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ANNUITIES AND THE MEDICAL CARE OF THE ELDERLY

by

Noriaki Niwata

1. Medical Care Expenses and Annuity Premiums in the Family Budget

In Japan today a striking aspect of family life is the rise in the standard of living and the greater contribution from family budgets to social welfare. With this rise in the standard of living, people's lives have become more diversified, and accordingly, items of expenditure have multiplied. Not only is money spent on material goods but also on improving the quality of life. A noticeable trend has been the increasing emphasis on planning for the future within the family. This planning may even take into account the future of the next one, two or three generations. The average person regards it as very usual to think in the long term rather than the short term, to give more thought to old age, which with greater life expectancy is a period assuming greater importance for everyone. This new thinking requires a reorganization of the household budget.

Providing for the future is not only an economic question, but also requires psychological adjustment to the idea of having to make this provision. Therefore, it is a question of both facing a future problem and finding a solution to present mental and emotional difficulties. In the household budget the future is very much a matter which has to be dealt with now. This reflects the trend toward consideration of one's emotional well-being as well as material needs.

Together with the emphasis on social planning in household finances there is, as we have said previously, the greatly increased standard of living and the more modern life style of the family. Fundamentally, the basic concept of Western-American style society may be said to be liberalism and individualism. It is completely different from totality and the idea of the group which dominates Asia's life and work styles. Therefore, why is it that we speak of the recent change in life style and family budget here? Basically, social welfare in Japan is intended only to protect freedom and individuality of life style. Without the respect for humanity, for human life and for the uniqueness of mankind then the bond that holds together human society would be lost. If this state prevailed, then far from being a true state of individualism, that would be selfishness, disorder and a society without direction.

That is to say, in a western society liberalism and individualism are the necessary

bases of the modern welfare system. When this society becomes more complex, strained and faster moving then the welfare system must be increased and the part of the family budget spent on welfare becomes greater accordingly. But if this becomes excessive, then great damage will be done to liberalism and individualism and there will be a loss of activity in society. In the right way however there have been far more positive than negative effects on society with the introduction of social welfare. If a society has only an imperfectly developed liberalism then social welfare has not been established well.

The expenditure on social welfare in the household budget is inevitably promoted and intensified in a capitalist society which is developing. In this society labour and capital are separated and this division is further fostered in the social economy; production, distribution and consumption are inextricably linked with all aspects of society. Accordingly in this society which extols individualism, a person cannot merely live as an individual. We can suppose that social welfare naturally develops from this economy.

Today there are deepening basic contradictions in capitalism which can be seen in the confusion of markets, the failure of the market mechanism to operate and the way in which demand does not follow an increase in production. It is natural that the demand for social measures should increase, and that as these measures are enacted that there should be resulting restrictions on the household budget. This, however, does not always imply a road toward socialism, rather it would suggest the character of a welfare society.

Greater spending on social welfare in the household budget is part of a rationalization of the household economy. But it leads to greater restriction. People who are individualists may reject this system, while at the some time demanding its benefits. The payment of social measures from the household budget does not always bring improvement and security, and in some cases there may even be hardship. In social welfare there are both individual and government sponsored measures. The latter have more authority and make greater constraints on people.

Organizations which promote their own measures of social welfare: Labour (Trade) unions, cooperatives, consumer groups and movements, mutual benefit societies (friendly societies), savings societies, local groups, etc.

National or governmental systems which promote social welfare: Social security, social insurance, public assistance, social work, measures taken by state, local and public organizations, national-local joint facilities, managerial activities of state and local authorities, etc.

Previously welfare was a question for individual families and their household budgets, but now it is a corporate and state matter. Social welfare may now be seen in three ways.

Agencies of social welfare which improve the state of life: Communications, transportation, roads, telegram & telephone, mail, water supply & drainage, garbage control, the control of pollution, housing, public gardens & green belts, sports facilities, relaxation & recreation facilities, schools, libraries, cultural facilities, the provision of cooking, washing & nursing facilities, sanitation, medical care & after-care service, facilities for the elderly, police, disaster & fire prevention, information, leisure amusement, etc.

Agencies & systems which ensure the smooth supply of goods: Retail purchasing associations, cooperative associations, consumer co-operatives, goods exchange meetings, instalment payment systems (on a collective basis), special financial organizations such as credit security and loan unions, etc.

Measures concerned with the provision of economic security: Social insurance, public assistance, various public assistance programmes, employment offices, job training schemes, instalment & consumer finance societies, *mujin* (mutual financing group), collective savings, insurance, trust systems, social works, relief programmes, credit systems, funds to counter pollution and improve the environment, etc.

Social expenditure may be within the family budget, but it may also take the following forms:

Social services provided free of charge – Free buses for the elderly, free medical care for the aged, various programmes of public assistance & welfare, free delivery of school text books, free education, free supply of school lunch, etc.

Social services provided but paid for directly by the beneficiary (provided publicly or semi-publicly but managed on independent accounting; in most cases charges are made) – electric power, gas, water, telephone, schools, state and local amenities (such as places of entertainment, theaters. gymnasiums, museums, art galleries, hospitals), public transport, buses, toll roads, etc.

Social services at a low charge (here are included services which could be considered welfare work or provisions; some of the above-listed charged directly to the beneficiary may be more appropriately listed here) – Social insurance (e.g. partial payment of medical care), medical care and other services for the elderly, care for the disabled, community baths and hot springs, community dining halls, amusement parks, botanical gardens, art exhibitions, cultural lectures, public financing (pawn shops, housing loans, emergency relief funds, finance for medium-small firms, funds for environmental purposes, etc. (These are provided not only by public bodies but also by private enterprise in the form of welfare for employees or as a method of profit redemption.)

Social services provided at a reasonable charge (facilities for the community provided by private enterprise – occasionally by public enterprise – where charges or fees are determined to include a profit margin) – Theatres, sports facilities, private schools, private clinics & hospitals, kindergartens, railways and bus lines, etc. There are many others that could be listed.

Social services provided on a 'self-help basis' – Life insurance, sickness insurance, fire insurance, car insurance, mutual benefit work, mutual aid societies, etc.

The expenditure of the household budget can be broadly divided into taxes & social security charges, living expenses and savings. To discuss taxes: first expenditure on the maintenance of national defence and public order – to secure the country against dangers both external and internal. Next, there are those parts of the family budget which go towards state expenditure on social and welfare activities. Possibly here some of that expenditure may be returned to some people in the form of a payment.

That part of one's financial outlay going on social welfare might at the time bring psychological contentment only to a person, but for the future the money will bring its

Table 1. Showing Family Income

Item	Example
I Real income proper	
A Other real income	
a Social security benefits	Paid in many ways (various social security systems)
1 Life security benefits	Civil servant annuity act, mutual benefit society act, national employee's pension act, worker's compensation act, unemployment insurance act, Daily Life Security Low, survivor's annuity act, Disaster Assistance Low, repatriation benefits, national pensions
2 Benefits to fatherless families, old people, the disabled	Children's allowance act, maternity hospitalization, educational assistance, disabled persons' allowance
3 Medical security benefits	Employee's health insurance act, National Health Insurance act, sailors' insurance act, mutual benefit society, public assistance and medical assistance,
4 Other benefits	Scholarships
B Other income	Receipts from fire and injury insurance
C Income from labour (trade) union	Payment to union officials, compensation for wage-cut etc.
II Income other than real income	
A Drawing from savings, insurance premiums	
a Insurance premiums	Life insurance receipts, receipts from *Mujin*, post office pension scheme
B Debts	
b Scholarship	Scholarship

Source: Sōhyō Chōsa Geppo, May 1975

Table 2. Items of Expenditure in a Worker's Budget

Real Expenditure
Expenditure on consumption
School lunch, rent for house and land, water supply, electric power, gas, medical care, bath, cleaning, auto insurance, communication-correspondence, education, radio-television, public charges, fire insurance, other non-life insurance.

