

RECORD OF SOCIETY OF ACTUARIES 1975 VOL. 1 NO. 3

SOCIAL SECURITY AND OTHER SOCIAL INSURANCE PROGRAMS

Chairman: RICHARD V. MINCK. Panelists: GEOFFREY N. CALVERT,
ROBERT J. MYERS, NORMAN SOLOMON, HOWARD YOUNG

1. How did the Social Security system reach its present situation with respect to benefit levels and actuarial status? What are the implications of indexing benefits and the wage base?
2. What are the problems in Social Security funding? What level of current and future tax rates would be prudent? How substantial a fund should be accumulated?
3. What did the Advisory Council on Social Security see as the most pressing problems of the Social Security system? What was their estimate of financing problems and possible solutions?
4. What are the prospects for the Railroad Retirement system? What sort of impact could the problems of the Railroad Retirement system have on the Social Security system?
5. What are likely alternative futures for Social Security benefits and financing?

CHAIRMAN RICHARD V. MINCK: In recent months, we have been seeing a stream of newspaper and magazine articles with titles and headlines such as "Social Security Attacked"; "Social Security Time Bomb: Input Won't Meet Costs"; "Social Security Ripoff"; and "Anti-Social Security". These articles have been based, with greater or lesser understanding of the problems, on a series of official documents: the report of the Panel on Social Security Financing to the U.S. Senate Committee on Finance, January 31, 1975; the report of the Advisory Council on Social Security, March 6, 1975; and the 1975 reports of the Boards of Trustees of the Social Security Trust Funds, May 5, 1975. Some of the attacks appeared even before the documents on which they were based, since much of the content of the reports--particularly the more critical aspects--was known before the reports were published in full. If the outside critics had waited for the complete report, they might not have had such a good--that is, frightening--story.

What is the truth of the matter? Where does the Social Security system stand and how did it get there? What are the economic and demographic conditions affecting the system's financial soundness? How should the system be financed? Our panel of experts, including two of the actuarial consultants to the Advisory Council (Robert J. Myers and Howard Young), are here to share their views.

MR. ROBERT J. MYERS: In recent months, there has been a great hue and cry in the public press about the Social Security program having great financial problems--even to the extent of being bankrupt. This has given people concern about whether they will receive benefits to which they feel entitled.

In brief, the Social Security program--meaning by that term the cash benefits of Old-Age, Survivors, and Disability Insurance system--does have serious financial problems, primarily of a long-range nature. The situation is serious, but there is no immediate crisis in the next two or three years.

First, let us take a brief look at some significant past trends. When OASDI started out in 1937, it provided only retirement benefits. In 1940, survivor benefits were added; and disability benefits were added in 1956.

Originally, and for many years, the benefits were definitely at a floor of protection level, so that some supplementation was necessary for most people to have a reasonable standard of living in retirement. Benefits were increased frequently in the 1950's and early 1960's, and these increases generally kept the benefits up to date with changes in the cost of living. Such action generally occurred in an election year, so that some people asserted that they were purely political, but a proper analysis indicates that most of them were not "real" increases.

However, in 1969-72, the first Nixon Administration, a very significant increase in the OASDI benefit level took place. Roughly, benefits increased about 25 percent more than the cost of living. In large part, this occurred because of political competition. President Nixon several times recommended increases in benefits to match the rate of inflation then occurring. Each time, Congress legislated a considerably higher figure, so that the cumulative effect was about a 25 percent real increase in the benefit level--and therefore, of course, in the long-range cost of the program. The increases which occurred since 1972--11 percent in 1974 and 8 percent scheduled for June 1975--have been entirely, and desirably, based solely on CPI changes.

Now let us consider the maximum taxable earnings base, which originally in 1937-50 was \$3,000. Over the years it has grown so that it is now \$14,100. During the 1950's and 1960's, the base was increased a number of times, but only enough to keep it up to date with changes in the earnings level. However, in the last four years, some very real--and undesirable--increases in the earnings base have occurred, so that it now represents a much higher figure relatively than it did before.

The base was \$9,000 in 1972, then it jumped to \$10,800 in 1973, to \$13,200 in 1974, and to \$14,100 this year. Those increases were far more than wages increased during that period. The \$9,000 base in 1972 was about right in comparison with what the base had been in the 1950's and 1960's, but the \$13,200 base in 1974 should have been, on that same standard, about \$10,800. The increase to \$14,100 for 1975 was the result of automatic-adjustment provisions that, for years after 1975, will merely keep the base up to date with changes in wages.

The difficulty with this raising of the taxable earnings base was that it was done mistakenly. In fact, the Nixon Administration supported this procedure as a good way of financing benefit liberalizations, instead of through tax rate increases. Actually, when the base is raised, it does produce more financing, but it also expands the scope of the program by making a greater proportion of people's income subject to being under the governmental plan and, thus, out of the private economic security sector.

Another reason not to increase the earnings base beyond what the automatic-adjustment provisions would do is that this will unduly benefit certain persons for whom no need exists to do so--namely, current high-income older persons. As James L. Clare would say, "This is upside-down social welfare."

Specifically, let us consider what would happen in the case of a man who attains age 65 in January 1976 and retires then, if the base had been raised to \$24,000 in 1975 (instead of only to \$14,100). He would pay additional taxes of \$579, but the present value of his benefits would be \$1,137 if single and \$2,036 if married to a wife the same age (on the basis of the U.S. White Life Tables for 1959-61 at 3% interest, such low rate allowing for the effect of the automatic-adjustment provisions for benefits). Is such a windfall desirable or proper?

Finally, let us look at how tax rates have changed. For the employer and employee combined, the rate originally (in 1937-49) was 2 percent. But this situation is a little deceptive in that initially it was known and planned that 2 percent should not be the ultimate rate. Rather, a graded schedule was contained in the law, and the tax rate was scheduled to rise eventually to 6 percent.

The tax rate now is 9.9 percent for OASDI, in part because of the expansion of the benefit level mentioned earlier and in part because of the expansion of the scope of the program to include survivor and disability benefits and certain other liberalizations. Under present law, the rate is scheduled to be 9.9 percent for the next 35 years, and then it is to jump to 11.9 percent. This is largely the result of the population bulge which will come somewhat after the year 2,000, when the proportion of the aged as compared to the working population will increase rather sharply, because of the survivors of the "baby boom" of the war years then reaching age 65. Of course, at that time, there may be the offsetting factor of the child population being much lower proportionately, which would mean smaller costs for such things as public education.

