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THE EXPECTED FINANCING PROBLEMS OF THE  
OLD AGE, SURVIVORS, AND DISABILITY INSURANCE--  
AND POSSIBLE SOLUTIONS

by

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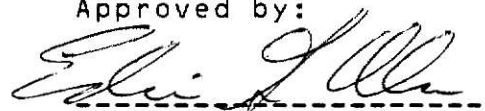
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## I INTRODUCTION

### General Introduction in the System of Social Security

In 1935, the U.S. Congress enacted the Social Security Act to create an effective system of retirement insurance. In 1956, Congress<sup>1</sup> added disability insurance to this system.

The basic goal of this Social Security Act was to protect men and women against poverty during old age and disability. Social Security should provide temporary or permanent payments to persons in cases where a consistent means of regular personal income has ceased. It should also continue a family income if the current income stops because of death or disability.

The risk of being disabled and therefore unable to work hard or of leaving a dependent after one's own death is generally not equally distributed among individuals. To spread this risk over the whole society requires a national insurance which covers almost everyone in a society, both low risk and high risk people.

Since 1937, covered workers have paid an increasing part of their wage income into an insurance policy in the hope of getting retirement benefits, or disability benefits in the case of permanent temporary disablement (since 1956). If the head of a household dies, the survivors in this family receive survivor benefits (since 1939).

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1. A National Health Insurance is also a part of the Social Security system since 1965 but is not included in this paper. Payroll tax rates are net of the rate levied for the Health Insurance.

While the number of workers covered by this law was 32.9 million in 1937, this figure increased to 114.0 million in 1979. The term "covered worker" includes wage and salaried employees in industries and farms as well as domestic workers.

In addition to this group of workers, there are self-employed individuals which are covered by this law: doctors, lawyers, etc. The number of covered self-employed increased from 2.42 million in 1937 to 5.92 million in 1977.

### The Social Security Financing

All the benefit payments and administrative costs of the Old Age, Survivors, and Disability Insurance (OASDI) are financed by two separate funds. The Old Age and Survivors Insurance Trust Fund (OASITF) provides payments for retired individuals or their survivors. The Disability Insurance Trust Fund (DITF) is responsible for disabled workers and their dependents.

These two trust funds have two similar kinds of revenues. The most important sources are the contributions from covered workers, their employers, and the self-employed.

The basic idea of the 1939 Act was a self supported security system of contributions from employers and employees who were covered under the given law. All the tax revenues in a given year were used for benefit payments in the same year. This pay-as-you-go financing procedure led to an one percent tax rate on the first \$3,000 earnings for both employer and employee in the years 1940 to 1949.

In the year 1983, the OASDI tax rate is 5.4 percent for the first \$35,700 of earnings for each contributor. For self-employed, the calculated tax rate is 75 percent of the combined employer and employee tax on the same tax base.

A 1950 Act changed the strong pay-as-you-go practice to a modified system of financing the benefits. The legislature agreed to slightly higher payroll taxes in order to accumulate enough capital assets for times of declining revenues, caused by high unemployment rates in a weak economy. This "buffer" should avoid a tax increase in such poor economic times at the given level of outgo and a declining amount of payroll taxes. The 1972 Act described this way of financing the Social Security as "current cost basis."

The net contribution income for 1981 had been \$119,016 million<sup>2</sup> for the OASITF, and \$12,589 million for the DITF.

Far less important is the amount of interest income out of the trust funds' assets. Only \$2,061 million, (i.e., 1.7 percent of all receipts out of the OASITF) and \$272 million, (i.e., 2.1 percent of all receipts out of the DITF) came from interest payments on trust funds' assets in 1981.

According to the 1972 Act, interest revenues should cover 5 to 6 percent of the total OASDI expenditures each year, and equal about three times as much as necessary to pay the costs for the administration.

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2. See Social Security Administration, Social Security Bulletin, (Washington, D.C.: Government Printing Office, October 1982), pp. 37, 38.

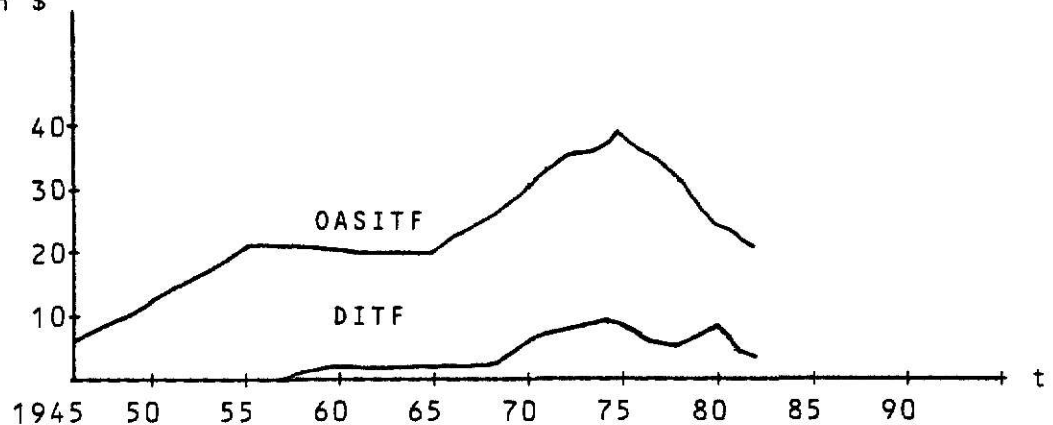
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NUMEROUS PAGES  
WITH DIAGRAMS  
THAT ARE CROOKED  
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The two independent trust funds showed in the past an almost identical situation of decreasing and increasing assets. In 1975 both trust funds reached their highest level. In the years following, a decrease in the amount of assets occurred; in 1982 the trust funds were nearly depleted (See Figure 1).

Figure 1  
OASITF and DITF Assets Since 1950.

Total assets  
in billion \$



The OASDI had in 1966 a surplus equal to the amount required to pay one full year of benefits; by September 1982 that figure had dropped to less the amount required to pay just one month of benefits. Therefore, as long as the monthly benefit payments of both trust funds exceed the monthly interest revenues plus the contributions from covered workers, the total assets in the trust funds will decline.

## The Benefit System

In June 1982, 35.46 million beneficiaries got a monthly check from the OASD Insurance. The total amount of benefits in this month has been \$13,100 million, an increase of 8.6 percent compared to June 1981. The average benefits have been \$289.63 for children of deceased workers, \$415.94 for a retired single worker, and \$442.85 for a disabled worker with a family.<sup>3</sup> The benefits for every retired, disabled, or dependent individual are calculated separately by schedules which change yearly.

The first step in finding the benefits for a newly retired individual is to determine the average indexed monthly earnings (AIME). To this end, all the annual wages in the previous years of work since 1951 are multiplied by an inflation index for the specific year, added and divided by the sum of years times 12 months.

An exception can be made in this procedure. People may choose, if they wish, to improve their AIME by neglecting the lowest 5 years in their life earnings.

With this AIME, which differs for each cohort of persons attaining the retirement age, the primary insurance amount (PIA) is calculated by using an annually changing benefit formula. PIA is a certain percentage of AIME, which already has been computed. A married couple receives 50 percent more benefits if both parties are at the retirement age of at least 62 years.

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3. Social Security Administration, pp. 34, 35.

Table 1

The Calculation of the Primary Insurance Amount  
for the 1983 Cohort

$$\begin{aligned} \text{PIA} &= 90 \text{ percent of the first } \$ 254 \text{ of AIME} \\ &+ 32 \text{ percent of the next } \$1,274 \text{ of AIME} \\ &+ 15 \text{ percent of the AIME in excess of } \$1,528 \end{aligned}$$

The minimum PIA in 1983 is \$122 for a disabled or retired worker aged 65 at the time of retirement.

A maximum family benefit (MFB) is provided to beneficiaries if the family size consists of the retired worker, his wife, and one child. In this case, the family payments are based on the computed PIA. (See for this Table 2.)

Table 2

The Calculation of the Maximum Family Benefit  
for the 1983 Cohort

$$\begin{aligned} \text{MFB} &= 150 \text{ percent of the first } \$324 \text{ of PIA} \\ &+ 272 \text{ percent of the next } \$144 \text{ of PIA} \\ &+ 134 \text{ percent of the next } \$142 \text{ of PIA} \\ &+ 175 \text{ percent of PIA in excess of } \$610 \end{aligned}$$

The actual calculated benefit payments for the years following retirement are adjusted automatically to maintain constant purchasing power. The beneficiary and his family receive for the rest of their lives the level of real benefits established in the year of retirement.

During the past, one or the other of two indexes was used for this adjustment: the annual rate of increase in gross wages on the one hand, and the growth rate of the consumer price index (CPI) on the other. Today, the U.S. Department of Labor uses the CPI growth rate for the adjustments on every January. The 1972 Act involves an additional adjustment in June if the CPI of one quarter year exceeds the price level of the preceding quarter by 3 percent or more.

To receive old age benefits, both males and females must be at least 62 years old and must have contributed payroll taxes for at least 26 quarters of coverage (QC).<sup>4</sup> At this minimum retirement age, benefits are 80 percent of the standard pension, which is provided for those aged 65 or over.

All benefits for retired people below 70 years are paid only if there is no other substantial labor income during the time of retirement. Any income up to \$6,600 (for retirees age 62 to 65 it is \$4,920) has no influence on the monthly benefits. For every additional dollar earned, 50 cents of the benefits are cut. This procedure is called the earnings test. Payments of all benefits to people aged 70 and over is made without any restriction.

Survivor benefits are provided to widows and widowers at the age of 60,<sup>5</sup> or at the age of 50 if the survivor is disabled.

The disabled get benefits if they are unable "to engage in any

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4. One quarter of coverage (QC) is defined in 1978 as an taxable income of \$ 250. Four QC are given, if the earned income is \$ 1,000 ,or more in one year. See Robert J. Myers, Social Security 2d ed. (Homewood, Ill.: Richard D. Irwin, Inc., 1981), p. 41.

5. For exceptions see Robert J. Myers, p.41 .

substantial gainful activity by reason of any medically determined physical or mental impairment." <sup>6</sup> These payments could be temporary or permanent.

Other kinds of benefits are auxiliary benefits and lump-sum death payments. Auxiliary benefits are provided if the retired or disabled individual is married and has a husband or wife who is 65 years or older. In this case the additional payments are 50 percent of the PIA. If an insured individual dies, OASDI provides a one-time full payment of \$255 to the surviving spouse. This is called the lump-sum death payment.

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6. Robert J. Myers, p. 45 .

## The Demographic Structure of the U.S. Population

The structure of the U.S. population today is the result of several events in the past. Exogenous and endogenous variables of the population growth rate influenced the birthrate at the time of the event as well as the birthrate in the following second generation. In the 1980 population-age-pyramid, three dominant fluctuations remain:

1. The deep cut in the fertility rate<sup>7</sup> during the great depression in the early thirties.
2. A baby-boom in the early fifties, when the economy recovered after World War II, with a fertility rate of 3.7 children per woman in 1957.
3. A continuing baby-bust since 1970, with the lowest fertility rate of 1.8 in 1975. The present fertility rate (in 1980) was 1.88 children per woman. In order to have a constant size of population over time, the fertility rate has to be at least 2.1 children per woman.

