The actuary, whose training leads him to look far into the future, may find this suggestion particularly attractive. Much of the long-range financing problem of OASDI lies in demographic factors, and particularly in the likelihood that the combination of the post-WW II baby boom and the low fertility rates of the recent past will lead after the turn of the century to substantially higher ratios of retired to active workers. It seems that the most natural counteraction would be to move the point dividing the active from the retired. The economy as a whole would benefit from the larger work force, and the OASDI benefit load would be easier for the economy to carry.

Those who believe that improvement will occur in the general health and longevity of the population should also find merit in the suggestion. If the 2025 population aged 68 turns out to be as robust as the 1975 population aged 65 (and this does not seem at all unreasonable when we look <u>back</u> for 50 years), the physical (as opposed to the chronological) retirement age will have been more or less stationary.

It is not surprising that the Advisory Council did not come out stronger for eventually increasing the retirement age. As the Subcommittee pointed out, in 1975 the social and economic pressures are all the other way.

MR. GEORGE H. ANDREWS AND MR. CECIL J. NESBITT: Geoffrey Calvert has made some observations concerning the effect on the replacement ratio of the interaction between the Consumer Price Index (CPI) and the advance in covered earnings. Presumably he had some model in mind as he developed these projections. Similarly, Albert Rettig and Orlo R. Nichols [1,2] have used a discrete model to develop an analysis of the effect on the replacement ratio of the automatic increases provided by the recent Social Security Amendments. A continuous model which finds application in this connection was outlined by C. J. Nesbitt [3]. As was noted in reference [3], the analysis of Rettig and Nichols in [1] was corroborated by the continuous model. Further, computations using this continuous model have confirmed their projections in [3] as well. The primary purpose of this discussion is to interpret and confirm some of Mr. Calvert's statements by the continuous model, and thereby suggest that the model as outlined can provide special insights into the present benefit provisions and the effects of proposed changes.

Outline of Model

Two growth rates (forces), δ and δ_1 , are assumed; δ represents the annual rate at which covered earnings and the taxable earnings base are growing, while δ_1 is the annual rate at which the benefits are increasing.

For the purpose of comparison, we are most interested in calculating the replacement ratio, r_t , at retirement time t , defined as the ratio of the Primary Insurance Amount, $(PIA)_t$, to monthly taxable earnings in the year just prior to retirement. For the continuous model, we take

$$r_t = 12(PIA)_t / C_0 \, e^{\delta t}$$

where C_0 is the individual's annual rate of covered earnings at the initial time.

Let E_0 represent the maximum taxable annual earnings at time 0 . The formulation of $(PIA)_t$ is in two stages, reflecting the fact that part of the benefit arises from the first $E_0/12$ of the average monthly wage, $(AMW)_t$, for an employee retiring at time t , and the rest of the benefit arises from the excess of $(AMW)_t$ over $E_0/12$.

Specifically, on the basis of E_0 (in 1974) = \$13,200 ,

$$(PIA)_t = 469\, e^{\delta_1 t} + 220\delta\, e^{\delta t}\left[e^{-(\delta-\delta_1)(t-t_0)} - e^{-(\delta-\delta_1)t}\right]/(\delta - \delta_1) ,$$

where the numerical coefficients reflect the 1974 benefit provisions, and t_0 is the time at which the maximum taxable earnings base was equal to the average monthly wage $(AMW)_t$. An employee retiring at time t has an $(AMW)_t$ substantially below the maximum taxable earnings at time t , and $t - t_0$ is the time-lag between the achievement of a given level by the taxable base and its later achievement by the AMW . Because of the exponential nature of the model, $t - t_0 = N$ is constant for a given C_0 and this is an important simplifying feature of the model.

To determine t_0 , we can solve an equation of the form

$$C_0\left[e^{t\delta} - e^{(t-35)\delta}\right] / 35\delta = E_0\, e^{\delta t_0} ,$$

which shows that t_0 depends on the earnings case under consideration. For $\delta = \ln(1.05)$ and $C_0 = 13,200$, we find $t - t_0 = 15$, and for $C_0 = 3,200$, $t - t_0 \doteq 44$.

Combining the results we have been presenting, we find

$$r_t = a\, e^{-(\delta-\delta_1)t} + b\,\delta\left[e^{-(\delta-\delta_1)N} - e^{-(\delta-\delta_1)t}\right] / (\delta - \delta_1) ,$$

where $a = 12(469)/C_0 = 5,628/C_0$; $b = 12(220)/C_0 = 2,640/C_0$; and $N = t - t_0$.

The limiting case,

$$r_\infty = \lim_{t\to\infty} r_t ,$$

is of interest for long-term projections and, for convergence, depends heavily on the relationship between δ and δ_1 . If $\delta > \delta_1$, then

$$r_\infty = b\,\frac{\delta}{\delta - \delta_1}\, e^{-(\delta-\delta_1)N} .$$

Application of the Model

A criterion for stability of the replacement ratios is that the derivative $r_t' = 0$. Now

$$r_t' = [-(\delta - \delta_1)a + b\,\delta]\,e^{-(\delta-\delta_1)t} ,$$

so $r_t' = 0$ if $b\,\delta = (\delta - \delta_1)a$, which is to say, if

$$\delta_1 = (1 - \frac{b}{a})\,\delta = k\,\delta .$$

Note that $k = 1 - (b/a) = 1 - 2{,}640/5{,}628 = .530917$ is independent of the initial covered earnings C_0 . Further, the value .530917 of k supports Mr. Calvert's contention that if the CPI moves at about one-half the covered earnings rate of increase, the benefit system is stable. In fact, if $\delta_1 = .530917\,\delta$, the replacement ratio r , which is now independent of t , equals

$$a\,e^{-(b/a)\,\delta\,N} = (5{,}628/C_0)\;e^{-.469083\,\delta\,N} .$$

For $C_0 = 13{,}200$, $\delta = \ln(1.05)$, we get $r = 30.2\%$. With the same δ , but with $C_0 = 3{,}200$, we have $r = 64.2\%$.

If $\delta_1 < k\,\delta$, then $r_t' < 0$ but it approaches 0 as t approaches infinity (i.e. r_t decreases to asymptotic stability). For the improbable case of $\delta_1 = 0$,

$$r_\infty = b\,e^{-\delta N}$$

and this yields values of 9.6% for both the $C_0 = 13{,}200$ and the $C_0 = 3{,}200$ assumptions. Further, comparison of this case with the stable case yields

$$\frac{r_\infty}{r} = \frac{b}{a}\,e^{-[1-(b/a)]\,\delta\,N} = (1 - k)\,e^{-k\,\delta\,N}$$

so that large values of $N = t - t_0$ (such as will occur for low income employees) mean greater shrinkage of the replacement ratio. These results are in line with Mr. Calvert's observation that if the CPI moves at less than one-half the covered earnings rate of increase, the replacement ratio decreases, with the largest decreases at the lower wage levels.

If $\delta > \delta_1 > k\delta$, then $r_t' > 0$, but again $r_t' \to 0$ as $t \to \infty$, and now r_t increases to asymptotic stability. In particular, if $\delta_1 = .8\delta$, then

$$r_\infty = 5\,b\,e^{-.2\,\delta\,N}$$

and yields 86.4% for the $C_0 = 13{,}200$ case and 269% for the $C_0 = 3{,}200$ case.

Conclusion

This continuous model has limitations and probably needs some refinements. However, it does permit mathematical exploration of Social Security benefits and appears to be a sharp tool for such purpose.

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