What is the present financial situation? The 1974 actuarial valuation of the program indicated a long-range deficit of about 3 percent of payroll, which represents about a 25 percent over-run. This means that, under one method of financing, in order to fund the program soundly over the next 75 years--i.e., to have enough money to meet benefit costs and administrative expenses--the tax rates should be 3 percent higher--1-1/2 percent on the employee and 1-1/2 percent on the employer--in every year from now on. If that were done, however, it would depart from current-cost financing, under which income and outgo roughly balance each other every year. Instead, quite a large fund would be built up. Therefore, there should be a small increase in the tax rate in the next few years and then a much higher rate than 3 percent in the long run, so that the increase would average out at 3 percent.

The 1975 actuarial valuation showed a corresponding long-range deficit of 5.32 percent of taxable payroll. The vast majority of the increase in the estimated deficit resulted from less optimistic assumptions as to the future trend of earnings and prices.

This valuation also presented a bleak picture as to the situation a few years hence. The OASI Trust Fund is estimated to be exhausted in about 1983, while the DI Trust Fund will run out of money in 1980. And these estimates are on the optimistic side because they are based on what I believe to be the

unrealistic assumption that the average annual excess of the rise in wages over the rise in prices in 1976-80 will be 3.2 percent. This contrasts sharply with current and recent past experience!

Now, why did this situation occur? The following comments are not entirely based on hindsight. I had an article along these lines in the Wall Street Journal for July 28, 1972. When the Social Security Administration made the new actuarial valuation in 1974, these results largely showed up.

In 1972, when OASDI was so greatly liberalized--among other things, a 20 percent benefit increase was voted then, as against the 10 percent increase that the cost-of-living change would justify--this was done on the basis of new valuation techniques of using somewhat over-optimistic dynamic economic assumptions. Previously, it had always been assumed that wages would remain level in the future. Then, when wages did change, the savings resulting were used to increase benefits. The new procedures that have been adopted to some extent say, "If there are gains expected in the future, we will use them now, or at least we will recognize them now in estimating what the future costs will be."

Also, the demographic trends that had developed in connection with lower birth rates were obvious by 1972. Simultaneous with using the new dynamic economic assumption approach, the cost estimates should have been tightened up as to the demographic assumptions, but this was not done.

One of the problems with the economic assumptions adopted was that wages were assumed to rise almost twice as rapidly as prices, and, in the past few years, this has not occurred. In fact, currently, prices are rising more rapidly than wages. This has a very serious financial effect on the program, both for what has happened in the immediate past period and if it is projected into the future.

Another problem is that the automatic-adjustment provisions in the law are technically faulty. Why were the automatic-adjustment provisions written as they were? What was done was merely a continuation of the ad hoc procedure that Congress had always followed in the previous 20 years whenever benefits were increased.

The automatic-adjustment provisions are desirable in principle. They should give more cost control to the system and should prevent the type of political competitive bidding as to how large the benefit increases should be, such as occurred in the first Nixon Administration. It is encouraging to note that the 11 percent benefit increase that was legislated in 1974 was based on the change in the cost of living, and not on the emotional appeals that the aged beneficiaries are in a sad way, and we ought to do more for them.

Be that as it may, the automatic-adjustment provisions are technically faulty in one sense. They were devised under the economic climate that prevailed in the 1950's and 1960's, when wages always increased at least twice as rapidly as did prices, and both sets of increases were at a relatively low level. If that were to be the case in the future, then everything would be fine. Unfortunately that was not the situation in the immediate past nor does it seem likely for the future. Therefore, the automatics do need some technical changes. There are a number of ways of doing this.

It may be a little difficult to explain to Congress and the public, but such revision certainly has to be done. If the automatics operate under their present method indefinitely into the future, and if wages and prices increase at about the same rate, the relative benefit level will rise unduly, and the system will get out of financial control. The benefits would, after some decades, be more than final pay for most people. This inordinately high level of benefits would have unfortunate effects on the cost of the program and on private-sector activities in the economic security field.

Another problem that has arisen in connection with the cost of Social Security is the demographic situation. We have reached zero population growth conditions much sooner than was anticipated several years ago. The actuarial cost estimates that had been made previously assumed that this would happen some time in the distant future, because it was realized that there could not be an ever-expanding population. But we have not only already reached ZPG conditions, in fact we have gone below ZPG as far as fertility is concerned.

Although ZPG has many beneficial effects, it has a serious adverse effect on the impact of costs of the Social Security program. Under ZPG, there will, for many years to come, be the same number of retired persons which there would have been anyhow, because they have already been born. But there will be a smaller number of workers to support them. This in turn translates into higher Social Security tax rates.

Sometimes another statistic is quoted as to the financial difficulties of the Social Security system--namely, that it had an unfunded accrued liability of \$2.5 trillion as of mid-1974. It is correctly asserted that, if Social Security were an insurance company or a fully-funded private pension plan, it would have to have assets of this magnitude. The meaning of this figure is the funds which would have to be on hand now if it were a closed-group program and obtained no new entrants in the future.

But Social Security is not an insurance company. It is essentially a compulsory governmental social insurance system that will always have new entrants. Nor are the vast majority of private pension plans fully funded, but rather they are generally moving slowly toward that goal.

What are the solutions to the financial imbalance of Social Security? The expansionists have a very easy solution. What they would do is just throw general-revenues money at the problem and have it go away. They want to do this because the payroll tax rate is becoming more and more noticeable, and thus, more and more burdensome to workers and employers. Such government subsidies to the system are undesirable because of the lack of cost control then occurring. As long as workers can see the tax rates directly, they will likely be interested in keeping the system within cost bounds. But the expansionists believe that, if general-revenues money is used, many people will be fooled into thinking that this is money that somebody else provides, money that comes out of the air.

Then, too, the expansionists will try to sing a siren song to business, the fallacies and weaknesses of which should be readily recognized. They will say to business, "Look at the high payroll taxes you are going to have to pay. Let's finance Social Security in part through general revenues. Then you won't have to pay so much money." We should all be aware that money which comes out of general revenues is money that both individuals and business are going to pay in one way or another. In fact, it is likely that any

taxes initially levied against business will be passed on to individuals anyhow, in the form of higher prices or lower wages than would otherwise have been paid. So the major result of moving from visible payroll taxes to general revenues would be to obscure part of the costs people would be paying for Social Security.

