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# SOCIAL SECURITY

*Moderator: A. HAEWORTH ROBERTSON. Panelists: ROY R. ANDERSON, WILLIAM C. HSIAO.*

1. The United States Social Security System is undergoing a period of critical reappraisal. The developments that have prompted this scrutiny include:

    a. Recent SSA projections indicate that expenditures for the system (OASDI and Medicare-Part A) may rise from 13 percent of taxable payroll in 1976 to 36 percent within 75 years under present law (27 percent if H.R. 14430, the "Social Security Benefit Indexing Act", proposed by the Administration on June 17, 1976, is enacted).

    b. Increasing taxes and changing socioeconomic conditions have caused many people to wonder about the "equity" and appropriateness of the system.

    c. Faced with mounting financial pressures, State and local governmental units are giving increasing consideration to withdrawing from Social Security.

    d. The impact of Social Security on other systems of income maintenance is becoming more evident.

2. In view of these and other developments, what is the responsibility of the actuary in his role as:

    a. A citizen with the capacity to understand these developments and communicate their consequences to the public.

    b. An actuary serving the insurance industry, or the employee benefit plan industry, which industries will be significantly affected by these developments.

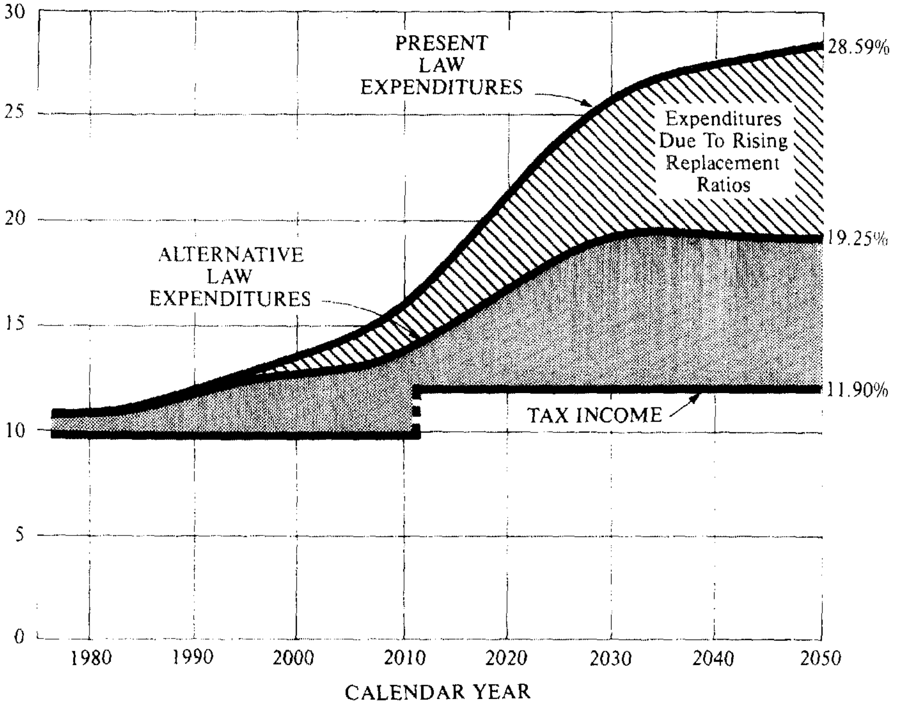
MR. A. HAEWORTH ROBERTSON: Each year the Board of Trustees of the social security trust funds produces a report on the financial condition of the system. The latest report was sent to Congress on May 24, 1976. The charts which follow are based on this report, and provide a backdrop against which to view the ideas being presented today. The first four charts pertain to the old-age, survivors, and disability insurance (OASDI) system. Chart 5 includes hospital insurance (HI) and supplementary medical insurance (SMI) as well.

In Chart 1, the bottom line shows the OASDI tax income (expressed as a percentage of taxable payroll) scheduled in the present law. The middle line gives projected OASDI expenditures on the assumption that the automatic adjustment provisions of the law are modified to maintain current replacement ratios. By "replacement ratio", I mean the benefit awarded to a person at retirement as a percentage of his earnings just prior to retirement.

OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE PROGRAM

**CHART 1**

PROJECTED EXPENDITURES UNDER PRESENT LAW AND UNDER AN ILLUSTRATIVE ALTERNATIVE LAW (WITH STABLE REPLACEMENT RATIOS); AND TAX INCOME UNDER PRESENT LAW; EXPRESSED AS A PERCENTAGE OF TAXABLE PAYROLL




ARITHMETIC AVERAGE OF EXPENDITURES, TAX INCOME, AND DEFICITS UNDER PRESENT LAW AND ILLUSTRATIVE ALTERNATIVE LAW EXPRESSED AS A PERCENTAGE OF TAXABLE PAYROLL

| Time Period | Present Law: Expenditures | Present Law: Tax Income | Present Law: Deficit | Illustrative Alternative Law: Expenditures | Illustrative Alternative Law: Tax Income | Illustrative Alternative Law: Deficit |
|---|---|---|---|---|---|---|
| 1976-2000 | 11.81% | 9.90% | 1.91% | 11.58% | 9.90% | 1.68% |
| 2001-2025 | 17.95 | 11.10 | 6.85 | 14.91 | 11.10 | 3.81 |
| 2026-2050 | 27.04 | 11.90 | 15.14 | 19.30 | 11.90 | 7.40 |
| 1976-2050 | 18.93 | 10.97 | 7.96 | 15.25 | 10.97 | 4.28 |

The deficits between the middle line and the bottom line are accounted for by the following factors:

1. Future fertility rates are expected to remain at a relatively low level. This will result in a higher ratio of beneficiaries to tax-paying workers, and thus a higher cost since social security is financed on a current-cost basis. (This changing ratio is shown in Chart 2.)

2. Recent inflation rates, disability incidence rates, and unemployment rates have been at higher levels than formerly anticipated.

The top line of Chart 1 shows projected future expenditures under present law, that is, assuming no change in the automatic adjustment provisions. This added deficit (labeled "expenditures due to rising replacement ratios") is a result of the "flaw" in the automatic adjustment provisions which allows benefits for future retirees to increase more rapidly than wages under certain economic conditions--such as those which we are now projecting for the future.

The automatic adjustment provisions adopted in 1972 would have produced approximately constant replacement ratios for persons retiring in various future years if wages and prices had continued to behave after 1972 in the same way they behaved during the years immediately prior to 1972. However, based upon the wage and price increases which it now seems prudent to assume for the future, the automatic adjustment provisions will result in rising replacement ratios, as illustrated in Chart 3 for successive generations of workers.

Chart 4 demonstrates how the replacement ratios can vary in the future, depending upon the actual wage and price increases which prevail.

Chart 5 presents the expenditures during the next 75 years under the OASDI program and the medicare program.