Source: Prime Minister's Office, *Kakei Chosa* (Both tables adapted from R. Miyazaki & S. Ito, ed. *Katei Kanri Ron*, 1978, p. 114, p. 116, Yūhikaku)

return. For example, money goes to social insurance now and comes back later when one is old. Similarly the same can be said of payments to medical schemes, i.e. at the time of sickness or injury there is immediate assistance in different forms. Both the payment for social insurance and medical care can be understood as expenditure and income. With both there is a gap in time between spending and receiving, and in this sense the idea of saving is implied. Both types of payment, social insurance and medical care, are like ordinary insurance in that, if no events occur which necessitate payments, then the outlay of money may be considered a 'one-way payment' or 'unprofitable'.

With regard to living costs, without social security, people would have to spend much more for medical treatment and would have to save more to provide for possible treatment at a later date. Now with the institution of health insurance schemes and social insurance providing for old age, the payment for these provisions is regular and systematic as opposed to the random outlay previously, when money was spent when the need arose. Money going toward health insurance and old age pensions are now considered together. Expenditure on medical care which generally arises in an emergency, and savings for old age, are now considered as one outlay because of the institution of social security schemes. By coming together the nature of payment for social security schemes has changed.

Now savings are dealt with here. There are three kinds of savings. The first type is to provide for occasional need. If there is sickness or injury and money has to be raised by any means this can be called emergency expenditure, but if provision for this is made by monthly savings then it forms a category of savings.

The second kind of saving is to provide for old age, which takes the form of regular and systematic payments made monthly or annually by premiums. The saying 'an annuity is a kind of savings' illustrates this method of saving. This type of saving is now done through social security systems, and so this kind of provision has shifted from the one (savings) to the other (social security). Medical insurance and social security provisions for old age were previously dependent on emergency expenditure and savings, but now they are provided for in the same way.

Medical expenses which used to be temporary, disbursed from savings when there was a need are now covered by medical insurance which is partly the social welfare programme. Also the provisions for old age which used to come from savings will be a large part of social insurance expenditure in the future. Savings for casual needs, for emergencies and to provide for old age have now all been incorporated in social insurance schemes. Savings for medical treatment and for old age do not appear connected, but in fact under social insurance schemes they are treated together and may be considered as one in the household budget.

The third category of savings are those used for property. In our times it is difficult for the working class in general to save up enough money to buy a property. So their savings may be more properly regarded as assets to use at a time of illness, injury or other emergency. On the other hand when there are no specific aims savings may be spent on anything. If there is a social insurance system to cover the misfortunes of life then it is possible to diminish these savings. Social security, especially for medical care and the provision of old-age pensions, lessens the need for savings. In our country people are earnest savers, partly because they like doing this, and also because the social security system has not developed fully, and additionally because they have some distrust of government. In the future, social security is intended to take over from savings. As savings become part of the social security system, then the aims of saving will become more definite.

Table 3. Types and Aims of Savings

Type \ Aim	Provision for sickness, disaster	Child education	Land, House purchase	Security in old age	Personal use	Recreation	To profit
Term deposits		○			○	○	
Cummulative term deposits	○	○				○	
General deposits	○					○	
General postal deposits	○					○	
Cummulative, do		○			○		
Fixed, amount, do		○			○		○
Term, do					○		○
Money trusts		○	○	○			○
Loan trusts			○	○			○
Discount bonds					○		○
Debentures (A) (B)				○			○
Stocks						○	○
Investment trusts						○	○
Insurance	○			○			

Note: Debentures (A), issued by special acts;
(B), by private undertakings

Source: H. Maruoka, Bukka to Kakeibo, p. 154, 1963, Iwanamishoten with some revisions by Niwata

[Some views on the Relation between Annuity Insurance and Medical Care Insurance in the Household Economy]

(1) Classification of household expenses by uses (aims)

(a) food, (b) clothing, (c) housing, (d) light and heat, (e) miscellaneous (health & medical care, health and beauty, transportation & communication, education, stationery, culture & amusement, social life, luxuries, money to support family, public responsibility, insurance premiums, etc.)

Looking at this classification of household expenses, we could say the following. Items (a) to (d) may be said to cover essential living costs. Item in (e) included at random may be thought of as covering social and cultural life. Social and medical insurance are included in the cost of one's social life and is therefore called miscellaneous. Broadly speaking, the miscellaneous items differ from items (a) to (d) as the miscellaneous are unlike (a) to (d) not vital to daily life and the amount spent on them and type is a matter of personal choice. There is a wide choice in the consumption of these items.

(2) Analysis of family expenditure reflecting life structure

(a) Line of the home base – clothing, food, housing, health etc. (Health here can be replaced by medical care and hygiene which means benefits from medical care.)

(b) Line of life creation – education, information, social life, leisure utilization, etc.
(c) Line of employment base – transportation, various job expenses, social expenses, etc.
(d) Line of living financing – various taxes and duties, social security charges, insurance, deposits, debt repayment, etc.

In clarifying the items in the line of living financing deposits are saving, in which pension schemes, either public or private, are included; debt repayment refers to loans; insurance is regarded as a precautionary measure and medical insurance whether public or private is included here.

(3) Classification of spending by necessity

(a) Necessary expenses – staple food, house & land rents, commuter tickets, labour (trade) union dues, fees for compulsory education, taxes, social insurance payments, public responsibility, etc.
(b) Expenses of middle necessity
   i. Rather necessary – basic foods, newspapers, laundry, hair cutting, television, telephone, senior high school, etc.
   ii. Middle – luxury foods, house repairs, gifts for weddings and funerals, extra medical costs, stationery, kindergarten, correspondence, etc.
   iii. Rather free decision – college fees, drawing room furniture, magazine subscriptions, personal goods such as cigarette lighters or handbags, etc.
(c) Expenses of a free decision – cars, dining-out for pleasure, entertainment, foreign travelling, records, accessories, further education & cultural meetings, charity contributions, insurance, etc.

Here payments to pension scheme and medical insurance are put under necessary expenses.

