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LITHUANIAN PENSION SYSTEMS:

ALTERNATIVES AND PROPOSALS

FOR THE FUTURE*

A Summary Report by
The Phare Study Group

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ABSTRACT: Abstract: The study identifies three groups of problems in the Lithuanian pension environment: fiscal problems, poverty of retired people, and problems related to working and saving incentives. The future of the current pension system is suspect, as the population share of the elderly is increasing and fertility is on a declining trend. The study analyses different policy measures, using e.g. a dynamic general equilibrium model. The research group also proposes a pension policy package, consisting of six points, that will alleviate the poverty problems, result in an efficient pension system, and can be implemented so that the welfare losses to some cohorts, which cannot be avoided during the transition, will be small.

Key words: pensions, poverty, incentives, ageing, partial privatisation.

JEL classification: H 55

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TIIVISTELMÄ: Tutkimuksessa luokitellaan Liettuan eläkejärjestelmän ongelmat kolmeen ryhmään: rahoitusongelmat, eläkeläisten köyhyys, ja eläkejärjestelmän huonot osallistumiskannusteet. Nykyisen eläkejärjestelmän tulevaisuudennäkymät ovat synkät. Eläkeikäisten osuus väestöstä on kasvussa ja syntyvyys on trendinomaisesti alentunut. Eläkemaksujen kiertäminen on yleistä, ja tulevaisuudessa merkittävällä osalla eläkeikään tulevista ei ole eläkkeensaantiin oikeuttavaa rekisteröityä maksuhistoriaa. Tutkimuksessa analysoidaan useita eläkepoliittisia toimia mm. dynaamisen yleisen tasapainon simulointimallin avulla. Tutkimusryhmä ehdottaa kuusikohtaisen toimenpidekokonaisuuden toteuttamista, ja arvioi, että se helpottaa köyhyysongelmaa merkittävästi ja johtaa tehokkaaseen ja uskottavaan eläkejärjestelmään. Toteuttamiseen liittyy siirtymävaiheessa väistämättömiä hyvinvointitappioita joillekin nykyisin työssäkäyville kohorteille, mutta nämä tappiot arvioidaan pieniksi.

Avainsanat: eläkkeet, köyhyys, kannustimet, osittainen yksityistäminen.

JEL-luokitus: H 55

Foreword

This is a summary report of the Phare ACE research project "Lithuanian Pension Systems: Alternatives and Proposals for the Future". The project started in 1997 and was concluded in March 1999. Some updates were made in April 2000. The project co-ordinator has been Mr. Jukka Lassila, the Research Institute of the Finnish Economy, and the partners include Dr. Romas Lazutka, Vilnius University, Ms. Audrone Morkuniene, the Lithuanian Free Market Institute, and Dr. Svend E. Hougaard Jensen, the Economic Policy Research Unit (EPRU), University of Copenhagen. The co-ordinator and all partners have taken part in writing this report.

In the process of preparing the report we have benefited from the help of several people. First, the research assistance provided by Mr. Dainius Bernotas, especially in sections 3.1.3, 3.1.6. and 4.4, is gratefully acknowledged. Second, an early version of the report was presented at meetings in Vilnius in November 1998. We appreciate the extensive discussions we had with local experts on that occasion, including Mr. Alfredas Nazarovas, Deputy Minister of Social Security and Labour; Mr. Teodoras Medaiskis, Director of the Social Policy Unit and former Minister of Social Security and Labour; and Mr. Vincas Kunca, Director of State Social Insurance Institution. Third, we wish to thank for the comments offered by the external reviewers of Phare. Finally, part of the report was presented at the First Meeting of the OECD Forum on Private Pensions in Prague, April 2000, and comments from participants in that meeting have also led to improvements of the final version. Needless to say, the authors alone are responsible for all shortcomings remaining in the report.

Jukka Lassila Romas Lazutka Audrone Morkuniene Svend E. Hougaard Jensen

Abstract

The study identifies three groups of problems in the Lithuanian pension environment: fiscal problems, poverty of retired people, and problems related to working and saving incentives. The future of the current pension system is suspect, as the population share of the elderly is increasing and fertility is on a declining trend. The study analyses different policy measures, using e.g. a dynamic general equilibrium model. The research group also proposes a pension policy package, consisting of six points, that will alleviate the poverty problems, result in an efficient pension system, and can be implemented so that the welfare losses to some cohorts, which cannot be avoided during the transition, will be small.

JEL classification: H 55

Non-technical summary

Besides unfavourable demographics, which cause difficulties to all pay-as-you-go arrangements, the Lithuanian pension system faces problems whose causes are rooted in the economic turmoil that the economy experienced especially during the early 1990's. We analyse these problems, which are classified into three groups: fiscal problems, poverty, and incentive problems. We also analyse the effects of various policy measures, and make a policy proposal consisting of six items.

The Lithuanian pension system consists of social insurance pensions paid from a separate state social insurance fund independent of the national (state and local) budget, and state pensions and social pensions financed from the state budget. Social insurance pensions, which form over 90 % of Lithuanian pensions, depend on the amount of social insurance contributions paid and are payable to people previously employed under labour contracts and self-employed persons. The state and social pension schemes are for military and police servants, national resistance victims, distinguished persons and persons not eligible for other types of pension.