The current population-age-pyramid is therefore marked by a cut in the age class of 40 to 49 years and 0 to 10 years, and an expansion at the age classes of 20 to 29 years. In the remaining age

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7. Fertility rate: "Average number of children that would be born alive to a woman during her lifetime if she were to pass through all her childbearing years conforming to the age specific fertility rate of a given year". Peter A. Morris, "Demographic Links to Social Security", Challenge, January/February 1982, p. 46.

classes there exists a downward sloping number of people as age increases. In order to have a constant size of population over time, the fertility rate has to be at least 2.1 children per woman.

The fertility rate is influenced by social and economic issues. The employment of females and their changing role in the family and the society is the most important factor in this context. Statistics<sup>8</sup> of the labor force participation rate for females since 1940 show an increase of this rate from 26.7 percent (1940 ) up to 51.1 percent<sup>9</sup> (1979). Employed women tend to have fewer children than women outside the labor force in the same age. Furthermore, modern contraceptives provide women (and couples) with family planning.

Another fact in the change of the U.S. population is a growing life expectancy for men and women in the last four decades. One reason for this is better health due to modern medicine and higher standards of nutrition. A child born in 1940 had an average age expectancy of 63.6 years. Thirty-eight years later, a newborn child will have a life expectancy 10 years longer. Sex also affects longevity: male babies born in 1978 can expect to live longer by 7.9 years, and female babies by 11.3 years, than those born in 1940.<sup>10</sup> At age 65 years, people now have an average remaining life expectancy of 16.1 years, compared to 12.8 years for those aged 65 in 1940.

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8. Labor force participation rate " is the percentage of a given population that either has a job or is looking for one ". Ronald G. Ehrenberg, and Robert S. Smith, Modern Labor Economics (Glenview: Scott, Foresman and Co., 1982), p.142

9. Ibid.

10. See Peter A. Morrison, p. 48 .

These data result from the likelihood of surviving a known disease. If any important breakthroughs would be made in the treatment of a disease, like cancer, the life expectancy would be even longer. For Social Security, this means a longer duration of benefit payments to the average beneficiary in coming years.

A progressively increasing number of individuals retire early and also add to the number of Social Security claimants. Men, especially, prefer to stay a shorter period of their lifetime in the labor force. In the years between 1969 and 1979 the proportion of men over age 55 who worked during the year declined from 64 percent to 52 percent. The data for women show a reduction from 32 to 27 percent for the same age classes.<sup>11</sup>

Along with the fertility rate and the mortality rate, a change in the U.S. population can be caused by the migration rate. The rate of emmigration, however, can be neglected because this number is too small compared to the total population. More important is the immigration rate. In the past 20 years, the officially recorded number of annual immigrants has been about 0.18 percent of the American population.<sup>12</sup>

To this official data must be added a roughly estimated number of illegal immigrants. The Select Commission on Immigration and Refugee Policy submitted in 1981 a range between 3.5 to 5 million illegal people within U.S. territory.<sup>13</sup>

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11. Peter A. Morrison, p. 48.

12. See Ronald G. Ehrenberg, and Robert S. Smith, p. 288 .

13. See Select Commission on Immigration and Refugee Policy, U.S. Immigration Policy and the National Interest (Washington, D.C.: Government Printing Office, 1981), p. 36.

In all of the official data about U.S. population growth, legal immigration is included while illegal immigration is not considered. But the impact of the total migration rate on the Social Security financing structure is very small.<sup>14</sup>

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14. See Alicia H. Munnell, The Future of Social Security (Washington, D.C.: The Brookings Institution, 1977), p. 101.

## II THE FINANCING PROBLEMS AND ITS CAUSES

The actual revenue and benefit system of Social Security and foreseeable changes in the demographic structure of the U.S. population give rise to an uncertain future for the OASDI. "Uncertain future" means expenditures exceed incoming revenues (at current tax rate and base) from the trust funds.

The factors influencing budget disequilibrium differ in the near term, medium term, and long term. In the near term means a period up to the year 1990. When the term "medium term" is used in this report, it means a time period starting in the early 1990's and continuing to the year 2010. The years following, up to the year 2050, will be defined as the "long term" period. The endpoint of this outlook in the future marks the end of the expected lifetime of an individual who is born in about 1980.

Some variables can not be estimated for any longer than 10 years, such as the unemployment rate or the average wage level. Therefore, the financing problems of the OASDI have to be separated for the short and for the long run.

### The Near-Term Problems

The financing problems of the Old Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund have been greatly influenced by the general economic situation in the last decade. The turning point of the constantly growing funds' assets occurred after

the 1973 worldwide recession. The unemployment rate for the civilian labor force increased from 4.9 percent in 1973 to 8.5 percent in 1975. In absolute numbers, this means 8.5 million people (an increase in unemployment within two years of 3.4 million people) not only were looking for jobs but also did not give contributions to OASDI. Moreover, the weak economy led to a lower increase in nominal wage rates because workers and unions had less power to obtain high wages in wage bargaining. Payroll tax receipts, as a result, also grew less rapidly.

#### Unemployment Reasons

The years following the 1973-75 recession unemployment rates remained higher than 5.8 percent, which is 0.9 percentage points higher than in 1973.

Since 1980, when the present recession began, the unemployment rate has risen to levels not reached since the great depression in the 1930's. A number of reasons for the increase in unemployment are discussed in the economic literature.<sup>15</sup> But all of the authors agree on one point: In the terms of the full employment rate,<sup>16</sup> unemployment levels are higher in the early 1980's than in the early 1960's. Proposed figures fluctuate between 6 and 7 percent of the

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15. See Charles C. Killingsworth, "The Fall and Rise of the Idea of Structural Unemployment", ed. L.G. Reynolds, S.H. Masters, and C.H. Moser Readings in Labor Economics and Labor Relations 3d ed. (Engelwood Cliffs: Prentice-Hall Inc., 1982), pp. 145-151.

16. Full employment is defined as the natural rate of unemployment--the employment rate that is consistent with a zero excess in demand for labor. Ronald G. Ehrenberg and Robert S. Smith, p. 441.

labor force as a newly defined full employment rate for the 1980's.

High unemployment figures mean for the trust funds fewer contributors than there could be if every job-seeking individual were employed. The resultant reduction in payroll tax revenues is significant (with the tax rate and tax base held constant). Nevertheless, trust funds have to finance the monthly benefit payments. A shrinking number of contributors, however, means an increasing tax rate and tax base for the remaining taxpayers. But raising costs for workers makes labor less attractive to employers. The result could be even more laid-off worker and even higher unemployment rates.

Some causes of this high unemployment rate may be found in the changes in the age-sex composition of the labor force, the high minimum wage level now compared to the past, and certain administrative requirements for unemployment status leading to welfare program benefits.

Considering these facts, the OASDI must calculate that at least 7.2 million out of the 110.6 million workers in the labor force (in 1982) will be unemployed and thus are not contributing to Social Security financing for the next 10 years.

This number could be reduced if there were an unexpected demand for labor on the labor market. But the likelihood of such a sudden turning point in labor demand is very low. In the past, the only two

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17. See more: Sar A. Levitian, "Things We Should Do Now to Start Getting People Back to Work" The Washington Post, November 8, 1982, p. 21, cols. 1-3.; and, Alfred Tella and Dorothy M. Tella, "Is Unemployment Really That High?" The Washington Post, November 2, 1982, p. 17, cols. 1-2.

abruptly decreasing unemployment rates were precipitated by upcoming wars, in 1940 and 1963.

If such a realistic assumption about the full employment is made, an additional percentage of unemployed workers must be considered because of the economic cycles and structural changes in the production and service sector.

If one assumes the next decade will bring two boom periods with the newly defined full employment level, and one period with a weak economy (including an unemployment rate of at least 11 percent), the average unemployment rate will be about 9 percent for the 1980's and early 1990's.

#### Diminished Growth in Tax Base

This high unemployment rate not only brings about a smaller number of workers paying payroll taxes, but also inhibits high growth rates in real wages. Both union and nonunion sectors have less collective bargaining power in times of high unemployment rates. Therefore, real wage growth rates of more than 2 percent in "good" economic years seem to be unrealistic. It is possible, during the next decade there will be no real wage growth at all.

There is yet another interesting development in the household data structure: More and more elderly people (over age 55) tend to stay at home, thus remaining outside the labor force.

This fact has two contrary effects upon Social Security financing. First, if employees stay a shorter period of their lifetime in the labor force, the trust funds have less net contribution income

because these individuals pay no payroll taxes. The second effect has the opposite result. If an individual is not employed for a number of years, this period is computed as a time without labor income in the benefit formula. The impact of this is a reduced benefit claim for these covered people in their time of retirement. Because of the PIA-formula, benefits are reduced by a lesser amount than contributions are reduced by fewer years in the labor force.

The overall effect of having people a shorter period of their lifetime in the labor force is a reduction in the trust funds' revenues. In the short run, the reduced trust funds' income is the dominante effect, while the issue of smaller benefit payments for covered people is shifted into the future by some years.

The November 1982 data show for the group of people 55 years to 64 years a labor force participation (LFP) rate of only 55 percent, compared to the age classes of 20 to 54 year old people, with an LFP rate of 79.8 percent.<sup>18</sup> (See Table 3.)

While the declining LFP rate for females could be explained by the traditional role of elderly women in the family (staying at home, taking care for grandchildren), data for men must have other explanations.

For the group of males aged 55 to 59 who did not remain in the labor force, about 74 percent are there for other reasons than "keeping home," being unable to work, or going to school. If we take the same figures for males aged 60 to 64, 84 percent out of the group

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18. Source: U.S. Department of Labor; Bureau of Labor Statistics, Employment and Earnings, vol. 5, November 1982, p. 6.

"Not in Labor Force" would have been able to work, but stayed at home for "Other Reasons."

One explanation of these high numbers may be found in the liberal pension plans offered by some industries and public employers.<sup>19</sup>

Compatible statistics for the years 1972 and 1962 show a lower LFP rate for both sexes aged 55 to 64 in these earlier years as well.

In 1972, 60 percent (in 1962, 62 percent) of these age classes (age 55 to 64, both sexes) stayed in the total labor force. Additionally, the LFP for men 65 to 69 years was 38 percent in 1972 (42 percent in 1962), and for the highest age class of men (70 years and older), the LFP rate was 17.1 percent in 1972 (23.8 percent in 1962).

On the other hand, the LFP rate for females aged 55 to 64 rose slightly from 39 percent in 1962 to 42 percent in 1972. Since then, the participation rate held constant, until today. In the same period, the ratio of females in this age classes increased by two percent since 1962 to 53 percent in 1983.<sup>20</sup>

Finally, one can suppose that if there is no substantial pecuniary incentive or need for people older than 55 (and especially for people over than 62) to work a longer period of their lifetime, more

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19. A great part of the federal, state, and local employees are not covered by the OASDI system, but instead by specific retirement systems. The federal workers' Civil Service Retirement system gives annuities at age 65 after a 5 years of federal employment, at age 62 after 20 years employment, or at age 55 after 30 years of federal employment. However, about half of the annuitants below age 62 had enough quarters of coverage to be qualified for Social Security benefits at age 62. See U.S. Department of Health and Human Services Research and Statistic Note, Report No. 6, December 30, 1982.

20. Sources: U.S. Department of Labor; Bureau of Labor Statistics, ( No.5, 1972 ), and Ibid ( No. 5, 1962 ).

Table 3

Labor Force Participation Rate of the Noninstitutional  
Population by Age and Sex in November, 1982.  
(in percent)

| Age Classes    | Males | Females | Both Sexes |
|----------------|-------|---------|------------|
| 20 - 54        | 92    | 68      | 79.8       |
| 55 - 64        | 70    | 42      | 55.0       |
| 55-59          | 81    | 50      | -          |
| 60-64          | 58    | 35      | -          |
| 65 - 69        | 27    | 15      | -          |
| 70 and<br>over | 13    | 5       | -          |

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.  
Employment and Earnings. Vol 29, No.12, December 1982, Household  
Data, pp. 8,9

males and females will tend to leave the labor force as early as possible. Eighty percent benefits out of the calculated PIA for retirees aged 62 seems to be quite enough income for people, who might have an additional private pension source. Even the beneficiaries aged 70 and older, who are excluded from any earning test, are not willing to work longer.