What then should be done about the financial situation of Social Security? The first thing, the foundation step, is to revise the automatic-adjustment provisions so that they do the job they were originally intended to do.

The automatics can be adjusted in several ways so that the relative benefits that people get in the long-range future will be about the same as now. In other words, since a person now retiring who has been at maximum covered earnings all his lifetime gets a benefit of about 30-32 percent of his final wage, that same relationship should be continued in the future. If the automatics operate to achieve that result, then the cost will be lower than under present law, because under the existing basis that ratio will probably gradually creep up in the future, under even optimistic economic assumptions. Under more realistic economic assumptions, that 30 percent ratio might climb up to 60 or 70 percent. This means that higher payroll tax rates would be needed than now scheduled. Thus, the first step--and the real foundation--is to change the automatic-adjustment provisions so that they operate in the way they were intended to. If that is done, then the 3 percent deficit that is now shown in the official actuarial cost estimates would probably be reduced by at least one-third and possibly as much as one-half.

What about the remainder of the deficit? Some increase in the tax schedule is needed because of the changed demographic conditions and because of other factors, such as the adverse retirement and disability experience in recent years. As to the demographic aspects, a partial solution over the long run would be if retirement trends are reversed and people work to older ages than they now do. In other words, if the current move towards earlier retirement is reversed, so that, as we have more and more older people, they work longer beyond age 65 and are not retired compulsorily, then the cost of the program would be reduced. Then there could be lower tax rates than would otherwise be necessary.

Certainly, in the absence of such changes in employment practices, the remainder of the deficit has to be met through higher tax rates, unpleasant as that may be. This does not mean that the tax rates would be very much higher in the near future. Probably, an increase in the combined employer-employee rate of about 1 percent for the next 10-20 years would be all that would be needed. But then there would have to be gradual steps thereafter, as the burden of the aged population against those in the productive ages increases.

In conclusion, this current financial difficulty of the Social Security system does have its bright side. It brings the financing problem more to the public attention than had previously been the case when people were primarily thinking of larger and larger benefits. Now, the financing aspects will come to the attention of employers and workers much more.

MR. GARY K. DROWN: It was stated some time ago that OASDI has an unfunded accrued liability of some \$300 billion. Do you believe that this should be funded, in whole or in part?

MR. MYERS: In the first place, the current estimate (made last year) on a closed-group basis is about \$2.4 trillion. The great increase is due to the use of dynamic economic assumptions. If the 6% wage/4% price assumptions of the 1975 Trustees were used instead of 5%/3% ones, the figure would be much higher.

I believe that no effort toward more full funding of OASDI is necessary, although I think that the trust fund balance relative to annual outgo should be prevented from falling further, as will occur unless more financing is obtained immediately. I think that the balance should be increased gradually in the future from the present level of about two-thirds of a year's outgo until it is again at a one year's outgo level.

In this connection, it is interesting to note that Martin Feldstein, an economist from Harvard University and a member of the actuarial and economist consultant group of the Advisory Council, has proposed that the OASDI taxes be roughly tripled for about a decade, so that a large "endowment fund" would be built up, the interest on which would finance completely all future benefit payments into eternity (and so all future payroll taxes could be eliminated). The underlying purpose of this proposal is to increase the supply to capital formation in the nation. All three actuaries in the Advisory Council group opposed this proposal.

MR. J. REUBEN RIGEL: Is there any method of covering all state and local government employees compulsorily under OASDI?

MR. MYERS: There is a method of doing this in theory, and with certain precedents for such action, but I believe that it is politically impossible to do so. Specifically, the employers in such cases cannot be compulsorily taxed, because of constitutional reasons; but the employees can be required to pay Social Security taxes just as they are required to pay federal income taxes. They might be charged the usual employee rate, the combined employer-employee rate, or the self-employed rate.

The artificiality of designating employees as self-employed, so as to require OASDI coverage, is now used for ministers and for American citizens employed by foreign embassies and international organizations in the United States. The approach of applying the combined employer-employee rate is followed for income from tips where the employee fails to report such income to his employer (when such reporting is done, only the employee tax is due).

MR. JAMES L. COWEN: What are your views about the incidence of Social Security taxes and government subsidies from general revenues?

MR. MYERS: In my opinion, the incidence can not be measured with any degree of precision or accuracy. When economists attempt this interesting intellectual exercise, they are compelled to make so many broad, arbitrary assumptions that their results are of doubtful significance. This is especially so for future tax proposals to meet the cost of recommended government subsidies to social insurance systems; the impact of such taxes is not really predictable, because of the tax shifting that will inevitably occur.

The danger and disadvantage of government subsidies is that, to the general public, their impact seems so clear and definite--namely, on somebody else than themselves!

MR. GEOFFREY N. CALVERT: It is by now generally recognized that, in establishing the present doubly indexed arrangements for determining the amount of the primary income at retirement, a technical error was introduced into the system, the effects of which have been to make the benefits and, hence, costs of the system unduly sensitive to even slight changes in the rate of inflation, in the rate of increase in average covered earnings, and in the difference between these economic factors. The nature of this error was to overindex the system, to correct in two different ways simultaneously for changes in price levels, so that the system has become unhinged and primary insurance amounts are no longer related in any rational way to earnings prior to retirement unless, by some chance, the rate of advance of the consumer price index just happens to be very close to one-half or 55% of the rate of advance of average covered earnings -- a relationship which is very far from recent experience and unlikely to arise or to be sustained over the decades ahead.

What is the present financial status of the system?

In the 1974 report of the Trustees, it was shown that in order to sustain the system on a sound basis in the long run, the tax rate would have to be raised by 2.98% of payroll, or by about 27% of the tax rate currently enacted in the law, or other equivalent steps taken.

In the 1975 report of the Trustees just released, a still greater deficiency is indicated. Instead of 2.98% of payroll, it is now 5.32% of payroll. Instead of a 27% increase it is now about a 48% increase in revenues that is called for over the long run.

