



Demographic Aspects of Changes in the Soviet Pension System

**Scherbov, S., Keyfitz, N., Lutz, W., Prinz, C. and
Wils, A.B.**

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Working Paper

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FOREWORD

The Population Program has taken special interest in those features and problems that are common to all social and economic systems, whether they be socialist or free enterprise. Of these perhaps the most important is the aging of populations with the decline of birth and death rates. No arrangement of the production process however ingenious or however humane can avoid the effects of population aging; yet aging will show different faces in different economic arrangements.

Aging shows itself most directly where the old are provided for by a specific social security tax. If the tax is fixed at a level just sufficient to provide for a growing population then it will be too low when the population ceases to grow; sooner or later there will have to be a painful raising of the tax if the old are to be provided with the same benefits.

Where the old age pensions are paid out of general receipts of the state then the effect of aging is partly hidden. It may be covered by reduction of other state expenses, by deferral of maintenance of infrastructure, and in other ways. Both the United States and the USSR show how such deferral can prevent the recognition of budgetary imbalances. Demographers have something of the role of accountants in presenting real costs, whether of aging or other population change. Their task is to foresee and announce the bad news of aging.

They also recognize that what is bad news for the state financing arrangements is good news for the individuals who benefit by living longer than earlier generations did. Their longer lives are in part due to medical services provided by society; should they not work for at least part of their extended survivorship so as to repay their medical costs and prevent themselves from being a burden? That is partly a question of ethics and personal preference with which demographers do not deal; they note only that in all countries workers today tend to retire younger rather than older. Whereas the very notion of retirement was unknown until a century ago – people worked as long as they were physically able – now retirement is sought as soon as possible, and for the most part by charges placed on the succeeding generation. And this despite the fact that people are healthy for more years, and most modern work does not require strong bodies anyhow.

The larger question is to find a compromise, acceptable to all generations, taking account of the wish to retire on the one hand, and the health of the economy on the other. The data and analysis of this paper aim to make a contribution to this overarching problem.

Nathan Keyfitz
Leader
Population Program

ABSTRACT

The paper discusses the consequences of possible demographic changes in the USSR as a whole and at the regional level upon the pension system under different assumptions about retirement ages. Some general recommendations on changes in the pension system based on international experience are presented.

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DEMOGRAPHIC ASPECTS OF CHANGES IN THE SOVIET PENSION SYSTEM

*Sergei Scherbov, Nathan Keyfitz, Wolfgang Lutz,
Christopher Prinz and Anne Wils*

1. Introduction

Following the visit of a Soviet government delegation headed by Deputy Prime Minister N. Laverov, IIASA's Population Program was invited to provide statistical material on population dynamics in the Soviet Union that would be relevant for a restructuring of the pension system.

The material given in this paper provides some rough information on anticipated trends in the ratios between retired and working people as implied by the changing age structure of the population and alternative ages at retirement. This work is based on earlier research at IIASA that calculated various demographic scenarios for the republics of the Soviet Union up to the year 2050, assuming different future trends in fertility and mortality.

With respect to more specific questions of the currently existing and possibly changing Soviet pension system, the value of these data is very limited. Due to lack of knowledge of the details of the pension system, we can provide only a crude macro perspective. If a further, more detailed analysis is desired, a larger project on this topic could be launched by IIASA's Population Program.

2. Expected Future Changes in the Number of Workers per Pensioner in the Republics of the USSR

Generally speaking, the State revenues in the present Soviet pension system flow together into one fund, and State expenditures, for example pensions, are paid from this fund. This makes it difficult to determine how much of a worker's income or product is actually used to pay for pensions. In general, however, the working population is responsible for a country's income or product, and a portion of this income is used to pay for pensions. When there are more pensioners than workers, the burden of these pensioners on the workers increases. A rough estimation of this burden is the retirement ratio: the number of workers per retired person.

Real figures on the number of workers per retired person are difficult to obtain because some old people work part-time and some young people take a number of years off from work, etc. A fair estimation of the retirement ratio is to

take the ratio of the number of people in the official working age (say 20 until legal retirement age) to the number of people above the legal retirement age; in the USSR, retirement age is currently 55 years for women and 60 years for men. This assumes that men work an average of 40 years and women 35 years. As can be seen in Section 3, we found one estimation of the real average number of years worked by men and women in the USSR in 1985 to be 39 years for men and 31 years for women, and the mean actual age at retirement was estimated at 58.4 for men and 54.2 for women. This suggests that our calculation of the pension ratio in 1989 is a reasonable approximation for the USSR as a whole. However, it is not perfect, and there could be considerable deviations in some republics. We will return to this later.

To calculate the future pension ratio we first need a population projection. In earlier papers by this group (Scherbov and Lutz 1988)¹ scenarios were made for the USSR population by republic up to the year 2050. A number of different assumptions were made about possible future developments of the population, each resulting in a different population pattern in the USSR. Here we use the results of the "convergence scenario" which assumes that fertility and mortality in all USSR republics converge at low fertility (a total fertility rate of 2.1, also called replacement fertility because the size of one generation will be exactly that of the previous) and high life expectancy (72 years for men and 78 years for women) by the year 2020.

Population projection is always prone to error, but for the next 20 years the population relevant to the pension system – the group of working people over 20 years and the group of pensioners – can be projected with near certainty. The reason is that all the people who will be at least 20 years old in the next twenty years have already been born, and mortality changes so slowly that we can be fairly certain as to what will happen to a group of people once they have been born. Fertility is more difficult to project, and the population projection becomes less certain further in the future.

Using this population projection, we can calculate the development of the pension ratio in the future using a time horizon to 2049. The pension ratio can change in two ways. First, the population age structure changes; e.g., as the population ages there are less people of working age per person in retirement age. Second, the legal age for retirement changes; e.g., if the age at retirement in the USSR increases from 60 to 65 for men, there will be more people working per pensioner. Figure 1 shows the development of the working age population and the pension age population from 1979, projected until 2049. The working population increases from about 132 million to 185 million in 2049. The population in pension age increases more quickly. The pension ratio is found by dividing the first population by the second. It was a little over 3.2 in 1979, and sank to a bit below 3 by 1989. In the future, this ratio will continue to decline to about 2. This means that the demographic situation in the Soviet Union for the pension system will get worse. *If everything stays the same – the pension system, the income tax, and*

¹Scherbov, S. and W. Lutz (1988) Future Regional Population Patterns in the Soviet Union: Scenarios to the Year 2050. *WP-88-104*. Laxenburg, Austria: International Institute for Applied Systems Analysis.

average income – the State's costs for pensions would increase by 50% relative to income tax revenues.

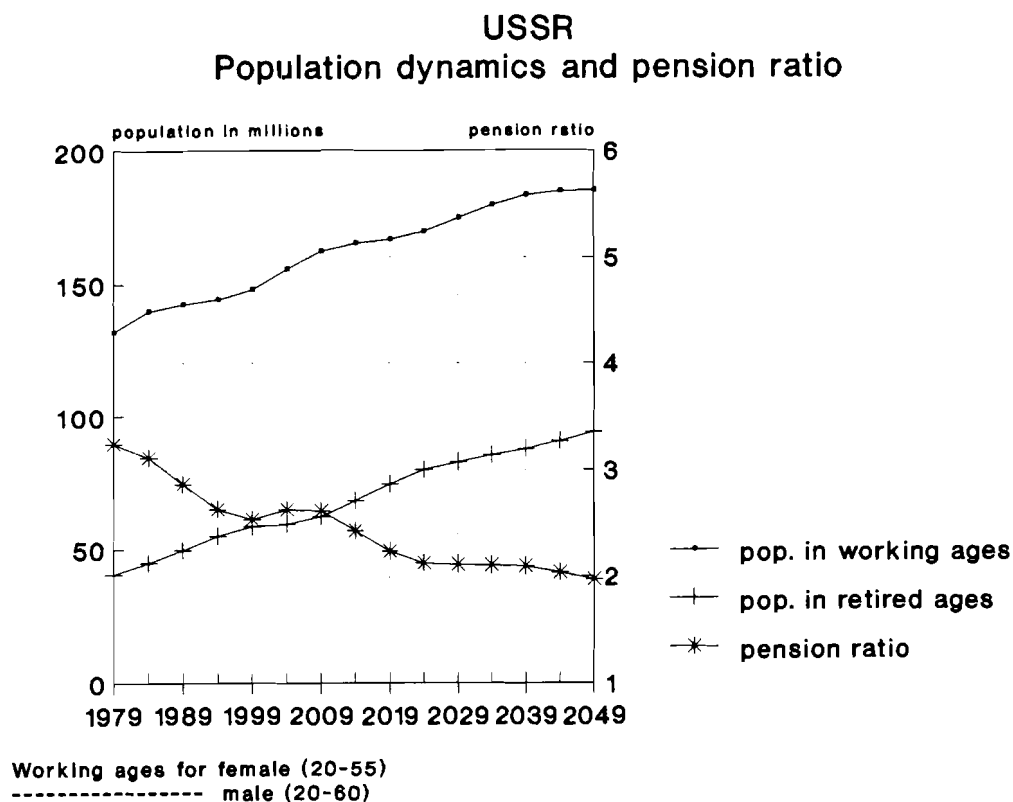


Figure 1. USSR population in working ages, population in pension ages, and pension ratio. Historical data from 1979–1989; projected from 1989–2049.

The second possibility for a pension ratio change is a shift in the pensionable age. Figure 2 shows the pension ratio from 1979–2049 using three different retirement ages. The lowest line with the square boxes shows the change in the pension ratio, as in Figure 1, using present retirement ages. The middle line, with the stars, shows the retirement ratio if women retire at 60. The ratio in 1989 is 3.65, about one-half person higher than the present retirement age. The ratio is about one-half person higher than the lowest line throughout the projection period. The top line, with the crosses, shows the retirement ratio if women retire at 60 and men at 65. In 1989, the retirement ratio would be about 4.4, again one-half person higher than the line below it, and would decrease gradually to about 3. One idea that arises from observing this graph is that the 1989 pension ratio can be maintained in the USSR if the pension age is gradually raised by 5 years.

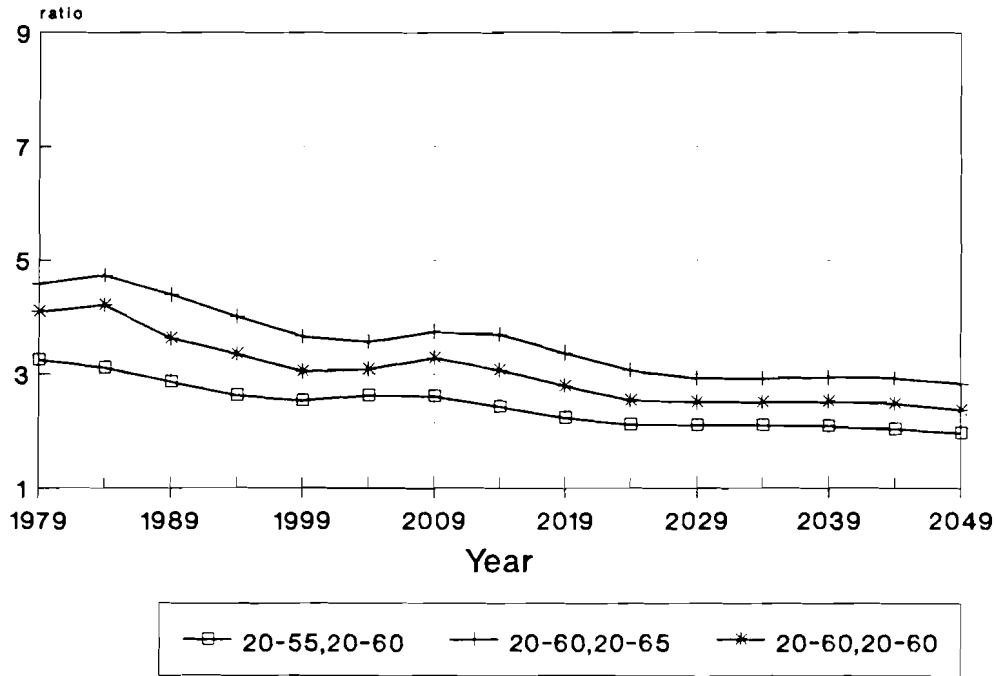


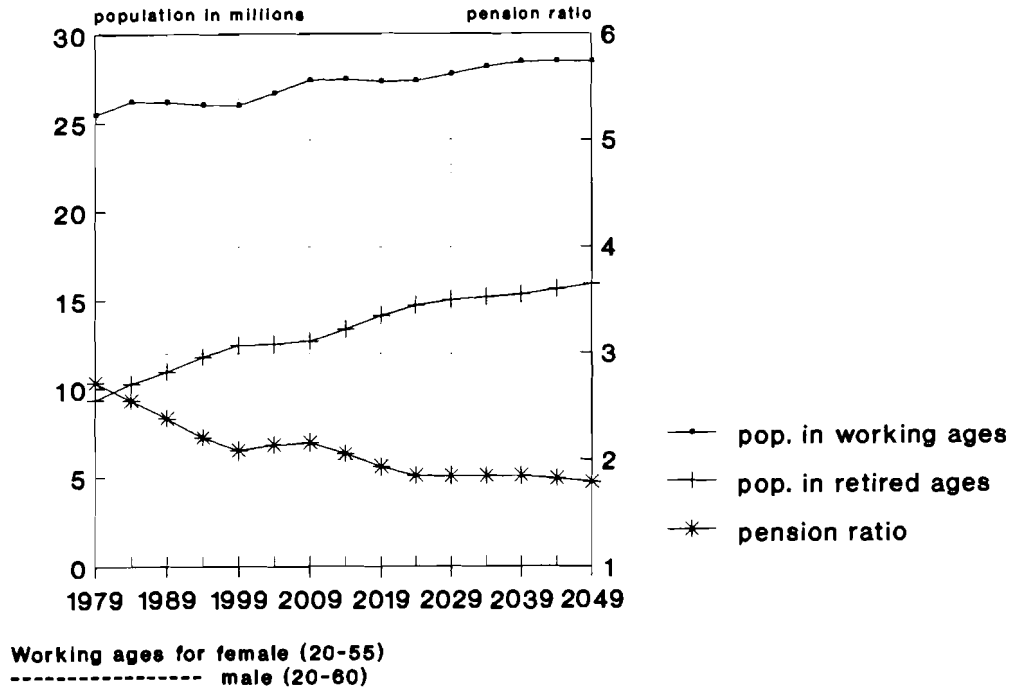
Figure 2. Changes in the USSR pension ratio according to three retirement ages, projected from 1989–2049.