#### A Gap in Growth Rates

Since the 1972 Act, the benefits were annually adjusted according to the increase of the CPI. The increase in the trust funds' revenues depends on the growth rates of the nominal wages, holding

the number of covered workers constant.

A problem arose, when benefits (based on CPI) and contributions (based on earnings) grew in different rates. In only two out of the last eight years did wage growth exceed the CPI in the United States, while six times the CPI was higher than the annual rate of increase in wages. This led to a situation in which the relative income position of the beneficiaries improved compared to the workers' position.

In coming years, the contributors have to finance these high level benefits. But the growth in wages is expected not to be very high in these years. (More about this discussion in the section on "The Medium Term")

If this situation (CPI growth exceeding wage growth) remains for the next ten years, holding the numbers of beneficiaries and contributors constant, the trust funds will run out of money. Net contribution income of the funds would not be sufficient to finance the benefits.

#### Trust Funds Earnings

Beneath the primary financing source of the OASDI system, secondary financing will undertaken far differently in the 1980's than in the 1970's. As has already been described in chapter I, the OASITF and DITF lost about two-thirds of their assets since 1975 up to 1982, and this trend continues. A lower level of assets over time, holding the interest rate constant, yields diminished interest income.

Depressed interest receipts from the funds' assets mean other revenue sources have to close this financing gap.

There was a nominal loss in the trust funds' assets, but an even greater loss of assets, caused by high inflation rates in the last eight years. Since 1975, the CPI increased by 72 percent. Moreover contributions fell below expenditures after 1975; this imbalance in between led to an additional reduction in assets.

At the same time the funds gained from an increase in interest rates on the money market. The interest revenues in 1981, for example, had been about 90 percent of the interest revenue in 1975; thus, the funds' assets had been only 60 percent of the amount 6 years before.

At the end of 1982, the Reagan administration was successful in slowing down the CPI to a rate below 4 percent. At the same time, the Federal Reserve Bank (Fed) was able to reduce its rate of interest. As a result of these two factors the trust funds will earn reduced interest receipts from the given fund's capital investment in the near future (until the Fed raises its interest rates again).

This influences mainly the short-term notes of the investment portfolio, while bonds bought in the high interest period continuously bring a high interest yield.

The average level of interest receipts in the 1980's therefore depends on the success in reducing the increasing Federal budget deficit. As long as there is a high demand for money on the bond and money market, the nominal interest rates for the assets of both trust funds will be above the CPI. The value of net interest revenues will depend on how far it is possible to stop the total asset reduction, especially of the OASITF, by a suggested Social Security plan set up

by the President's Social Security Advisory Commission in January 1983.

### The Medium-Term Problems

In the twenty years following this decade, one dominant factor will influence the asset value of the OASI Trust Fund, and the DI Trust Fund: the growth rates of average real wages.

As described earlier in this report, the annual benefit adjustments are determined by the CPI of the previous year. That means the CPI causes the annual growth rates of the funds' cash benefit payments, holding the number of beneficiaries constant. The nominal gross wage increase, on the other hand, of all covered worker determines the increase in the funds' net contribution income, holding the number of covered workers constant.

Such an immediate effect of the wage increase brings concurrent higher revenues to OASDI. The side effect of the nominal wage growth is a higher claim to benefits from the Social Security system at the<sup>21</sup> time of retirement for the current taxpayer.

The reason for this lies in the benefit formula, which computes the PIA by using the indexed taxable income. Therefore, the higher the calculated monthly average earning, the higher the final benefits.

So, whatever level the real wage rate increases in the next decade, it will cause steady growth in the funds' expenditures in the final years of this century, and the early years of the next century.

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21. See James Capra, et al, "Social Security - An Analysis of its Problems", ed. Federal Reserve Bank of New York, Quarterly Review, Autumn 1982, p. 5.

Both variables of the real wage growth, which are the nominal wage growth rate and the CPI, are exogenous variables of this system and will not be influenced by President Reagan's 1983 Social Security plan. Hence, the proposal suggests a change in the annual cost-of-living-adjustments, if the funds' assets drop to less than one-fifth of a year's benefit outlays, or below 2.4 times the average monthly cash benefit payments. If the assets are in such a situation, beginning in 1988 the annual adjustments would be made either by the previous year's nominal wage rate increase or by the previous year's CPI growth rate whichever would be less.<sup>22</sup>

This would mean, for the years after 1990, the increase in benefit payments would not be higher than the increase in the funds' contribution income, but less or equal, in a ceteris-paribus condition.

All in all, the forecast for the OASDI trust funds' medium term financing situation depends on what happens with the economic situation in the near term. An average unemployment rate between 6.3 and 7.3 percent, and an average real wage growth between 0.4 and 1.2 percent until the year 2000, are undoubtedly not the most pessimistic figures one can imagine in times of unemployment rates of 10.8 percent and a real wage decrease of 1.4 percent.<sup>23</sup> However, the Social Security administration used these figures as a data base for an intermediate and pessimistic simulation in Social Security financing.

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22. Spencer Rich, "Suggested Social Security Plan Would Affect All Beneficiaries" The Washington Post, January 17, 1983, p. 15, cols. 3-5.

23. U.S. Department of Labor; Bureau of Labor Statistics ( 1982 ).

Therefore, it is very likely that the government in Washington overestimated the trust funds' revenue situation in the medium range.

A change in the demographic structure of the U.S. population will not cause any substantial problem for the OASDI until the year 2010. A possible future (still growing) LFP rate for women, a declining LFP rate for men, and a declining LFP rate for people age 55 and over are all marginally related to the whole system.<sup>24</sup>

With the given profile of the American population, and the prospective changes in the life expectation, demographic models are able to show the relationship between the number of people in the labor force and the number of retirees.

In the year 2005, the ratio of people 20 to 64 years old, to the age class 65 years and over will be 4.3:1, while this figure is now 5.2:1.<sup>25</sup> If the average gross replacement rate of the benefits stays at the present 43 percent, the payroll tax rate for the OASI Trust Fund will be about 9.7 percent in the year 2005. To this percentage must be added a two percent mark-up for the DI Trust Fund.

Together, about 11.7 to 12 percent of the gross wage has to be contributed to the OASDI, compared to a 10.8 percent in 1982. Consequently, there will be only a slight change in the payroll tax rate to finance the OASDI pay-as-you-go system between now and the year 2010.<sup>26</sup>

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24. See Peter A. Morrison, p. 46, and James Capra, et al. p. 13.

25. U.S. Department of Labor; Bureau of Labor Statistics ( 1982 ).

26. See Henry J. Aaron, "Social Security can be Saved" Challenge, November/December 1981, p. 9.

### The Long-Term Problems

In the preceding discussion, the dominant factor for the funds' financing problems has been general economic causes, which influence the revenue and benefit system of the OASDI. Starting around the year 2010, the Social Security system will be confronted with a problem of another dimension: people born in the baby boom in the early 1950's will be retiring at the age of 60 to 65 in the years 2010 to 2020. These people, born during the baby-boom came into the age class 18 to 44 years in 1979. Compared to the census data in 1970, this age class increased by 24 percent. In the time of retirement, this cohort will cause an increase in the number of retirements by the same percentage between the years 2010 and 2020.

The number of people in the age classes under 5 years and 5 to 17 years show a lower number of individuals in 1979 compared to 1970. These age classes shrank by 8.8 percent and 10.7 percent (until 1979), because the people born in the 1950's advanced to an higher age class. (See Table 4.)

Table 4

Estimates of the Resident Population  
of the United States by Age Classes  
(in thousands)

| Age<br>Classes | April 1, 1970                         |                                 | July 1, 1979                          |                                 | Percent<br>changes<br>in in-<br>dividuals |
|----------------|---------------------------------------|---------------------------------|---------------------------------------|---------------------------------|-------------------------------------------|
|                | total num-<br>ber of in-<br>dividuals | percentage<br>distribu-<br>tion | total num-<br>ber of in-<br>dividuals | percentage<br>distribu-<br>tion |                                           |
| under 5        | 17,162                                | 8.4                             | 15,649                                | 7.1                             | - 8.8                                     |
| 5 to 17        | 52,562                                | 25.8                            | 46,922                                | 21.3                            | - 10.7                                    |
| 18 to 44       | 71,737                                | 35.3                            | 88,968                                | 40.4                            | + 24.0                                    |
| 45 to 64       | 41,836                                | 20.6                            | 43,903                                | 19.9                            | + 4.9                                     |
| 65 and<br>over | 19,972                                | 9.6                             | 24,658                                | 11.2                            | + 23.5                                    |
| Total:         | 203,235                               | 100.0                           | 220,099                               | 100.0                           | + 8.3                                     |

SOURCE: U.S. Department of Commerce, Bureau of the Census,  
Current Population Reports, Series P - 25, No.875,  
(January 1980), pp. 12, 13.

Thanks to the better health of older Americans in the present and future compared to the past, an average retiree will enjoy a longer life expectancy after reaching the retirement age. The mortality rate,<sup>27</sup> which is at a 7.7 level in 1980, is expected to decline to 6.9 during the next 30 years.<sup>28</sup> Thus, more individuals will reach the retirement age and have a claim to benefit payments.

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27. The mortality rate is defined as the number of deaths in given year out of 1,000 living people.

28. Board of Trustees of the Federal Old Age and Survivors Insurance and Disability Insurance, Annual Report (Washington, D.C.: Government Printing Office, 1982), pp. 22,23.

On the other hand, the generation of the baby boom follows a generation with a declining fertility rate, born in the 1960's, and a baby bust generation of the 1970's with a fertility rate of 1.8 children per woman. This age class of newborns, up to 20 years old in the year 1980, will be at age 35 to 55 in the year 2015, and therefore will be the main part of the future labor force.

The younger age classes in the 2015-labor force will be born in the next 8 to 13 years. The number of people in this cohort depends on the future level of the fertility rate. It is difficult to predict a future birthrate because this depends on social attitudes as well as on economic conditions.<sup>29</sup> Such conditions might be a higher LFP rate for women caused by an increase in the wage rates for women, or, for all persons, by a higher general demand for labor.<sup>30</sup>

Other highly developed countries in the western world--like Switzerland, the Netherlands, and West Germany--already have fertility rates below 1.6 births per woman. For the U.S., the future fertility rate is projected to be between 1.7 to 2.4 births per woman, with an intermediate level of 2.1 births.<sup>31</sup> The Social Security Board of Trustees made different assumptions about the fertility rate in their long run projection. These estimated birthrates are between 1.5 and 2.5, with an intermediate level of 2.1.<sup>32</sup>

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29. See Richard A. Musgrave, "A Reappraisal of Social Security", ed. Felicity Skidmore, Social Security Financing (Cambridge: The MIT Press, 1981), p. 96.