As shown in Column (11), Chart 5, present law expenditures under the OASDHI program are projected to rise from 12.65 percent of taxable payroll in 1976 to 36.05 percent of taxable payroll in 2050. However, as shown in Column (14), if the automatic adjustment provisions are revised so that replacement ratios are maintained at present levels, the expenditures are expected to rise to 26 percent of taxable payroll by the year 2025, and remain approximately level thereafter.

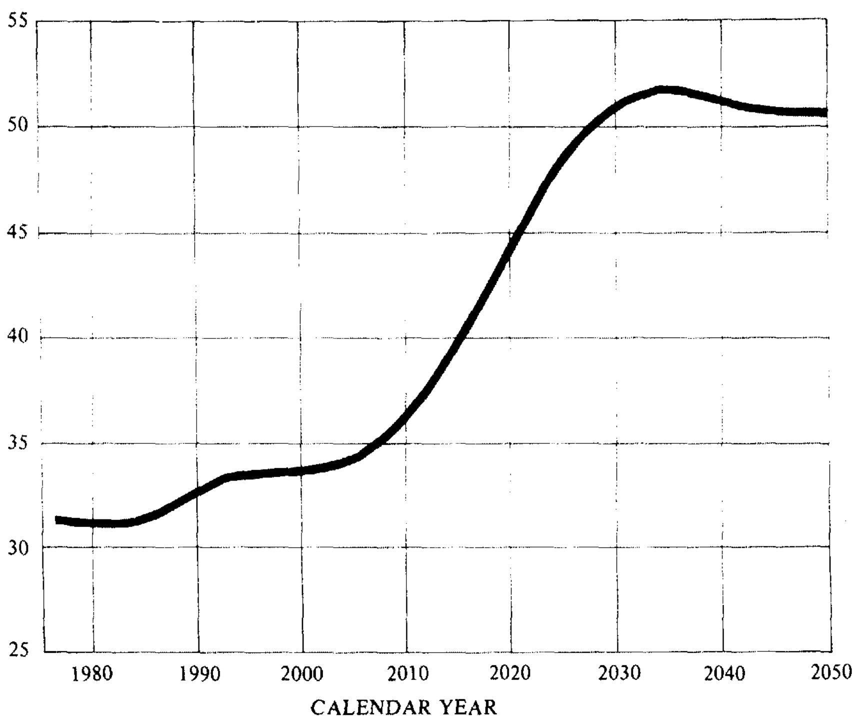
Obviously these long-range cost projections have limitations and should be interpreted with caution. Actual future experience will not be what we are now assuming it will be. Furthermore, the law will undoubtedly be changed many times in the future. However, that does not mean we should ignore long-range projections; it does not mean we should fail to take them seriously, recognizing their limitations of course. Some people would have us ignore the right hand two-thirds of Chart 1. I refuse to do this and I urge you to refuse to do it also.

With this brief sketch of financial problems as a backdrop, we will now turn to our panelists for their observations.

OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE PROGRAM

**CHART 2**

PROJECTED BENEFICIARIES PER HUNDRED COVERED WORKERS
1976-2050




**PRINCIPAL ASSUMPTIONS**

Mortality rates were assumed to decline overall by about 15% from 1976 to 2050.

Fertility rates were assumed to continue decreasing to 1.75 children per women in 1977 and then slowly increase to an ultimate rate of 1.90 children per woman in 2005.

Female labor force participation rates were projected to increase to an ultimate level 22% greater than the 1975 level. The unemployment rate for the total labor force was assumed to be 5% after 1981.

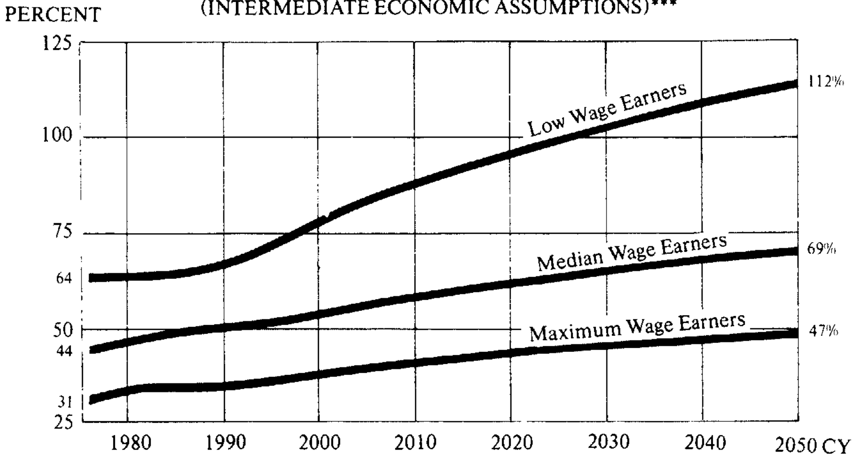
Disability incidence rates were projected to continue increasing to a level 33% higher than the 1975 level.

Under these assumptions the population would grow from its level of 223 million in mid-1975 to 274 million by the year 2015, remaining slightly above that level through the year 2050.

## OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE PROGRAM

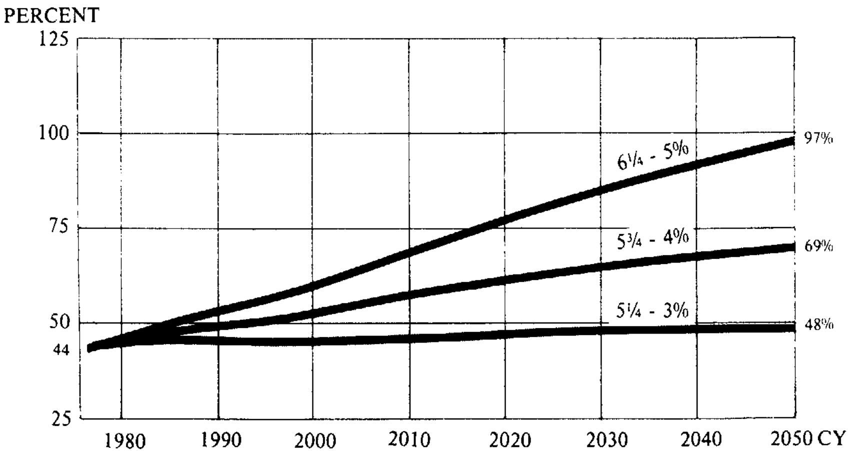
### CHART 3

REPLACEMENT RATIOS* FOR MALES RETIRING AT AGE 65
LOW, MEDIAN AND MAXIMUM WAGE EARNERS**
(INTERMEDIATE ECONOMIC ASSUMPTIONS)***




### CHART 4

ILLUSTRATION OF SENSITIVITY OF REPLACEMENT RATIOS*
TO ALTERNATIVE WAGE-PRICE ASSUMPTIONS
FOR A MALE RETIRING AT AGE 65 WITH MEDIAN EARNINGS




* The Replacement Ratio is the ratio of the initial benefit to the earnings just prior to retirement.