3. Distribution by Republics

The USSR republics are very diverse, and what looks one way for the USSR as a whole, may look quite different for individual republics. We were asked specifically to make some calculations by republic. The age-structures of the republics are very different, and the pension ratios are accordingly varied. Figure 3 shows the development of the populations in working ages and in retirement ages, and the retirement ratio in two extreme cases, Ukraine and Uzbekistan. In the Ukraine, the population in working ages in 1989 was about 26 million, in retirement ages 11 million, and the retirement ratio about 2.4. In Uzbekistan, the 1989 population in working ages was 8.3 million, in retirement 1.7 million and the pension ratio correspondingly high. In the next decades, the working age population of Uzbekistan increases very quickly, while the pension age population grows more slowly (reflecting slower population growth in the past). The retirement ratio in Uzbekistan increases until 2009. Then the population in pension ages begins to increase quickly and the pension ratio decreases to almost 3 in 2049. Ultimately, if we calculate further, it would stabilize at a level similar to the Ukraine if fertility and life expectancy in the USSR converge.

Figures 4 and 5 compare the pension ratios in the Ukraine and Uzbekistan using the three different retirement ages also seen in Figure 2 for the whole USSR. In 1989, the pension ratio in the Ukraine is much lower than in Uzbekistan. With the present retirement ages (bottom line), the pension ratio is about 2.4 in 1989 and decreases to 1.8. In Uzbekistan by contrast, the pension ratio is 4.9 in 1989. It increases for 20 years to 5.5, then decreases quickly to below 3 by 2049 (this is

Ukraine Population dynamics and pension ratio



Uzbekistan Population dynamics and pension ratio

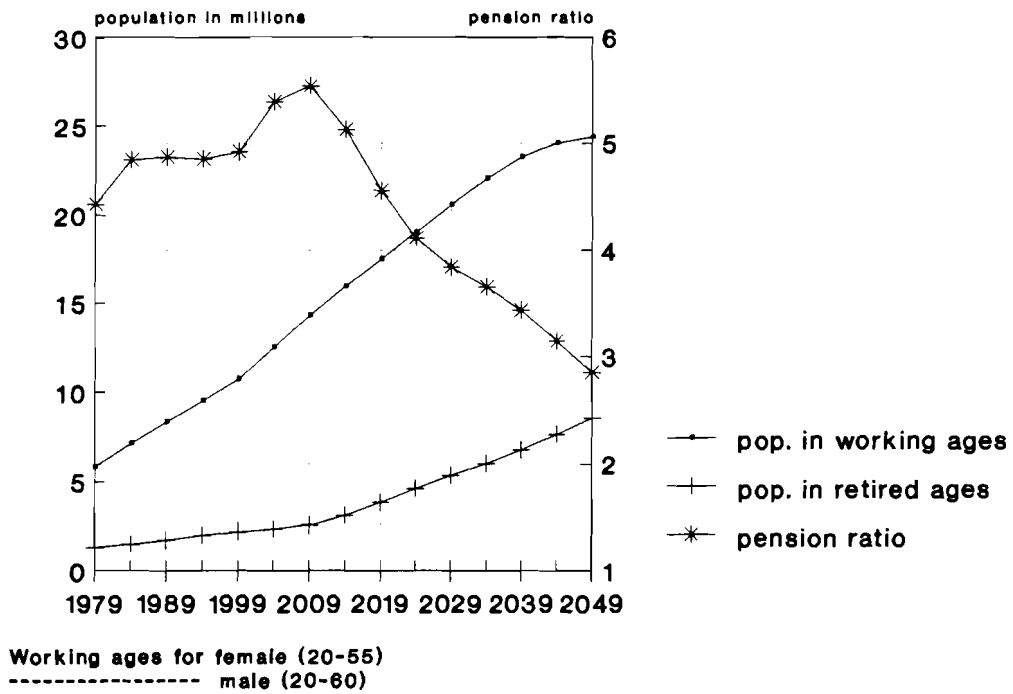


Figure 3. Population in working ages, population in pension ages, and pension ratio in the Ukraine and Uzbekistan. Historical data from 1979-1989; projections from 1989-2049.

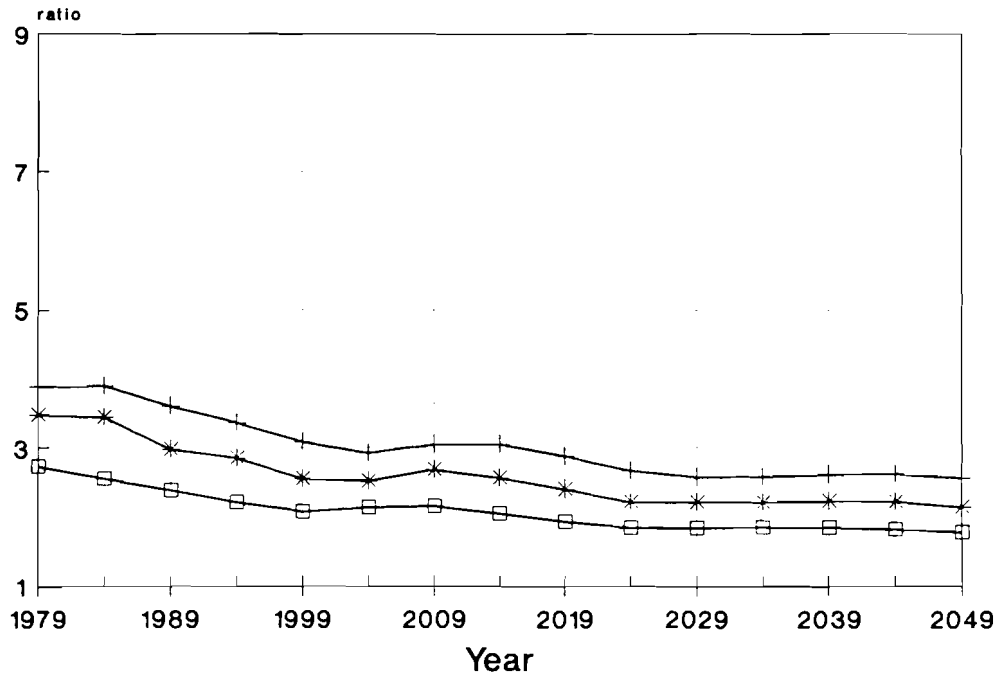


Figure 4. Changes in the Ukraine pension ratio according to three retirement ages, projected from 1989–2049.

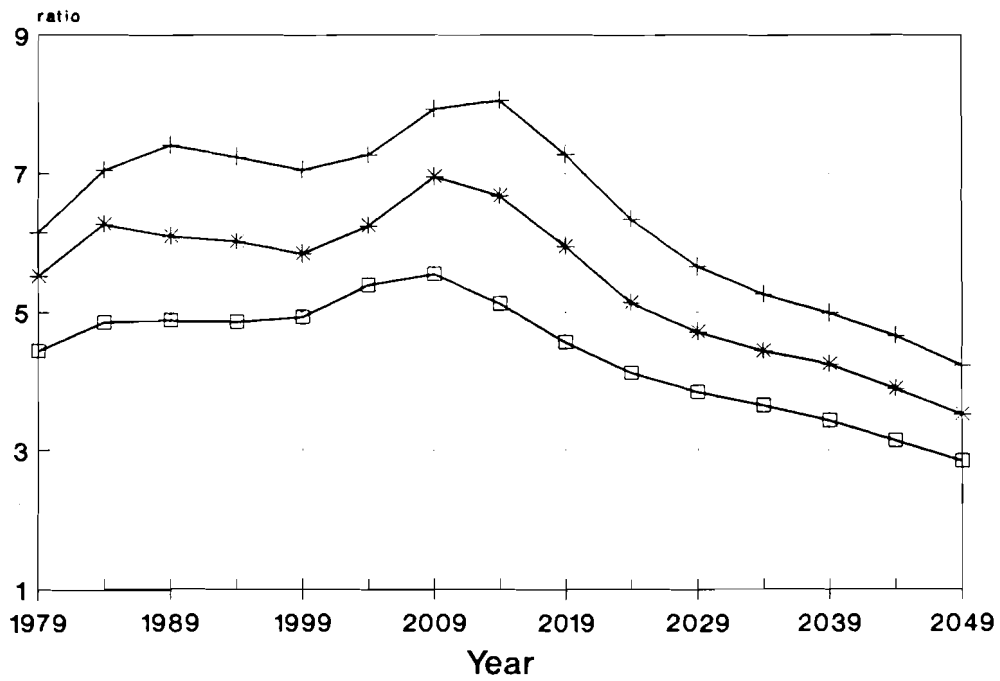


Figure 5. Changes in Uzbekistan pension ratio according to three retirement ages, projected from 1989–2049.

caused by our assumed drop in fertility and increasing life-expectancy which leads to an aging population and a lower retirement ratio).

A gradual increase in retirement age by 5 years, such as that suggested for the USSR as a whole, would result in a slightly better pension ratio in 2019 in the Ukraine than in 1989. In Uzbekistan, the situation is completely different. Even without a change in the retirement age, the pension ratio improves for another 20 years. After that, aging proceeds so quickly that the retirement age will not be able to change quickly enough without causing disruption. *A sliding increase of the pension age might be advantageous in the Ukraine and other republics with a relatively old population, but the same increase would destabilize the pension system in Uzbekistan and republics with similar population dynamics (Tajikistan, Turkmenia, and Kirghizia).*

The figures for the other republics are in the Appendix. They suggest that the retirement ratio will decrease from 1989 onward in all republics except Uzbekistan, Turkmenia, Kirghizia, and Tajikistan. In these four republics, it will decrease quickly after 2015. This means that the demographic situation for the pension system will get worse for almost every republic, in some of them more quickly than others. If the Soviet Union wishes to improve the income of pensioners, it should consider that there will be relatively more pensioners to support. Either a greater chunk of the State budget would go to pensions, or the State could induce other ways to improve pensioners' income, such as promoting saving or investment in property, selling bonds, providing part-time jobs, etc. We will return to this in Section 5.

The figures also point out the extent of the variance between republics concerning the pension ratio. This is shown more clearly in Figure 6, comparing all republics in 1989 to 2019. The lowest ratios in 1989 are clearly in Russia, Ukraine, Byelorussia, Latvia and Estonia. Middle positions are found, for example, in Georgia and Moldavia. Very high pension ratios are found in all the Asian republics. These differences persist through time at least until the latest date shown, 2019. This suggests that *there is some reason to consider differentiating the pension system by republic*. The Appendix shows the same figures with a retirement age of 65 for men and 60 for women.