Table 4. Household Income and Expenditure of a Worker's Family

Total income	Total expenditure
	Taxes, social security payments, etc.
Real income	Living expenses Food Housing Light & heating Clothing Miscellaneous
	Surplus
*Income other than real	** Expenditure other than real
Carried from previous month	
Surplus	Carry over to next month

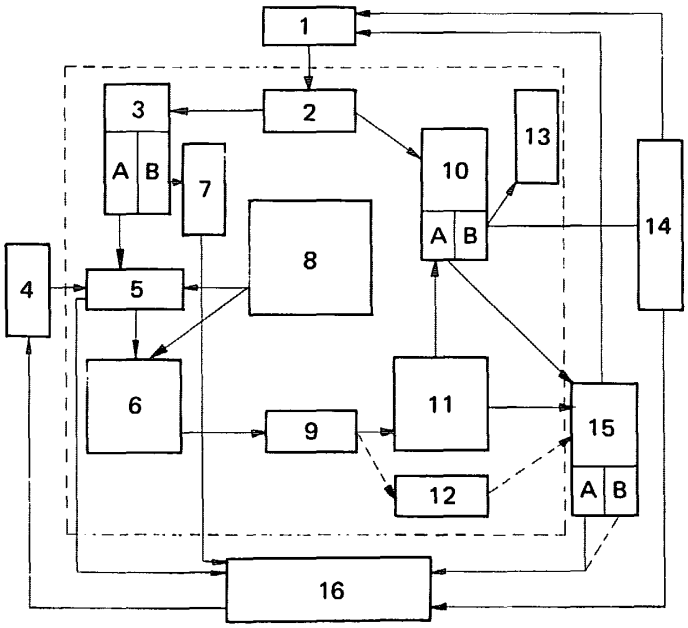
① Disposable income ② Income other than real ③ Total income ④ Not consumption
⑤ Consumption ⑥ Expenditure other than real ⑦ Real expenditure ⑧ Total expenditure

* Income other than real – drawing from savings, insurance receipts, borrowing money, purchase by credit, etc.

** Expenditure other than real – savings, insurance payments, loan repayment, payment by instalment and by credit, etc.

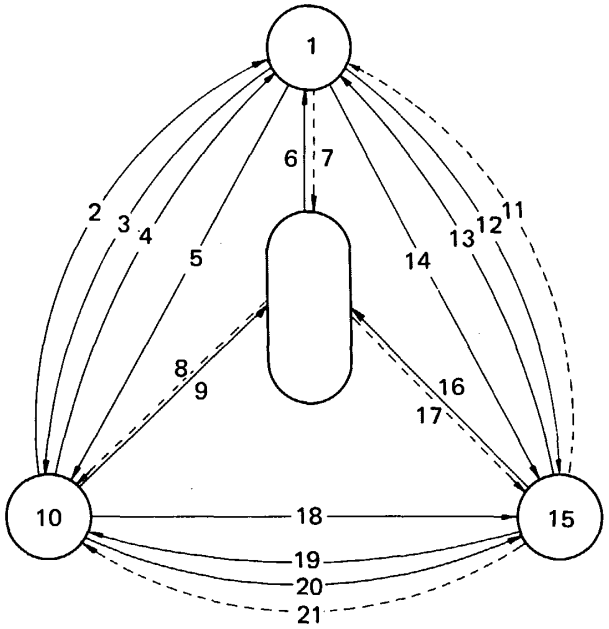
Source: A. Ito, Kaitei Katei Keizaigaku, 1977, p. 120, Koseikan.

Figure 1. Flow of Household Economic Activities
(household inside the dotted line)



1-Money 2-Income 3-Expenditure A Free choice B Compulsory 4-Services, products, materials 5-Selection and purchase of consumer goods 6-Final consumption forms 7-Taxes, social security 8-Housekeeping ability and management (activities confined within the family) 9-Consumption 10-Accumulation A Family energy B Assets 11-Expanding productivity of the family 12-Contracting productivity 13-Assets in use 14-Lucrative assets (investments) 15-A Lucrative labour B Service activities 16-Firms, government, Capital, land, labour (resource reproduction)

Figure 2. Circulation in National Economy



1-Family budget 2-Money and goods, services 3-Money prices 4-Money (wages, interest, dividends) 5-Labour, assets 6-Rent, interest, dividends 7-Direct and indirect savings and investments 8-Loans 9-Rent, interest, dividends 10-Firms 11-Social security benefits, Government services 12-Money (taxes) 13-Money (wages, interest) 14-Labour, assets 15-Government (central, local) 16-Interest 17-Government bonds 18-Money and goods, services 19-Money (prices) 20-Money (taxes) 21-Subsidies, government services
Adapted from Tokyo-to Shiritsu Tanki-Daigaku Kyōkai, "Kaseigaku Sōron", 1977, p. 31, Sakai-shoten. Ikueido (both Figures)

2. *Correlations Between the Risks Surrounding Annuities and Medical Care Security*

Looking at public annuities and medical care security from the point of view of the household economy, both of these are paid on a fixed and regular basis from the household budget. However, a difference between the two arises in a person's later years as annuities (social security payments) become a type of income, whereas medical security makes no such contribution, although it may not make financial demands. A fact to be borne in mind is that the annuity paid makes some contribution to medical care expenses, especially the difference which may not be covered in some situations by medical security benefits. Anniuty benefits (pensions, etc.) together with health insurance system for old people (Rōjin Hoken Seido) make possible an individual's payment for medical treatment in old age. If these systems function smoothly then almost the whole burden (medical care proper, partial burdens, differential portions and attendant portions) will be covered.

By the improvement and growth of the annuity system old people have ceased to be economically at a disadvantage. This may be all the more so if health insurance system

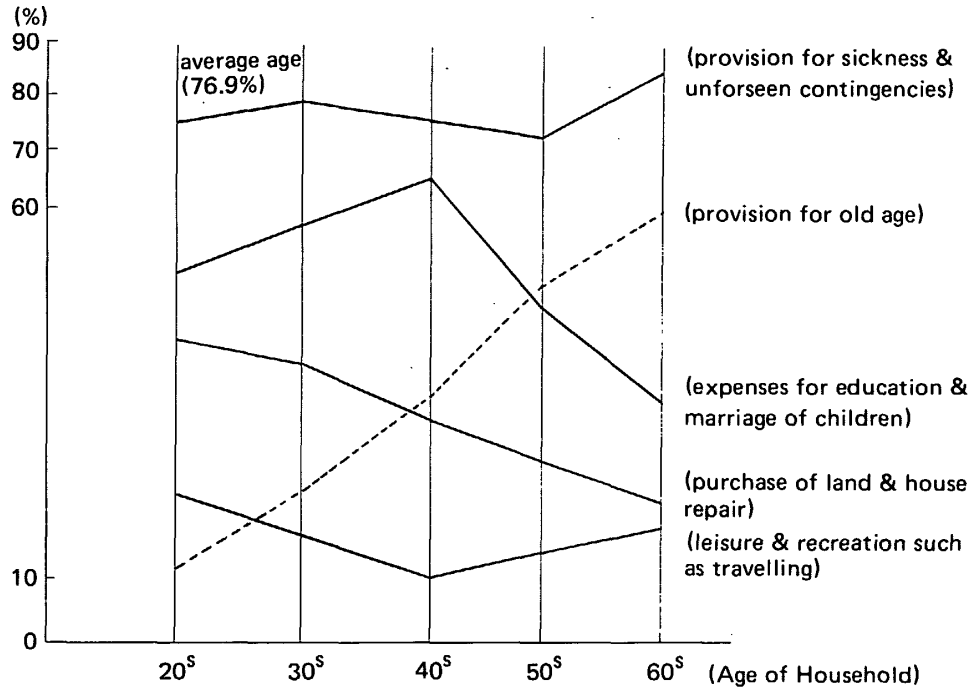
for old people (Rōjin Hoken Seido) starts, because this system will cover a part of the cost of medical treatment, so it will take care of some of the demand facing old people. Annuity benefits and medical care expenses for old people will work together to great effect. The main concern in old age is not the cost of life (improved annuities in the form of pensions have decreased this fear) but the expenses resulting from illness and injury, and even these expenses will be largely met when medical care security is more rationalised and the problems of differential expenses resolved. Looking at the changes in the aims of saving by different age groups, the noticeable feature is that the older group think of provision for old age and provision for sickness and unforseen contingencies as merging together. This is because for old people the two are almost indistinguishable in their daily life.

