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THE NEW VOLUNTARY ANNUITY PROGRAM IN THE SOVIET UNION

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ABSTRACT

For many years, the Soviet Union has been extolling the virtues of its social security program, whose benefits are intended to meet the goal of its constitution that "Citizens of the U.S.S.R. have the right to maintenance in old age and also in the case of sickness or disability." This program is very similar to the Old-Age, Survivors, and Disability Insurance (OASDI) system of the United States in its benefit design and levels—although with significantly lower normal retirement ages and slightly higher benefit levels.

Beginning in 1988, the Soviet Union established an individual voluntary annuity system, administered on a group basis through payroll deduction of premiums. The purpose of the new program is to supplement social security benefits, so as to provide a more adequate standard of living. This is similar to the situation in the United States where OASDI benefits are supplemented by private pensions and individual savings and investments.

The paper describes the various provisions of the new Soviet program—premium rates, pensionable ages, death benefits, withdrawal values, method of administration, and so on. The premium rates are not established on a self-supporting basis, but rather the government pays part of the cost. In fact, actuarial analysis based on the U.S.S.R. life tables, separate by sex, for 1984–85 and 3 percent interest (the rate used in the program) indicates that the government pays about half of the cost for women and about one-third of the cost for men. This difference results from the fact that the premium rates are the same for women entering at age x and receiving pension at age 55 as for men entering at age $x + 5$ and receiving pension at age 60.

INTRODUCTION

Among the many interesting, even surprising, developments in the current period of *glasnost* and *perestroika* in the Soviet Union is the introduction in 1988 of a voluntary individual annuity program. These benefits are intended to supplement those payable by the social security program and are administered under group-insurance procedures.

This paper describes and analyzes the features of the voluntary annuity program. First, as background, the role of the Soviet social security program, the structure of the Soviet insurance organization that handles various personal insurance lines, and other forms of savings in the U.S.S.R. are examined. At present, one ruble is approximately US$1.47, according to the official exchange rate.

ROLE OF SOCIAL SECURITY [1]

The basic premise and foundation of social security in the U.S.S.R. is founded on Article 120 of the Soviet Constitution, which states:

> "Citizens of the U.S.S.R. have the right to maintenance in old age and also in the case of sickness or disability. This right is ensured by the extensive development of social insurance of industrial, office, and professional workers at state expense, free medical service for the working people, and the provision of a wide network of health resorts for the use of the working people."

Based on this statement, one would tend to believe that the U.S.S.R. social security program would provide sufficient retirement benefits by itself, so that a supplementary plan would be unnecessary. However, the preamble of the decree establishing this new plan states that it has been issued because of concern for the "social and economic importance of higher retirement benefits for the working class and with a greater regard for the economic well-being of experienced workers" [2].

The U.S.S.R. social security program that provides old-age, disability, and survivor benefits covers virtually all employed persons in the country. The only exception is the relatively few persons who have their own small businesses. The minimum retirement age generally is 60 for men and 55 for women, with a retirement earnings test applying above those ages. The benefit amounts are determined from a weighted formula, such that lower-earning individuals receive relatively larger benefits than do higher-earning persons. The financing is carried out through percentage-of-payroll contributions levied on the employing organizations and from funds from the general revenues of the government. Thus, it may be noted that the U.S.S.R. and U.S.A. programs have somewhat the same general structure, the principal differences being the lower retirement ages (with differences by sex), the absence of employee contributions [3], and the presence of general-revenues financing in the U.S.S.R. system.

The relative adequacy of the benefit under a social security program (and under private pension plans as well) may be measured by considering replacement rates. Such rate is the initial benefit for a retired worker (exclusive of supplementary amounts for family members) expressed as a percentage of final earnings. The following table presents replacement rates for low-earners, average-earners, and high-earners for the U.S.S.R. and U.S.A. programs (assuming that the persons involved are employed steadily over their potential working lifetimes):

	Replacement Rate	
Earnings Level	U.S.S.R.	U.S.A.
Low	58%	60%
Average	50	42
High	25	27

The average earnings (monthly) is 190 rubles for the U.S.S.R. and $1,500 for the U.S.A. The low-earner has 40 percent of the average earnings, and the high-earner has 250 percent of the average earnings.