Should the Soviet Union decide to build a national pension system, we can make some approximations which republics would contribute more and which would consume more from the general pension fund. We calculate the proportion that each republic contributes to the total USSR working-age population. For example, the Ukraine makes up 22% of the total USSR working-age population. We then calculate the proportion of each republic's pension-age population to the total USSR pension-age population; for example in the Ukraine, it is 25%. If these two proportions are the same in a republic, this republic would contribute as much to the pension system as it consumes, if labor force participation and productivity were the same in all republics. If the working-age proportion is smaller than the retirement-age proportion (as in the Ukraine), the republic would be a net consumer and vice versa. The results of this calculation are shown for the present retirement age from 1989–2029 in Figure 7. Republics that have negative values, sticking out to the left of the zero line are net consumers. The countries

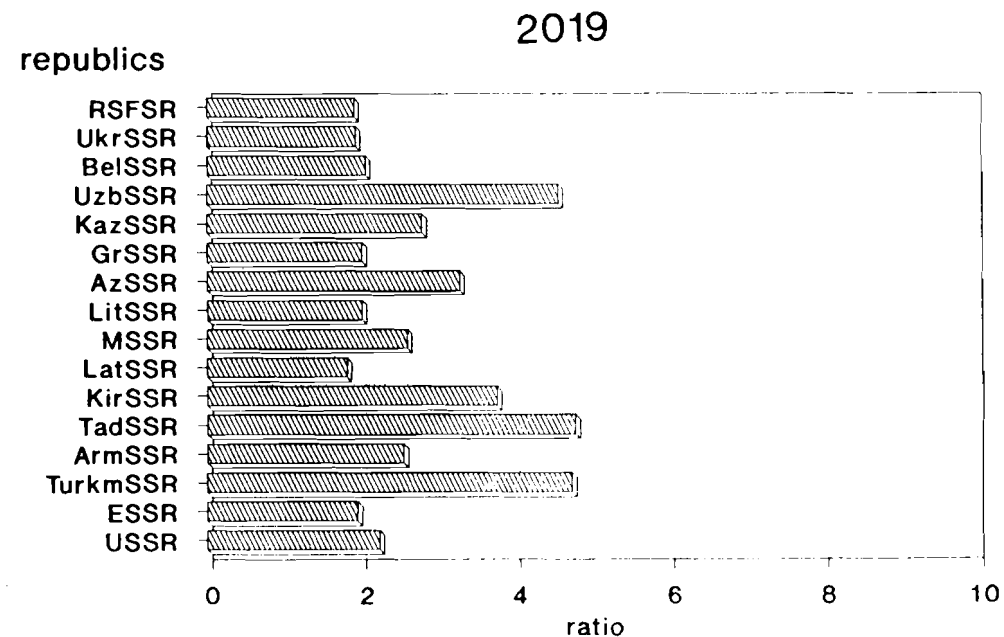
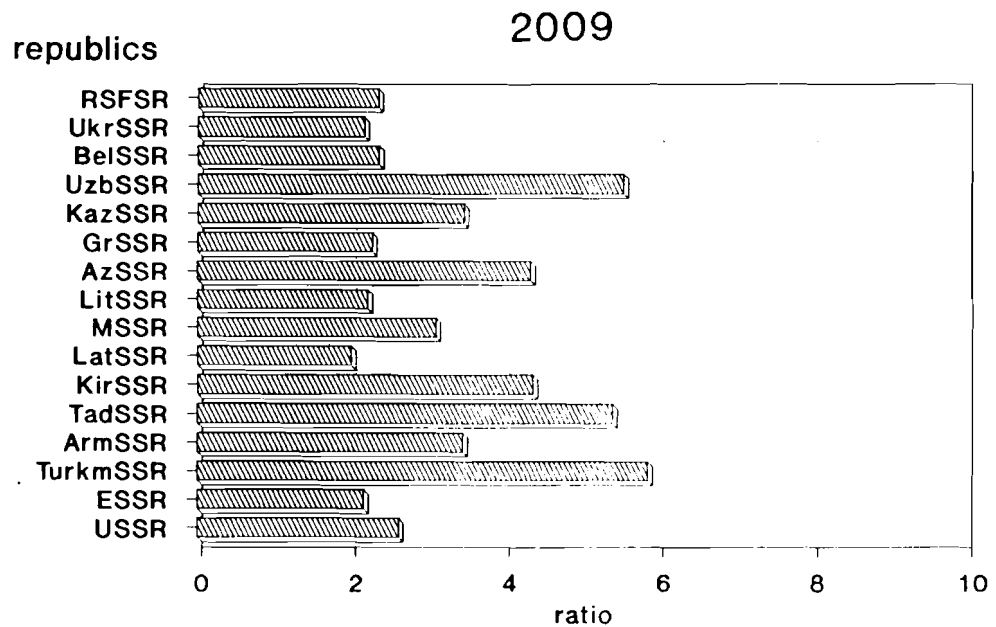
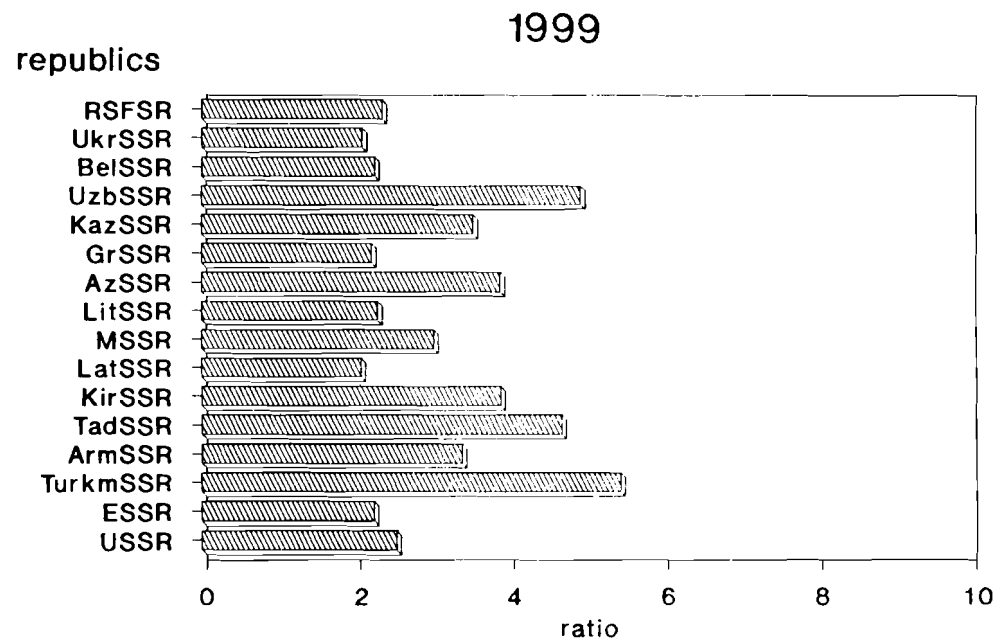
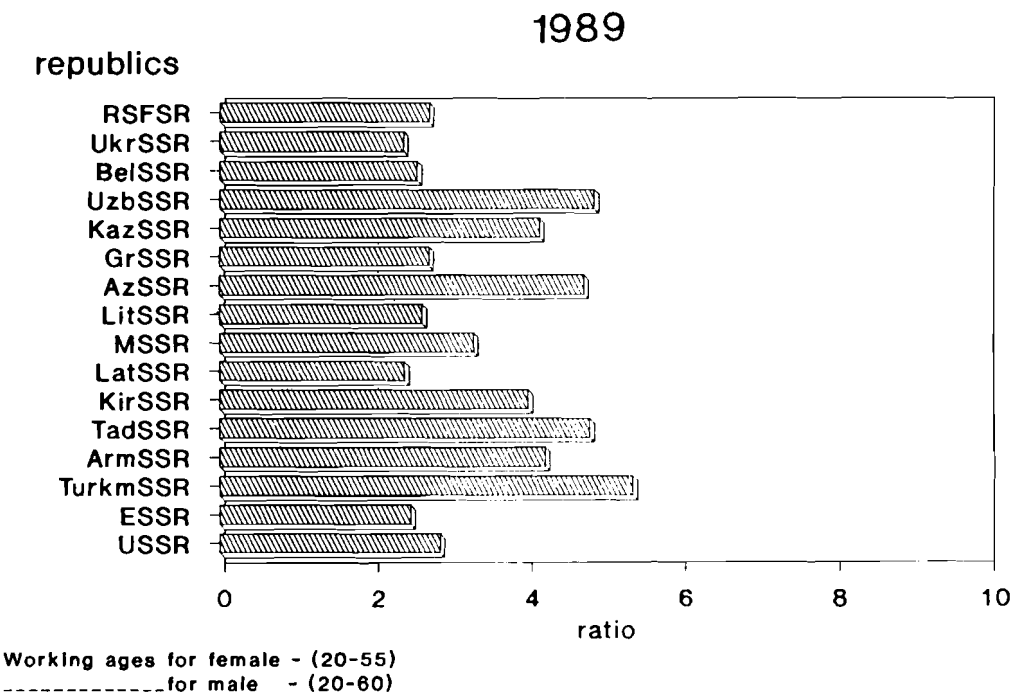
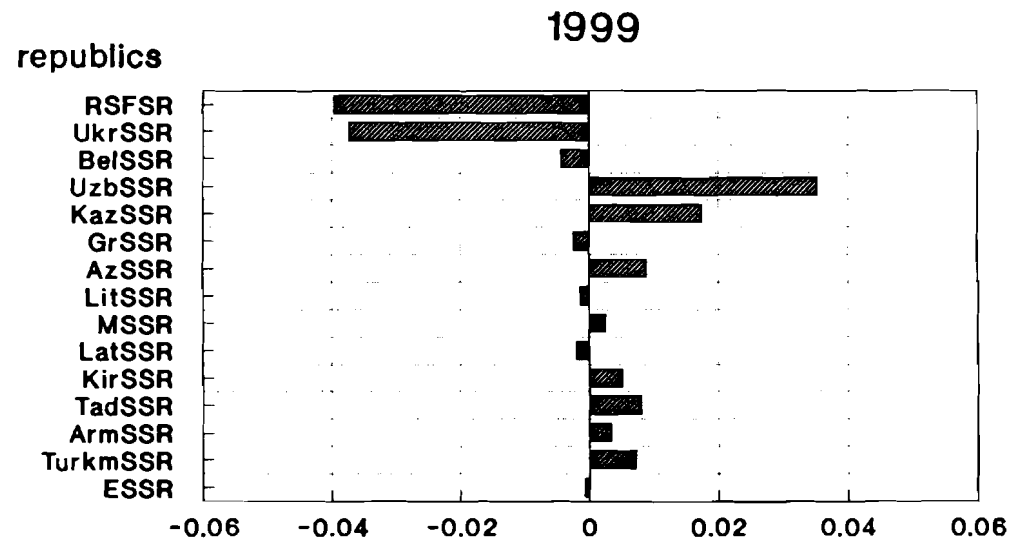
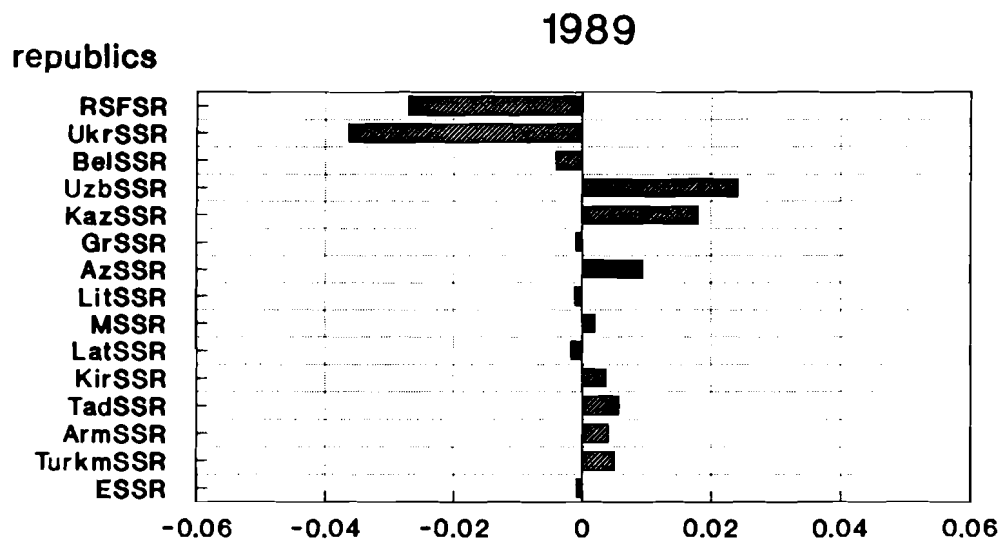


Figure 6. Pension ratios by republic in 1989, and projected in 1999, 2009, and 2019, according to present retirement ages (55 for women and 60 for men).