** Low wage earners are defined as workers earning the Federal minimum wage. In 1975 "low", median and maximum earnings were $3,789; $8,188 and $14,100 respectively.

*** The intermediate set of assumptions includes an ultimate CPI annual increase of 4% and an ultimate wage annual increase of 5¾%.

## CHART 5

### PROJECTED EXPENDITURES, TAX INCOME, AND DEFICITS, EXPRESSED AS A PERCENTAGE OF TAXABLE PAYROLL

| Calendar Year | Based Upon Present Law: Old-Age and Survivors Insurance | | | Disability Insurance | | | Medicare (Hospital Insurance) | | | Total for OASDHI | | | Based Upon Illustrative Alternative Law[1]: Total for OASDHI | | | Medicare (Supplementary Medical Insurance)[2] Expenditures |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Expend. | Income | Deficit | Expend. | Income | Deficit | Expend | Income | Deficit | Expend. | Income | Deficit | Expend. | Income | Deficit | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1976 | 9.36 | 8.75 | .61 | 1.42 | 1.15 | .27 | 1.87 | 1.80 | .07 | 12.65 | 11.70 | .95 | 12.65 | 11.70 | .95 | .79 |
| 1980 | 9.15 | 8.70 | .45 | 1.53 | 1.20 | .33 | 2.26 | 2.20 | .06 | 12.94 | 12.10 | .84 | 12.93 | 12.10 | .83 | .96 |
| 1985 | 9.46 | 8.60 | .86 | 1.70 | 1.30 | .40 | 2.82 | 2.70 | .12 | 13.98 | 12.60 | 1.38 | 13.94 | 12.60 | 1.34 | 1.25 |
| 1990 | 9.98 | 8.50 | 1.48 | 2.08 | 1.40 | .68 | 3.54 | 3.00 | .54 | 15.60 | 12.90 | 2.70 | 15.39 | 12.90 | 2.49 | 1.61 |
| 1995 | 10.37 | 8.50 | 1.87 | 2.52 | 1.40 | 1.12 | 4.27 | 3.00 | 1.27 | 17.16 | 12.90 | 4.26 | 16.71 | 12.90 | 3.81 | 1.88 |
| 2000 | 10.48 | 8.50 | 1.98 | 2.93 | 1.40 | 1.53 | 4.93 | 3.00 | 1.93 | 18.34 | 12.90 | 5.44 | 17.49 | 12.90 | 4.59 | 1.93 |
| 2025 | 19.68 | 10.20 | 9.48 | 4.41 | 1.70 | 2.71 | 7.16[3] | 3.00 | 4.16 | 31.25 | 14.90 | 16.35 | 25.63 | 14.90 | 10.73 | 2.59 |
| 2050 | 23.72 | 10.20 | 13.52 | 4.87 | 1.70 | 3.17 | 7.46[3] | 3.00 | 4.46 | 36.05 | 14.90 | 21.15 | 26.71 | 14.90 | 11.81 | 2.64 |

Explanatory Notes:

Estimated expenditures are for benefits and administrative expenses.

The deficit is the excess of the expenditures over the tax income for the year. This ignores any amounts in the trust funds and interest earnings thereon.

The effective taxable payroll is slightly different for OASDI and HI because of the tax treatment of self-employed persons; however, it does not materially affect the comparisons.

[1] Under the illustrative alternative law (labeled as the "modified theoretical system" in the 1976 OASDI Trustees Report), it has been assumed that the replacement ratio (the ratio of the initial benefit payable at age-retirement to the individual's preretirement earnings) will remain stable at approximately the levels prevailing in January 1978.

[2] Expenditures are approximately equal to total income from premiums and general revenue for the Medicare-SMI program. Although the Medicare-SMI program is not financed by payroll taxes, its cost is shown for comparative purposes as a percentage of payroll which is taxable for HI purposes. Figures after 1976 are based upon unpublished estimates.

[3] Based upon unpublished estimates. For the purpose of this comparison, it was assumed that after the year 2000 medical care unit cost increases would be equal to average wage increases in covered employment.

DR. WILLIAM C. HSIAO: Among all the social insurance and private insurance programs, the social security (OASDI) system is undisputedly the largest. In 1976, the system will have an income close to $74 billion while its expenditures amount to approximately $78 billion. The financial security of every American is affected by the program. At the same time, the financial health and stability of the social security program depends on the technical expertise of the actuarial profession. However, less than one percent of the members of the Society of Actuaries are serious students of this important social insurance system. A sound insurance system needs the rational analysis that actuaries can provide, yet the actuarial profession remains a slumbering giant and has not awakened to this challenge.

Another opportunity, however, is in the offing. Now, forty years after its inception, the social security program approaches maturity and is ready for a critical reappraisal. Today social security faces a financial crisis. Dealing with the pressing deficits will provide an opportunity to strengthen and reform social security so that it can better serve our nation in the years ahead. There are at least three vital areas where actuaries can take responsibility in directing the future of social security:

1. In performing critical evaluation and analysis of the existing system,

2. in educating the public, Congress and the Administration, and

3. in providing recommendations for constructive changes.

The social security program faces five important challenges. The actions taken to meet these challenges will largely determine the long-run stability of this system, and the future of private pensions.

1. Social security is currently running a deficit and depleting its contingency funds.

2. The present benefit formula overindexes the benefits to changes in price levels. Consequently the benefits for future retirees will respond irrationally to changes in economic conditions.

3. The recent demographic shift from baby boom to baby slump will eventually require a large increase in the social security tax rate if the current relative benefit structure is to be maintained.

4. The social security program provides inequitable treatment of families with one wage-earner versus families where both spouses participate steadily in the labor force.

5. Recent changes in other government programs have rendered some provisions of the social security program obsolete. Among them are the minimum benefit amounts and the large weights given to low average monthly wages.

Undoubtedly the social security program needs additional financing. Among actuaries there is wide agreement that the system should continue to be financed by a payroll tax. Reliance on the payroll tax helps to make the public

aware of the cost of the system. This awareness encourages thoughtful responses to suggestions for revision. In the past, this budgetary discipline has provided prudent and rational changes to the system and has garnered wide public support for the program. Moreover, general revenues are more properly used to support needs-related programs whereas the principles underlying social security are based more on earned rights rather than on assessment of needs.

There is also widespread agreement that the present overindexing of benefits must be corrected. Two major alternatives have been proposed: the price-indexing method recommended by a Consultant Panel to the U.S. Congress and the wage-indexing method proposed by President Ford in June, 1976. In form the two competing proposals are much alike. Both would index benefits by the Consumer Price Index (CPI) for those who have already retired. Both would index the social security wage records before they are averaged to be used in calculating the primary insurance amount (PIA). Both would simplify the PIA formula to a formula involving three average monthly wage (AMW) intervals. Also, both would index the AMW interval "bend points" to make them dynamic.