1) Accordingly, as annuity benefits (pensions) are improved, it is possible for older people to meet medical expenses themselves. This is the right way, as annuity benefits (pensions) and medical care come in old age, just as income from wages, etc. and medical care benefits maintain life and security in people's younger years. The existing problem for old people is that health insurance system for them refuses to cover partial, differential and attendant payments, and sees no justification for health insurance system being extended to these areas.

Early-Middle life	Later life*
1 wages (income) - (annuity premiums + medical insurance premiums) - (partial charges, etc.)	1 annuity benefits - (medical partial charges, etc.)
2 Medical care benefits	2 Medical care benefits
1 + 2 = living standard of young and middle-aged people	1 + 2 = living standard of old people
	*Period covered by old people's health insurance

2) A rise in the benefits from the medical care security system lessens the burden on the household budget of annuity (pension) dependent people, and this can act as a substitute for an increase in the annuity (pension). Also, in turn, this can reduce the costs borne by those contributing to annuity (pension) schemes, that is, younger and middle-aged people. Ths expansion of medical care security means an easing of the household budget for all groups of all ages, but in particular to those dependent on annuities. It could happen that as there is a relaxation in the problems of older people, so there could be a decrease in the annuity payments of younger groups, and if this happens it will dissolve the argument that annuity payments must rise rapidly.

Figure 3. Aims of Saving by Age Group



Source: Central Committee for Saving Promotion.
Chochiku ni kansuru Yoron Chōsa, 1981.
Kokumin Hakusho 1981, p. 252, Keizaikikakucho.

Now let us consider the correlation between annuities and medical care. As annuities improve the benefits for recipients, benefits for individual insured will of course increase, and the costs will also increase. This results directly in a rising standard of living for the elderly and promotes higher longevity for a nation. At the same time costs will increase. The prolongation of life and the attending insurance risk in the annuity (from which insurance problems occur) and the extension of the average expectation of life at the time when benefit payments are first made bring about expanded burdens on annuity financing. Concerning risks, problems and benefits, there is a trend toward cyclical expansion, a phenomenon of expanding reproduction. This is caused very directly and evidently by the continuous benefit system of annuity insurance. People make greater demands on the annuity than they should.

< Betterment of annuity benefits to individuals receiving a pension → Increase in total financial burdens of annuity organisations → Increase in benefits because of higher longevity of the elderly → Further increase in total burdens of annuity organization >

The rise in annuity benefits naturally and inevitably leads to longer life; there has been a decline in the death rate because of the more successful treatment of old people's illnesses, but this does not mean that disease among the elderly has declined, or is being diagnosed earlier. That is to say, there are limits as to what medical care can do to prevent death by disease. In short, there is a combination of longer life and illness, and so medical

expenses grow, and medical security finances are made poorer, thus there arises the multiplication of divergent risks known in insurance. This leads to the worsening of the finances of the annuity and medical care system in correlation to the multiplication of divergent risks and sometimes in greater ratio. The general opinion is that with the advent of "old-age society" the increase in the cost of medical security finance will further intensify the degree of distress.

< Increase in annuity → Greater life expectancy → Increase of medical costs for old people → Increasing cost of medical security, due to larger annuities and greater expense of medical care >

Medical care security-insurance employs the form of payment, that is, benefit in kind. Hence the insurance protection rate is 1 (one). With the perfect functioning of the continuous benefit insurance system, those insured by employee insurance are completely covered. If the insurance protection rate is, 1 and if there are no limitations put on the continuous benefit system, and if there are no partial payments, then financial problems must occur within the medical care system (the so called blue ceiling phenomena in Japanese). The greater strain on the medical care system arises from the cost of treating old people, who unlike younger to middle age people, often have chronic illnesses.

The annuity system and insurance against annuity are inflation proof. If benefits themselves are increased by an appropriate degree, even with inflation the protection rate is 1 (or nearly 1); but with this continuous benefit system the financial burdens to those paying will grow worse. A question arises, which is, what percentage of the salary before retirement should be taken to give insurance protection at the rate of 1?

Nominal wages ($\frac{1}{12}$ of annual income incl. bonuses) $\times \frac{8}{10}$ = net wages (actual living cost)

Net wages $\times \frac{8}{10}$ = actual living cost after old-age retirement

Nominal wages $\times \frac{8}{10} \times \frac{8}{10}$ = net wages $\frac{64}{100}$ = annuity insurance protection rate 1

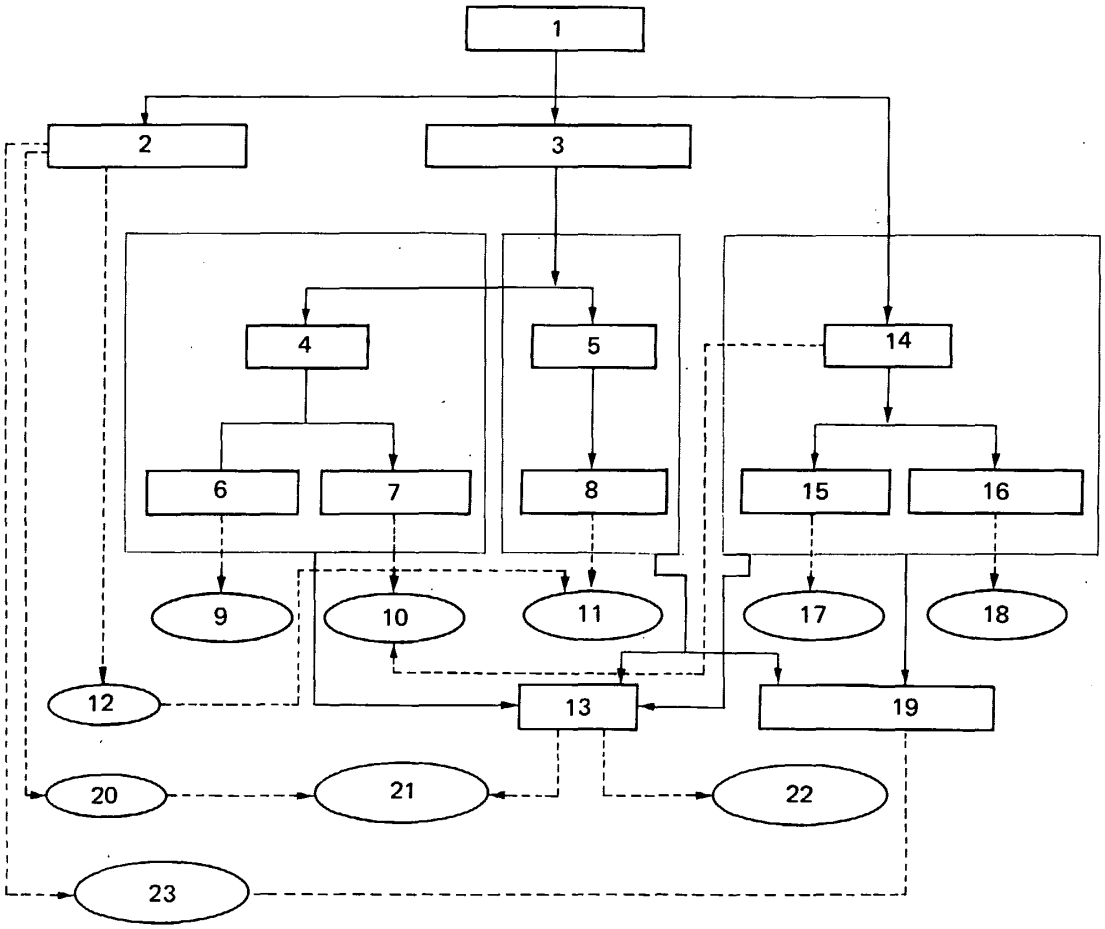
$\frac{64}{100} \sim \frac{65}{100}$ of nominal wages = annuity benefit rate to give protection rate of 1