55+ 80+

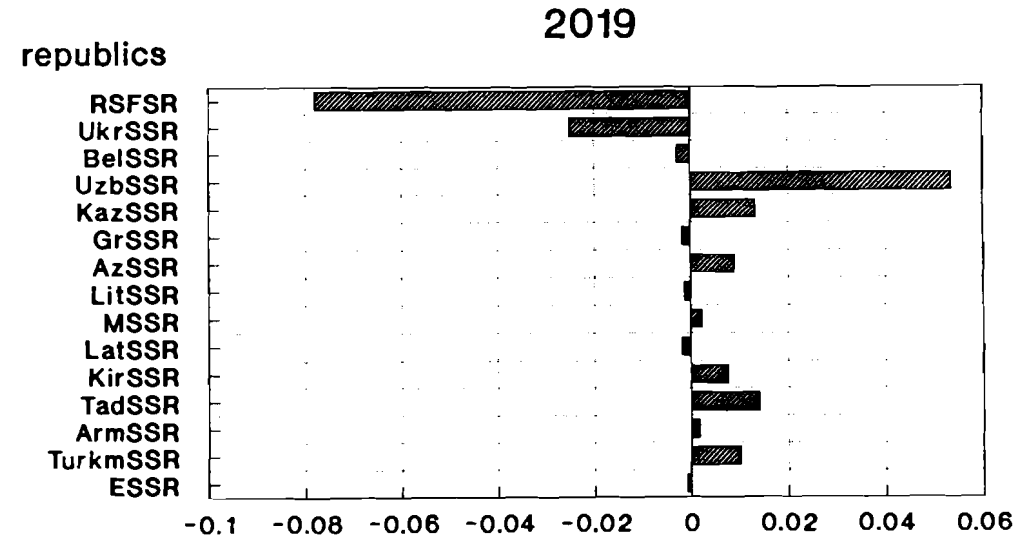
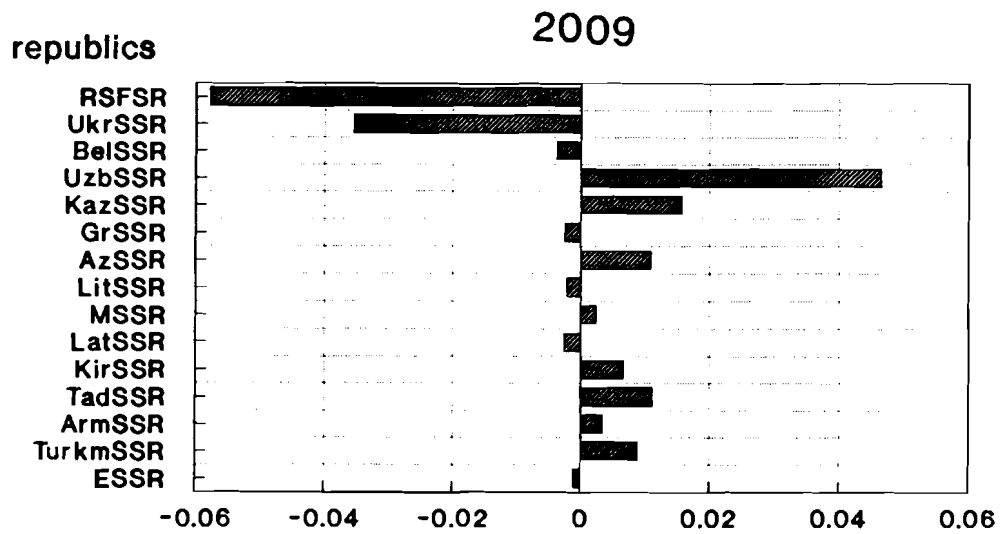


Figure 7. Net contributors and net consumers of State pensions, estimated by proportions in total population by republic. Left of zero: net consumers; right of zero: net contributors. With present retirement ages.

with positive values, sticking out to the right of the zero line are net contributors. Many of the republics are close to zero, that is, they contribute about as much as they consume. The two big consuming republics would be Russia and the Ukraine, while the big contributors would be Uzbekistan and Kazakhstan. The net consumption of Russia increases until 2019, while the Ukraine becomes less of a net consumer. Uzbekistan increasingly becomes a net contributor until 2019, while Kazakhstan becomes a small net contributor the same size as Tajikistan.

These figures must be interpreted with care. For example, the figures say nothing about productivity. It is possible that a republic which would be a net consumer by age distribution would be a net contributor because of very high productivity of the working age population. Also, the picture shows results for whole republics, emphasizing the large republics. On a per capita basis, the picture would look different. The figures also say nothing about real retirement age, which could differ considerably from republic to republic. The Appendix shows the same figures with a retirement age of 60 for both men and women, and of 65 for men and 60 for women.

4. Interpretation: Some Reasons for Caution and More Information Needed

There were no figures available to us for the average retirement age by republic, but there are some indications for the USSR as a whole. The calculations above consider only legal retirement age, whereas in reality the people in the working force gradually retire. Table 1 shows labor force participation of three age groups around the legal retirement age, 55-59, 60-64, and 65+, for males and females in 1950 and 1985. There was a remarkable decline in labor force participation during these 35 years for both sexes, similar to the development in all European countries.

Table 1. Labor force participation rates in the USSR in 1950 and 1985 for men and women, three age groups, 55-59, 60-64, and 65+.

Year	Total	Males			Total	Females		
		55-59	60-64	65+		55-59	60-64	65+
1950	57.4	89.5	86.5	49.0	48.1	50.9	42.6	35.0
1985	56.3	77.4	29.4	8.9	47.1	23.9	8.9	2.5

In 1985, for men five years before legal retirement, 23% are already out of the work force, while in the five years after legal retirement, 30% are still working. In the oldest age group, a small but not inconsequential minority of 9% are still working. For women the situation is similar, shifted five years younger.

In Table 2, the gradual retirement is reflected in the average age at retirement for European countries in 1985, and the USSR from 1950 to 1985. The average age at retirement departs from the legal age in almost all countries with a

pension system, sometimes by as much as six years – in Poland and the Netherlands, legal retirement age is 65 for men, but the average age at retirement is 59.2. In those countries with a five year retirement age differential for men and women, the actual differences between male and female average retirement is less than these five years. In short, the legal age for retirement may serve as a guideline for retirement age but, depending how many loopholes exist, reality may depart more or less from it.

Table 2. Legal and estimated actual mean age at retirement for men and women in selected European countries and the USSR, 1950–1985.^{a)}

	Legal Retirement Age		Mean Age at Retirement		Differences Between Legal Age and Mean Age		
	Males	Females	Males	Females	Males–Females	Males	Females
Austria	65	60	59.8	58.9	0.9	5.2	1.1
Canada (est.)	65	65	63.1	63.4	–0.3	1.9	1.6
CSSR (est.)	60	55	59.3	56.4	2.9	0.7	–1.4
Finland	65	65	62.7	63.4	–0.7	2.3	1.6
France (est.)	60	60	61.6	61.6	0.0	–1.6	–1.6
FRG	65	65	60.5	61.6	–1.1	4.5	3.4
GDR (est.)	65	60	62.5	59.0	3.5	2.5	1.0
Hungary	60	55	59.6	56.0	3.6	0.4	–1.0
Italy (est.)	60	55	60.6	56.1	4.5	–0.6	–1.1
Netherlands (est.)	65	65	59.2	57.5	1.7	5.8	7.5
Poland	65	60	59.2	57.0	2.2	5.8	3.0
USSR 1985 (est.)	60	55	58.4	54.2	4.2	1.6	0.8
USSR 1970 (est.)	60	55	58.6	54.5	4.1	1.4	0.5
USSR 1960 (est.)			60.8	59.0	1.8		
USSR 1950 (est.)			62.7	61.1	1.6		
unweighted average	62.9	60.0	60.5	58.8	1.8	2.4	1.2

^{a)} Old-age and disability pensions (claimants for disability pensions aged 50 and over)

In the USSR, in 1950 the average age at retirement decreased from 62.7 for men and 61.1 for women to 58.6 and 54.5 respectively in 1970, and remained virtually stable until 1985, declining only minimally. It is evident from Table 2 that the USSR is the country with the lowest mean age at retirement of all the European countries shown!

Not only the average retirement age affects the real pension ratio, but also labor force participation. In our calculations for the pension ratio above, we implicitly assumed that everyone retires at the legal age and that everyone starts work at age 20. That implies men work 40 years and women 35. In fact, labor force participation in the USSR is not 100%, and the average number of years worked is shorter. As of 1950, the labor force participation trend decreases for men and women. We held present labor force participation constant from 1985–2020, and calculated how many years an average man or woman would work.

We also calculated the average number of years that would be worked if retirement age increased by 5 years in 1995, and the average retirement age became equal to this new legal retirement age. The results are shown in Table 3.

Table 3. Average number of years worked (AWY) by sex, 1985–2020 (2050).

Version a:		Legal age at retirement: 55 (females) and 60 (males)					
		Mean age at retirement: 54.2 (females) and 58.4 (males)					
		1985	1990	2000	2010	2020	2050
Males	total	39.16	39.17	38.94	38.31	37.68	37.17
Females	total	30.17	31.26	33.14	33.96	33.98	33.61
Version b:		Legal age at retirement: 60 (females) and 65 (males)					
		Mean age at retirement = legal age at retirement					
Males	total	39.16	39.17	43.38	43.73	43.57	43.09
Females	total	31.82	32.75	35.86	37.93	38.88	38.64

With the present mean age at retirement, the average number of years worked for men would decline from 39.16 in 1985 to only 37.68 in 2020 if labor force participation would remain constant at the 1985 level. For women, it would increase from 30.17 to 33.98 if labor force participation remains constant.

If mean age at retirement suddenly increases in 1995 to 65 for men and 60 for women, we would expect that the mean number of years worked would increase by the difference between the old average age at retirement and the new one, that is 6.6 (65 minus 58.4) years for men and 5.8 (60 minus 54.2) years for women. In fact, the average number of years worked increases much less – in our calculations it increases by 4.44 years for men and 2.72 years for women in 2000 – because the labor force participation in these age groups is not very high.

These two facts, the discrepancy between legal and average age at retirement, and the less than complete labor force participation suggest that if the legal age at retirement would be raised by five years in the USSR, the effect might not be as great as expected.

They also suggest that there might be some real differences between the pension ratios, as we calculated them above, and the actual situation in each Soviet republic. This is especially important if we are to find and analyze the differentials and inequalities between the republics. For instance, it could well be that the mean age at retirement in the more industrialized republics is lower than in the other republics, and that the industrialized republics are at the same time those which have a high proportion of elderly from the start. If this is true, it would accentuate the variation in the pension ratios of the Soviet republics even more than we observed above.

To find out more about this variation between republics, we need data on labor force participation rates by republic and sex to calculate the average number of years worked by a man or woman before retiring, and to estimate the mean age at retirement. The data for the new retirees per republic, sex and single year age group would make the calculation of the mean age at retirement more precise and could improve the calculation of the pension ratios.

As mentioned above, the pension ratios alone are not enough – there is differential productivity in the Soviet republics which might mitigate or even reverse some of the pension ratio differences observed above. The per capita productivity in each republic would help us to make a more precise picture of the demographic influence on the pension system in the republics of the USSR.

5. Some General Thoughts on Alternative Pension Systems: Combining State Pensions with Private Savings, Family Support and Continued Work Options

Like many of the other changes needed in the Soviet economy, the transition to a new pension system means at the same time hardship, and is also an opportunity to start anew on sound principles. This means a chance to avoid the mistakes of the past that are now recognized both in the East and West.

The state pensions in Western Europe and the United States which tax the present workers to pay those who are presently in retirement, originated at a time when many young people supported few old people. It was of rather low cost to the working people to fully support the old people via a state pension. Presently (and in the future) there are far less working people to support an enormously increased population of old people. The pension burden (number of working people per old person) has increased to such an extent that soon, if all people retire around age 60, there will not be enough workers to support them at tolerable tax rates if the pensioners do not have other sources of income – saved income in the form of bank accounts or life insurance, family community.

One mistake that has been made by many western countries is the notion that state pensions could be the sole support of old people. If state pensions cannot carry the whole burden of retirement costs, we suggest that the support system for old people should be a four legged stool:

- 1) State pensions;
- 2) Private savings;
- 3) Family and local community help independent of the state;
- 4) Protected sectors of the economy in which old people can work inefficiently, but yet making some contribution, and earning some (small) wage – for example, small scale farming, small retail stores, small scale service such as repairs.

The idea behind such a four-tiered system is that one should minimize state pension costs to relieve the working population of the burden of paying the pensions by encouraging the pensioners and the workers to use other ways of increasing retirement income.

5.1. State pensions

State pensions have developed in industrialized western countries since the beginning of the century, many of them maturing in the 1950s or 1960s. There is a wide range of pension systems in use, including a flat rate minimum pension for all, income dependent pensions, a combination of these two, a pay-as-you-go system, and partial investment of workers' pension contributions.

In general, pensions have become more generous and retirement an accepted state. As a result, there are many cases where the old are perfectly fit and productive in the occupation they have been following, and they just want to retire sooner than nature dictates. The age of retirement is declining rapidly for male workers, and this presents a problem to the economy, especially at a time when the number of births and hence of young recruits is low. We believe that part of the cause is the wrong impression that politicians have given of the capacity of the system to maintain the old without having to work. In all countries, we need to get more information on the realities out to the public.

The high state pensions also may be correlated with lower savings rates and remove the necessity of having children to care for a parent in old age. We suggest that in general, the state pension should be enough to keep people alive, but not enough to discourage saving or make children unnecessary. Beyond that, a few further options could be considered.

From the above, it is clear that higher retirement ages considerably reduce the pension burden. Thus we suggest that pensions be sharply graduated upwards according to age at retirement. The basic principle ought to be that pensions are so low at low retirement ages that healthy individuals will prefer to keep on working. It might be that at current prices, those who wish to retire at age 60 be given the current 100 Roubles per month; those who retire at age 65, 150 Roubles; those at age 70, 200 Roubles. Of course, these are only suggestions; perhaps the numbers should be doubled given the current inflation.

A second possibility along these lines is to allow people to receive a portion of their pension even if they continue working. In the present system, when a person retires the State loses income (previous contributions of the retiree) while expenditures increase. If people are allowed to receive part of their pension while they

continue working, this could induce such large numbers of them to keep working that the net effect would save the State money.

It should be recognized that some people will prefer to retire early and live very modestly; others will prefer to keep working so that they can live well when they retire. Some people will want to save a large part of their incomes while they are of working age, while others will want to save little but work to an old age. Giving people choices will help satisfy them, and this is all the more necessary when there are some difficult times ahead.

We also propose the choice of taking some years of pension at younger ages and working longer later. This takes advantage of the fact that people live longer and are in better health than ever in their 60s and 70s, and also boosts the pension tax paying morale of the workers because they can enjoy some of the fruits of their payments immediately. The "early pension years" could be used to re-train people for a new occupation in this time of rapid technical change, or to give extended maternity leave or extended educational leave. This would be compensated by working longer when others reach the regular age of retirement.