The difference between the price-indexed method and wage-indexed method is in the indices that will be used to index the wage records and to index the bend points. The Consultant Panel would base the indexing of both wage records and bend points on the Consumer Price Index. Therefore the index used will be consistent with the one used to index the benefit payments for those who are already retired. The taxable earnings base would continue to be indexed by average wages.

President Ford would base the indexing of both wage records and bend points on the rate of change in average wages in covered employment. This is consistent with the method used to index the taxable earnings base, but different from the indexing of benefits for those who are already retired.

Therefore the difference between the two proposals is the difference between the rate of change in prices and the rate of change in wages. The two different indices yield very different patterns of benefits. Correspondingly their costs and financing requirements are significantly different.

The price-indexing method guarantees a smaller benefit in the absence of legislated increases. It would protect future retirees against inflation through an automatic adjustment method. In addition their initial benefit would tend to increase even further when real wages increase. However, the initial benefits, measured as a percent of immediate preretirement earnings, would decline in the absence of legislated increases.

On the other hand, the wage-indexing method would provide initial retirement benefits that replace approximately the same proportion of each worker's preretirement wages as is replaced for a worker who retires in 1976.

The two different approaches of indexing produce very different outcomes in:

1. <u>Flexibility and Congressional Control</u>

   These two methods promise different benefits to workers retiring in the future. The price-indexing method guarantees a moderate benefit that

compares favorably with that for a worker who has previously retired. It also provides Congress with greater control and flexibility to increase the benefit in the future. The price-indexing method would guarantee a benefit amount that is protected against inflation. Moreover, the benefits for future retirees would tend to increase even without future congressional action because of the rise in workers' productivity. Congress can further raise the benefits in light of the needs of the retired population and the economic, social and demographic conditions prevailing at that time.

The wage-indexing method, on the other hand, would make benefit levels fully automatic. This type of automatic adjustment would establish benefits at a higher level and thus leave less financial flexibility for Congress. Belief in the ability to achieve these promised higher levels of benefits without large tax increases requires a strong faith in the reliability of forecasts about future economic and demographic conditions.

2. Benefits Promised and Incidence of Their Costs

The two proposals promise different benefits. Correspondingly their respective costs are very different. The wage-indexing method may require a future generation of workers to finance a payroll tax that is 70 percent higher than the present level. Many have questioned the fairness and wisdom of promising a benefit at such a level which commits our sons and daughters to a higher tax rate than we ourselves are willing to pay. The price-indexing method on the other hand would promise a benefit that can be financed over the next 75 years by a relatively level payroll tax rate.

3. Unequal Treatment of People Retiring at Different Times

The price-indexing formula provides that retirement benefits will be protected against inflation. It leaves financial flexibility for Congress to give whatever periodic general benefit increases appear reasonable from time to time for everyone--currently retired people and workers retiring in the future.

In contrast to this, the wage-indexing method provides a sharp tilt in favor of workers retiring in the future. The increases in benefits for workers already retired are limited to increases in the Consumer Price Index. Yet workers who retire five years later will receive increments due to both price changes and increases in real wages. This difference in retirement benefits can be substantial. For example, consider three workers with life-time earnings at the median level for the total economy. Assume that the first person was born in 1911 and retired in 1976; the second was born five years later in 1916, and will retire in 1981; the third was born in 1926 and will retire in 1991. The two methods would produce the following benefits expressed in 1976 dollars.

| | | Monthly Retirement Benefit (excluding spouse benefit) for three median earners | | | |
|---|---|---|---|---|---|
| | | President Ford's Proposal (wage-indexing method) | | Panel's recommendation (price-indexing method) | |
| Year of birth | Year of Retirement | Benefit amount in constant 1976 dollars | Ratio of initial benefit awards to 1976 retiree's benefit | Benefit amount in constant 1976 dollars | Ratio of initial benefit awards to 1976 retiree's benefit |
| 1911 | 1976 | $347 | 1.00 | $341 | 1.00 |
| 1916 | 1981 | 413 | 1.19 | 366 | 1.07 |
| 1926 | 1991 | 521 | 1.50 | 414 | 1.21 |

Under the wage-indexing approach, a median wage earner retiring in 1981 will receive an initial benefit that is 19 percent greater (in constant dollars) than the benefit received by a similar person retiring in 1976. The person who retires in 1991 will receive 50 percent more in purchasing power than the first person. This disparity in benefits among different age cohorts of retirees will promote social discontent. The program will have to be changed periodically to mitigate the unequal benefits. Therefore, the wage-indexing method is not a fully automatic system.

There is a fundamental difference in the political beliefs underlying the two proposals. On one hand the price-indexing method promises less and leaves any additional benefit increases to the future. This approach assumes that our society is everchanging. The social structure, the economic conditions and our national priorities shift constantly. Governmental programs are easier to expand than to contract. The social security program is a large socioeconomic structure that will have to be modified according to the changes in our nation. Moreover, certain significant issues have already emerged (such as treatment of one-earner versus two-earner families) which will require a major overhaul of the system in the not too distant future. Therefore, the benefit formula should have resilient features in order to permit Congress to make changes without making the benefit levels excessive.

On the other hand, the designers of the wage-indexing method believe the social security benefit structure can be made fully automatic for the near and distant future. There is no provision for Congress to alter the system in the future. They have implicit faith that we can predict the economic and demographic conditions in the future and that the system can be insulated from other social changes in the nation.

More importantly, the wage-indexing method defeats its own objective of having a fully automatic benefit system and thus a social security system insulated from political decisions. What the wage-indexing approach fails to do is to provide fair and equitable treatment for those who have already retired and those who will retire in the future. The benefits for those who are beneficiaries would be increased by price changes. However, the initial benefits for workers retiring in the future would be increased by price changes plus real wage changes. This unequal treatment of different generations of retirees invites our political decision-makers to give

periodic increases in benefits to the people who have already retired so that their income can be relatively equal to those who retire that year. It will be difficult, however, to increase the benefits of those who have already retired without giving a general increase to all covered workers. There could be a chain reaction that would lead to periodic general increases for all. The fully automatic feature envisaged by the wage-indexing method would become only an automatic floor of benefits while the Congress would still have to provide periodic ad hoc general increases in benefits.

The complexity of the social security program is well illustrated by the above discussion of alternatives to correct the overindexing problem. In the past, actuaries have performed valuable services in two areas of the social security system--program design and actuarial cost estimates. Although actuarial training provides a technical foundation for analyzing social insurance, social security has different dimensions that require more than traditional actuarial skills.

Social security differs from private insurance in at least three aspects:

1. The cost estimates have to be more precise; there is less leeway to introduce conservative assumptions or contingency margins into the rates.

2. The system is more complex. More complicated methods have to be employed.

3. The cost estimates have significant impact on policy. They are reviewed by technical professions other than actuaries. Therefore the most reasonable and up-to-date methods must be used to maintain the confidence of the technical community.