It is very good to get these facts out into the light. They do reveal a most serious situation. But there are strong reasons for thinking that, unless the existing technical flaw in the basic benefit formula is corrected, the actual outlook will be even worse than has been revealed so far. In other words, the financial condition of the system will continue to deteriorate.

The reasons for this are twofold:

1. The present (1975) projections are based on a somewhat optimistic assumption that the rate of increase in real wages will, over the long run, average 2% annually.

The present system is extremely sensitive to changes in this figure. If the actual increase in real wages is even slightly less, then costs will rise. (In recent years, the rate of increase in real wages has been not only less than 2%, but negative.)

Present evidence indicates that the assumed 2% is at the top end of the range of reasonable estimates, and that a somewhat lower figure may be more realistic. This would result in a greater deficiency than 5.32% of payroll.

For example, the panel of actuaries and economists appointed to advise the Senate Finance Committee took a backward look, adjusted for cyclic fluctuations, and came up with a 1.8% rate of growth in real wages. An attempted forward look indicated a 1.9% rate, though I did not see much evidence in their excellent report of a recognition of the consequences of world population growth, the consequent tightening demand and rise in price of food

(especially in view of the washing away of the high hopes offered by the "green revolution" due to the rise in oil prices), the continued depletion and relative rise in the prices of many important basic raw materials, the shifts in political power around the world and continued relative increase in energy costs, and in our attempts to offset these, as oil and gas resources continue to be depleted and basic readjustments occur throughout the whole economy, causing many other kinds of cost increases. As between the extreme positions among futurists of the "cornucopians" and the "doomsters," it seems to me that in its views of the economic outlook, the panel was leaning toward the optimistic side, and that a long-term (75 years) growth of real earnings, in the way that these are measured, compounding at a rate close to 2% annually, has simply no chance of being realized.

I have dwelt on this aspect because a full 2% rate does underlie the latest official projected costs of the Social Security system and the now indicated long-term deficiency of 5.32% of payroll. In my view, this is still an understatement.

2. It has been further assumed that the rate of increase in the CPI will level out at 4% annually--far below today's levels.

This is another economic factor to which the present system is hypersensitive.

It is, of course, to be hoped that these economic assumptions can and will be realized in the future. But when one considers the factors already mentioned in the context of a world in which the U.S. economy is not isolated from outside inflationary pressures, and remembering too our own internal pressures, such as the rising costs of a welfare state, the probability that this 4% rate will actually be realized in the long run may not be very good.

Now let us see what will happen under the present system if either of these misgivings proves to be justified.

1. A failure of only one-half of one percent in the rate of increase in real wages to measure up to the assumption, will unbalance the long-term finances of the system by a further 2.33% payroll.
2. An inflation rate of 6% in place of the assumed 4% would similarly unbalance the whole system to the extent of about 2.93% payroll.

There is thus an "area of unpredictability" which could easily double the presently indicated deficit of 5.32% of payroll.

In addition to these economic factors, there is the demographic element at work. A large portion of the presently indicated deficiency in social security tax rates stems from a huge bulge in the ratio of pensioners (population over age 65) to workers, the weight of which does not come on until the early part of the next century. There is room for difference of opinion as to where birth rates will go from here, after their startling decline of the last fifteen years. For example, the independent panel projected a working age population of 154 million people in the year 2025, as against the 173 million projected for the purposes of the 1974 report of the Trustees of the Social Security System. This is quite a difference. The 1975 report of the Trustees was more "conservative" on this point. About one-tenth of the

increase in indicated deficiency between the two years stemmed from this change. But it was the change in economic assumptions, the recognition of a greater probability of inflation, that caused most of the increase.

Now suppose the advance in real wages in the future (after overcoming all of the problems presented by the energy situation, world population growth and hence struggle for food, resource depletion, the swing from cash wages to fringe benefits, earlier retirements, environmentalism, the costs of the welfare state, and similar factors) were to average 1% instead of the 2% (or less) as indicated by the record of the past.

Then in this case the tax rates needed to support the system would have to advance as follows, depending on the rate of inflation.

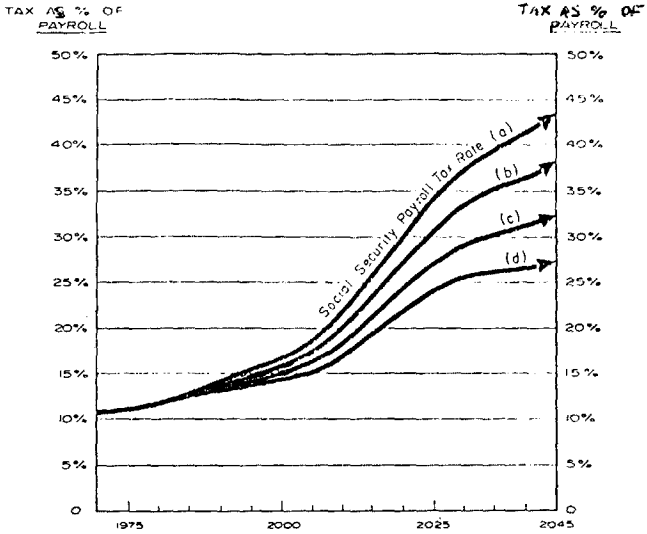
Year	Rate of Growth in CPI			
	3%	4%	5%	6%
1990	13.16%	13.39%	13.76%	13.96%
2010	16.69	18.09	19.87	21.32
2030	25.53	29.11	33.48	37.47
2045	27.22	32.21	38.11	43.33

At the same time as these unthinkable tax rates were emerging, benefits would be skyrocketing out of all reason, with replacement ratios (i.e., ratio of primary retirement income to gross wages while working) crashing up through one hundred percent of gross earnings, and advancing in some cases even above two hundred percent of gross pay while working, and even higher percentages of net take-home pay. When the spouse's benefit is added, and it is remembered that these benefits are indexed and tax-free, the absurd results which can easily come from the present system can be seen. Long before this stage could be reached, there would, of course, be an overturning of the whole system, but vast damage would have been done through a progressive distortion of retirement patterns, abandonment of private pension plans, inflationary pressures, failure of capital formation, and many other kinds of unrealism and distortion of values.