With annuities there are no complications as with the medical security system, such as partial payments and treatment outside the scope of the medical scheme. But a problem with annuities is the emergence of high-level annuity benefits that exceed the protection rate 1. It would seem that levels of annuity benefits are substantially lower than nominal annual incomes, and so the level of annuities might rise. A second problem is that when several types of annuity are combined, the benefits may exceed the protection rate of 1. A third problem is that in most cases benefit payments begin at certain specified ages, and so often there is the situation when a person receives both salary and annuities, which accordingly rise above the rate of 1. In such a situation the financial collapse of the annuity system is inevitable. Further, if charges are made to meet those commitments, then an almost insupportable burden is placed on those

paying the insurance. Extreme hardship to young and middle-aged people may occur. The following, are ways in which the financing of annuity schemes may be improved from the point of view of the protection rate:

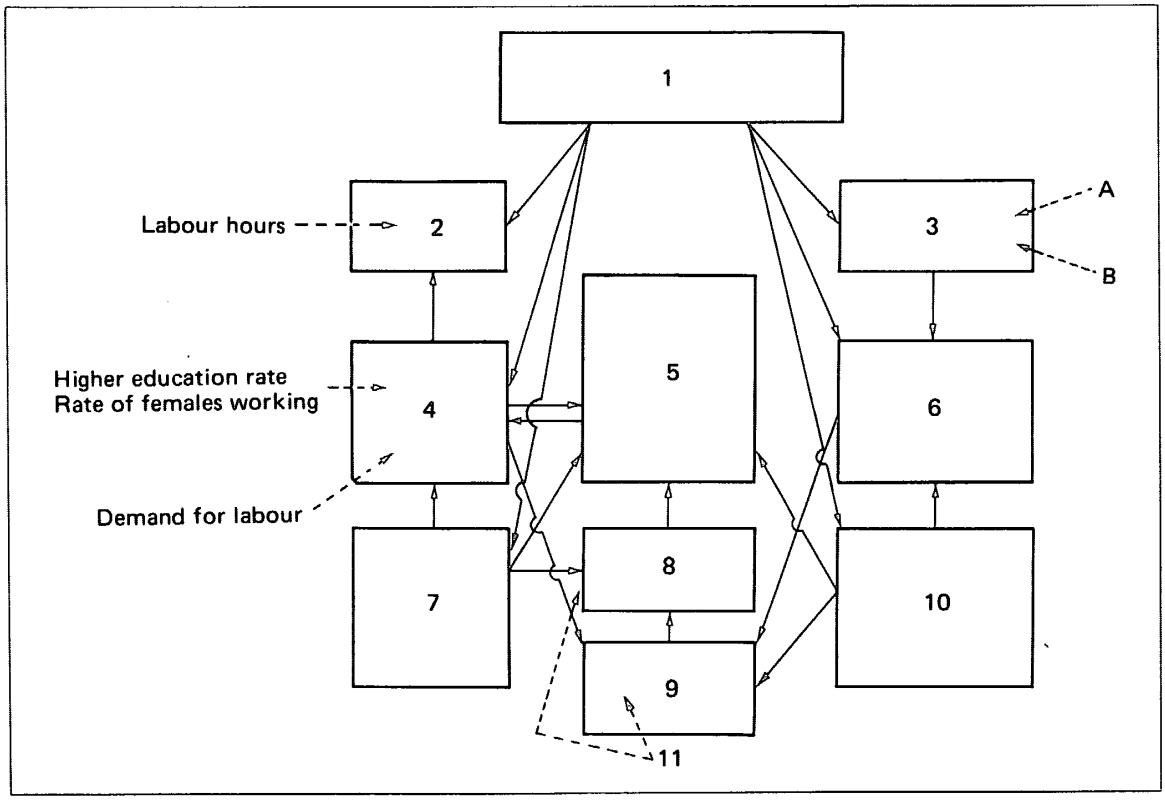
1. To maintain the rate of benefits at a degree lower than the protection rate of 1. The remaining portion should be covered by payments from those insured, that is to say, on a self-help basis.
2. To make annuity benefits terminal. This is usual with annuity schemes run by companies, but impossible with state social security schemes.
3. Abolition of inflation proofing. This would deprive state annuities of that feature which differentiates them from private annuity schemes. So, one device is to reduce the rate of inflation proofing, but if the reduction is too great, the state scheme becomes very much like the type increasing in benefits of private annuity and thereby loses much of its attractiveness.
4. The combination of several annuity benefits and their adjustment accordingly. The limitation of combined acquisition of wages and annuity benefits. Further, the adjustment of combined benefits of husband and wife in the same household.

Figure 4. The effect of accelerating old age in the composition of the population



1. Accelerating old age in the composition of the population
2. Accelerating old age in the working population
3. Increase in population nonproductive elderly people
4. Increase in support
5. Increase in leisure
6. Increase in public burden
7. Increase in private burden
8. Increase in welfare connected with leisure
9. Annuity problem
10. Family problems
11. Problems connected with growing life expectancy
12. Employment problems
13. Increase in social burdens
14. Increase in the number of sick among the elderly
15. Increase in medical care costs
16. Increase in facilities and human factors
17. Problems of the cost of the medical burden
18. Problems of nursing the elderly
19. Increase in population on social welfare work concerning the elderly
20. Labour productivity
21. Effects on GNP
22. Social distribution
23. Demand for labour in the social services