30. Peter A. Morrison, p. 4 .

31. Ibid.

32. Board of Trustees ( 1979 ), pp. 22, 23 .

A tendency of decreasing fertility and mortality rates in the projected time period will raise the proportion of people in the retirement age out of the whole population from about 11 percent between 2000 and 2010 up to 29 percent in the succeeding decade.<sup>33</sup>

Even more drastic is the change in the ratio between people over age 64 to the age classes 20 to 64 years. Here the figures are 19.4 percent (1980), 21.6 percent (2000), and finally 34.7 percent in 2055.<sup>34</sup>

To determine the number of workers required to support a beneficiary, one calculates the ratio of workers 20 to 64 compared to the number of retired people. By the year 2050, 1.9 workers will have to support one retired person (in 1982, 3.9 worker have to contribute to one retired person).<sup>35</sup>

The payroll tax in this situation would be about 18 to 20 percent<sup>36</sup> in a balanced budget for the OASI Trust Funds, plus two percentage points for the DI Trust Fund with the given benefit framework.<sup>37</sup>

The pecuniary gap between net contribution income and expenditures in the second fourth of the next century can not be defined

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33. See Peter A. Morrison ( 1981 ), p. 46 .

34. Data for the intermediate alternative. Board of Trustees (1976 ), p. 57 .

35. Alicia H. Munnell, p. 103.

36. These figures correspond with a pessimistic scenario in the 1979 Report for the Board of Trustees.

37. Most economists assume a constant rate of disabled in the future, or even a declining rate if the United States does not enter into any war in the future.

with a real and/or comparable monetary value of today. For such estimations, most of the variables are still unknown at their real or nominal level. A figure which makes sense is the difference of a percentage of the covered taxable earnings to pay the estimated benefit expenditures of a certain year and the scheduled tax rates proposed for this year. (See Table 5.)

Hereby the estimated expenditures of the OASDI for the benefit payments are expected to be between 13.49 percent to 17.0 percent of the taxable payroll in the year 2025. The present law schedules for this year only 10.2 percent payroll tax. If the proposed tax rate will not be changed in the meantime, the annual deficit in the trust funds' budgets will be between 3.29 percent and 6.8 percent of the taxable payroll in 2025.

Table 5  
Long Run Projection for  
the Old Age and Survivors Insurance Trust Fund

| Selected<br>Year | Estimated Expenditures |       | Scheduled Tax Rate | Excess of Tax Rate |        |
|------------------|------------------------|-------|--------------------|--------------------|--------|
|                  | II *                   | III * |                    | II                 | III    |
| 2015             | 10.57                  | 12.34 | 10.20              | -0.37              | - 2.14 |
| 2025             | 13.49                  | 17.00 | 10.20              | -3.29              | -6.80  |
| 2035             | 14.53                  | 20.37 | 10.20              | -4.33              | -10.17 |
| 2045             | 14.00                  | 21.90 | 10.20              | -3.80              | -11.70 |
| 2055             | 14.16                  | 23.07 | 10.20              | -3.96              | -12.87 |

\* Estimated OASITF expenditures as a percentage of taxable payroll for an intermediate (II) and a pessimistic (III) scenario. Alternative II expects a real wage growth of 1.2 percent between 1982 and 2000, an average unemployment rate of 6.2 percent, and a fertility rate of 2.1. Alternative III expects a real wage growth of 0.4 percent, an average unemployment rate of 7.2 percent, and a fertility rate of 1.5 children per woman.

SOURCE: Board of Trustees of the Federal Old Age and Survivors Insurance. Annual Report 1979, Washington, D.C., Government Printing Office, 1979, pp. 39, 40.

The estimated 14 to 23 percent payroll tax out of the workers' gross income in 2055 may, according to some economists, exceed the amount American are willing to pay.<sup>38</sup> Although these payroll tax rates for old age, invalid, and survivor insurance seem to be high for American taxpayer living in the 1980's, a lot of European countries already have payroll taxes above 18 percent (e.g., West Germany, Italy, the Netherlands, Norway, or Spain).

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38. "These tax rates would still be in line with those applicable in European countries, but may not be acceptable in the United States" Richard A. Musgrave (1981), p. 96.

### III CRITERIA FOR POSSIBLE SOLUTIONS

The pecuniary difficulties of the American Social Security system in the near and long term have to be solved and financed by the present and future generations.

This gives us the questions: Who will bear the burden of the prognosticated trade off to keep the nation's social insurance running? It is very common for each group of people in a society not to be altruistic, but rather self absorbed. A great part of the younger generation is unlikely to contribute a greater share of their labor income for a security system, which will benefit them at some time in the future. On the other hand, the retirees and their organizations defend the current practice and their own interests.<sup>39</sup>

In order to get a just distribution of financing in the future OASDI, despite a changing society, some obligatory rules and basic objectives must be obeyed. Such a framework of generally accepted norms is necessary to keep Social Security away from political, day-by-day decisions which are made due to the pressure of a well organized lobby or made as a politically expedient contribution toward a minority.

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39. See Peter A. Stearns, "Political Perspectives on Social Security Financing", Felicity Skidmore, ed., Social Security Financing (Cambridge: The MIT Press, 1981) p. 187 .

## Social Adequacy and Individual Equity

When the 1939 Social Security Act was discussed in the U.S. House and Senate, the Act advocated a social adequacy welfare program. Social adequacy means benefits are measured not against lifetime contributions to the system, but rather against a former standard of living, and a minimum benefit for almost everyone in the social system.<sup>40</sup>

This practice is the direct opposite of the individual equity philosophy, in which the amount of benefits is equal to the amount of former contributions plus the interest payments.

It was not only the social conscience that caused the former government to emphasize social adequacy in the 1939 Act, but a fiscal need to give the first generation of beneficiaries a sufficient transfer income, in spite of their low level of contributions. In such a pay-as-you-go system, the generation of working people pay for the generation of retirees through an intergenerational income distribution.

As the years passed, employees had to pay an increasing percentage of their labor income to the OASD Insurance. The first retiree got a monthly paycheck of \$22.54 in the year 1940, after only a one-year contribution of \$30.00 in the year 1939. A 65-year-old single beneficiary with a previous lifetime average income, retired in 1982, will get back his total contributions excluding the employer contributions within 13 months after he stopped working. This accumulated sum would be \$7,209.<sup>41</sup>

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40. See more: Alicia H. Munnell, p. 6 .

41. See more: James R. Capra, et al, p. 8 .

If all of the employee's and the employer's contributions in the past were considered for the same person, and the accumulated interest was added, this amount would be equal to a 5-year-and-4-month benefit payment to the 1982 retiree. The present ratio of benefits to contributions (including interest) is 2.7:1 assuming an average life-time expectancy. The same 65-year-old single would get a total value of benefits which is 1.3 times his OASDI payments, if he would retire in the year 2010.<sup>42</sup>

As one can see in the increase of the ratio of total contributions to a present value of benefits, the benefit formula shifts the Social Security system away from a social adequacy towards a more individual equity management. Seen in a different light, Social Security law spread out the number of people receiving benefits. Not only former contributing individuals in the retirement age, but also their spouses and, in the case of the death of a breadwinner, their children have a claim for benefit payments. In all Social Security amendments in the past more and more people were included in the social system. Furthermore, the range of benefit payments narrowed during the same period. Minimum and maximum benefit payments led to a situation in which individuals with a very low AIME get at least a minimum benefit payment, while individuals with high AIME are treated by a regressive benefit formula. The relative distribution of transfer income has been reduced.

These two arguments support the suggestion that Social Security has shifted away from individual equity to a adequacy system over time.

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42. James R. Capra, et al, p. 8.

The provisions of the original act emphasized social adequacy, but at the same time did not neglect the individual equity. It guaranteed "that total benefits payable with respect to a covered worker would always at least equal the employee taxes paid plus an allowance of interest."<sup>43</sup>

The OASDI therefore can follow both goals: (1) social adequacy by a floor of protection and presumptive needs through minimum benefit payments, retirement payments according to a family's size, and a progressive benefit formula which favors low income groups. (2) Individual equity denotes that benefit payment increase proportionally with increasing wage income.

Both goals can be accepted by a total group of retired people, but may not necessarily work to the best advantage of every individual in the group.<sup>44</sup> Herein the intergenerational distribution can violate one objection and give someone an advantage, while another individual has to sacrifice through this goal.

When it enacted the Social Security laws, the U.S. Congress did not decide to fulfill both goals at the same time for everyone who is covered. Therefore, possible solutions of the OASDI financing can be proposed as long as they do not violate the goal of social adequacy and individual equity. It should be noted that the first goal may be more important to a welfare society as a whole, than individual equity is to individuals within that society. For the privilege of

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43. Robert J. Myers, p. 25 .

44. For example when a single retired beneficiary dies at age 66, after only a one year benefit payment, although his former contributions " would have been good " for ten years of retirement. His inheritors do not get back any money from the Social Security system.

social participation, an individual has to weight his individual equity rights against Social Security in terms of the advantages of an intragenerational benefit distribution.

### Economic Stabilization

An acceptable solution or even several solutions have to be sufficient to get a balanced budget within a deficit period. The fiscal instruments used to do so should be able to provide fiscal stability in the assigned period, where stability means an average sufficient financing source within a business cycle.

Generally, two ways can be followed to achieve a stable situation in the near term: The first is a dual procyclical trend during which revenues and expenditures have the same growth rates at the same time or a one-years-time lag. This would mean benefits were adjusted according to the previous year growth in total wage rates. Following this method, the level of the trust funds' assets will have the same height, both in boom and bust periods, if the number of covered workers and retired people remain constant.

Another alternative would be to have one money stream countercyclical, while the other one is procyclical. The growth rates of the revenues and expenses fluctuate at the same level, but time is displaced by one half business cycle. Revenues, for example, will have then a procyclical boom growth rate while, concurrently benefit payments grow at rates of a previous weak economic period.

In such a built-in-stabilization policy, the trust funds' assets will have an important balance function within a cycle. The advantage

of this procedure lies in the countercyclical stabilization effect of the benefit adjustments for the whole economy. Fiscal stability can only be guaranteed through identical growth rates of the OASDI contribution and the benefit payments either at the same time or time displaced.

Both figures have to grow at the same rates for two reasons. At first the relative income level of the beneficiaries to the employed population should stay in a once defined stage. Different growth rates favor one group of people, while the other part of the society has to bear the financing burden. The second reason is a financing argument. An overproportional growth in the benefit adjustments causes an outgoing stream exceeding the incoming stream. An immediate effect would be shrinking trust fund assets and, if this capital is not sufficient enough, an increase in the payroll tax.

If there is a gap between these growth rates, as there has been<sup>45</sup> since 1974, the population displays different economic behavior. The people do not have trust in the Social Security system and the proposed future benefits and react with an increasing rate of savings<sup>46</sup> and a decreasing consumption rate.

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45. See Robert J. Barro, The Impact of Social Security on Private Savings: Evidence from the Time Series (Washington, D.C.: American Enterprise Institute, 1978), and Robert J. Barro, and Glenn MacDonald, "Social Security and Consumer Spending in an International Cross Section" Journal of Public Economics 11(1979): 275-289.

46. Although the economic discussion about the advantage or disadvantage of higher savings and lower consumption is still going on in the academic literature, it might be supposed that a high rate of savings is not the most desired economic goal. In macroeconomic models an increase in savings and a reduction in consumption leads to a decreasing income in the short and long run. This phenomenon is called the paradox of thrift. See William H. Branson, Macroeconomic Theory and Policy (New York: Harper and Row, Publishers, 1979), p. 40.

## Allocation Effects

A critique of the practice of taxing payrolls the different treatment of the product factors labor and capital for the employer's part at the payroll tax. In the given situation of a competitive market structure the employer hires workers, until his cost for the last unit of labor is equal to the value produced by this unit, or until the marginal factor cost<sup>47</sup> is equal to the marginal value product.