To gain a further insight into the irrational behavior of the present benefit formula, let us suppose that wages grow at 5% annually, but that the CPI grows at 2%, 3% or 4% annually. In these circumstances, the replacement ratios for a low-paid worker would be:

Year of Retirement	CPI Growth Rate		
	2%	3%	4%
1975	60.6%	61.1%	61.5%
1985	54.7	60.8	67.5
2000	51.1	65.7	84.3
2025	48.9	79.9	129.9
2050	44.5	85.5	164.7

IMPACT OF INFLATION ON PAYROLL TAX RATES
NEEDED TO SUPPORT (OASDI) BENEFITS
UNDER AUTOMATED SOCIAL SECURITY SYSTEM



Curve (a) Shows Tax Rates if Wages Advance at 7% , Prices at 6% Annually.

(b) Shows Tax Rates if Wages Advance at 6% , Prices at 5% Annually

(c) Shows Tax Rates if Wages Advance at 5% , Prices at 4% Annually.

(d) Shows Tax Rates if Wages Advance at 4% , Prices at 3% Annually.

If the economy does well, the worker does progressively more poorly. If the economy does poorly, the worker does better and better. The costs of the system as a whole will, of course, reflect these absurd benefits, falling if the economy can carry them easily and rising if it cannot.

But the important thing to recognize in all of this is not the question of validity of these or any other actuarial or economic assumptions, but the wholly unnecessary vulnerability of the Social Security system to them. This has now been recognized, and the Advisory Council in its recent report has urged that the benefit formula be replaced, as has the panel advising the Senate Finance Committee, which recommended that "strong measures be taken to restore the financial health of the system."

There is no need for the costs and benefits under this system to magnify the slightest changes in these economic factors, to swing widely up or down, depending on the fickle, fluctuating interrelationship between unpredictable economic factors often dictated from outside this country.

Many comments have been made in recent reports of expert panels as to the difficulty of estimating the costs of the present system. As an actuary and an economist, I would say that there is no valid way of predicting either the costs or the benefit results which will emerge from the present system. Both are far too sensitive and vulnerable to unpredictable influences.

A revised benefit formula would get rid of this trouble, which has arisen accidentally in the drafting of the primary income benefit formula. Unintentionally, it has been over-indexed. There is no good reason why this error should not be corrected. Nor is there any reason to delay this action, since delay means more drift and more financial strain.

Several suitable alternative formulas have been put forward, any one of which would remove this trouble. For example, the Advisory Council has provided this illustration:

100% of the first \$123 of AIME, plus
31% of all AIME above \$123.

(The \$123 figure is adjusted upward each year as average covered wages rise.)

In this formula, AIME is the average indexed monthly earnings at retirement, all past earnings being adjusted up-to-date by applying to the earnings of each past year a factor which is the ratio of today's average earnings divided by the average earnings of that past year.

The Advisory Council also referred to the possibility of a three-step formula such as:

100% of the first \$X of AIME, plus
31% of the next \$Y of AIME, plus
20% of all AIME above \$(X+Y).

Robert Myers has now carried this work further. After carefully examining and projecting the transition aspects and long-term effects of various formulas, he recommends this formula:

100% of the first \$131 of AIME, plus
29% of the next \$800 of AIME, plus
20% of all AIME above \$931.

(The figures of \$131, \$800 and \$931 would be adjusted in future years as earnings levels change. Transition arrangements would eliminate benefit reductions in the next few years.)

There have been other suggestions as to how best to cure this great weakness in the Social Security system, and other formulas have been put forward. One alternative would be to use a CPI index adjustment in place of a wage index adjustment to bring the record of past earnings up-to-date. All or most of these alternative approaches would get rid of the instability and unpredictability of the present system.

On the whole, my own preference would be to use the wage-related system for adjusting past earnings, and I think that the formula arrived at by Robert Myers and shown above would do the job admirably. If we, as a profession, agree, I think it would be constructive and helpful to the Congress if we so expressed ourselves.

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.

MR. HOWARD YOUNG: In considering the pressing problems of the Social Security system, the 1975 Advisory Council on Social Security had a pressing problem of its own: lack of time. It was appointed about a year late, and thus was hard pressed to master details and reach sound conclusions. One result of this was a decision to omit any significant consideration of the Medicare aspects, but as noted below that decision was partially abandoned in proposing financing revisions.

The Council gave high priority to reassurance of the public that the program is essentially sound, particularly in the short run. The long run problems are expected to be susceptible to manageable solutions. The Council was unequivocal in its conclusion that the system does not face bankruptcy, that current cost financing is not (as some journalists charge) "irresponsible," and that there is no danger of benefits not being paid as they become due.

The most significant issue is the need to deal with the formula for initial benefit determinations, and the Council recommended the wage index approach developed by the economic and actuarial consultants.

The other major recommendations can be summarized as follows. Liberalization of the retirement test, but elimination of the monthly test except for special circumstances. Movement toward greater uniformity in the treatment of men and women, i.e., fewer distinctions based on sex. Universal compulsory coverage; this is primarily intended to cover Federal, State and Local government employees. Phasing out of the minimum benefit; this was based, at least partly, on the availability of the new Supplemental Security Income program. Liberalization of the definition of disability for those

age 55 or over. There were several other minor recommendations; one noteworthy one--in view of an earlier comment about the perception which some black people have of the program--was that a study be made of the effect of the program on different ethnic groups. As an actuary, I consider this a very undesirable idea, since it would imply disaggregation of the pooling involved; it runs completely counter to the trend of eliminating differentials, e.g., by sex.

The Council's estimate of the financing problem was developed on the basis of the 1974 Trustees report. That is less controversial than might otherwise be the case, because attention was concentrated on estimates of a program with a revised (i.e., wage indexed) benefit formula. The resulting deficit (75-year average) would be relatively small: 2.1 percent of payroll according to the 1974 Trustees report, and about 3 percent of payroll according to the 1975 Trustees report (the latter report was not available prior to the Council completing its work). In any event, the short-range deficit, with or without revision of the benefit formula, does not exceed 1 percent of payroll much before the end of this century.

In addition to revision of the benefit formula--and some other items with relatively minor cost impact--the Council recommended (but some members submitted a written dissent) that the combined OASDHI tax be reallocated to provide more funds to CASDI and less to HI, with the Medicare deficit being made up from general revenue. As noted above, the Council had not given much consideration to the Medicare portion of the program, and this decision on financing was a last-minute compromise adopted by a coalition with many divergent views. Among other reason, the Council justified its recommendation with the statement that "Hospital insurance benefits are not related to earnings, so should be phased out of support from the payroll tax."