Another aspect of making the payments of pension taxes more agreeable to the workers is to separate this tax from other taxes. In many countries the state pension finances are separate from other state institutions. This has the advantage that people know they are getting something concrete in return for their contributions.

Much research already exists on different systems of state pension. If desired, an IIASA study could go deeper into the subject and make more concrete proposals based on the present Soviet pension system. The aim would be to introduce as little variation from the present as possible; sudden changes disturb people, and one should make the reform as consistent with their expectations as possible. The ideal is to remove the objectionable features of the present arrangement but leave in place those features that are good or harmless.

5.2. Private savings

State pensions can be the basic income in retirement. Private savings can supplement it. Every economy requires savings in order that it may invest, and the problem is how to encourage this. One of the most obvious ways is stimulating people to save for their old age. This saving can be private or collective in the form of private or public pension plans which invest the collective savings of all contributors. In the past, it has been mostly private savings. In many countries, pension insurances are gaining popularity, and in Japan, the state pension scheme is so organized that a large fraction of the money paid by the workers is saved and invested, to be paid out later, along the principles of private saving.

High state pensions make individual saving unnecessary for individuals, despite their necessity for the community. But an even bigger element discouraging saving is inflation, especially when markets in industrial equities, real estate, etc., are inadequate. Far and away the biggest financial asset of the average American family is the ownership of the house or apartment they live in; the sale

of that asset can help an old person a good deal in his or her later years. This could be an increasingly important means of saving in the USSR, especially since apartments are also up for sale.

Sooner or later the present inflation will be brought under control, but in the meantime some device is required so that savers will not be punished by inflation. One device is indexed government bonds. People would buy bonds, i.e., lend their 1990 Roubles with the assurance that they would get back on demand the equivalent in 1995 or 2025 Roubles. At present rates of inflation, this would mean that if they cash in their bonds 10 years later they would get more than twice as many of the Roubles then in circulation. The ratio would be worked out in a price index weighted according to the commodities used by old people of modest incomes.

It will be asked whether the State can afford to offer such bonds for sale. The answer depends on one thing only: the efficiency of the investment and production processes, e.g., the bonds can be used as mortgage on plants and productive operations or against the national economy as a whole.

The question as to what interest rate should be added for indexed bonds is not easy. One answer is no interest at all; we believe that people would buy them if they saw them as a safe repository of value, even if the real value would not increase. But if the investment will produce goods that sell well at then current prices, bringing profits of 5% or 10% on the capital invested, then 1% or even 3% real return to bondholders may well be afforded. It will be necessary to be fairly concrete about the guarantee of repayment, given the known suspiciousness of the public regarding the government – common to all countries.

5.3. Family and local community help

One has to be careful about relying too much on families to assist parents in their old age since the same phenomenon that makes difficulties for state pension – low birth rates – also creates difficulties in individual families. Small families mean few children to look after parents. Moreover, in all countries – if the USSR is not included in these, it soon will be – the children seem to have lost the discipline they had in former times; they want to pursue their own careers and their own pleasures; just as having children of their own is a handicap to these, so also is having dependent parents. Indeed part of what has motivated state pensions is undoubtedly the disinclination of children to be financially responsible for their parents.

Yet children can be an important source of decreasing the social costs of aging. Children or the community can take over part of the care of aging parents so that these do not need to go to old-age homes, or to expensive hospitals, for example, by caring for them during a temporary illness, doing grocery shopping, or heavy housework, etc.

How can children be encouraged to take responsibility for their aged parents, for instance to have them living in the same or nearby premises? We need to investigate what privileges will entice children to help parents, perhaps allowing ear-

lier retirement for a child who has a parent living in his premises. If the size of existing dwellings makes this impracticable, then nearby residence could be encouraged instead.

A part of the task of the Soviet authorities will be to make clear that no feasible state social security scheme will do the whole job of ensuring a good living for the old people. This also includes non-monetary aspects for which family support is of particular importance.

5.4. Work for the old in protected areas of the economy

At one time it was the old who were the repository of the community's productive knowledge; that is no longer true in most branches of activity. Technology is changing too fast in most lines of production. But the capacity of the old to learn new technologies is much greater than was believed in former times, when there was no need for such learning. We believe that re-training programs are required in many activities, and at a wide range of ages from 40 to 75. If people can be motivated to learn, they will prove unexpectedly adaptable.

Yet for those old who cannot be so motivated, or who suffer from physical or mental limitations, a host of occupations can be found that they can perform perfectly satisfactorily. Everything from night watchman on building sites to raising and selling vegetables, to certain kinds of inspection of manufactured products, could well take advantage of the diligence and reliability of many old people.

6. Conclusions

In sum, the broad concept of social security that we espouse depends on all four of the means by which old people can be supported, and not state pensions alone. People should be given the option of retiring at various ages, but the retirement at ages as young as 60 should be discouraged by low pensions for these, and much higher pensions for those willing to work longer, although certainly a prerequisite for this is the availability of enough jobs. Private saving should be encouraged, if necessary by indexed bonds, though this is a part of the solution only in the long term. Children looking after an aged parent should be offered some retirement for themselves. Those who are able to work should be encouraged to do so, either following an introduction to new technology or doing simple work. One could investigate the consequences of these various systems in the Soviet Republics.

APPENDIX FIGURES 1-14

Pension ratio according to three retirement ages by republic:

Bottom line with squares: women 55, men 60;

Middle line with crosses: men and women 60;

Top line with crosses: women 60, men 65.