An increasing payroll tax rate has no influence on the employer's absolute cost for labor, but on the gross wages he offers to the employee, and the actual net wage of the employee. Gross wages and net wages will be reduced by the impact of the tax increase. A labor force which is net wage oriented (and has a labor supply elasticity greater than zero) will reduce its supply in labor. Figure 2 shows the impact of such an incidence.

As a result of a situation without taxes compared to one with a tax levy on employer and employee, the number of laborers will be reduced from  $N^*$  to  $N'$ , while the price of labor increases from  $W^*$  to  $W'$ . At the same time, the absolute price of capital does not change, but the relative price against labor does. This price ratio between labor and capital for one unit of output changes when payrolls are taxed and decreases the relative price of capital to the price of labor (see Figure 3.).

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47. Alicia H. Munnell, p. 87 .

Figure 2

Incidence of Payroll Taxes under Perfect Competition

- $D^*$  = Demand price for labor  
 (factor cost = wage)
- $D^{**}$  = Wage less employer's tax  
 (gross wage rate)
- $D^{***}$  = Wage less employer's and  
 employee's taxes  
 (net wage rate)
- $W'$  = Employee's net wage rate  
 after taxation
- $W^*$  = Wage Rate without  
 taxation
- $W''$  = Employer's costs  
 for labor after taxation

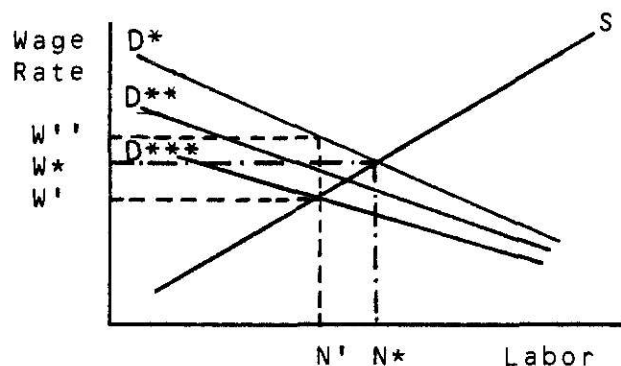
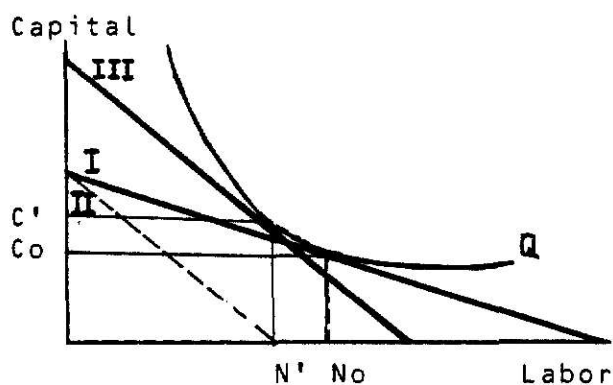


Figure 3

Resource Allocation in the Productive Sector



An enterprise will therefore tend to use more capital input ( $C'$  instead of  $C_0$ ) than labor input ( $N'$  instead of  $N_0$ ) in the production of commodities after the initiation of a payroll tax. If it does not change its production structure in this way, a competitor will do this and will be able to produce goods more cheaply.

Any further increase in the payroll tax results in higher costs of one unit of labor and in a change in the relative prices of the two product factors, and finally in less demand for labor.

A "good" payroll tax should therefore be neutral in regard to the allocation on the factor market and does not distort the allocation. "To be neutral" means the private user of a commodity should not be influenced in his economic behavior. Although this basic economic rule has been neglected since the set up of the Social Security system in the late 1930's, there is no reason why it should be continued.<sup>48</sup>

A second type of misallocation comes up in the reduction of savings by the individual payroll taxpayer. For this group, monthly Social Security contributions represent a kind of personal savings. They reduce their amount of potential savings (in a situation without OASDI) by the amount of paid contributions.

If one assumes a situation in which an individual saves ten percent of his labor income (this would have been \$1,395 in savings for an average income in 1981), contributed total payroll taxes would fully reduce any additional saving (employer and employee

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48. A different approach of a fiscal neutrality which is concerned about the effects on factor and product flow is in: Richard A. Musgrave, Fiscal Systems (New Haven: Yale University Press, 1969), pp. 307.

contributions would be \$1,506 in 1981). The individual assumes he has already saved enough money by contributing payroll taxes, and fails to set aside further personal savings.

Over several years in labor, the covered individual accumulates a "Social Security wealth," which is a claim on future benefits. In reality the Social Security trust funds do not save payroll taxes, but immediately pay out to current recipients on the pay-as-you-go system. Therefore, this "saving" has no actual value of wealth, but only a potential claim on future benefits.

Benefit payments, on the other hand, are primarily used for consumption and are not saved by the beneficiaries.

<sup>49</sup>  
Considering this fact, it could be assumed that the national personal income is mainly used for consumer expenditures and personal tax payments, while personal savings are declining the more individuals are covered by Social Security. Declining personal savings indicate a reduced supply of private capital on the money market. The price for capital (interest) rises with a declining supply, and increases the price for capital towards the price of labor on the factor market.

This would be the countervailing allocation effect of the first statement. The upcoming question, which effect will dominate, can only be answered in empirical analysis.

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49. The author assumes an increasing rate of consumption at a declining family income; vice versa, the rate of savings will increase by increasing income. Furthermore, beneficiaries have no reason to save a part of their income for "old age," because they are already in this situation and spend their money they saved in earlier years for consumption.

## Tax Equity

A fourth critique is the focus on the labor income of an employee while any other income sources are not included in the OASDI tax base. People having an equal level of income are treated differently: Interest income or private insurance allowances are not included in the tax base and thus are not taxed, while labor income up to the maximum tax base is taxed. But no employee is able to refuse a part of his income from payroll taxation.<sup>50</sup>

It should be a primary goal of the fiscal policy to consider horizontal equity in its taxation systems, in spite of a possible complexity of the Social Security framework.<sup>51</sup>

Equity in this case is defined, according to the ability-to-pay-principle, as an equal sacrifice of utility of all those individuals with the same amount of taxpaying ability. People in the same category of income should bear equal tax burdens.

A final criteria for a Social Security amendment, or even a great social reform, should be a further step toward vertical equity. Today the maximum tax base provides a structure of a regressive tax

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50. See more about the horizontal and vertical equity in: Nancy H. Teeters, "The Payroll Tax and Social Security Finance" Richard A. Musgrave, ed., Broad Based Taxes: New Options and Sources (Baltimore: The John Hopkins University Press, 1973), pp. 87-112; and J. A. Ordover, and E. S. Phelps, "Linear Taxation of Wealth and Wages for Intragenerational Lifetime Justice: Some Steady-State Cases" The American Economic Review 65(1975) 660-673.

51. This horizontal inequity in the wage taxation is currently partly reflected through the progressive benefit formula in the benefit payments; but this progressivity should be in regard of a vertical equity, which is an accepted different treatment in taxation for people in unequal income levels, and not in regard to a horizontal inequity.

system. Employees with a labor income up to the maximum tax base have an effective payroll tax rate equal to the scheduled payroll tax rates. Employees (and of course the self-employed), whose incomes exceed this barrier, pay a lower effective tax rate. The higher the annual income is above the scheduled tax base, the lower is the effective tax rate. There is no acceptable reason why these income amounts should be excluded from any payroll taxation. The proportional sacrifice for every taxpayer due to his income should be at least a minimum standard of a modern tax system.<sup>52</sup>

Such higher tax bases would have an effect on the benefit calculation later on. Because of the progressive benefit formula, a higher tax base would only be considered by a far smaller percentage increase in PIA. If, for example, a high income earner would retire with an AIME of more than \$2,975 in 1983, this exceeding amount would lead to an increase in his PIA of only 15 percent for every additional dollar.

Furthermore, employers have an advantage in hiring a highly paid employee instead of, for example two workers, who have the same gross income together. For the high income employee, the employer must pay in absolute terms less payroll tax compared to the case with two workers (assumed same productivity).

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52. See more in George F. Break, "Social Security as a Tax" Michael J. Boskin, ed., The Crisis in Social Security (San Francisco: Institute for Contemporary Studies, 1978), pp. 107-124.

## Payroll Tax Rates

Chapter IV is based on the assumption that OASDI tax rates should not exceed the current level. Any further tax rates should be equal to the currently scheduled tax rate for the retirement and disability programs. Therefore, all proposals are computed and designed to keep the actual tax rate equal to the scheduled rate.

Of course, this would be the simplest way to amend the annual tax rate in the future, according to the estimated trust funds' expenditures. But Musgrave<sup>53</sup> assumes tax rates of about 18 to 20 percent would not be acceptable to the American people. In some European states, for example, employer and employee already have<sup>54</sup> to pay tax rates above 18 percent.

It is hard to predict whether American taxpayers would be genuinely overtaxed by these tax rates, or whether they just do not like to pay higher tax rates.

The essence of another theory is the measure of the intergenerational burden of a family. These figures include the costs for childhood education and Social Security expenditures for retired people. If the fertility rate stays at the current low level, the outgo of an average family for children's education will decline in the next decade and then stay at this level. This money could be used to support the increasing number of beneficiaries through higher payroll tax rates. The overall burden for this family would still be the same compared to the time period before the tax rate increase.

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53. Richard A. Musgrave (1981), pp. 96, 133.

54. European Institute for Social Security, Social Security Reforms in Europe Part II (Deventer [Netherlands]: Kluwer, 1980).

A critique on this theory: The number of people in the labor force is not constant over time, but will decline over time. An increasing number of retired people and a declining number of children in a constant labor force keeps the burden per worker constant (see simulation I in Table 6). If the number of people in the labor force declines, the intergenerational burden for this worker increases (see simulation II in Table 6).

Table 6  
Intergenerational Burden of Worker

Simulation I: Equal number of workers in both periods

|           | Number of<br>children | Number of<br>workers | Number of<br>beneficiaries | Ratio:workers<br>to non-workers |
|-----------|-----------------------|----------------------|----------------------------|---------------------------------|
| Period 1  | 20                    | 50                   | 20                         | 1:0.8                           |
| Period 2* | 15                    | 50                   | 25                         | 1:0.8                           |

Simulation II: Reduced number of workers in period 2

|           | Number of<br>children | Number of<br>workers | Number of<br>beneficiaries | Ratio:workers<br>to non-workers |
|-----------|-----------------------|----------------------|----------------------------|---------------------------------|
| Period 1  | 20                    | 50                   | 20                         | 1:0.8                           |
| Period 2* | 12                    | 40                   | 25                         | 1:0.92                          |

\* Assumptions for period 2: Ratio children to workers = 1:3

Ratio beneficiaries to  
workers of the previous period = 1:2



#### IV THE FINANCING ALTERNATIVES

The setting of criteria in the chapter before for an amendment or a reform in the OASDI system is a necessary requirement for a just and equitable tax system, due to objective theories in public finance (as far as they can ever be objective).

In the given literature, no proposal is described which could fulfill all of these criteria. Countless proposals for changing the future Social Security system consider the recited critiques.

This chapter is divided into proposals for the short, medium, and long run and, furthermore, into a group of changes inside or outside of the current Social Security framework. The latter ones are included because there is no acceptable reason why the present system must continue in the long run as it was set up in the year 1935.