Practically everyone has since disavowed the recommendation to reallocate OASDHI taxes, even those who otherwise favor general revenue financing toward Social Security. At the same time, there is growing consensus that it is appropriate for the Trust Fund to absorb the present deficit--which is largely due to the economic recession--so that no additional financing should be provided before 1977.

For the longer term, there is widespread support for, and little opposition to, revision of the benefit formula. I expect that a wage indexed system will be adopted, but not necessarily this year. There undoubtedly will be differences of opinion as to mechanics: e.g., whether to index on the basis of CPI or wages (the Senate consultants raised the possibility of using the former; from an actuarial point of view the latter seems preferable, because it reduces uncertainty regarding future replacement ratios and costs; I feel the latter is also preferable in terms of plan design, since it is the closest practical approximation to a final pay approach); what the effective date of the new formula should be (in my own view there would be no harm, and some practical advantage, to enacting the change soon with an effective date 10 to 15 years in the future); how to calculate disability and survivor benefits; whether post-retirement adjustments should reflect CPI, wages, or something else; etc.

The most significant long-range development, in my view, is the demographic trend. This will have implications for many aspects of our society, not just Social Security. It is important to recognize that while the ratio

of those over 65 to those of working age (20-64) will increase, the trend indicates that the ratio of all those not of working age (i.e., the young as well as the old) may be less in the future than it is now. Thus, society will have an opportunity to shift resources from the support of the young to provide for the old. Looking only at the Social Security implications of future population data is too narrow a view.

Another major issue is the apparent change in family structure and the related matter of female participation in the workforce. The Council dealt with this issue to some extent, but not exhaustively. My feeling is that we should consider a system in which each adult develops a benefit entitlement in his or her own right, rather than as someone else's dependent. Developing a workable system, and one that can be achieved with a reasonable transition from the present arrangement, is an excellent actuarial problem.

There is a close interrelationship between the issues of minimum benefits and universal coverage. Much of the "windfalls" due to minimum benefits go to those whose primary lifetime employment is not covered by Social Security. If we had universal coverage, then the minimum benefit could be considered on its true merits: i.e., meeting the needs of those whose earnings do not produce adequate retirement benefits.

Finally, a comment on general revenue financing, which in my view is a public policy rather than an actuarial matter. This is not the forum to discuss all the pros and cons of that proposal, but as actuaries we certainly should recognize that the suggestion of more advance funding--hence a greater Trust Fund--is simply a procedure to shift some financing from payroll tax income to interest on the Fund. Historically, interest on the national debt has been paid from general revenue. Of course, the economists argue that a larger Fund means greater investment, hence greater economic growth, hence greater ability to pay future benefits. That goes to the question of ability to support future retirees (which as noted above needs to be analyzed in a broader context) rather than the distribution of the tax burden.

MR. NORMAN SOLOMON: The financial problems of the railroad retirement system forced enactment of the Railroad Retirement Act of 1974. The Board's actuaries had long warned of the potential bankruptcy of the system. It seems as though the problems had to be allowed to mushroom to so large a size that even the layman could sense that something was wrong before corrective action could be taken.

The system faced three major financial problems before enactment of the new law. The first was that of dual benefits; that is, simultaneous social security benefits received by railroad retirement beneficiaries. They had a complex effect on the program through the financial interchange with social security. Moreover, they distorted equities between career railroad employees and employees who split their working lifetime between railroad and nonrailroad employment.

The emphasis on social adequacy in the social security benefit formula was the source of the problem. The social security formula gives about two and one-half times the weight for that part of the average monthly wage which is under \$110 as it does to the part above that amount. When combined with the method of computing the average monthly wage under social

security, the result was that employees with split careers had their dual benefit computed mainly by using the most heavily weighted part of the benefit formula. They, therefore, received a larger return for their taxes than did those whose entire working careers were covered by social security.

From the point of view of the railroad retirement system, the problem was that the cost of these proportionately larger benefits was borne by the system through the financial interchange with social security. Under this arrangement the railroad retirement system credits social security with the additional taxes which that system would have collected had it covered railroad employment. In return, the railroad retirement program is credited with the additional benefits which social security would have paid. To use the terminology of the Commission on Railroad Retirement, the reimbursement was the tier 1 benefit minus the dual benefit. This difference was less than the social security benefit based only on railroad earnings. The financial interchange reimbursement was, therefore, less than it would have been if there were no social security earnings and no dual benefit.

The Railroad Retirement Act of 1974 handled this problem in two ways. First, it eliminated the future accrual of dual benefit rights. The Act provides that the benefit of a 1975 entrant into the railroad industry will be composed essentially of two parts. The first part will be what he would have received from social security on the basis of both his railroad and nonrailroad earnings. The second part will consist of a pure railroad benefit. In this respect, railroad retirement resembles a private pension plan more closely than in the past.

Second, the cost of dual benefits earned up to the effective date of the new law will be met by appropriations from general revenues. The definition of who is eligible for these payments and what their amount will be is complicated, and I will not go into it here.

The second financial problem the system faced was the approach used to increase benefits. Every time Congress increased benefits for social security recipients, pressure was brought to bear for a matching railroad retirement increase. This usually took the form of matching percentage increase, ignoring the fact that railroad benefits were higher than social security benefits to begin with. In addition, benefit formulas under the old act were amended in the same way for those already retired as for those retiring in the future. This led to a double increase for the future retiree, since his benefit is based partially on future earnings and, therefore, receives the advantage of higher wage levels in the benefit formula. The report of the panel on social security financing describes the existence of the same problem for social security.

The restructuring of the railroad retirement benefit into two parts partially solves this problem. The tier 1 component is equal to what the employee would have received from social security. Therefore the dollar amount, rather than the percentage, of any social security increase is passed through to railroad retirement beneficiaries. Cost-of-living increases in the pure railroad part of the benefit are much more limited and are scheduled only through 1980.

The third problem facing the system was declining employment and a rising ratio of beneficiaries to working employees. Employment had dropped

almost steadily from about 1.7 million workers during World War II to 611,000 in 1971. In 1973 the figure had fallen to 584,000, but in 1974 the average work force rose for the first time in many years to 594,000. The March 1975 level was 550,000.