In calculating premium rates for group insurance plans or individual policies, actuaries are not overly concerned about the exactness of their premium rates. In group insurance, guaranteed rates are the exception rather than the norm. Premium rates can be revised annually and favorable financial experiences can be returned to the policy holders through experience rating or dividends. Adequacy of rates is a paramount concern in order to protect the company against bankruptcy. Furthermore the policy can be revised or cancelled if circumstances warrant.

Social security does not enjoy the same flexibility in its financing arrangements as private insurance does. Government can hardly cancel the program without inviting social upheaval. Overestimating the costs of the program means that needed modifications might not be adopted, incorrect decisions would be made based on erroneous technical information, and the credibility of the actuaries would decline and their advice would not have much effect in the future. Underestimating the costs also leads to incorrect decisions and eventually to higher taxes to finance the program.

Therefore the social security actuaries need the best technical tools available to make reasonable cost estimates which are neither too high nor too low. This means employing such tools as simulation models, analysis of variance and time series models. This complex system covers more than 100 million workers. Besides demographic projections, the estimates require a forecast of various economic variables--labor participation rates, price changes and wage changes. Thus a thorough knowledge of economics is a prerequisite for all social security actuaries.

The actuarial profession has an unprecedented opportunity to help shape the social security program. The rewards and satisfactions from performing a vital public service can be great. Perhaps in the future more actuaries will devote more time to social insurance and will take a crucial part in the coming discussions and debates.

MR. ROY R. ANDERSON: Let me introduce these remarks on our social security system with this observation. In my judgment, by the time the year 2050 has arrived, this present system of social security will be nothing more than a footnote in history. It will already have passed into limbo decades earlier.

I'll offer a second judgment: The present system of social security will not even endure until the 21st century - the year 2000 - unless there will have occurred major overhauls in its scope of coverage and in its mechanics of compensation.

Now these are pretty strong statements. There are three main reasons I feel confident in making them:

1. The present system of social security is based on an invalid concept and - in its systemic construction - is badly designed. It cannot long endure.

2. Before many more years have passed, we will be forced to make major changes in social security to coordinate with the other systems of compensation - that is, the myriad other systems that also provide compensation for persons who are not gainfully employed.

3. The world society is now in a period of transition. As we move into the future, all of our institutions and systems will be undergoing traumatic changes and this will include our system of social security.

I'll discuss these three points in reverse order. Let's start with our changing world society. Here's one way that this has been described.

> "...our world society is now in a period of transition. Something like 15 years ago - say, 1960 - we left what had been known as the Western Industrial Society. In about another 15 years - say, 1990 - we will enter an entirely new society, with different values, different beliefs and different institutions."

You may recognize the thoughts expressed by those words. Essentially, they are the message found in report #12 of the Trend Analysis Program. I personally believe those words. I believe that our civilization has entered upon a period of transition - of shocks, discontinuities, and wrenching change. A few decades from now, I don't believe we will be able to recognize many of today's institutions. You will understand then why I regard a demographic and financial projection of the present social security system to the year 2050 as an exercise in arithmetical nonsense.

Let me cite just one feature of this changing civilization that is going to have a major impact on our socioeconomic system before we have moved more than a decade or two into the next 75 years: The third and fourth world nations are going to insist successfully that the United States share with them a fairer portion of the world's goods. The rest of the world will not

permit our 7 percent of the world's population to continue to gobble up more than a third of the world's energy and natural resources. In the future, we will have to gear down to a less wasteful and more modest style of living. Goods will become less available. Inflation will continue. The result will be an increase in the conflict between workers and non-workers for available goods - translating into an increased strain on the social security system.

Now, the second point: The need to coordinate social security with other systems of compensation. I will illustrate the scope of this problem by commenting on a seemingly unrelated system - our tort/liability system of law. Within just the past few years, this system has virtually gone out of control. It is producing costs which society will soon be unwilling to bear. In fact, that day has already arrived in some areas with respect to the premiums now being charged for product liability insurance, for professional liability insurance (especially medical malpractice), and for auto insurance.

For those of us who have been following closely the tort/liability system, there is a growing conviction that this system must go. But without exception every proposal I have ever seen that suggests the elimination of tort carries with it the companion proposal that injured persons be compensated under some system that is frequently described as a system "like workers compensation". But this latter proposal is no longer practical in the light of the myriad systems of compensation that society enjoys today. You could not fit in still another system of compensation without further impinging upon those already existing - including social security and medicare.

I am only describing the tip of this iceberg. Our social security system is only one of the many systems of compensation that have grown and expanded and have increasingly impacted upon each other. The result has been not only wasteful duplication; much worse, these systems are undermining each other. I will just cite a few of the many systems that can duplicate social security benefits:

- State, county and municipal pension plans
- Federal pension plans, such as those for civil servants and the military
- Employer and union pension plans
- Disability income plans of all sorts - insured and uninsured, long term and short term, group and individual
- Unemployment insurance
- Welfare programs

And on and on - I could even include such considerations as the mechanics of the personal income tax system, the existence of featherbedding jobs, and political patronage. The latter have some of the characteristics of a system of compensation.

And all of this just relates to income. I haven't even mentioned medical care. We have really worked ourselves into a mess with our systems of compensation. As of today, I know of no person or organization that has undertaken the project of fully cataloging these many systems under which a person can receive compensation, whether it is because he is too old,

too young, too sick, too poor - or just because he qualifies. It is a project that we can no longer ignore, and it is a project we must complete before we can even begin the far more difficult one: Construction of a set of consistent systems from what will soon be the ruins of the present mess.

I submit to you that our profession of actuaries is by far the best qualified to undertake the direction of this project of cataloging the present systems of compensation. This subject is on the agenda for the next meeting of the social insurance committee of our sister society, the Academy of Actuaries.

Now, let me turn to the major systemic flaws of our present system. And I'll say just enough about each to convey the thought:

1. The need for decoupling. That needs no further explanation. But I will say this: Does it not tell us something about the way we are tinkering with our system when a fundamental change such as the use of an indexing factor proves to be fatally flawed within 5 years of its adoption?

2. The use of an indexing factor is itself a fundamentally unsound concept. Given constant inflation, there is no way that certain segments of our society can indefinitely escape bearing their share of this burden. Equally important, there is no way that a cost of living index can be constructed to reflect equitably changes in prices as they affect various segments of society. This will prove to be increasingly true as our life styles change and as various types of goods become scarce in varying degrees. The way the CPI itself is calculated will inevitably become a major social and political problem.

3. The disability income feature of social security may very soon prove to be its most fatal flaw. It is far too liberal in its benefit structure. It overlaps with far too many other systems of disability income, to the extent that massive malingering is going to be induced. The financial soundness of all of these plans may well be jeopardized. But most important, it is foolhardy to believe that a governmental bureaucracy can effectively handle a disability claim system where the rights to benefits are largely based on subjective evaluation. What was intended as a disability program will steadily deteriorate into an unemployment system and then into a system of early retirement.