As written earlier in this report, the proposals for a balanced OASDI budget in the next century do not include final, exact calculations about a deficit or a reduction in debt. They include potential solutions and consider most of the foreseeable variables. To calculate exact data about the trust funds in thirty or forty years would delude a person with false hope. There can not be a useful measurement about such important issues, like an unemployment rate or a real wage rate in the year 2010. The data will be more uncertain, the further in the future the projections are made.

## Short-Term Proposals

### General Revenue Funding

Since the enactment of the first Social Security laws in 1935, there has been a discussion to include the whole American society in financing the retirement system. A simple way to do so is to transfer general revenues on the federal level to the OASDI funds. The way in which a government would finance these additional budget expenditures<sup>55</sup> is another matter in this discussion.

There are several reasons to include general revenues into the currently self-supported trust funds' financing. One argument is that a government should finance those parts of the benefit system by transfers, which had been added to the security system because of political reasons.

Other arguments are that general revenues should be used to compensate a low revenue period in the trust funds, caused by high unemployment rates. The Social Security, it is argued, can not influence the economic situation by itself. The political institutions of a nation, that means government and parliament, should be able to reduce or prevent an unexpected economic situation with negative pecuniary results to the security system. If these institutions are unable to do so, or have other priorities in their econo-

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55. For this discussion see Charles F. McLure, "VAT versus payroll Tax" Felicity Skidmore, ed., Social Security Financing (Cambridge: The MIT Press, 1981), pp. 129-163; and Milton Friedman, "Payroll Taxes, No; General Revenues, Yes", Michael J. Boskin, ed., The Crisis in Social Security (San Francisco: Institute for Contemporary Studies, 1978), pp. 25-30.

mic goals, they have to take over this political decision and bear the resulting burden.

President Carter made a proposal to contribute to the Social Security system. His plan was, that if the unemployment rate exceeds six percent, general revenues should reimburse payroll taxes.<sup>56</sup>

A critique of such a procedure is the argument that Social Security should be self-supporting. Any governmental assistance with general revenues could lead to an expanding benefit structure. Limited funds would no more be an argument to rebut growing benefit demand from a Grey-Panther lobby.

#### President Reagan's Proposal

A bipartisan National Commission on Social Security Reform made some proposals to reduce the above described projected deficit in the OASDI financing.

This plan involves several amendments to the current revenue and benefit system:

- a) The next annual cost-of-living-adjustments, which would have been done in July, 1983 would be postponed in January 1984, and all the future adjustments will be done in January.

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56. Rudolph G. Penner, Social Security Financing (Washington, D.C.: American Enterprise Institute, 1977), p. 8.

b) If a beneficiary earns besides his benefits, more than \$20,000 a year (\$24,000 for a married couple), he or she has to report half of the benefits as federally taxable income. The Department of Treasury would then shift these additional tax revenues back to the Social Security trust funds, starting in 1984.

c) An already projected payroll tax increase for the OAS Insurance in the years 1985, and 1990 would be shifted forward. The first raise is proposed for 1984 at a rate of 0.3 percentage points for both, employer and employee. The second increase would be in 1988, the third in 1989. Both rates together (1988 and 1989) would be 0.36 percent increase of the taxable income.

However, the 1984 tax increase would be entirely creditable by an income taxpayer against his income tax, or, if no tax is paid, the Treasury would give it back as a refundable tax credit. So, the true starting point for the worker's part of the payroll tax increase would be actually in 1985, and not in 1984.

d) The tax rate of the self-employed would be 100 percent of the combined employer and employee payroll tax, instead of the present 75 percent. But this group of insured people may deduct half of the contributions from their taxable income, starting in 1983.

e) Beginning January 1984, all newly hired federal workers and employees of nonprofit organizations would have to join

the OASDI system.

f) Federal, state and local workers whose first possible retirement date would be after 1983, and who worked before in the private sector, would receive fewer benefits from OASDI<sup>57</sup> compared to the current law.

The Reagan administration estimates the accumulated future deficit of the OASDI from 1983 to 1989 to be \$150 to \$200 billion. The proposed amendments should provide about \$169 billion for the next seven years<sup>58</sup> if both houses would agree and enact the proposed plan.

In an optimistic scenario one could assume there would be no gap between revenues and expenditures to both trust funds. But the assumptions, which are used to calculate the near shortfall through determining the future receipts and expenditures, are based on very positive data constellations.

Therefore, two main issues should be criticized: the estimated real wage growth rate, and the estimated unemployment rate.

The Social Security administration set up two different projections for the time between the years 1982 and 2000: an intermediate<sup>59</sup> and a pessimistic scenario. For the intermediate projection, the administration used an average unemployment rate of 6.3 percent, and

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57. Spencer Rich; and Susan Tifft, "Close Call for Social Security" Time Magazine, January 24, 1983, p. 22.

58. See Spencer Rich.

59. Board of Trustees (1982).

a real wage growth of 1.2 percent. The pessimistic variant includes a one percent higher unemployment rate, and only a 0.4 percent real wage increase on the average.<sup>60</sup>

These figures are much different than those estimations described earlier in this chapter. Therefore, as this author predicts, there is very likely to be a total deficit up to the year 1989: additional revenue requirement exceed \$200 billion, but the revenue increase by this proposed plan which is less than \$169 billion.

### Medium-Term Proposals

#### Changes in the Benefit Adjustment

In the present benefit system the individual annual benefits were adjusted due to the annual or quarterly increase in CPI of the previous period. Hence, the increase of the trust funds' revenues depends on the growth of the nominal wage rate. This trade-off in different growth rates should be eliminated.

One way to do this is to change the inflation index for the adjustments. The CPI, monthly computed by the Department of Labor includes the price changes of a number of commodities and services for a representative urban family. This representative family buys goods or services which are typical for a worker family with dependent children.

The average consumption sample of a beneficiary without children will differ. One can assume that elderly people spend less money on

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60. See James Capra, et al, p. 5.

gas, cars, and rent than a younger family. For example, it is more likely for them to own their house and to drive fewer miles by car per year. But increasing gas prices and rents have been the major reasons for increasing prices in the past. Short termed countervailing decreasing prices for these goods can be neglected; the long term trend of overproportional price increases dominates over time.

These commodities with a very high inflation rate in the past have a far smaller share in the retiree's consumption sample, compared to the one of the statistically average family. By including this fact one can suppose that the prices for the elderly grow more slow than those for the working population. If the welfare goal is to have benefit payments keep the retired on the same relative income level in the society, the inflation adjustments for the cost-of-living, therefore, should be adapted according to a newly designed inflation index for the elderly. An indexation outside this rate tends to over- or undercompensate the beneficiaries.

A proposal which includes this thought has been made by Capra,<sup>61</sup> Skaperdas, and Kubarchy. They reduced the benefit inflation index to 60 percent of the published CPI. A data simulation on the basis of the intermediate scenario of the Social Security Administration data configuration shows an estimated projected saving for the trust funds of \$23.5 billion total in the years 1983 to 1986. For the pessimistic scenario (see projections by Social Security administration, summarized in Table 5.) the savings would be the total amount of \$40.1 billion. The long term savings, as a percentage of the taxable pay-

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61. James Capra, et al , pp. 14,15 .

roll, would be 4.7 percent in 2015, and 7.0 percent in 2052 for the intermediate study. The more realistic pessimistic projection would yield 6.9 percent in 2015 and 10.9 percent in 2025, out of the taxable payroll.

Other alternatives propose to tie the benefit adjustment to a modified nominal wage rate growth. Capra<sup>62</sup> used an average wage rate minus 1.5 percent, in order to let the benefit taxation be equal to the worker's net wage rate. This percentage point reduction should consider the progressive income tax rate in an inflation indexed raise in wages.

While the pecuniary effect of this proposal could be neglected in an intermediate projection, the pessimistic alternative would come up with potential savings. Herein the projected savings would be about \$36 billion until 1986. In the long run OASDI expenditures could be reduced by 2.8 percent (in 2015) and 4.4 percent (in 2025) of the taxable payroll.

The effect of these two alternatives for the replacement rate<sup>63</sup> is different. A modified gross wage indexing, which is quite similar to a net wage indexing, would bring a declining gross replacement rate over time. The net replacement rate would be constant, if benefits and net wages fluctuate in the same percentage.

The modified CPI indexation allows an independent increase of the trust funds' benefit expenditures on one hand, and the payroll

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62. James Capra, et al , pp. 14,15 .

63. Replacement rate = Ratio of benefits for a retired individual at a certain age to his indexed earnings in the year before retirement. See Robert J. Myers, p. 78.

revenues on the other. If gross wage rate and CPI for an representative household would grow at the same rate, gross and net replacement rates would fall because of the benefit adjustment according to the diminished modified CPI for elderly people. But there could also be constellations in which a gross replacement rate is constant and the net replacement rate declines or increases.

In order to have a balanced budget for a longer period of time, it is not useful to tie the individual annual or quarterly benefit adjustments to any kind of consumer price index. The statistics show a different growth of CPI and wage rates, for the past years, which always led to an undesired saving or deficit in the budget. A change in the trust funds' assets used to cause a discretionary intervention of the government through liberal benefit spending (as it is in the 1972 amendment) or a restriction in the benefits and payroll tax increases (as in 1983).

#### Taxing the Benefits

Another method of using general revenues to reduce the supposed OASDI debt, especially in the short run, is to tax the retirement benefits. This earmarked tax would be transferred from the Department of Treasury to the OASITF and DITF.

Three alternatives are proposed in the literature: (1) the taxation of the benefits exceeding the employees' contributions to the trust funds, (2) the taxation of half of all benefits, or (3) the taxation of the employers' contributions.

All the benefits in excess of the worker's contributions plus accumulated interest would be included in the taxable income of the

retiree, according to the first proposal. Benefit payments received by survivors or dependents would be excluded from taxation. In this way, the Social Security benefits would be treated equal like private pension payments. This taxation would bring return totalling \$36.1 billion in the years 1983 to 1986, and reduce payroll tax in the year 2015 by 2.7 percent (in 2025: 3.4 percent).<sup>64</sup>

Quite similar is the third proposal.<sup>65</sup> Herein are taxed all those benefits which came from the employer's contributions. But the amount of benefits received by an average retired person, minus his former contributions, is higher than the total contributions of the employer.

A second alternative, by Laffer and Ranson,<sup>66</sup> is the most feasible means of benefit taxation. They proposed that half of the benefits should be taxed. This would be a compromise between the first and the third alternative in regard to the total tax base. Further this alternative has a great advantage in the execution of the taxation, because half of every monthly paycheck could be taxed forever. In using the other alternatives there had to be found a method in which part of the total receiving benefits must be taxed.

Because the personal income tax is progressive, higher income retirees would have to pay relatively more, while low income

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64. This figures are based on the intermediate scenario. The pessimistic profil is similar. See James Capra, et al, pp. 14, 15.

65. "How to Save Social Security Law" Business Week, November 29, 1982, p. 85.

66. Peter J. Ferrara, Social Security - The Inherent Contradiction (San Francisco: Cato Institute, 1980), p. 338.

beneficiaries would have to tax nothing or little of their benefit  
67  
income.

President Reagan's Social Security Advisory Commission has already considered a benefit taxation, when they suggested the 1983 Social Security Plan. They restricted the taxation on half of the benefits and, furthermore, only for retirees with an adjusted gross income of \$20,000 and more (for a single person), excluding benefits. For a married couple filing jointly, this limit is proposed at \$25,000. In this case, the taxation of benefits should bring the Department of Treasury an additional \$30 billion in the years 1983 to  
68  
1989.