The likelihood of future declines in railroad employment was suggested by projections made for the Commission on Railroad Retirement by the National Planning Association. Based on their assumptions, railroad employment is projected to decline to 503,000 in 1980, 397,000 in 1990, 327,000 in 2000, and to 300,000 by 2015, at which level it will remain.

Since the railroad retirement system is a compulsory social insurance plan, valuations of the system use an open-group approach. A lower employment assumption will, of course, increase the estimated percentage costs of the system. Past valuations have shown that the differential is much less than one would expect, however, because of the way the financial interchange with social security worked. The financial interchange had the effect of a kind of reinsurance. Whatever directly affected the actuarial condition of the system in one way was partially canceled by its opposite influence on the system through the financial interchange.

For example, a reduced employment assumption without the existence of the financial interchange would mean less tax income. Any countervailing effect due to fewer retirees would be deferred far into the future and would be insignificant beside the face of less tax income in the present. However, the lower employment assumption had no effect on the benefit reimbursements through the financial interchange in the early years. It did reduce the tax transfer to social security. The net income from the financial interchange thereby increased and the effect of the lower employment assumption was blunted.

The twelfth valuation of the railroad retirement system, done as of December 31, 1971, showed an actuarial deficiency of 6.3 percent of payroll. That valuation assumed an ultimate level of 465,00 jobs reached in 1981. An abbreviated estimate done for an alternative employment assumption (the same level as that projected by the National Planning Association, which I mentioned earlier) showed that this assumption would increase the deficiency by less than 0.4 percent of payroll.

The social security component of railroad retirement benefits is now formally separate. The question arises as to whether tier 1 benefits and tax transfers to social security should be taken into account in valuations of the railroad retirement system any more than, say, social security benefits are taken into account in valuations of private pension plans. If they should not, the financial interchange would no longer have this cushioning effect.

To conclude, the most recent cost estimates indicate that the railroad retirement system is in fair actuarial shape. This was achieved only with the help of large appropriations from general revenues and the closing of the "loophole" of dual benefits to persons not vested under both the railroad retirement and social security systems. The reduction in benefits based on service after 1974 is another factor. Whether similar steps will be necessary to keep the social security system afloat is a question which

the other panel members can discuss better than I. The experience of railroad retirement does indicate that hard decisions should be faced now rather than postponed.

MR. CALVERT: When the Social Security system was established, the structure of our society was based on the concept of the family consisting of an economically dominant male with a dependent wife and children, and benefits were structured accordingly.

In the decades since then, this concept has gradually given place to the concept of equality in all respects between the sexes, serial monogamy with variations, and the working wife. Each year a larger proportion of married women participate in the labor force and pay Social Security taxes, for which they may or may not receive any benefits from the system. (If the spouse's benefit based on the earnings of the husband exceed the directly earned benefit based on her own covered earnings, then all these taxes will produce no benefit at all.) Women are not happy about this.

At present about 50% of married women participate in the labor force at some time in any one year, and about 90% at some time in their lives.

It seems to me that, in the long run, this clash of benefits will be resolved in favor of the primary benefits earned by women in their own right, and that the concept of secondary benefits based merely on their assumed dependence on, and economic subordination to, a single economically dominant male will eventually be de-emphasized and gradually eliminated.

In an economy subject to inflation largely or partly imposed from the outside, I wonder how long it will be before serious questions are raised about the propriety of exempting large segments of the population from the effects of this inflation by indexing their incomes without limit. This has the effect of shifting the burden of inflation entirely off them and transferring it to the shoulders of those whose taxes support them, so that these segments of the population are forced to bear both the direct and this indirect burden through higher prices and higher taxes at the same time.

Eventually, I believe we will have to reckon with this through a modification of the concept of unlimited indexing. In the world economy that seems to lie ahead, and in which we are presently participating, the distortion we face may otherwise be too great.

I have seen no satisfactory studies of the kind of consumer price index that would reflect the living conditions of retired and elderly persons, and how this would change as age advances.

Are we sure that the direct application of the CPI, the index that is derived from the normal expenditures of the average family, is meaningful in relation to a very elderly person?

As the automatic indexing of benefits becomes more and more dominant in the whole financial structure of the Social Security system, it would seem timely to direct our thoughts into this area.

I would visualize that substantial changes would result from these studies.

We have seen a gradual reduction in retirement ages from an average well above 65 to a fairly universal acceptance of 65 as the normal retirement age, and more recently toward an average retirement age well below 65.

In the world that lies ahead, will this trend continue, will it be reversed, or will we see some other social pattern emerging as women continue to enter the work force, pensioners get second jobs and earn second pensions on top of their liberalized and even supplemented early retirement pensions, families get smaller, the work force shrinks, and eventually (in the early part of the next century) pensions become more numerous?

Will these social and demographic trends lead first to a swollen labor force with pressures to earlier and earlier "retirement," and then later, as in a war situation, to a shrunken work force with pressures toward later retirement? How will these trends affect the Social Security system? Will it be able to resist the near-term pressure toward full benefits at age 62, until the time comes (as it may) when it will seem more realistic to set the retirement age forward gradually to age 68, as has been suggested as one way to keep the costs of the system from eventually getting out of hand?

It seems to me that much of the answer lies outside America and in the world economy that lies ahead. If we wish to maintain our standards of material comfort and consumption in the face of what seems to be developing, as the world population doubles and more, and resources continue to be depleted, we may not be able to combine that with a great and continuing relative expansion of retired people living in leisure and making no contribution to the economy.

The Social Security system is being abused today and taken advantage of by many members of the 10% of workers who are not covered by it. I refer here to the Federal Civil Servants, none of whom are covered, and State and Local Government Employees, many of whom are not covered.

By working outside the Social Security system, earning a full, unreduced, pension based on that work, and then working quite briefly in employment covered by Social Security, they are able to add handily to their retirement incomes through the bottom-weighting and minimum-benefit provisions established for the benefit of workers at the very lowest income levels, and, hence, to receive a magnificent return for their brief and minimal contributions - all at the tax-payer's expense. I believe that 40% of all retired Civil Servants enjoy this duplicate coverage.