   Most of the focus today is on the problems of decoupling and replacement ratios. Within two or three years, I predict the focus will have switched to what will have become an even more critical problem - the disability feature.

4. Social security must be extended to all of the working population. Society will not continue to endure the extra cost of preferential treatment for the military, civil servants, municipal employees, and so forth. This, of course, is related to the need to catalog our systems of compensation and to construct order out of chaos.

I opened my remarks with the statement that I believe our social security system is based on an invalid concept. Let me explain, because I believe this flaw is the root of many of the problems that have developed over the years. We seem to have convinced ourselves that it is possible for one generation to contract with a later generation such that the latter must continue

to perform. Children now unborn are supposed to be willing to provide the benefits that today's politicians see fit to promise to today's voters. It just is not going to work out that way.

We seem to want to induce the workers of today to believe that the contributions they are now making are buying them their own identifiable annuity plan. We evidently feel they have to believe this fiction if they are going to be willing to continue to support the system with their contributions.

All of this idea of a contract between generations and of individual equities is sheer nonsense. It is time that we acknowledged what a system of social security is supposed to be: A system whereby the goods and services that are being produced by those who can work are made available to those who cannot. It will not be easy to determine just how liberal the workers should be in establishing the level of benefits for the non-workers. But this will have to be done on a regular, routine basis every few years. This is a problem that will become increasingly more difficult as the proportion of non-workers to workers increases and as goods become less abundant. It is a problem the politicians will have to face up to. They will have to earn their pay. No longer will they be able to play Santa Claus by promising benefits to one generation by mortgaging the future of the next one.

Believe me, in the changing world that lies ahead of us, we will come to the concept I have just described. And we will reach this point before too many years have passed. The evidence is before us that the days of some of our present systems are numbered. As you may have gathered, I believe that that includes social security as it is constructed today.

MR. ROBERT J. MYERS: I have always believed it essential, for the common good, that actuaries should take an active interest in social security and should talk about it widely, not merely among themselves. The speaker's kit prepared by the Committee on Social Insurance of the American Academy of Actuaries should be helpful in this respect and, hopefully, will be extensively used.

Two other recent educational efforts should be noted. First, the National Association of Life Underwriters has prepared a filmstrip on the financing problems and role of social security. Second, the National Association of Manufacturers has released a report on the problems of overlap of benefits under governmental plans, a matter to which Mr. Anderson has referred.

Mr. Hsiao has stated that the present automatic adjustment provisions under social security result in overindexing of the benefits. Although this is true under likely future economic conditions, there can be underindexing under some economic conditions, and even complete stability under others.

The House Ways and Means Committee recently held hearings on decoupling. The Ford Administration, after thorough and lengthy consideration, recommended the wage-indexing method as against CPI-indexing. All organizations that testified except one (the Chamber of Commerce of the U.S.) also advocated the wage-indexing approach; such organizations included the American Council of Life Insurance, AFL-CIO, National Association of Manufacturers, National Association of Life Underwriters, and two senior-citizen groups. Presidential candidate Jimmy Carter has also come out in favor of the wage-indexing method.

A modification of the wage-indexing approach has been advocated by me on behalf of the American Council of Life Insurance. Instead of maintaining level into the future the present replacement ratios, as does the Administration proposal, the ultimate level would be 10 percent lower. This would be accomplished by a gradual phasing procedure, so that dollar amounts of new benefits would not be lowered, but rather would increase somewhat. The rationale for this approach is to recognize, and correct, the overliberalization in benefits which occurred in 1970-72 (i.e., increases larger than rises in the cost of living).

Mr. Hsiao has given three arguments as to why CPI-indexing is preferable to wage-indexing. Let me take these up in turn. First, as to flexibility, I believe that the wage-indexing method is viable and could continue indefinitely into the future without change, whereas the CPI-indexing method, with its likely decreasing relative benefits, is almost certain to require continuous changes over the future. It hardly seems reasonable or logical to legislate in a form that must be changed later.

Second, as to the higher tax rates apparently required under the wage-indexing approach compared to the CPI-indexing method, I would argue that a combined employer-employee rate of as much as 17-19 percent some 50 years from now (the former if the alternative under wage-indexing of a 10 percent relative reduction in the benefit level is followed) is not unreasonably high. At the same time, it must be kept in mind, the demographic situation that produces high costs for retirement benefits correspondingly means lower costs and taxes for the childhood ages.

Third, as to different and inequitable treatment of various generations, I see nothing wrong with the wage-indexing method, since it results in persons retiring with benefits which adequately reflect their past relative earnings level and then are maintained as to their purchasing power. Certainly, the CPI-indexing method does much less, unless it is adjusted on an ad hoc basis (and this may result in higher costs than under wage-indexing, not the lower ones asserted by Mr. Hsiao).

In my view, it is not good benefit design to have decreasing benefit replacement ratios. Certainly, this is not done under private pension plans. Moreover, such procedure seems most unfair to younger workers, who pay social security taxes proportional to their earnings (and at higher rates for longer periods) than current older workers and yet would receive smaller relative benefits.

Furthermore, from a practical political standpoint, which cannot and should not be ignored, if there were widespread difference of opinion between the "experts" and interested organizations, it is likely that any legislative action would be long delayed. Certainly, groups who advocate expansion of the program would hardly relinquish the present benefit structure and support decreasing relative benefits, plus the opportunity to come to Congress in the future to argue for increasing them to constant benefit replacement ratios (or possibly higher). And such groups have considerable influence in the legislative halls! It is most important to note that delay in instituting decoupling means further upward ratcheting of the relative benefit level.

Mr. Anderson's views as to what might happen in the future are most interesting. I agree completely with him as to the undesirability of such benefit overlaps and gaps in coverage now present. I do not believe, however, that

these cannot be remedied within the existing structure. Nor do I think that, within the next 25 years, the social security program as we now know it will cease to exist. I shall be watching the situation with intense interest.

MR. DAVID LANGER: Bill Hsiao pointed out the disparity in the wage-indexed benefit formula which favors the younger people as opposed to the older. I would like to know the Advisory Council's rationale for such a formula.

With respect to the study of the social security system, I feel that actuaries should recognize that other disciplines have considerable knowledge to offer. For instance, social workers are extremely cognizant of changes and trends, and could make positive contributions as part of a multidisciplinary study group. So would politicians for that matter. Actuaries, then, should not assume they are best prepared to carry the burden, but they should realize that they are one of many groups that can make valuable contributions.

With respect to Haeworth Robertson's urging us to consider long-term estimates seriously, I think the point is well taken. From a practical point of view, I think some thought should be given to making adjustments every 10 years based on projections that can be made over a period of perhaps 10 years. It is easier to think in terms of income and disbursement over a 10-year period than over a 25, 50 or 75-year period. So, I would amend what Haeworth has said by suggesting that we should think in terms of projections over a limited span of time, such as 10 years.