Including a portion of the benefits for every retired person in his adjusted gross earning would make Federal income taxation more progressive. Because of the personal exemptions and still remaining deductions in the federal personal income taxation, the low income retirees would not have to bear the burden of the general revenue financing of the Social Security system.

### Long-Term Proposals

#### The Divided Welfare and Retirement Systems

A controversial position is held by a group of economists and politicians, who would like to have some substantial reforms in the present Social Security system. They are not satisfied with the bene-

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67. Peter J. Ferrara, p. 338.

68. Spencer Rich.

fit structure as it is today which tries to respect both the social adequacy and the individual equity at the same time. Economists like Munnell,<sup>69</sup> Ferrara,<sup>70</sup> and Feldstein<sup>71</sup> made proposals to cut off the system of Social Security. Their basic idea is to separate the pension and the welfare part of the Old Age and Survivors Insurance and institutionalize them independently.

The pension fund would be designed on a quid pro quo basis like private pension funds. All the contributions of an insured person (and his employers) submitted during his time in the labor force, plus the interest payments of the accumulated capital equals the amount of pension payments in the time of old age. Instead of a monthly check, an alternative would be to transfer the total capital assets to the beneficiary. The retired himself could use this money to purchase an annuity contract in the private sector, or could invest it in any other investment project. Ferrara estimated such an amount, which would be reinvested, at about \$0.5 million in real terms for an average American retired family.<sup>72</sup>

In the long run the pension part of the security system would be shifted totally to the private sector, which could provide a life insurance contract better designed for the individual.<sup>73</sup>

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69. Alicia Munnell, pp. 37 - 44.

70. Peter J. Ferrara, pp. 351 .

71. Martin Feldstein, "The Optimal Financing of Social Security", Discussion Paper No. 477 (Cambridge: Harvard Institute of Economic Research, May 1976).

72. See Peter J. Ferrara, p. 358 .

73. Ibid.

The requirement of every individual to be protected for old age and to pay a certain percentage of his income to the funds should be phased out as the people become more aware of the market's supply in pension funds. This procedure is necessary to convert in steps from the present pay-as-you-go practice to a pension saving account system.

This proposal about a future pension plan changes the present Social Security framework. In this new system at first an age line must be calculated to define at which age the insured person is better off in the current security system rather than in a private pension plan (with a higher interest rate). Hence, the old system would only return that amount which had been contributed by the individual and his employer (including interest). Those below that age class would have to change to private pension companies, which would invest their revenues in bonds or stocks. These age groups below the age of about thirty-nine<sup>74</sup> would not receive any Social Security benefits in their retirement. The contributions they paid in would be lost for them. Any further contribution will go to the private pension fund.

All those who would remain in the OASDI would get back retirement payments equal to their own and their employer's contributions plus interest, regardless of whether a beneficiary is married or if other dependent(s) receive the remaining benefit asset.

These payments to the OASDI beneficiaries would have to be

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74. James M. Buchanan and Colin O. Campbell, "Voluntary Social Security", The Wall Street Journal, December 20, 1966, p. 31, cols. 1-3.

subsidized by the government with general revenues as long as the receipts of the partly remaining pay-as-you-go system do not suffice<sup>75</sup> for the monthly payments.

Martin Feldstein presented a different plan in which he proposed that Social Security should save and accumulate payroll taxes in an individual saving account for every covered employee or self-employed person. The assets and accumulated interest would be paid back to the future retiree on a quid pro quo basis. To do so, the present taxpayer would have to contribute a higher percentage of his monthly income in order to finance the ongoing pay-as-you-go system and to build up his individual retirement assets. Feldstein advocated in 1975 a 5-to-6-year payroll tax rate, between 20 and 25 percent, to<sup>76</sup> accumulate a \$600 billion trust fund in 1971. In the following generation of workers, payroll tax rates could be abolished because of the high trust fund assets.

In all the plans which propose a benefit payment equal to the earlier contributions during the time in the labor force (individual equity), the welfare part of the OASDI system (social adequacy) is shifted to the Supplemental Security Income (SSI) program. This program should support all those people whose annual income and total property is below a minimum standard. The SSI has to be financed by a progressive income tax rate with the function of a<sup>77</sup> satisfactory income redistribution. Under this type of cover, only

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75. See Peter J. Ferrara, pp. 375 - 384 .

76. See Martin Feldstein, "Towards a Reform of Social Security", The Public Interest, 40(Summer 1975): 75-95.

77. Alicia Munnell, p. 39 .

those who actually need pecuniary help would be supported by the general revenue fund.

This part of Social Security system, supported by general revenue, is especially designed to solve the long run financing problems. The government should be totally responsible for the welfare portion of the current Social Security system (aid for disabled individuals; minimum income for the poor) and should use general revenues as a revenue source. Private pension funds will provide pension payments for retired individuals. The financing responsibility for the retirement payments will be shifted in the next century to those who will receive these annuities. Every individual, therefore, has to take care of his own standard of living at the age of retirement.

If Feldstein's plan would be enacted, the present generation would have to bear the burden of two retirement systems. The problems of the financing deficit in the short run would not be solved at all. Even higher payroll taxes for the next decades would be the result.

#### Discretionary Provisions

In the current proposals to reduce the future trust funds' debt, we assumed a given demographic structure and assumed a labor force - retiree ratio within a projected span. In the near term, we saw in chapter II there would not be any demographic-caused financing problem. For the long term, there is still remaining time to influence these variables of the security system.

Generally, there are two ways to do this: by increasing the number of people in the labor force, and by reducing the number of

retired people.

The number of future retirees could be influenced by variation in the retirement age. The original retirement age of 65 years was established in the late years of the last century, when Bismarck set up the first national general social security system in Germany. As described earlier in this report, life expectancy for a newborn child and remaining life expectancy for old people increased over time. This fact is considered in a proposal to keep employees a longer time in the labor force by raising the age for retirement by some years. The retirement age then would be shifted to 65 years for the reduced retirement benefits and to 68 years for fully received PIA.<sup>78</sup>

The actual implementation of this proposal had to be done in unison with a steady and gradual rise in the retirement age--for example, by one month a year. In 36 years, this would be the year 2019, the retirement age then would be 68 years. By this time the great numbers of people born in the 1950's baby boom would be at the retirement age.

<sup>79</sup>  
Capra's plan proposes raising the retirement age by one month in every four calendar months beginning in 1990. The long term effect would be a 1.93 percent (2015) and 1.61 percent (2025) reduction in the tax rate. Calculated onto a payback period,<sup>80</sup> the retiree in the year 2015 would have a 9-month longer payback period. A retiree in 2025 would have a payback period which is one-year-and-one-month longer (previous payback period: 13 years and one month).

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78. James R. Capra, et al, p. 14; and Alicia Munnell, p. 137 .

79. James R. Capra, et al, pp. 14, 15 .

80. The payback period is the time in which a beneficiary receives back all his former contributions to Social Security.

This plan in raising the retirement age is not actually a reform of the Social Security system, but a stabilization of the present pay-as-you-go system.

The second way of increasing the number of people in the labor force in the next century is to have either a higher fertility rate in the 1980's and 1990's or or a higher immigration rate in the next century.

Because of the political and moral repercussion, it is doubtful an attempt will be made to influence the birthrate of a nation. If the nation attempts to influence the birthrate, a society influences the individual decision of a woman or a couple to have babies.

There are several methods to set up such an "incentive" system to raise the average fertility rate. One would be to give families with more than one or two children below 18 years monetary assistance (cash). To concentrate this effect, these benefits should be provided only for families below a certain income level. This level, however, should be higher than the one used for the aid to families with dependent children (AFDC) program.

Such a program is already set up in some European countries with very low fertility rates in the last decade. Since families (or singles with children) began receiving about \$30 a month for the first child, and an additional \$40 for any further children, the fertility rates in West Germany have slightly increased. Of course,<sup>81</sup> nobody can predict whether there is a causal relation or not.

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81. See Bundesminister fuer Arbeit und Sozialordnung, ed., Arbeit und Sozialstatistiken [Statistics about Labor and Social Affairs], (Bonn: Bundesdruckerei, 1978).

Another way to reduce the fiscal burden for families is to offer a pregnant working wife a one year benefit program when her child is born. Such help would allow the employed wife to stay at home during her child's first year, receiving a minimum income of about \$300 a month. The former employer would have to offer this woman (when she returned to work) the same job she had when she left the firm.

The burden of these benefit payments would have to be borne by the same generation which would benefit from a continuing pay-as-you-go system in the 21st century. If general revenues are used to finance this family help program, the total burden should be laid on a more broadbased tax. This could be a value added tax or a federal income tax.

In the United States, however, a substantial government intervention into family planning is not likely and probably will not receive support by political institutions.

A final possibility to influence the number of people in the labor force during a period of low funds, caused by demographic problems, is to increase the number of immigrants coming into the United States. The advantage of this plan is that it is a cheap alternative compared to the costs of the family help program. The burden of the future payroll tax would be shared among the "original" Americans and the "new" American workers.

On the other hand, the number of immigrants must be very high to fulfill a future goal composed of a ratio of 3:1 between worker to retired in the year 2030. The number of people in the labor force in

this year has to be about 170 million. This is about 30 million more workers than there would be under a pessimistic demographic scenario with a current low immigration rate.

If we try to continue this pay-as-you-go system in the very far future with a worker/retiree ratio of 3:1 and a payroll tax rate below 13 percent, the result would be simple. This system would lead to a practice equal to chain-letter games. At some time or other in the next century the system would collapse, because more and more workers would be necessary to finance the Social Security system at this fixed payroll tax rate.

#### Changes in the Taxation Procedure

The current payroll tax system involves a number of fiscal inequities, such as a horizontal and vertical inequity, and misallocation effects. As already described in the chapter about the criteria for possible solutions, this critique involves a modification in the payroll tax base.

A discussion about fulfilling the equity principles in the Social Security sector is still on a very theoretical level. Many economists and politicians are more concerned about getting a day-to-day budget balance than a new Social Security framework in the long run. Of course, it is very difficult to change the present revenue

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82. In the year 2030 all those people are retired who are at age 15 to age 35 in 1982. In this age classes are today 77 million people. Assumed only 70 million will reach the retirement age of 62 years, and further assumed, only 80 percent will receive benefit payments, remains a number of 56 million beneficiaries. To have a ratio of 3:1 of retired people to worker means 168 million covered employees.

procedure and distribute the tax burden in another manner, because those who would have to pay more due to a change in the financing system are more likely to cooperate as a pressure group to maintain current programs.

The financing proposals described in the next two paragraphs do not have many followers in the literature. Therefore, this theory is based on only a few articles in American and European magazines. With regard to the complexity and the substantial change in the present framework, this proposal will not include exact calculated figures, but a theoretical platform to execute a modified tax base system.

#### Modified Employee Contributions

All the covered workers (and their employers) paid their payroll tax in 1983 on their labor income, up to the maximum tax base of \$35,700. Payroll tax does not include other income sources of covered workers, such as dividends, interest income, or speculation gains.

This might be illustrated in a situation in which two individuals (A and B) have the same total annual income of \$20,000. A's income is 100 percent (taxable) labor income, while B's income is only 50 percent labor income. As Table 7 shows, this individual B has an effective payroll tax rate which is 50 percent of the tax rate of individual A. However, the benefits individual B would receive (in retirement in 1983) would be 60 percent (\$415) of the benefits A would receive (\$701), clearly indicating the inequity of this system.