FIGURE A.1

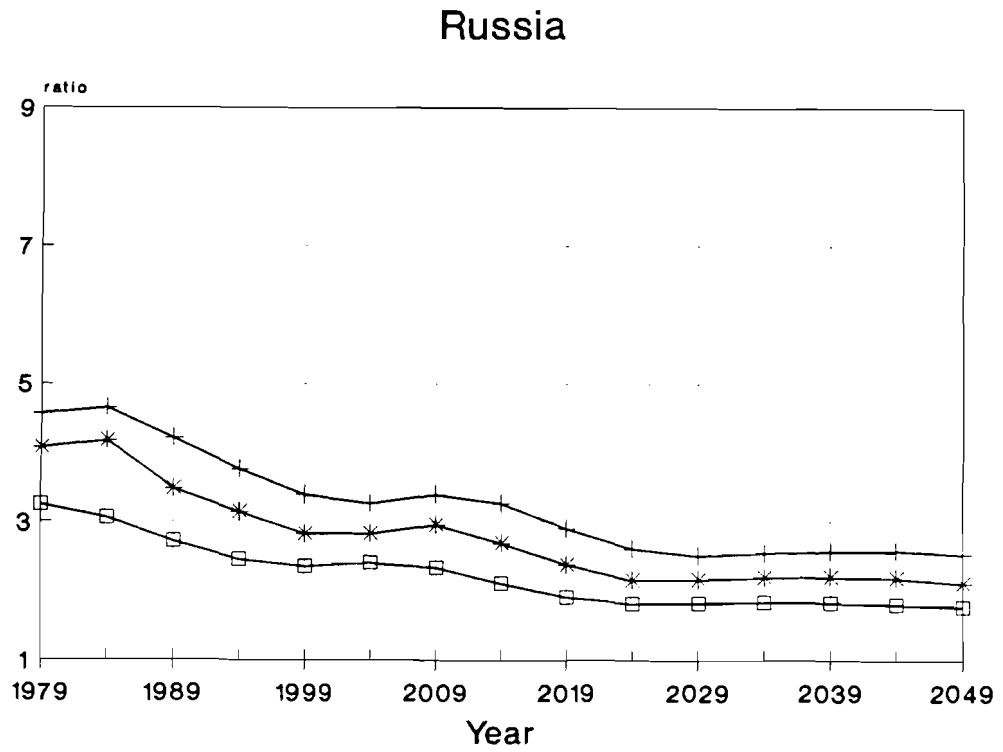


FIGURE A.2

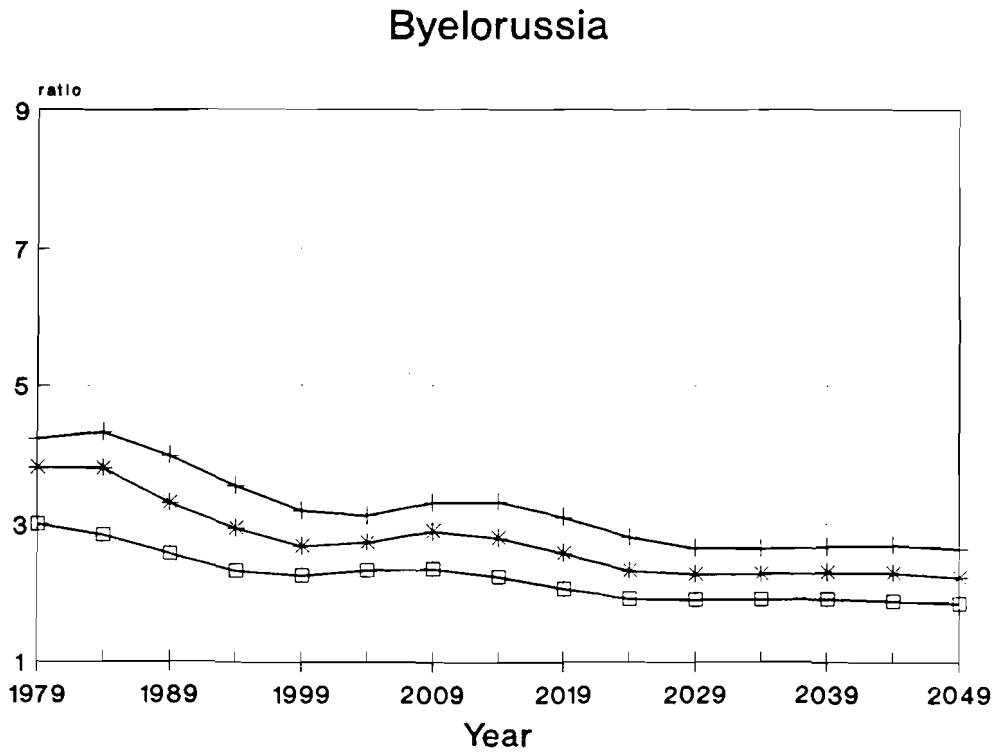


FIGURE A.3

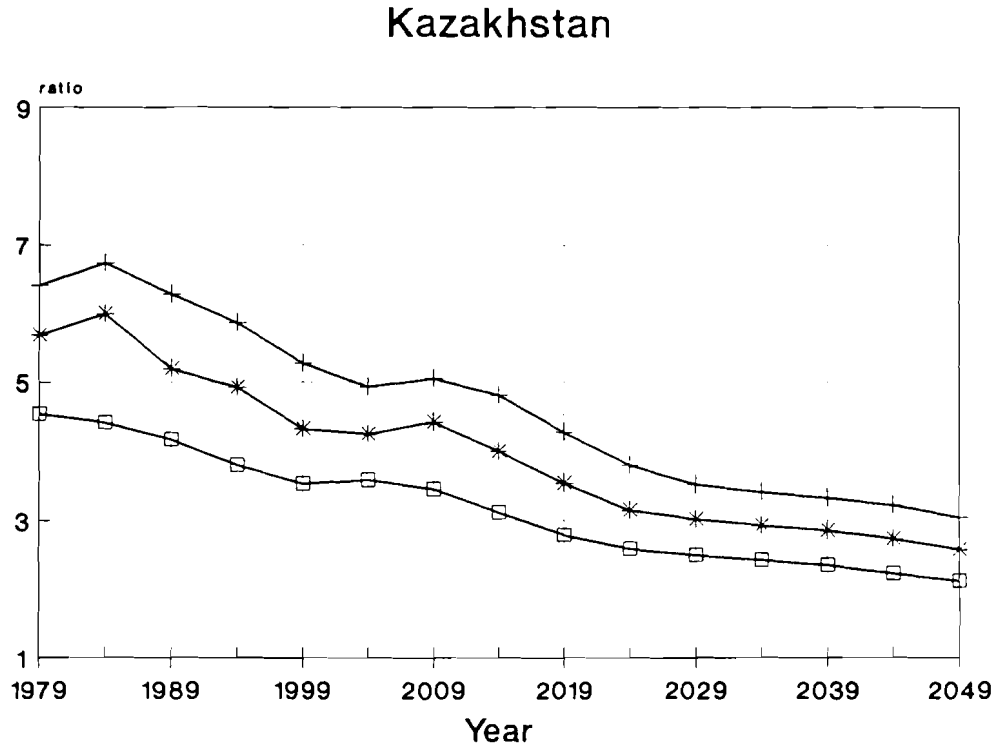


FIGURE A.4

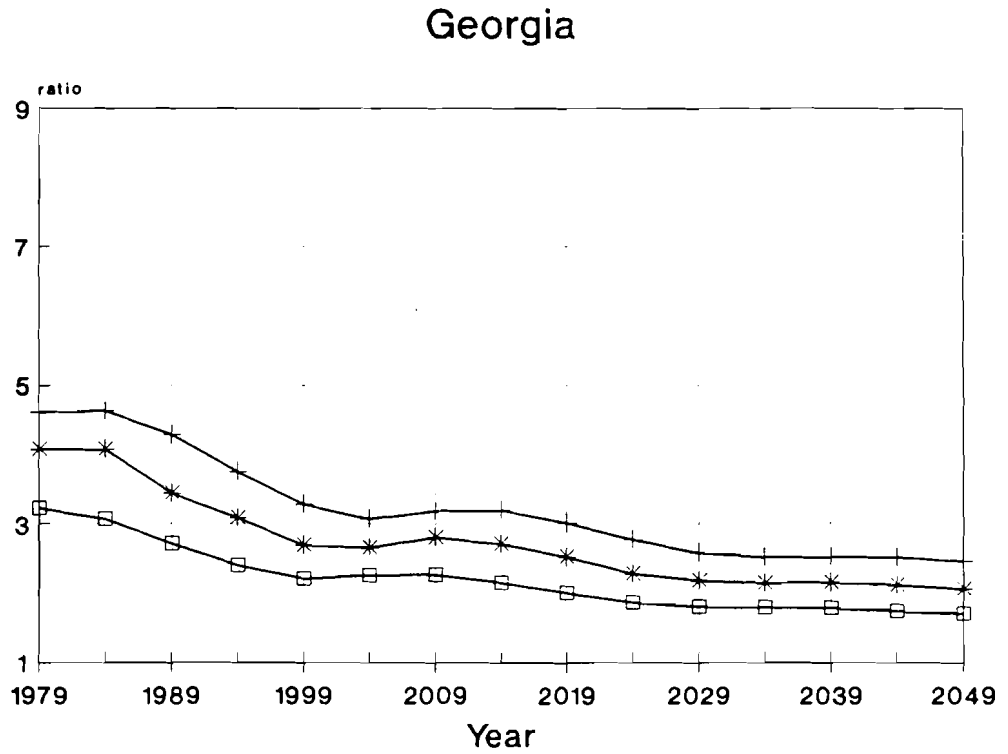


FIGURE A.5

Azerbaijan

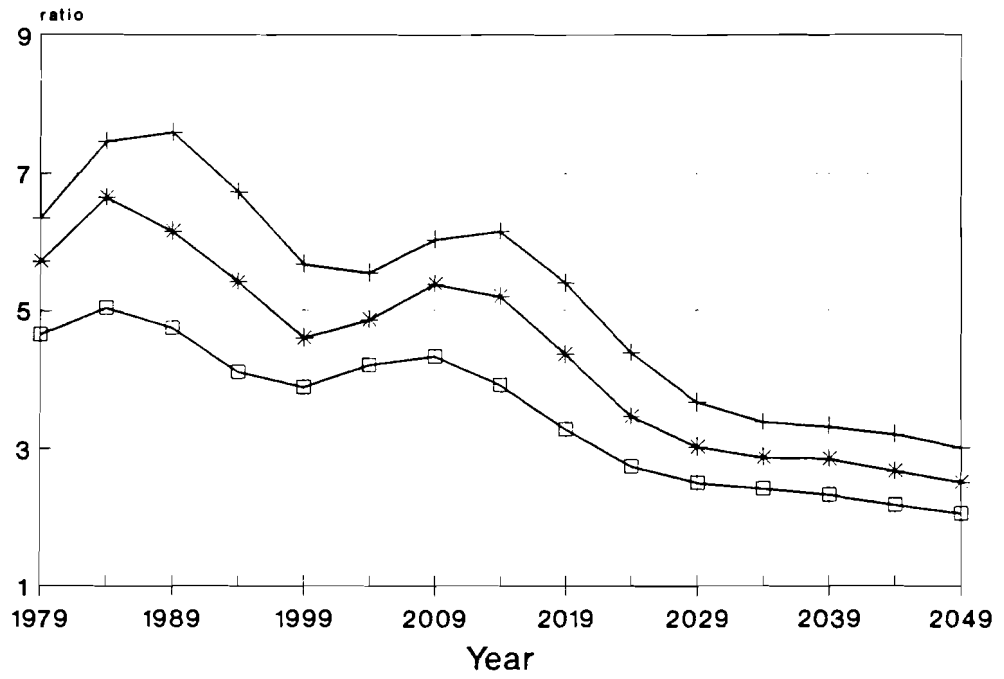


FIGURE A.6

Lithuania

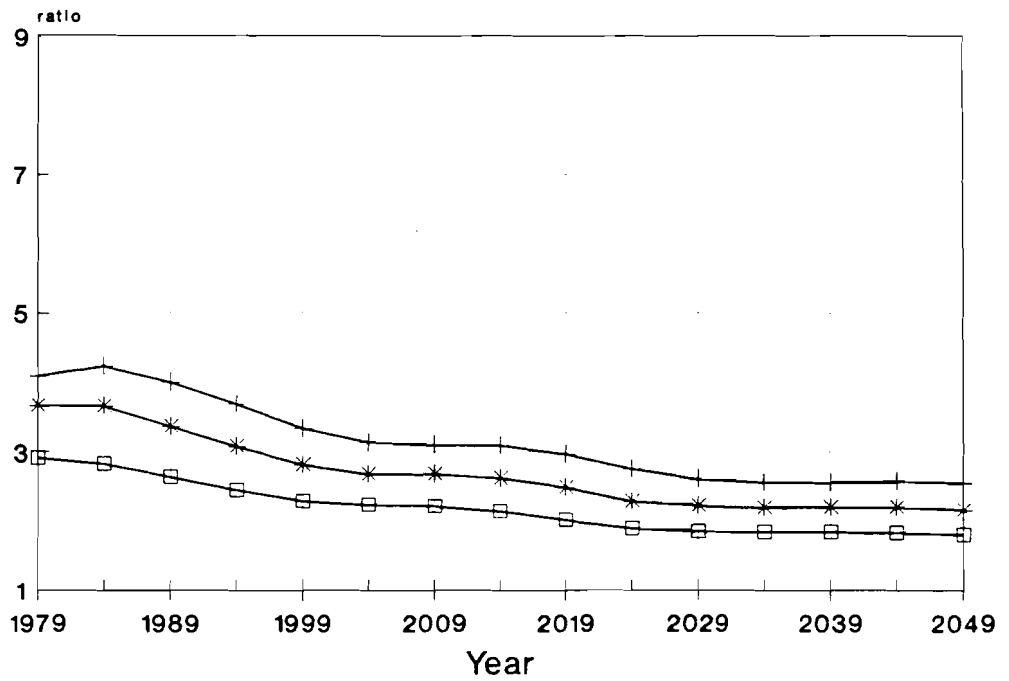


FIGURE A.7

Moldavia

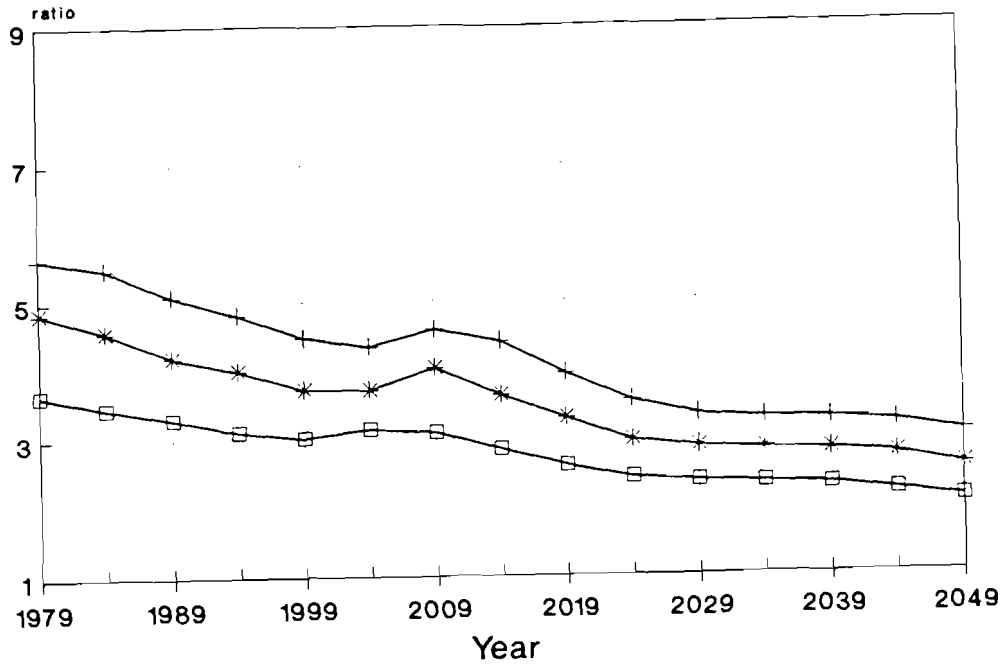