Added to this, we have the phenomenon of a husband working in private employment covered by the Social Security system, paying taxes, and eventually receiving his primary income plus 50% spouse's benefit, while his wife, who has worked for the Federal or nonparticipating Local Government, also receives her full pension from that source, with no offset of the spouse's benefit as would occur if she worked in covered employment. Or, the wife of a Civil Servant working in private employment and receiving a full primary Social Security Pension, which would have been denied to her if her husband also worked in covered employment. There is quite a game to be played by combining with noncovered work, leading to unfair discrimination with the taxpayer footing the bill.

These surprisingly wide-scale problems can be eliminated by sweeping all classes of employment under the one system, eliminating this duplication, and treating everyone the same way. I believe the political problems that would have to be overcome should be tackled and this correction made, and that eventually this will be done.

Contributions paid into the Social Security system are not deductible from the income of the individual, and the benefits received at retirement or disability or by beneficiaries are not subject to income taxes. The contributions (or payroll taxes) paid by the employer on behalf of the worker (whether or not these are eventually paid to him or his dependents) are not regarded as income to the worker when paid by the employer, nor is the employer-paid portion of the benefit taxed in the hands of the retired employee or beneficiary.

To that extent, the Social Security system would seem to provide a vast flow of money from employers to employees and beneficiaries which completely bypasses the tax system. In the private sector there is no such bypass mechanism.

Not only does the Social Security system as it expands thus cut away at the tax base of the economy and, hence, indirectly raise other taxes or deficits; in doing so it does not contribute to capital formation, as is done by private pension funds, and as is needed by the economy.

In time, I believe this aspect will have to be tackled and adjusted.

In view of the vast and urgent need of the U.S. economy for new capital formation to finance alternative energy sources, raw materials, industrial plant and equipment, urban transportation systems, and similar strengthening, amounting in all to \$4.1 trillions by 1985 (according to recent estimate), of which only \$2.6 trillions is in sight, leaving \$1.5 trillions still to be found, consideration might be given to placing the Social Security system on a regular actuarially funded basis.

At the cost of an increase in taxes in the short term, this would protect the system from a 50% surge of cost in the early part of the next century, when the vast demographic bulge of survivors from the high birth rates of the frantic 50's and the soaring 60's reach retirement age, while the work force then providing the taxes to support them will be the survivors of the greatly shrunken birth rates of these more recent years.

It has been estimated that the amount needed to place the whole system on a funded basis would be between one and two trillion dollars. This is about in the same order of magnitude as the amount needed to strengthen the economy and insure that the productivity will be there to provide the benefits expected by today's work force when their time of retirement approaches.

Apart from levelling out the costs of the system over the coming decades, this approach would lower the long-term cost burden, since the investment yield of the fund would make a very substantial contribution toward meeting the rising cost of benefits, such as, for example, 40% or more of these costs.

In order that this approach should be effective in accomplishing the basic purpose of strengthening the economy, safeguards would be needed to prevent a diversion and dissipation of these funds into current consumption or an increase in benefits. At the same time, steps may be needed to avoid the hazards of an overwhelming concentration of economic power in one place.

If these problems can be overcome, this approach would provide America with an opportunity to accomplish two fundamental goals at the same time - a strengthening of the sinews of our economy, and a resolution of the problems of financing the Social Security system.

In past years, it was the accepted view that the funding of a Social Security system was not necessary. Apart from the problems it would create, the system could rely on the taxing power of the government.

Today, the context is quite different:

1. We need large amounts of new capital. We need it urgently.
2. Since today's workers are not providing a vastly greater generation of children to support them in old age, they had better start funding now for their pensions in order to create a more productive economy that will in due course provide for them instead.

The whole purpose and justification of prefunding pensions on an actuarial basis springs from:

- (i) A need to provide the capability to make these payments when they fall due;
- (ii) A desire to spread out into an even flow of costs the foreseeable heavy increase in the burden of payments now being committed;
- (iii) The prospect of a substantial reduction of the ultimate cost burden through the generation of investment earnings by the reserve fund set up to achieve all of these purposes.

It would appear that a case for stronger funding has developed that did not exist at the time of the earlier debates about this subject. I think that we, as a profession, should again examine this subject in the light of today's economic realities and prospects.

MR. MYERS: I agree completely with Geoff Calvert that the 2% differential of the rate of increase in earnings over the rate of increase of the CPI that has been assumed by the Board of Trustees, the Advisory Council on Social Security, and the Senate Panel on Social Security Financing is too large. I believe a more likely differential is 1% or 1 1/2% at most. Calculations on this basis would show the existence of even greater benefit instability and lack of a reasonable benefit level, and, thus, resulting higher costs and financing deficiencies. Fortunately, the decoupling

procedure by wage-indexing would neutralize the economic conditions, whatever they might be, and produce both benefit-structure and financing stability.

Furthermore, I would criticize the short-range economic assumptions in the 1975 Trustees Report. For each year in 1976-80, about a 3% differential of earnings increase over CPI increase is shown, despite the reverse being the case for 1975. It seems unrealistic that such a large reversal (to a level well above the 2% one assumed for the long run) will occur. This means that the short-range financing difficulties are probably worse than shown in the 1975 Trustees Report. In other words, the trust funds will be exhausted sooner than stated, unless corrective action is taken.

Geoff points out that windfalls occur under OASDI where the husband works under OASDI and the wife works under Civil Service Retirement. I should like to mention that the same thing will almost certainly be true in the opposite situation, as a result of the recent Supreme Court equal-treatment-by-sex decision with regard to father's benefits. There is urgent need for legislative action to extend the OASDI anti-duplication provision as it applies to secondary beneficiaries beyond only OASDI benefits based on the earnings record of the beneficiary to all governmental benefits based on the earnings of the beneficiary.

I agree completely with Howard Young that the question of the desirability of a government subsidy is not of an actuarial nature, but rather of a policy, philosophical, and political character. However, along these lines, I believe that a government subsidy is deceptive since it hides from the public the true, actual cost of the program.

And too, if one believes that the cost burden should be shifted from the present basis--whatever in actuality that really is--there is no certainty at all that this will occur if a government subsidy were introduced into OASDI. Frankly, economists just do not know what the incidence of present or past taxes really is. It is impossible to determine such incidence with any precision, even though it is great intellectual exercise for economists to attempt to do so! And it is even more impossible to predict what will be the incidence of the large amount of future general-revenues taxes needed if OASDI were to be financed one-third by a government subsidy.