On the whole, the benefit level in the two programs is about the same, although for the average-earner, the U.S.S.R. replacement rate is somewhat higher. Nevertheless, the U.S.S.R. benefits clearly are such that supplementation is necessary to produce a reasonable level of retirement income for persons at average and high earnings levels. The same is, of course, true for the U.S.A. and this is done through private pension plans, home ownership, and individual savings.

STRUCTURE OF INSURANCE ORGANIZATION [4]

Gosstrakh (meaning "Government Insurance") is an organization established by the Soviet government to sell various forms of personal insurance. Available on a voluntary basis are life insurance and fire insurance on the contents of dwelling places. Insurance on a compulsory basis is sold to automobile owners and to collective farms for fire coverage on their buildings. Marine insurance is provided by another organization.

The life insurance policies are the standard, traditional types. The vast majority of the policies actually sold are endowments of 5–20 years' duration, with the face amount also payable in event of death or total and permanent disability and with a double-indemnity feature for accidental death. The premium rates are actuarially determined, and the program is on a self-supporting basis. Gosstrakh invests its assets with the State Bank at 3 percent interest.

The life insurance policies are sold by agents, who also handle the other forms of insurance. Premium payments are made by the insured persons in several ways—to the agents, by direct submittal to Gosstrakh, or through payroll deduction. All in all, the operation of Gosstrakh is very much like that of life insurance companies in other countries.

OTHER PERSONAL SAVINGS METHODS

Retirement needs in the U.S.S.R. can be met to some degree in several other ways. Savings banks (again, a governmental organization) are widely available; they pay 2 percent interest on short-term deposits (for under one year), 3 percent on long-term deposits, and 4 percent on very-long-term deposits (10 years or more). In the past, little opportunity existed for home and condominium-apartment ownership, but this has recently become possible to a small extent.

NEW VOLUNTARY ANNUITY PROGRAM [5]

The new voluntary annuity program is administered by Gosstrakh. It is available only to employed persons aged 35–60 for men and aged 30–55 for women who are in the civilian labor force. The relatively small number of persons who are only self-employed cannot participate in the program (nor can those in the armed forces). The policy may be continued only while in employment, and the premiums are collected through payroll-deduction procedures. Upon cessation of employment before the age when the annuity first becomes payable, the policy must be surrendered for its withdrawal value.

The annuities must be purchased in multiples of 10 rubles per month, with a maximum of 50 rubles. They are payable at the general minimum retirement ages under the social security program—60 for men and 55 for women—except that those entering the program within 5 years of the minimum retirement age must have a premium period of 5 years, with the annuity commencing at the end thereof. Naturally, no retirement test (such as that in the social security program) applies to the annuity payments, because they are on a pure individual-equity "insurance" basis.

Persons withdrawing from the system before the annuity age, either voluntarily by not paying premiums or involuntarily by ceasing employment, receive refunds equal to 92 percent of the total premiums paid, without any interest. As an exception to this, the full amount of the premiums is returned for cases of death or total and permanent disability. A person who voluntarily withdraws can reenter the program within one year if the past premiums are paid in full and any withdrawal benefit received is repaid.

If an annuitant dies before receiving 6 years of payments, a refund of the difference is made. This provision, as it so happens, roughly approximates the total premiums paid—being slightly larger for the youngest entrants and somewhat smaller for the older entrants (for whom, at the extreme, a 9-year guarantee would be needed to provide for full return).

Payment of annuities and withdrawal benefits to persons outside of the U.S.S.R. will be made in the same manner as is done under the social security program—namely, on a very liberal basis to those in the communist bloc and under more limited circumstances elsewhere.

Provision is made for paying the annuities annually in advance, but no information is available as to what reduction is made in the total of 12 monthly payments if this basis is elected.

The premiums are payable monthly, vary by age (actually, by months of age at time of issue) and, of course, are directly proportional to the amount of the annuity selected. Illustrative premium rates for quinquennial ages at issue are shown in Table 1. A striking feature is that the rates for females are the same as those for males who are 5 years *older*. This is just the reverse of the usual mortality rating of females as compared with males. Thus, immediate indication is given that the rates are not determined on an actuarial basis so as to be self-supporting in all instances—nor are they apparently intended to be!

TABLE 1

MONTHLY PREMIUM RATES FOR MONTHLY PENSION OF 10 RUBLES

Age of Insured at Time of Issue		Period of Premium Payments (years)	Premium Rate (rubles)
Female	Male		
30	35	25	2.20
35	40	20	3.01
40	45	15	4.38
45	50	10	7.15
50	55	5	15.46
55	60	5	13.64

The intent evidently is to pattern this system after the social-security situation in which retirement ages for women are lower—despite their greater longevity. Based on the expectation of life for men aged 60 according to the U.S.S.R. Life Tables for 1984–85 (14.79 years), the "equivalent" age for women is 66.1, not the age 55 that is implied in the rates of the voluntary insurance program [6].