FIGURE A.8

Latvia

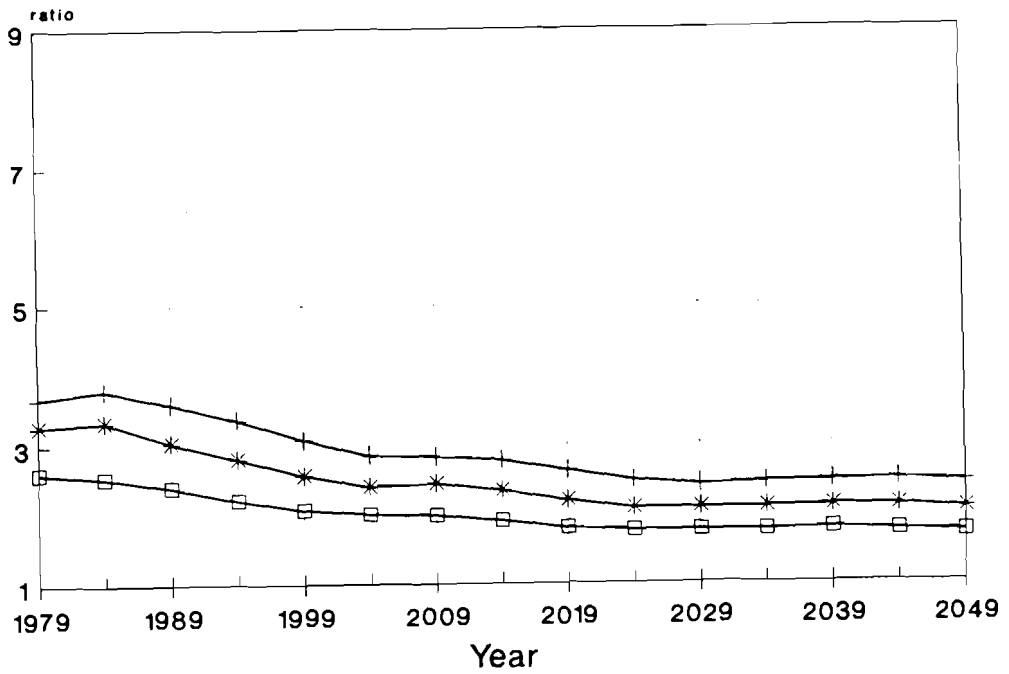


FIGURE A.9

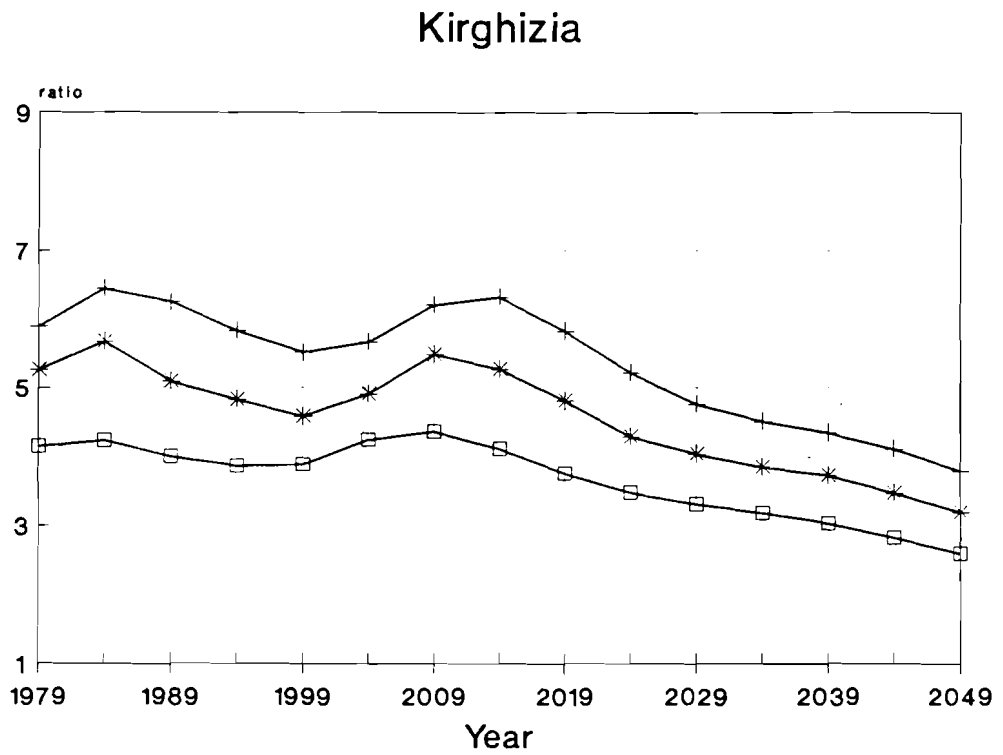


FIGURE A.10

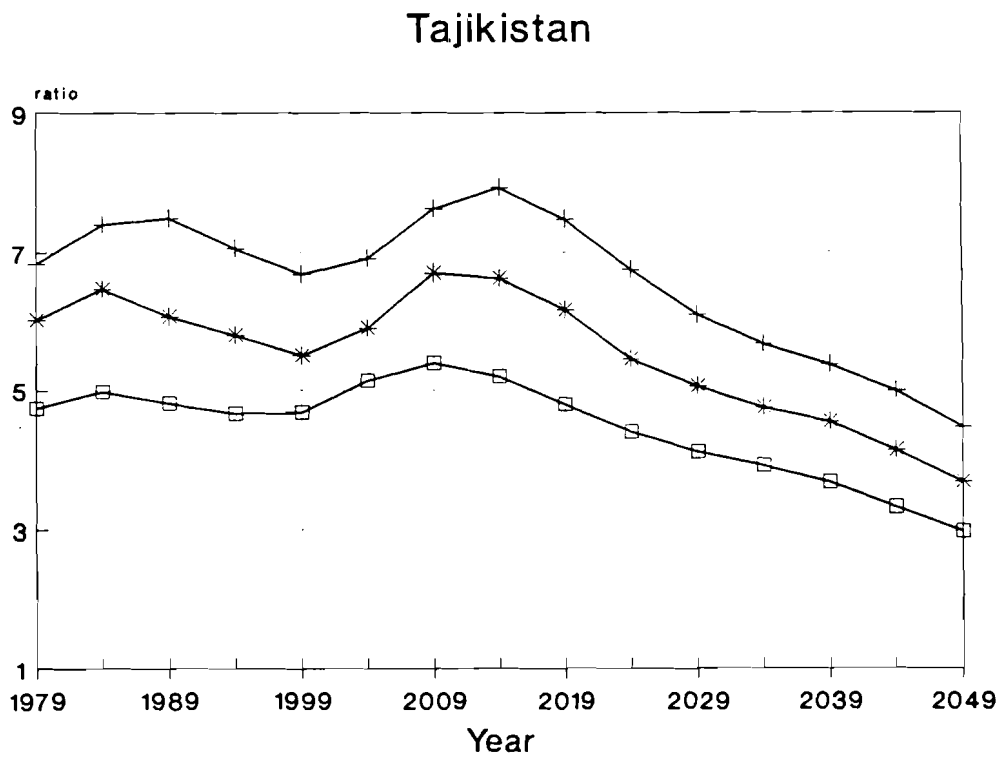


FIGURE A.11

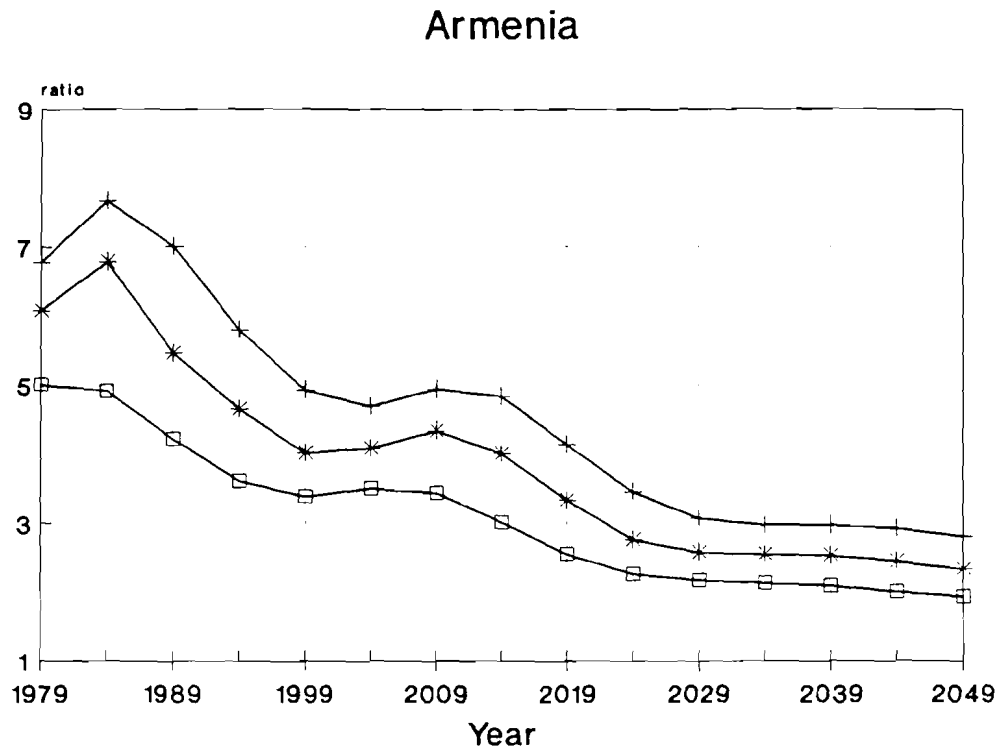


FIGURE A.12

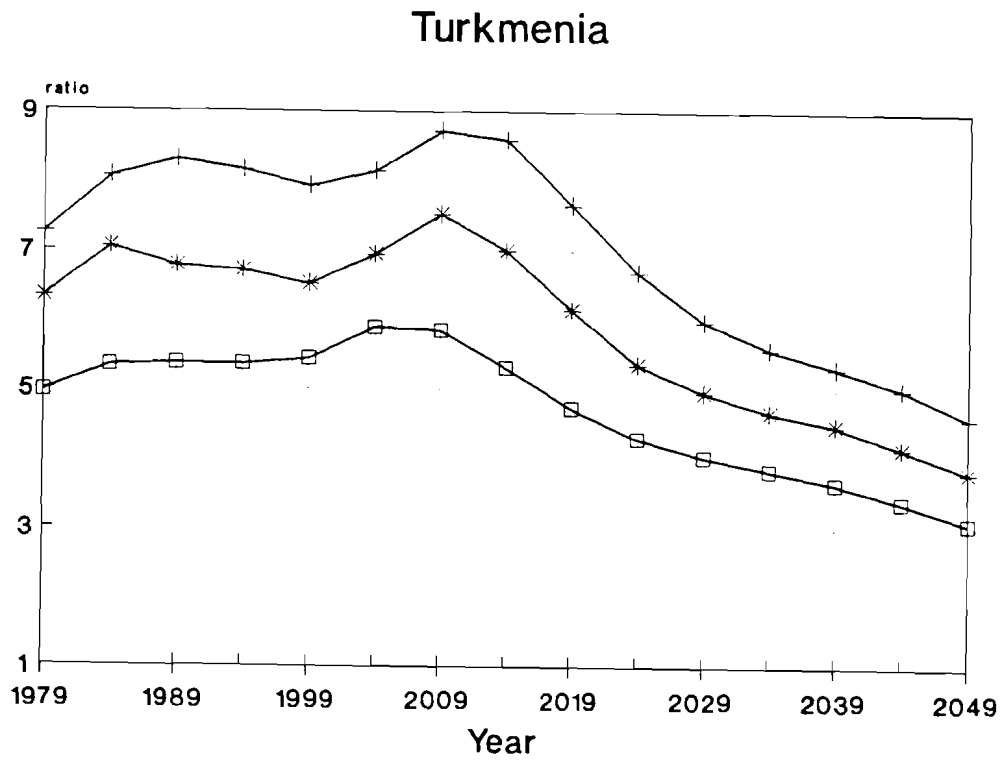


FIGURE A.13

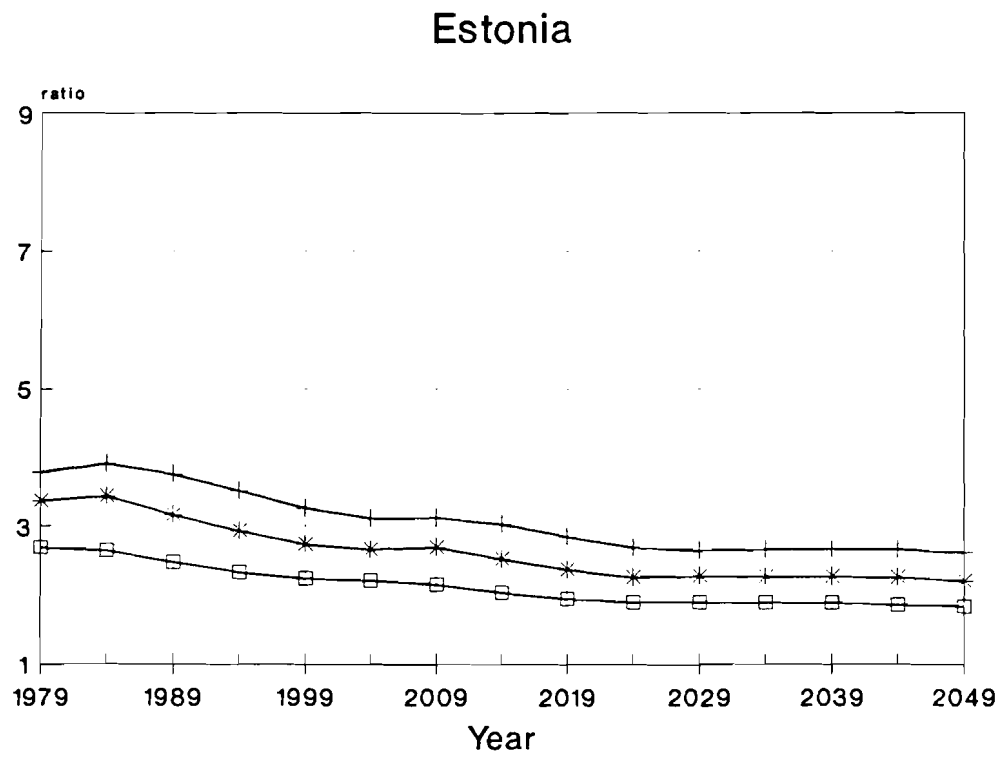
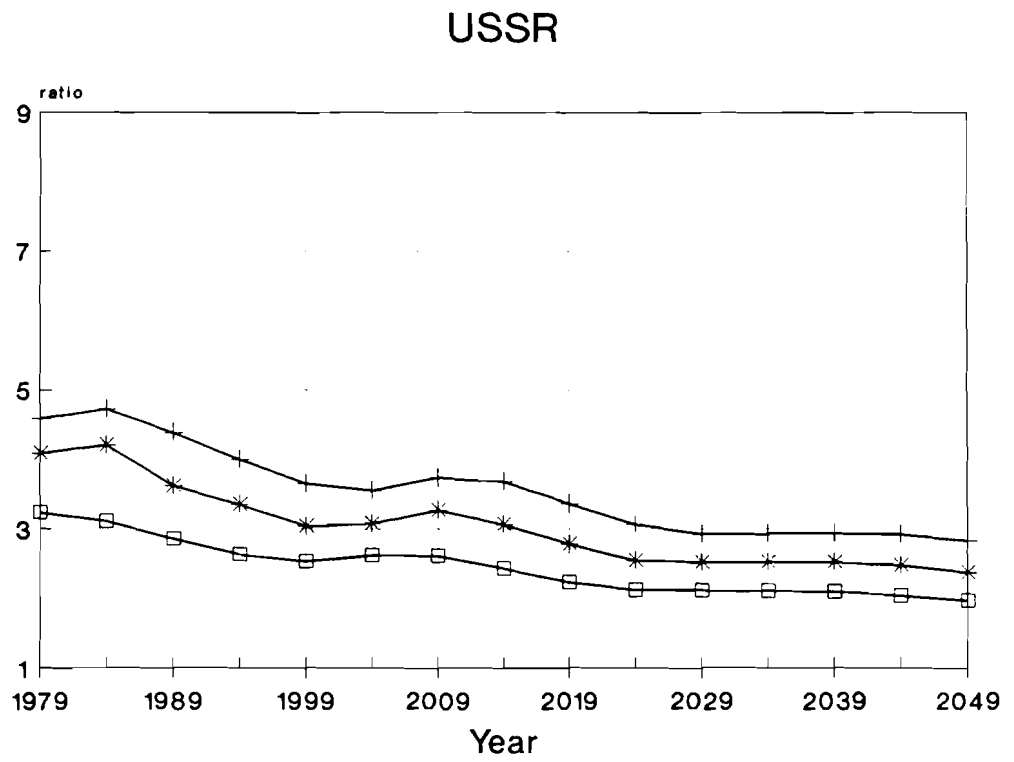