Mr. Anderson did well in describing the multiplicity of benefit programs that exist and he correctly included items such as medical care as part of a person's income. I recommend Bellamy's book Looking Backward which strikes a very similar note, even though it was written around 1875. It was very futuristic then and it applies equally well now.

MR. DONALD S. GRUBBS: On Chart 1, we see the expenditures rising by 2050 to 19.25 percent of payroll under the wage-indexing approach. Have comparable projections been made under the price-indexing approach?

DR. HSIAO: Yes. Under price-indexing, expenditures remain fairly level in the neighborhood of 11 percent of taxable payroll. That is one of the strengths of that proposal.

MR. GRUBBS: Chart 3 shows, for the median wage earner under the present system, the replacement ratio rising from 44 percent to 69 percent. What would that 69 percent be under the wage-indexing approach and under the price-indexing approach?

MR. ROBERTSON: Under the wage-indexing approach, all the lines on Chart 3 would be approximately parallel to the base line. So, the replacement ratios would be approximately constant over time. Under the price-indexing approach, the lines in Chart 3 would decrease. A person's benefits at retirement, expressed as a percentage of preretirement earnings, would decline - enough that the present tax rates would be adequate to finance the benefits.

MR. WALTER RIESE: A pessimist might suggest that the difference between the Consumer Price Index and the wage index will come to zero, in which case the difference between the two proposals would be largely resolved. If I understand Roy Anderson correctly, he is concerned that with the Consumer Price

index, pensioners will be protected against something that the active population is not protected from. I'm against indexing. I don't believe that some segment of society is going to be preserved from the effect of inflation. Inflation has to be paid for by somebody. In addition, the cost of living index can't really withstand close scrutiny as to how if affects various people. For instance, the cost of an automobile must have a large influence on the calculation of the index, yet it has relatively little to do with the expenses of the retired population. Once that is understood, then there will be a whole new political era of fighting about even how you calculate the index.

DR. HSIAO: A number of questions were asked of me and I'd like to answer them. Let me start with Dave Langer's question about the rationale provided by the Advisory Council concerning unequal treatment of different generations of workers in their benefits. If my memory serves me correctly, the Advisory Council did not address that question at all, and I think this is the kind of technical analysis that is needed for a critical appraisal of all proposals. The second point mentioned by Dave is that there is no need for long-term projections, and I am somewhat taken back by that view. We know there is a demographic bulge. We have experienced the baby boom, and we are now experiencing a baby slump, and we know there are going to be more retired people down the road. If we just close our eyes to that fact, then I think we are inviting a similar situation to that experienced by New York City.

I think Bob Myers brought out that it is a vain hope to think that Congress might adopt the price-indexing approach. Perhaps the best hope we can have is that Congress will adopt a wage-indexing approach rather than nothing at all. However, I feel our professional responsibility is to lay out the options before Congress, the Administration, and the American public and say, "These are the consequences of different, technically sound approaches." Many of us do not think that wage-indexing is the optimum solution, but perhaps wage-indexing will be accepted because it is the only proposal that is politically viable. That doesn't mean we have to sacrifice our professional integrity by serving up only that one proposal which is politically viable but intellectually and rationally unsatisfactory.

MR. STEPHEN N. STEINIG: There has been much discussion for many years concerning the question of early retirement. I would like to comment on a possible future social change of an opposite nature which we might see over the next 10 or 20 years.

The change is a movement away from compulsory retirement at age 65, which could have considerable impact on the long range financial estimates which serve as a basis for choosing between the two proposals under consideration for modifying the social security formula.

Senior citizens themselves are one force behind this change. Increasingly organized, the growing numbers of senior citizens will steadily be increasing their political clout. Many resent having to retire, for both financial and psychological reasons, and some of the senior citizen organizations have already begun to voice their opinion that mandatory retirement represents unfair discrimination on the basis of age.

In addition, the change in population distribution, with ages 20-64 representing a decreasing percentage of the total population, might cause

employers to have an increased interest in continuing employment for those age 65 and over in order to maintain the size work force which they need.

Any significant increase in the percentage of people beyond age 65 who continue to work, thereby continuing to pay social security taxes and deferring social security benefits to which they are entitled, might significantly reduce the future cost of the social security system.

MR. ROBERTSON: I agree completely with what you said. Although that is not a popular point of view, I think it will be accepted in the coming years.

MR. MILTON P. GLANZ: It is important for the actuary to understand and explain to the public the various types of indexing, since most proposals to introduce financial stability in the social security system involve some type of indexing. In the proposed benefit formulas for new awards there is always (at least in every proposal I have seen) an indexing of the bend points (the points at which consecutive earning intervals join). In addition, there is generally an indexing of the earnings record. A feature common to the proposals I have seen is that benefits for those on the rolls are adjusted according to the Consumer Price Index.

In connection with any proposed benefit formula, it is natural to ask what this will do to the cost of the social security system.

A formula such as the one in the administration bill, H.R. 14430, which provides for indexing by average wages of both the worker's earnings record and the bend points of the benefit formula, will reduce the long-range average cost of the OASDI system by about 3.9% of taxable payroll, (from 18.9% under present law to 15.0% using 1976 Trustees Report assumptions) and is said to "stabilize replacement rates". "Replacement rate" has been variously defined as "the ratio of the initial annual benefit rate to the annual preretirement earnings", or "the ratio of the initial annual benefit rate to the average annual indexed earnings." A similar wage-indexed formula was recommended to the 1975 Social Security Advisory Council by its panel of actuaries and economists, which included actuaries Robert J. Myers, Charles L. Trowbridge, and Howard Young. Such a formula was adopted by the 1975 Advisory Council and it was included as a recommendation in its final report.

In October of 1976, the Consultant Panel on Social Security to the U.S. Congressional Research Service, chaired by William C. Hsiao, and which included E. J. Moorhead and James Hickman, issued its report on desiderata for a dynamic benefit formula. This panel recommended a system wherein both the earnings records and the benefit formula bend points are indexed by CPI. The cost effect of this formula is so powerful that under the present law tax schedule the long-range deficit would be completely eliminated. The long-range average cost is reduced by 7.9% of taxable payroll (from 18.9% to 11.0%), although the cost from the present to about 2010 would still show a year-by-year deficit of up to .7% of taxable payroll. Yet there is a valid sense in which the Hsiao panel formula, too, can be said to "stablize replacement rates." I shall return to this point shortly.

In addition to the cost effects of the various types of indexing I believe it is useful to have interpretations of what the types of indexing accomplish.