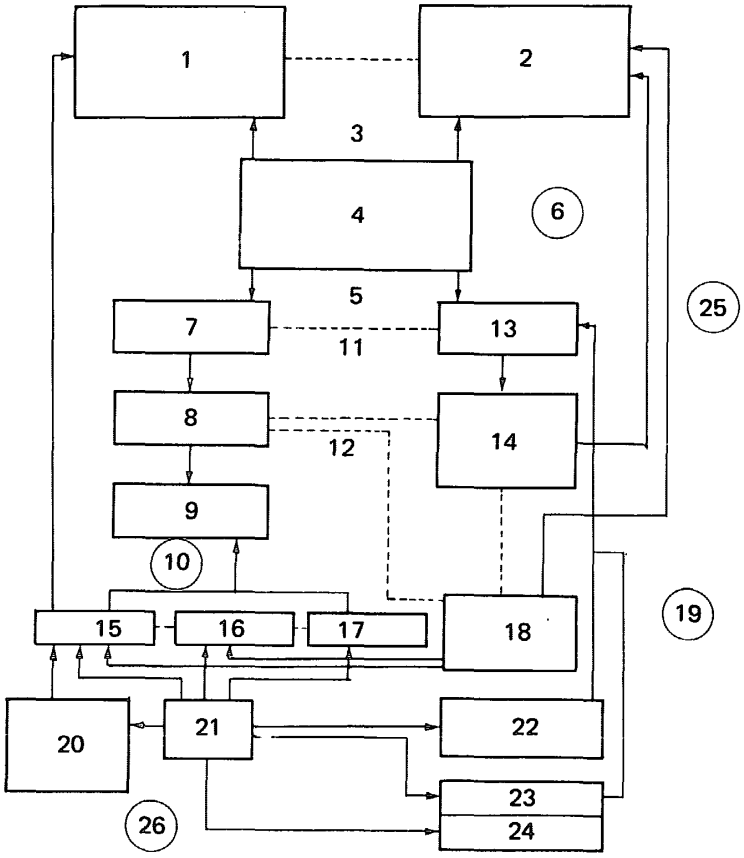
Figure 5. Model showing basic flow of the society of the elderly



1. Population
   0–14, 15–59 } Young people
   60–64, 65–69, 70– } Elderly people
2. Leisure
   Total leisure hours
3. Family
   Number of younger persons' households ← – – Rate of elderly people living with families ← A, B
   Number of elderly people's households
   Elderly people living on their own
   A – Urbanization B – Support consciousness
4. Labour
   Ratio of younger Labour power
   Ratio of older labour power
5. Elderly people's income
   Income – income from job
   income from assets
   income from annuities
   income from other sources
   Expenditure – living expenses
   leisure expenses
   medical expenses
6. Care needed by the elderly
   Financial needs
   Physical needs { Facilities (policy variable)
   Nursing in homes
7. Annuities
   Number of beneficiaries
   Amount of benefits (policy variable)
   Number of those insured
   Premiums (policy variable)
   Accumulation
8. Income of younger workers
   Employees' average wage
   Disposable income
9. Finance
   Revenues
   Expenditure { elderly people's welfare
   ohter
10. Medical care
    Number of sick persons
    Ratio of young sick people
    Ratio of old sick people
    Medical care expenses
    Ratio of public insurance burdens (policy variable)
11. Scale of economy

Adapted from A. Yoshioka and K. Nakamura, Kōreika Shakai no Needs to Futan, Toyo Keizai, Oct. 7, 1976, p. 26 (both Figures 4 & 5)

Figure 6. Flow Chart to illustrate quantitative framework



Notes: 1. Underlined items are given conditions.
2. The arrow marks show directions of assessment.
3. The relations shown by dotted lines are selective; e.g. since GDP (sum total of the primary, secondary and tertiary industries) is given, an increase in one industry causes a decrease in others.

1. Welfare demands (man-hours)
   Children, the sick
   Bedridden elderly } Formal sector
   Disabled persons (markets, government)
2. Welfare demands (man-hours)
   Children, the sick
   Bedridden elderly } Informal sector
   Disabled persons (families, districts)
3. Age composition, sickness rates, etc.
4. Age composition of population by sexes and household structure
   Present age composition
   Average life expectation
   Ways of child bearing
5. Work motivation and value concepts of females
   Attainment of life expectations and working of elderly persons
   Annuities, retirement ages, rates of higher school entrance
6. Family patterns, dwelling conditions, child care by elderly persons
7. Labour population by sexes and ages

8. A labour supply by sexes and ages (man-hours)
9. Labour demand (man-hours)
10. Productivity by hour, labour hours
11. Allocation of daily life
12. Labour hours, leisure
13. Non labour population by sexes and ages
14. Housekeeping and child care supply (man-hours), by sexes, ages and by employed or unemployed
15. Tertiary industry
16. Secondary industry
17. Primary industry
18. Leisure (man-hours), voluntary activities
19. Income transfer
20. Government
    General administration
    Public services
21. GDP
    Real growth rates
    Deflator
22. Employee's income
    Other personal income
23. Corporate income
24. Capital depreciation
25. Public facilities and services
26. Taxes, social security burdens, etc.

Adapted from Sugata, Fukushi Shakai no Sentaku, Keizai Seminar, No. 324, 1, 1982, p. 51.

So far we have seen the respective insurance risks of the annuity and the medical care security systems in combination and correlation, now it is necessary to consider these two separately, and the development of insurance and what it could bring to insurance finance. Primarily, in the life structure of elderly people, medical expenses (here pertaining to partial charges, burding an excess of medical expenses etc.) should be paid from annuity benefits (the main part of income corresponding to wages). This is so in the context of the household economy for young and middle-aged people, and the situation does not change for the elderly.

All people receive 60 to 65% of their previous income (salary just before retirement including bonuses) in the form of, for example, an annuity. Although living expenses might be reduced accordingly, to 60 to 65% of what they were previously, the same cannot be applied to medical expenses. In fact, these expenses might well amount to 120 to 150% of those of young and middle-aged people, and thus, both proportionately and in absolute terms, these expenses for the elderly have undergone a dramatically rapid rise. As such a huge problem is involved, the argument that annuity benefits should simply be 60% previous incomes simply is not feasible. Reductions may be made in the areas of transport, social life, clothing and food – but clearly the opposite applies to medical costs.

There are two ways of treating insurance risks. Either, the risks may be insured separately along single commodity lines, or, the risks may be covered by a composite insurance scheme which covers risks in a combined and comprehensive ways. In most cases, the total cost of premiums of single commodity lines will exceed the total cost

of premiums of composite insurance schemes. However, in general the sum total of benefits of single-commodity insurance schemes exceeds that of benefits paid by the respective composite insurance scheme. In other words, both as regards payments and benefits, the sum total in single commodity schemes exceeds that of composite schemes, by a portion incapable of mutual adjustment and off-setting. It could happen in the case of an accident, that benefits awarded covering each separate risk exceed the sum of risk, that is, the insurance protection rate surpasses 1. This would give rise to that phenomenon in the insurance world of double insurance, leading to over insurance.

If annuity (pension) and medical care security with their attendant benefits, are thought of as independent systems, and ways of improvement are also thought of independently, then a surplus will result in the total benefits paid. These two schemes need to be regarded in a unitary way, in that part of the household budget dealing with social security. Therefore, in old age, annuities and medical benefits should always be examined from the point of view of their level and what needs they have to meet. (In young and middle-age periods the two appear simultaneously in terms of payment, but not in terms of benefits.)

Character of the Risks of Medical Security-Insurance

(1) The existence together of objective and subjective risks.