The decree that established the program states that:

"The funds for supplemental benefits will come from two sources, namely, the All-Union state budget and the insurance policyholders. Each source will contribute an equal amount to the insurance fund" [2].

This statement makes it clear that the premium rates are not intended to finance completely the benefits and administrative expenses. However, the implication is that the premiums will finance half of the total cost in each individual case, which from the preceding discussion of female/male premium relationships can obviously not be so [7]. Subsequent analysis will investigate this issue and demonstrate that such is not the case.

A deduction of 8 percent is made from each premium payment to meet the administrative expenses, and the remainder is accumulated at 3 percent interest. The income to the system is invested with the State Bank at 3 percent interest (which receipts cannot properly be classified as "funds from the state budget").

The financing basis of the program may best be analyzed by comparing, for various illustrative cases, the present value of 92 percent of the premiums with the present value of the several benefits (the deferred annuity and the differing death benefits, before and after the pensionable age). The valuation standard used is the U.S.S.R. Life Tables for Females and Males for 1984–85 at 3 percent interest [6]. Such procedure takes into account the "gains" to the system arising from deaths during the deferred period (when the death benefit of the return of premiums is less than the accumulation of 92 percent of the premiums at 3 percent interest, except for death within 6 years of entry). However, not taken into account are any "gains" from other withdrawals during that period (when, at most, the premiums are returned without interest, or in some cases with an 8 percent reduction).

Table 2 presents the results of the analysis of the present values of the net premiums and the benefits for several ages at entry, by sex. The ratio of the present value of the benefits to that of the net premiums is stable by age for each sex separately—about 210 percent for females and 145–150 percent for males. To put it another way, the government subsidy to the premium rates for females represents slightly more than half of the cost, while the corresponding proportion for males is about one-third. This does not take into account the savings to the plan accruing from withdrawals other than deaths, but such savings cannot be determined in advance of the actual experience in this respect. It is not clear when the financing from the state budget is introduced—simultaneously with each premium payment, when the system as a whole needs funds, or otherwise.

TABLE 2

COMPARISON OF PRESENT VALUES* OF NET PREMIUMS AND BENEFIT PAYMENTS FOR MONTHLY PENSION OF 10 RUBLES, FOR VARIOUS AGES AT ISSUE, BY SEX

Age at Issue	Age When Pension Payable	Present Value (in rubles)*		Ratio of PV of Benefits to PV of Premiums
		Net Premiums	Benefit Payments	
		Female Insureds		
30	55	419.73	882.47	210%
40	55	572.53	1,199.98	210
50	55	782.57	1,651.47	211
55	60	685.30	1,432.77	209
		Male Insureds		
35	60	390.32	554.10	142%
45	60	533.31	777.28	146
55	60	752.51	1,134.12	151
60	65	648.79	956.25	147

*Based on U.S.S.R. Life Tables for 1984–85 at 3 percent interest. Assumes no terminations before the age when the pension is payable, other than by death.

SUMMARY AND CONCLUSIONS

The new voluntary annuity program established in the Soviet Union to supplement its social security program is a very interesting development. Although it is available on a completely individual-choice basis, certain group-coverage elements are present, such as premium collections through payroll deduction and maintenance of coverage only while employed (although not necessarily with the same work establishment).

The annuities, which begin at age 55 for women and age 60 for men (except for persons who enter the program within 5 years of such ages), will be financed in part by premiums graded by age at entry (the same rate being charged for women as for men who are 5 years older). The balance of the cost will be met by general governmental funds. On the whole, such government subsidization will meet about half of the cost for women and about one-third of the cost for men. Thus, a greater "actuarial bargain" is being given to women.

ENDNOTES

1. A summary description of the program may be found in *Social Security Programs Throughout the World—1987*, Social Security Administration. Washington, D.C.: Government Printing Office, November 1988.
2. Decree 139 (August 20, 1987), "On Introduction of a Voluntary Insurance of Supplemental Benefits for Clerical and Factory Workers and Collective Farmers," Cabinet Council of the U.S.S.R. and the All-Union Central Council of Professional Organizations.