With respect to the earnings record, indexing is simply a way to establish the equivalence of \$1 of earnings in year t with x dollars in the year before retirement. Under CPI-indexing a unit of indexed earnings in any year t has the same purchasing power as a unit of indexed earnings in any other year. Let $\bar{w}_t$ be average earnings in year t. Under wage-indexing, for a retirement in year t + n + 1, and earnings of year t, a unit of indexed earnings for year t represents an amount of wages $\frac{\bar{w}_{t+n}}{\bar{w}_t}$ times the actual dollar amount of earnings in year t. We might summarize this by saying that CPI-indexing keeps track of the purchasing power units of a wage earner through time, whereas wage-indexing keeps track of the units of average earnings of a wage earner through time.

According to the way sectioned benefit formulas are developed, we may fit the average award under a proposed benefit formula to the present law average award. Therefore, the type of indexing of the earnings record has no intrinsic connection with the level of benefits at the effective date of the decoupling provision. The choice between the two types of earnings record indexing is a matter of what amounts of earnings in different periods we choose to consider equivalent.

Suppose we have computed an average indexed earnings, to which a sectioned benefit formula is applied. Let us compare the effect of indexing the bend points by using CPI with indexing using average wages. If we use CPI to index bend points and the earnings record, the indexed formula will replace equal units of average purchasing power (over a working life) for awards at different dates, with the same units of purchasing power. If we use average annual wages to index both the earnings record and the sectioned benefit formula, then the indexed formula will replace equal fractions of average earnings for different years of retirement, with the same fraction as a benefit. I have not been able to develop interpretations that I consider satisfactory when earnings records and bend points are not indexed in the same way. However, both of the types of indexing that I have interpreted can, with good reason, be said to provide constant replacement rates.

It can be shown that the effects on long-range costs of the social security program proceed solely from the indexing of the bend points of the benefit formula, not from the indexing of the earnings record (assuming that any initial formula is fitted to give the same average award as present law). In fact, the long-range cost effects of indexing could be obtained by indexing the bend points of the present law formula even if earnings records were not indexed at all.

It is important for the actuary to make clear to the public the broadly different interpretations possible for the expression "constant replacement rates", and the great variation in costs of the social security program that goes with the interpretation chosen.

One important decision for the U.S. Congress to make is whether the automatic benefit formula should merely guarantee without action by Congress constant replacement for constant units of purchasing power (as would be in the important case in which there were no price inflation and in which the benefit formula were not dynamic), or whether a constant percentage of average wage should be guaranteed (as would be the case if there were no price inflation and the bend points were indexed according to average wages). The difference is great.

In addition to the cost effects and the reasonableness of a given indexed-formula/indexed-earnings-record package, it is important for the actuary to consider what I shall call the 'political stability' of such a package. What are the likely ad hoc actions by Congress when it becomes publicized that average awards as a percentage of average preretirement earnings are declining (as would be the case under the CPI/CPI proposal of the Hsiao Panel)? Would Congress be inclined to move bend points to update the benefit formula, or would it use some method that actuaries and other technicians might consider unsatisfactory, (such as increasing the percentages of the formula, rather than the bend points, as was done for every ad hoc increase prior to the first dynamic adjustment in 1975)? What about those who come on the rolls between ad hoc increases; how would they be treated?

In spite of a long lifetime during which he observed both self-defeating misunderstanding by the citizens of America, and self-serving machinations by special interest groups, Thomas Jefferson never lost his faith in the ultimate wisdom of the common man. I hope we actuaries can take that same attitude today toward the understanding of the American public and the actions of Congress. I hope we will consider it time well spent when we convey to the public our insights which affect the public interest.

MR. STEVEN F. MCKAY: Dr. Hsiao presents a good short summary of the two primary methods of correcting the overindexing of social security benefits. But some of the conclusions he draws from the differences between wage-indexing and CPI-indexing seem doubtful to me.

It is true that under a wage-indexed system, increases in benefits for retirees are limited to increases in the CPI, while workers who retire later receive increments due to both price changes and increases in real wages. But far from being a deficiency of wage-indexing, this is an attribute that many people believe social security should have. Indeed, the automatic provisions of the Social Security Amendments of 1972 and 1973 incorporated that principle. As an example, consider two workers whose life-time earnings are at the median for the total economy. The first person was born in 1901 and retired in 1966; the second was born in 1911 and retired in 1976. Their benefits in 1976 are $207.10 and $240.20 respectively, a difference of 16 percent. Throughout the history of the system the older retiree has had lower benefits than the younger retiree.

While on the subject of median earners, I should mention that Dr. Hsiao's table of three such earners is incorrectly described. The figures in the table are derived similarly to those on page 18 of his panel's report to the Senate Finance Committee. As such, the workers described do not have earnings at the median for the total economy, but have earnings which vary by both age and calendar year. Even then, I have questions about the figures. Following is the table which I believe represents "three workers whose life-time earnings are in the same relative position, i.e., at the median for the total economy."

| | | Monthly Retirement Benefit (excluding spouse benefit) for three median earners | | | |
|---|---|---|---|---|---|
| | | President Ford's Proposal (wage-indexing method) | | Panel's recommendation (price-indexing method) | |
| Year of birth | Year of Retire-ment | Benefit amount in constant 1976 dollars | Ratio of initial benefit awards to 1976 retiree's benefit | Benefit amount in constant 1976 dollars | Ratio of initial benefit awards to 1976 retiree's benefit |
| 1911 | 1976 | $246 | 1.00 | $253 | 1.00 |
| 1916 | 1981 | 281 | 1.14 | 262 | 1.04 |
| 1926 | 1991 | 338 | 1.38 | 276 | 1.09 |

A third column for each indexing method which may be of interest is the series of replacement rates, defined as the benefit amount as a percent of final monthly earnings. The replacement rates under the price-indexing method decline from 52 percent for an award in 1976 to 41 percent for an award in 1991, while the replacement rates for the wage-indexing method remain relatively constant at 50-51 percent. Dr. Hsiao argues that the "disparity in benefits among different age cohorts of retirees will promote social discontent," referring to benefits under a wage-indexing method and considering the benefits in dollar terms. Considering instead the pattern of replacement rates (which I consider at least equally valid) Dr. Hsiao's comment would apply instead to price-indexing.

In this same vein, Dr. Hsiao argues against wage-indexing by saying that, "It will be difficult...to increase the benefits of those who have already retired without giving a general increase to all covered workers." This seems a weak argument, since all signs are that tying increases in benefits of retirees to increases in the CPI is adequate, and that no further increase would be demanded by the retirees. A stronger argument can be made against price-indexing. As replacement rates at award decline in the future, workers will demand a benefit increase. It would then be difficult to increase the benefits of those who have not yet retired without also giving a general increase to those who have already retired.

One possible solution, to avoid this whole argument, would be to index benefits before and after retirement by wages.

MR. ROBERTSON: On that note, I would like to thank the panel members for their provocative comments, and on behalf of the panel I would like to extend thanks to the audience for a stimulating discussion.