This inevitably leads to the emergence of moral risks. To avoid this, basically there are no other ways than the partial charge system and more rigid assessment of losses, that is, checking medical care costs. However, even if medical insurance could be treated as a kind of non-life insurance, the adjustments normal in this field could not be applied to medical insurance. In the health system for elderly people there is no connection between benefits (examination, treatment, etc.) and counter benefits (premiums), and also there is a time difference, in that premium payments occur in younger life and benefits in older life. The beneficiaries, that is the elderly, can relax with regard to the economic side (the cost or medical care is covered), though there is the problem of waste, in the sense of abuse, which managerial efforts of insurers cannot correct.

When a person is employed, he is deterred from incurring unnecessary medical expenses by "saying" he is sick or injured, as promotion may be held back, or his reputation impaired. No such consideration is at work in the health system for elderly people, and the claiming of limitless benefits (so called, "blue-ceiling benefits") could become a serious danger. Therefore, it is inevitable that from the point of view of finance, that some system of partial charges should be introduced. In addition, private insurance against sickness, should from the point of view of payments, combine death and sickness insurance as far as possible to effect the "principle of risk offsetting". In contrast, in state social security, the annuity system and the health system for the elderly are inversely combined, thus leading to the "principle of risk amplification", which accelerates financial distress.

(2) There is the principle of compulsory participation in medical care insurance and social security. This means for the insurer the absence of the right of risk selection and the presence of the duty of undertaking contracts (participation). Before accepting

a person's contract, a procedure is undertaken, whereby there is a health examination and other investigations to ascertain a person's state of health before arranging the risk. The health insurance system for the elderly (Rōjin Hoken Seido) may be said in this respect to be very reasonable, because preventive measures (in health) take the place of risk selection.

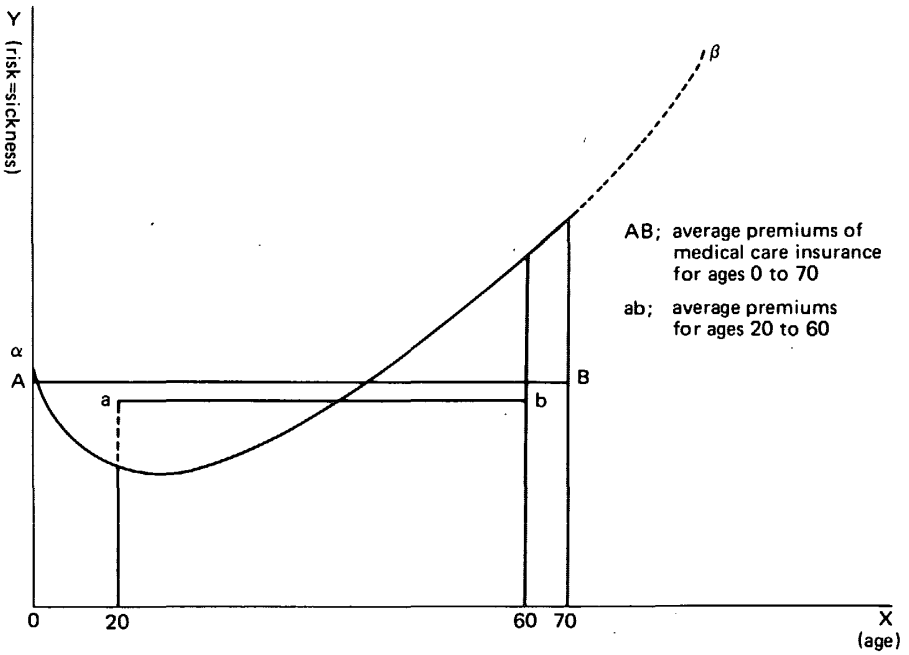
(3) With medical care for the elderly, that portion of the expenses which insurance does not cover, inevitably increases. Since the illnesses of the elderly are apt to become chronic, and as their physical strength and condition is deteriorating, help and care is required in areas other than sickness itself. In the health insurance system for the elderly (Rōjin Hoken Seido) it will become necessary to provide extra benefits including greater help, with partial payments and greater attention to health counselling, otherwise the annuity itself must be increased to cover these areas. With old people the line between sickness and health is often unclear. By the same token, a definite line cannot be drawn between living and medical expenses (that is, between annuities and medical benefits.)

(4) In the health insurance system for the elderly (Rōjin Hoken Seido), the cost is borne by later generations in the form of a levy. The annuity system will also sooner or later adopt the same form, that is, the levy, and a substantial part of the cost will be transferred to later generations, increasing the burdens they have to bear. Both the cost of the annuity and of medical care will increase the burdens to later generations, and this will become greater still with the advent of the "old age society". This form of financing will very soon face overwhelming difficulties.

3. The Character of the Health Insurance System for the Elderly (Rojin Hoken Seido) and of the Annuity System

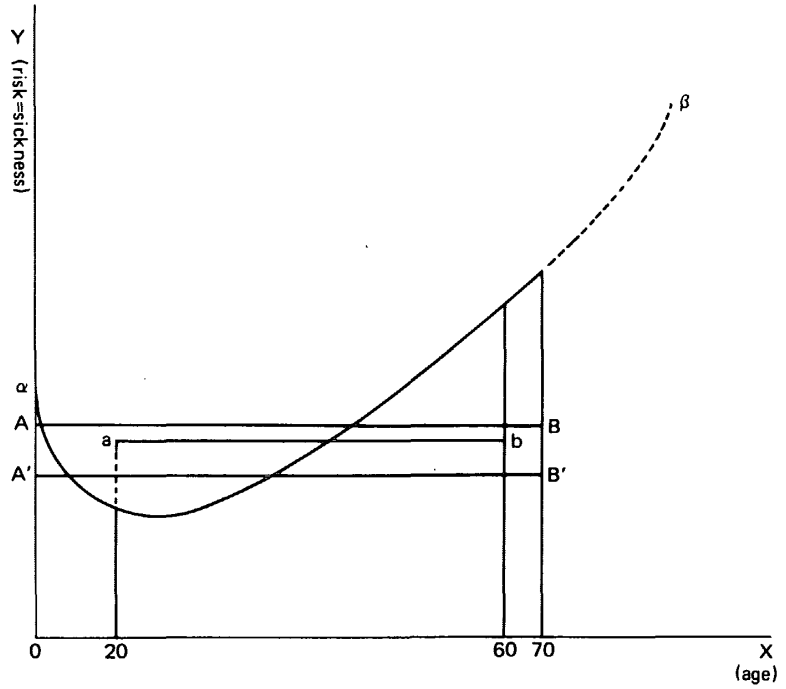
The health insurance system for the elderly is substandard lives insurance and rated-up lives insurance. It differs very much from general insurance schemes in that the premiums are borne by those working at the moment, young and middle-aged people. The charges are collected from the insurers according to the number of participants, (that is, these over 70 years old). This scheme is an illustration of what of is known as "the insurance pool system" rather than "the reinsurance system". Additionally, medical costs are provided according to the needs of the insured, which illustrates sub-standard life insurance. Thus the elements of various systems are employed in the elderly people's health insurance system, yet a characteristic feature is apparent in the "independent financial adjustment", and its effect is expected.

Figure 7.