3. It can be argued that, from a macroeconomic viewpoint, this is irrelevant because, in a planned economy like that of the U.S.S.R., wages could be increased by the amount of any employee contribution that might be levied, and the net result would be the same as under the present basis.
4. Descriptions of this organization and its operations (as well as of other matters relating to economic security in the U.S.S.R.) may be found in *A Report on Social Security Programs in the Soviet Union*, Department of Health, Education, and Welfare. Washington, D.C.: Government Printing Office, September 1960, pages 107–111; Robert J. Myers, "Economic Security in the Soviet Union," *TSA* XI (1959): 723–48, and Robert J. Myers, "Personal Insurance in the Soviet Union," *Life Association News*, May 1976.
5. Information about this program was obtained from the decree creating it (as referenced in endnote 2), from the newspaper item referenced in endnote 7, and from two pamphlets (in Russian): M. N. Enozemteev, "Voluntary Insurance as System of Additional Pensions for Workers, Employees, and Collective Farmers," Moscow Workers Press, 1987 and B. G. Batorin, "Insurance as Additional Pension System," Moscow, Finance and Statistics Press, 1988.
6. For a presentation and analysis of the U.S.S.R. Life Tables for 1984–85, see Robert J. Myers, "Recent Mortality Experience in the Soviet Union—Actuarial Note," *TSA* XL, Part I (1988): 509–16. The published table ceases at age 85, giving values of ℓ_x, q_x, and $\mathring{e}_x$ at that age; the author extended the table in such a manner that the resulting values of ℓ_x reproduced $\mathring{e}_{85}$.
7. The same general conclusions may be drawn from a newspaper account of the new program, from *Izvestia* (Organ of the Peoples' Deputies, Moscow), August 24, 1987, as translated into English in *International Social Security Review*, No. 4, 1987 (International Social Security Association, Geneva, Switzerland), page 423.

DISCUSSION OF PRECEDING PAPER

ALBERT E. EASTON:

Mr. Myers' brief paper on this new program in the Soviet Union is very timely. As we watch the events in the Eastern Bloc countries, we are reminded of the part that actuaries will have to play as centrally managed economies evolve into more capitalistic ones. Actuaries in this country and throughout the world must stand ready to help in this conversion.

The 3 percent interest rate used in the accumulation of these annuities is certainly a low one compared to those available in this country for the last two decades. Its presence implies that the managed economy of the Soviet Union has been entirely successful in controlling inflation or, at least, in limiting inflationary expectations. One suspects that this may not be true in the future given the political pressures that the transition to a freer economy will generate.

We have to wonder about the financial knowledge of the potential subscribers of the voluntary annuity program. Assuming that they have had some experiences with inflation, is it possible that they will ever perceive that the purchase of whatever durable goods are available (automobiles or appliances, for example) may be a better investment for retirement than savings? At present, it appears that many individuals in the U.S. view investment in occupied real estate as a better buy than any kind of annuity or savings vehicle even at our considerably higher interest rates.

It will certainly be interesting to see how the sales experience for this program evolves. Given the heavy benefit tilt in favor of females, a much more concentrated election rate would be expected among females than among males. (Indeed, if the statement from Decree 139 that general revenues will contribute half the costs is taken at face value, females are expected to outnumber males in the program by a ratio of four or five to one.)

In our own country, we suspect that a program that discriminates by sex to this extent would most likely have political consequences, and it would be the responsibility of the individual serving the actuarial function for the program to make sure that those in the legislature or government responsible for putting the program into effect were aware of the problem and its potential consequences. It will be interesting to see whether any problems related to this sex discrimination result in the Soviet Union.

(AUTHOR'S REVIEW OF DISCUSSION)

ROBERT J. MYERS:

Mr. Easton has contributed an interesting discussion to supplement my paper. He is quite correct that the relatively low interest rate that is used in computing the premium rates is entirely artificial, because there is no competitive financial market or investment options. It is probably true that the Soviet Union, through its financial controls, has held down inflation much more than the free-market countries. Nonetheless, considerable inflation, both hidden and open, has occurred in the Soviet Union over the years.

I, too, will be interested to see how the sales experience for this program evolves. In past years, it was often difficult to obtain such data, but it seems likely that, with the new openness, such information will eventually become available. Similarly, it will be interesting to see whether the hidden sex discrimination in the premium rates will be "discovered" and will be the subject of widespread popular discussion in the future.