FIGURE A.14



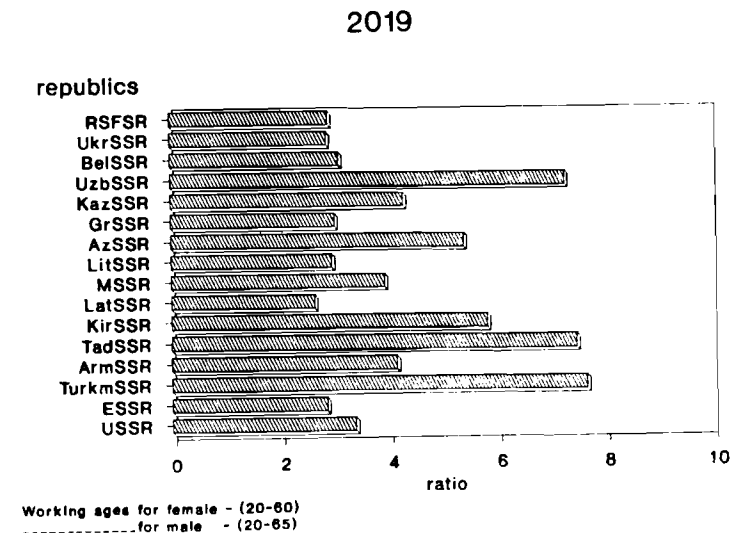
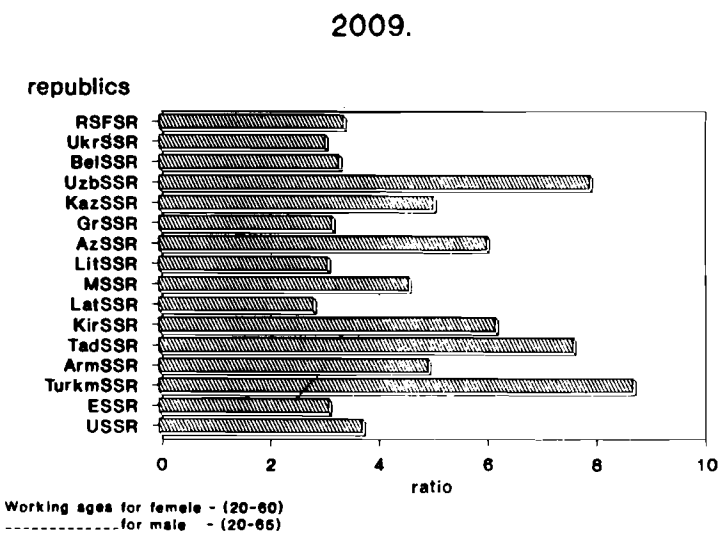
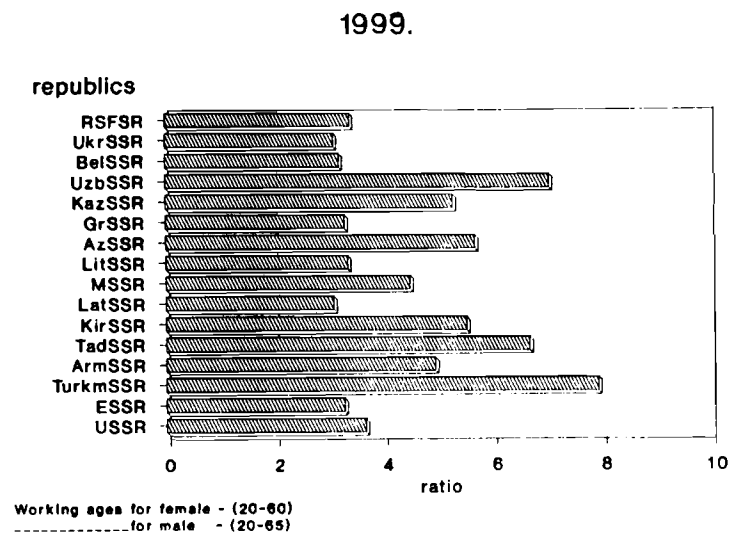
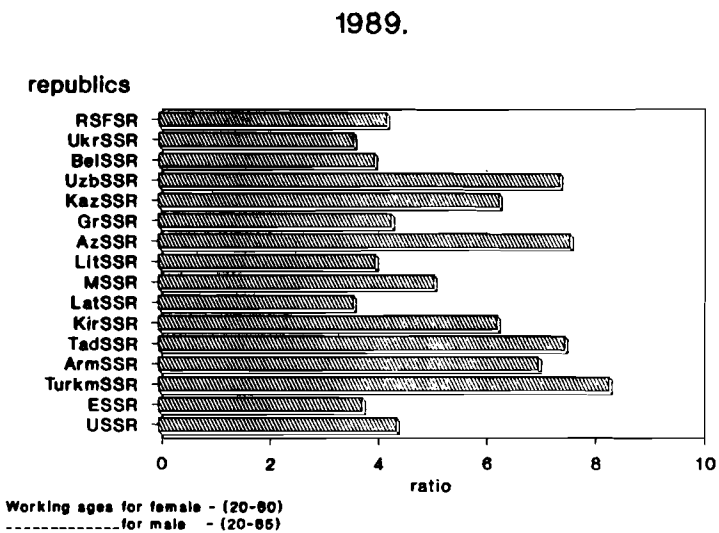


FIGURE A.15.
Pension ratios by republic in 1989, and projected in 1999, 2009, and 2019, according to present retirement ages, 60 for women and 65 for men.

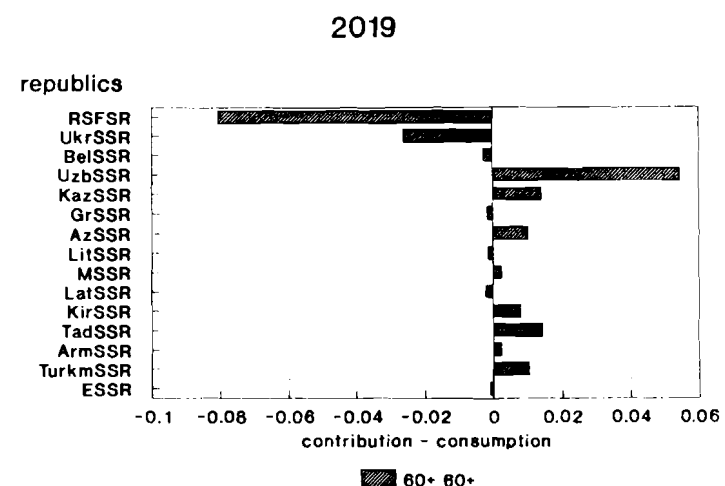
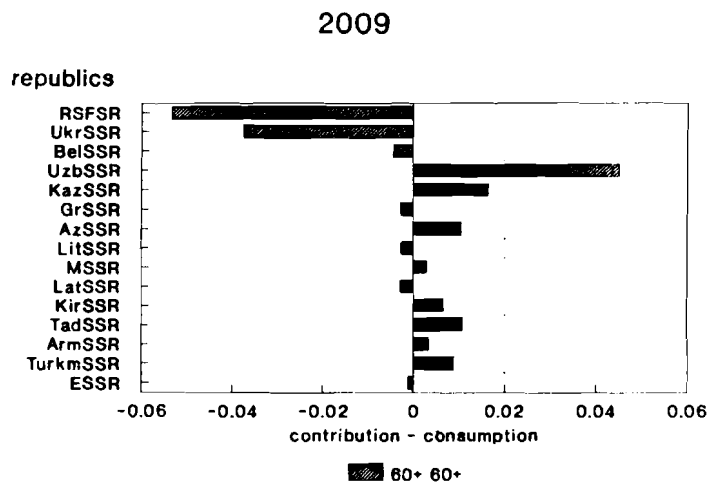
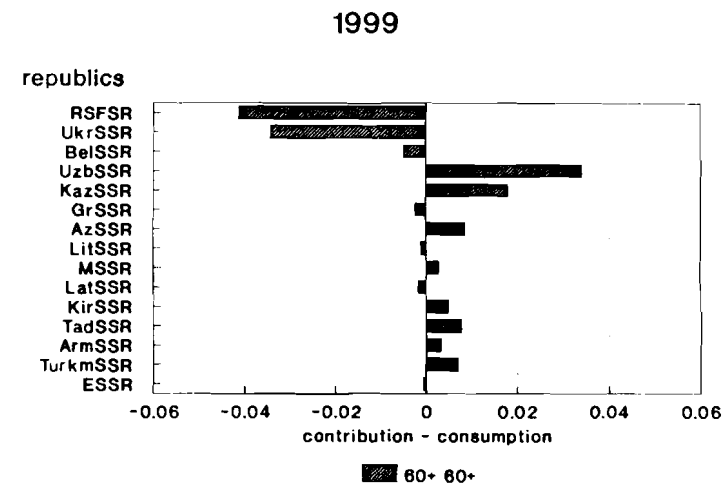
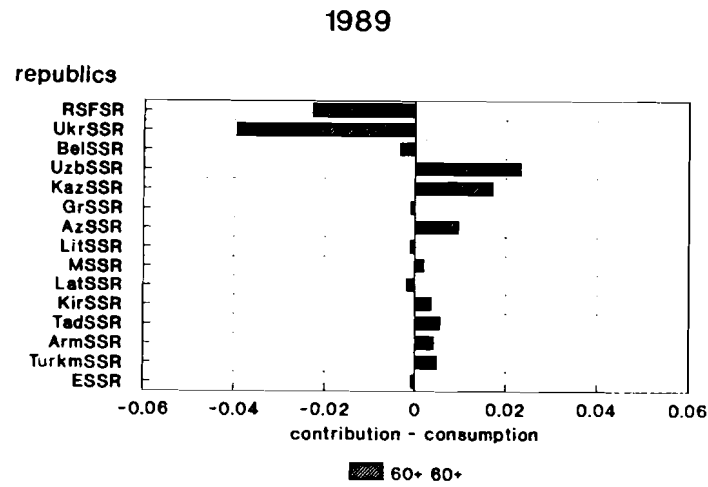


FIGURE A.16.
 Net contributors and net consumers of State pensions, estimated by proportions in total population, by republic.
 Left of zero: net consumers; right of zero: net contributors. Retirement ages 60 for men and women.

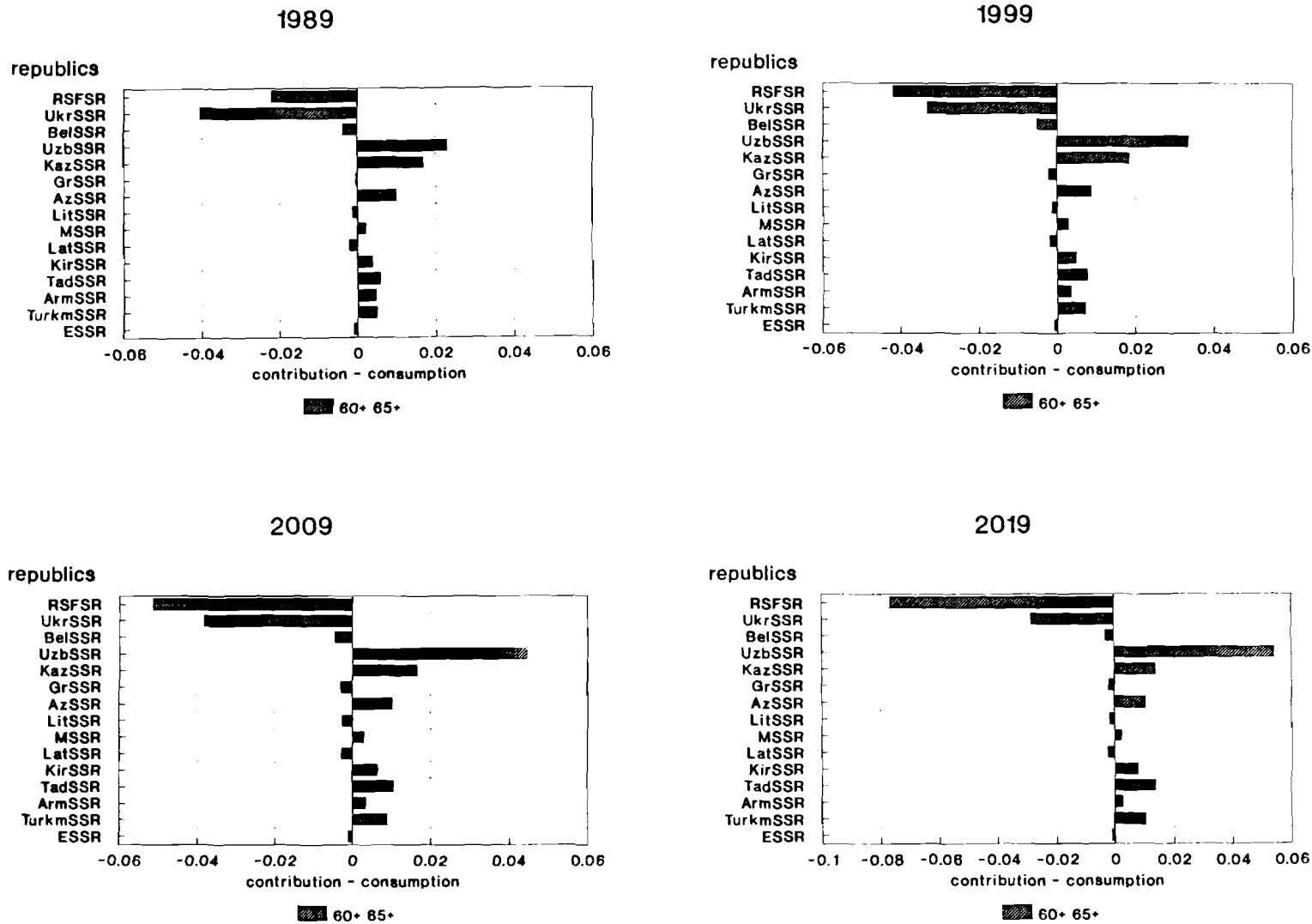


FIGURE A.17.

Net contributors and net consumers of State pensions, estimated by proportions in total population, by republic. Left of zero: net consumers; right of zero: net contributors. Retirement ages 60 for men and 65 for women.