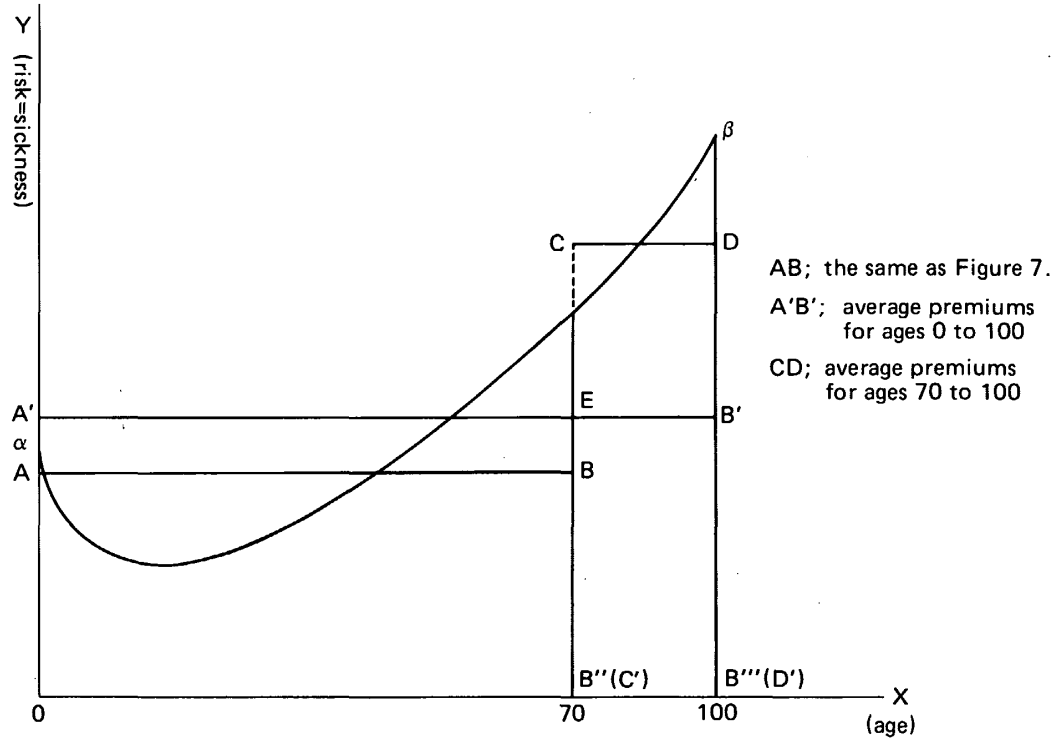
1. This Figure 7 exhibits relations between ages, sickness risks and premiums in medical care insurance. The curve of sickness risks by itself shows the level of natural premiums. Curve $\alpha\beta$ is this.
2. The average premiums for ages 0 to 70 are shown by AB, that is, the amount is OA.
3. Line ab shows the average premiums for ages 20 to 60.
4. If the age limitation to admit participation in medical care insurance (or sickness insurance) is set at 20 to 60 years (private insurance is based on such an idea), the average premium ab becomes lower than AB.

Figure 8.



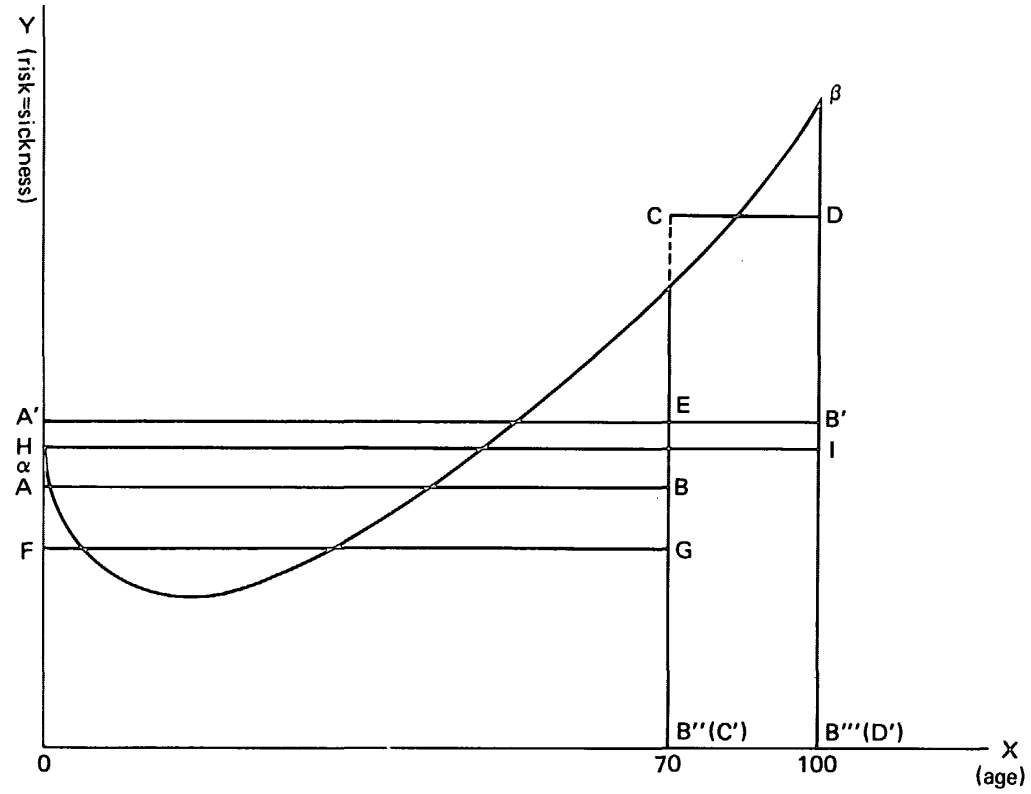
1. Figure 8 is the same as Figure 7 excepting line A'B'. Here line AB (the average premiums) is artificially lowered to A'B', that is, made cheaper (usual in medical care insurance as social security).
2. If the average premiums are set at a value below mathematical calculation, there emerges a deficit AA'B'B.

Figure 9.



1. AB is the average premiums for ages 0 to 70.
2. CD is the average premiums when ages 70 to 100 are constructed as separate insurance (sub-standard lives insurance and impaird lives insurance.
3. A'B' is the average premiums for ages 0 to 100.
4. During his life, a man has to pay the sum of area AOB''B (may be written AOC'B) and CC'D'D (CB''B'''D), or else area A'OB'''B' (A'OD'B') as the total premium.
5. Area A'ABE and area CEB'D are equal.

Figure 10.



1. AB is the average premiums for ages 0 to 70.
2. CD is the average premiums for ages 70 to 100.
3. A'B' is the average premiums for ages 0 to 100.
4. FG is the same as A'B' in Figure 8. artificially lowered preminums.
5. HI is the artificially lowered line of A'B' (average premiums for ages 0 to 100); cheaper premiums (usual in medical care insurance as social security, say higher welfare).
6. If premiums are set at HI during the life of a person insured (age 100 is long enough to say life), a deficit in the area A'HIB' is inflicted on the insurer.

It is evident that the longer a person's average life, and hence the average expectation of life after the age of 70, the higher becomes the average premiums for the whole insurance period, as well as for those with separate insurance cover devised for the period of life expectation after the age of 70. In other words, the advance of "old-age society" exerts financial oppression, not only directly on annuity insurance, but also at the same time on medical care insurance. This is undeniable. Truly, the insurance risks in the annuity and medical care security systems, viewed in a correlative and mutually multiplying relationship, will inevitably cause financial deterioration as systems of social security.