Table 7

Primary Insurance Amount as a Function of  
Different Labor Income and Equal Total Income

|                                           | Individual A | Individual B | Difference A-B |
|-------------------------------------------|--------------|--------------|----------------|
| a) Gross Labor Income                     | \$ 20,000    | \$ 10,000    | \$ 10,000      |
| b) Other Income Sources                   | \$ 0         | \$ 10,000    | \$ -10,000     |
| c) Total Annual Income                    | \$ 20,000    | \$ 20,000    | \$ 0           |
| d) Employee Payroll Tax<br>(5.4% in 1983) | \$ 1,080     | \$ 540       | \$ 540         |
| e) Effective Tax Rate<br>(for Employees)  | 5.4%         | 2.7%         | 2.7%           |
| f) AIME on this Basis                     | \$ 1,666     | \$ 833       | \$ 833         |
| g) PIA in 1983 for a<br>Single Age 65     | \$ 701       | \$ 415       | \$ 286         |

In order to have an equity payroll tax system, these revenue sources should not be excluded from taxation. The theory of horizontal and vertical equity, as a definition of "justice " would come up with a newly defined employee tax base:

1. All income revenue of a covered employee has to be included in the payroll tax base, excepting any government transfers. Short-term capital gains (capital gains realized of assets held less than 12 months) should be taxed fully. Long-term capital gains would be excluded from taxation by 60 percent. The tax base for payroll taxes would be equal to the adjusted gross income of the federal income tax.
2. All income sources of both spouses in a family are part of the taxation (which would be on a family basis).
3. A final annual taxation procedure would be necessary for

every covered worker, either taxing him individually or taxing his family as an economic unit. All taxes contributed during a year would be advance payments.

4. The maximum earnings tax base would be abolished.
5. The tax base used for the calculation of the AIME would be arithmetic mean of the employer's and employee's tax base.

A contribution system like this would involve much more equity in the Social Security system compared to the current practice.

Under the horizontal and vertical equity system, this procedure would generate higher revenues in the following years. The computation of the index for the AIME schedule would not consider the individual composition in the income sources, and therefore should be tied with the growth rate of wages. This would mean favouring those income groups which have a total income growth rate less than the computed annual wage rate growth. This unequal treatment would have to be accepted under this financing proposal.

In later years when the PIA would be computed for the new cohort of retirees with a totally taxed income, of course differences would be foreseeable compared to the traditional procedure. A higher tax based on the time in the labor force would lead to a higher claim in benefits. Because of a regressive benefit formula (see Table 1), three extra dollars in the tax base would lead either to about one dollar (in the 32 percentage step of the benefit formula), or only 45 more cents benefit payments (in the 15 percentage step). The marginal increase in benefits would be far smaller than the marginal increase in the tax base.

The OASDI, however, is not a saving fund. The higher claim to

future benefits must be paid by an intergenerational redistribution of national income. It is realistic to expect the total family income (as the newly defined tax base) of later generations to be higher than the pure labor income. With this higher tax base, OASDI would have higher revenues. The presumed payroll tax therefore should be sufficient to finance the outcomes.

If simulation models would show a finance gap in this procedure in the 21st century, these could be solved by setting up a PIA with <sup>83</sup> four steps instead of the present three-percentage-steps formula. In this way over average benefit payments could be reduced; the benefit distribution would narrow.

This total income taxation practice would be similar to the proposed change in the taxation of the self-employed income by Social Security. The reason for the 75 percent tax rate for self-employed today lies in the argument that the capital return part of the total income of this group should not be included in the taxation. These interest earnings on the invested assets had been estimated on <sup>84</sup> 25 percent of the total income.

President Reagan's Social Security Plan suggests reducing this concession to the self-employed. The resulting effect would be a payroll tax base which includes labor income as well as other income <sup>85</sup> sources of a covered self-employed individual.

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83. This steps are 90 / 32 / 15 percent of AIME, see chapter I.

84. See more: Robert J. Myers, pp. 29, 99 .

85. On the other hand, this plan considers for self-employed a deduction of Social Security contributions from taxable income by one-half of the total payroll tax. A smaller Federal income tax base will reduce Federal tax revenues. The burden of this deductions, therefore, will have to be borne by all tax payers.

### Modified Employer Contributions

As was shown in chapter III, the earmarked tax on the product factor labor led to a misallocation on the factor market in favor of a capital-intensive production. Some branches in the industry gain from this procedure, like refineries or firms which are using robot-automatons in the product flow. Undoubtedly the employment of labor is a disincentive, because it becomes more expensive relative to capital after Social Security tax levied against employer, according to the total gross income he pays (up to the maximum tax base).

There are two possible ways of avoiding this misallocation. The first is to tax the output of a corporation. Another alternative would be to have a tax base which considers the input of labor and capital.

The first alternative, which is a tax on output would constitute a tax base equal to the flow of currently produced goods and services in the economy. In macroeconomic terms, this value is defined as the Net National Product measured at factor costs (equal to National Income). This would be similar to a company's amount of sales. Special branches--like banks, trade companies, and private insurance corporations--would have to be taxed by their business income. Non-profit organizations and the public sector had to use the old tax base for lack of an acceptable sales figure.

A taxation procedure would be similar to the system for a value-added tax (VAT). On every stage in the production only the net figure of value added is a part of the tax base. But in contrast to VAT, this employer Social Security contribution is already included in the

price of the offered product.

The tax rate for this new tax base has to be different from the employees tax rate. Table 8 shows a possible way to compute the new tax rate. In this example the new employer Social Security tax rate would be 1.75 percent levied on every net sale of a company. To prevent a distortion in the tax burden between employers and employees a new tax rate has to be designed every five years.

Table 8  
Computation of a Modified  
Employer Social Security Tax Rate  
(in thousand \$)

|                                                                                          |   |                 |
|------------------------------------------------------------------------------------------|---|-----------------|
| -----                                                                                    |   |                 |
| 1. Annual employer contributions<br>in the old system                                    | : | \$50,000,000    |
| 2. Contributions of non-profit<br>organizations and the public<br>sector                 | : | - \$15,000,000  |
| -----                                                                                    |   |                 |
| 3. Remaining burden for employer:                                                        |   | \$35,000,000    |
| 4. Computed Net National Product<br>at factor costs (in the same<br>year)                | : | \$2,000,000,000 |
| 5. New employer tax rate: $(\$35 \text{ EE } 6 / \$2 \text{ EE } 9) \times 100 = 1.75\%$ |   |                 |
| -----                                                                                    |   |                 |

The second way of including the production factor capital in a taxation would be to design a tax base out of a company's amount of annual wage payments and the annual depreciations. The added amount of depreciations of several years is equal to the capital input in an enterprise. The annual depreciation describes the capital input in one year.

If both the annual amount of depreciations and wage payments

would be weighted equally, the new tax rate could be computed very easily. For the first time, however, the economy would have to adapt to this procedure by weighting both parts of the tax base according to a former contribution level. The wage payments, for example, could be weighted by two-third, while the depreciations are only one third of the tax base. This weighting would have to be done in a transition stage. An equally treated input of capital and labor would have to be the final goal of this procedure.<sup>86</sup>

Because of the separate contributions, the tax base to compute the AIME in this case would only be related to the employee's tax base.

A great disadvantage of this procedure would be a more complicated revenue system of the OASDI trust funds. The benefit adjustments would have to be related to the gross national product growth rate.

Both proposals, the modified employer taxation system and modified employee taxation, would mean a revolutionary change in Social Security financing.

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86. See more: Max Frank, "Anwendung des Mehrwerts auf die Löhne als Kalkulationsbasis fuer Arbeitgeberbeiträge zur Sozialen Sicherheit" [Application of the Surplus Value as a Calculation Base for Employer Contributions to Social Security], Cashiers Economiques des Bruxelles (Belgium), 1976; and Bert Ruerup, "Reform der Arbeitgeberbeiträge zur gesetzlichen Rentenversicherung" [Reform of the Employer Contributions to Social Security] Wirtschaftswoche (West Germany), 24(1980): 55.

## V CONCLUSION

This paper tries to prove why the proposed deficit for the OASDI has different causes in the near, intermediate, and long term. The short run deficit is a result of high unemployment rates and divergent growth rates in the revenue and expenditure sector of the trust funds. The time between 1990 and 2015 would not bring any debt in the Social Security financing system if the budget at the end of the short period would be balanced and unemployment averages no more than 6.2 percent. Beyond the year 2015 foreseeable demographic changes in the population age pyramid will be responsible for projected high payroll tax rates up to 23 percent. The ratio of working population to beneficiaries will be 2:1 .

The basic goal of any proposal in the fourth chapter is to stabilize the financing situation and avoid an undesired increase in the payroll tax rates.

The ways to do so differ, according to criteria for such an amendment or reform. One possibility is to evaluate a new contribution system which distributes the tax burden in a more equitable manner. The theory of public finance provides a range of equity and allocation criteria which accomplish this task.

Another alternative would be to include general revenues in the financing source. These revenue sources should compensate a low revenue period in the trust funds, caused by high unemployment rates.

A general revenue financing within the pay-as-you-go framework would tax Social Security benefits of high income individuals. Such additive earmarked taxes would be transferred from the Department of

Treasury to the trust funds.

Conservative economists would like to have a full general revenue financed welfare system, while the pension part of the Social Security should be based on a quid pro quo status.

A counterpart of the revenue reform would be a modification of the benefit structure. The claim of covered workers for benefits could be shifted into the future by three years, in order to keep people a longer time in the labor force and to reduce their duration in the Social Security. Finally, the annual benefit adjustments could be changed in an adjustment procedure which fulfills a welfare goal and keeps the beneficiaries during their retirement age in the same relative income position as they had when they received their first retirement benefits.

A fiscally sufficient stabilization could not only rely on one single financing proposal, but should involve several suggestions. Furthermore, the burden of a solution should be (and has to be) spread among the generations in the labor force and retired people.

It is the task of the legislative power in the United States to choose which proposed way would be the best to solve the financing problems of the Old Age, Survivors, and Disability Insurance in the short, medium, and long run. By enacting the President's Social Security Plan, an initial step would be made.

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THE EXPECTED FINANCING PROBLEMS OF THE  
OLD AGE, SURVIVORS, AND DISABILITY INSURANCE--  
AND POSSIBLE SOLUTIONS

by

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## ABSTRACT

The Old Age, Survivors, and Disability Insurance (OASDI) is the main part of the American Social Security system. It represents a continuous income source for disabled or retired people who paid contributions to Social Security during their time in the labor force.

The general purpose of this paper is to define the expected financing problems of the OASDI trust funds in the near, medium, and long term. The causes for an estimated deficit in the budgets differ for each of these periods.

Clearly, only solutions which explicitly address the root of these problems can be expected to succeed. Two basic instruments represent the framework within which solutions can be proposed: a change in the revenue structure and a modification in the benefit procedure.

In order to avoid an undesired increase in the payroll tax rate, the primary goal of this paper is to provide financing solutions for the OASDI on the base of a present payroll tax rate.

Changes in the revenue structure mean a broader distribution of the tax burden among the contributors in a equitable manner. The employer and the employee contributions could be levied separately. For example, all of an employee's non-labor income sources could be included in the tax base. The tax base for the employer contributions could be broadened to include a tax on capital as well as labor inputs. Furthermore, general revenues could be used to avoid a deficit in the OASDI. Some economists propose an independent, general-

revenue-financed welfare system, while the pension part of the Social Security should be based on a quid pro quo status; benefits should equal former contributions.

A counterpart of the revenue reform is a modification in the benefit structure. Both changes in the annual benefit adjustment procedure and increasing the age at which workers become eligible for benefits could reduce the expenditures of the trust funds.