The study concentrates on the social insurance pensions. As an analytical device to evaluate the effects of alternative policies, the study makes heavy use of a dynamic general equilibrium simulation model developed in the project. This not only allows us to provide quantitative estimates of the macroeconomic effects of our suggestions, but it also enables us to address the intergenerational welfare effects that are so important when reforming social security.

The study identified three groups of problems in the Lithuanian pension environment. The first consists of fiscal problems of the current pension system. These are partly connected with the tumultuous transition process, especially the fall in GDP in the early 1990's and the accompanied labour market developments. An increasing number of disability pensions is one result, and the problems have been the background for wide-spread evasion of social contributions and income taxes. Fiscal problems will prevail: ageing will raise pension expenditures in the coming decades, and current fertility rates, both their low level and continuous downward trend, are alarming.

The second problem group is the poverty of retired people. This results both from the low level of pensions and, to an increasing degree, declining coverage of the current system. Projections based on the current share of people contributing to the system show that only 54 % of the old-age population would be covered by the pension system in 2025. The current pension system seems to be failing to achieve its main objective.

The third group of problems is related to incentive issues, concerning both working and saving incentives. As a PAYG system with unfavourable future demographics, the rate of return from current contributions can be expected to be low. This is probably one factor behind contribution evasion. High redistribution within the system weakens the work incentives of middle- and high-income earners. The fiscal

difficulties due to demographics point towards future political risks and make the credibility of the system suspect. The current system entails no funding, so as far as it is deemed credible it discourages saving compared with funded alternatives.

The retirement age is currently being increased gradually to 62.5 years for men and 60 years for women. This reduces the fiscal strain in the current system. According to the OLG model calculations, the effect is equivalent to 3 percentage points of the wage bill that is the base for contributions. If the retirement age is raised further, to 65 years for both men and women in accordance to a schedule that has already been proposed earlier, calculations made during the study show further reductions in the cost burden of the order of 3 – 3.5 percentage points in the contribution rate. This cost-saving is not enough to keep the system solvent in the long run.

The evasion of contributions by some employers and employees places a higher burden on those abiding by the rules. As value-added taxes are harder to evade, a switch from contributions based on wages to value-added taxes in the finance of pensions merits consideration. That kind of financial shift can be recommended on other grounds also, without the tax-evasion phenomena, as it contains an element of a one-time tax on existing wealth that has no distortionary effects. The overall positive effects of the switch are generally considered to be rather small.

The poverty problem resulting from the low level of pensions could be remedied by increasing the benefits. That would yield a fiscal deficit. The fiscal problem could be alleviated in time by indexing the benefits partially to wages and partially to consumer prices. In an economy with good growth prospects, which we expect Lithuania to be, wages will grow faster than prices. Thus the relative role of indexed benefits will decline after the initial increase.

The simplest cure for the coverage decline would be to make the basic pension universal. Working history would not be required for eligibility, citizenship and age would suffice. This coverage expansion would also create a deficit in the finance of old-age pensions. This requires a permanent financing solution, as there is no point in trying to reduce the coverage again.

The incentive problems could, in principle, be mitigated by reducing the basic pension and other redistributive features of the system. This would, however, worsen the immediate poverty problem. Another measure, which also deals with the political risks of the system, is to introduce a private funded earnings-related system. This could replace the current unfunded earnings-related public pension. An entirely voluntary private system might result in low pensions, as high growth expectations may encourage current consumption. Mandatory contributions may thus be called for, introduced gradually and kept at a low level, while simultaneously encouraging voluntary additional contributions.

The research group thought the poverty problems so pressing that it searched for a way to finance both the increase in benefit levels and universality. The changes

should be such that the system will also be efficient in the long run. The group formulated a proposal that consists of six points.

1. Increase the basic pension benefit rate by 40 percent, shift to differentiated (combined wage/price) indexation, and make the basic pension universal.

2. Increase the retirement age to 65 for both men and women.

3. Shift the tax structure by cutting the contribution rate to the public pension system substantially (by more than ten percentage points) and finance that by increasing the value-added taxes.

4. Terminate the accumulation of new rights for the earnings-related part of the public old-age pension, but honour the rights that have already accumulated.

5. Convert gradually to a private, funded, mandatory and earnings-related pension system.

6. Create good framework conditions for voluntary pension savings.

The effects of such a combination of measures are manyfaceted. They all have consequences for all three problem groups, and these consequences often contradict each other. Our assessment, after weighing the various issues and considering the simulation results, is that this policy package will effectively alleviate the poverty problems, result in an efficient pension system that will be a social asset also in the long run, and can be implemented so that the welfare losses to some cohorts, which cannot be avoided during the transition, will be small.

There are costs associated with the transition to the proposed system. Old obligations must be paid while at the same time paying into the funds for future obligations. The total contributions do not increase, if we add up the contributions to the social insurance fund (which actually has no funds) and to the private pension funds. The costs come from the increase in VAT and the increase in retirement age.

The study considers three implementations of the proposed policy package, varying the schedule of contribution reductions and using public borrowing temporarily to smoothe the VAT rate.

In all the alternatives those already retired gain substantially. That is mostly due to the increase in the basic pension. Current workers will mostly suffer a little from the policy package, only those who are near retirement gain. The biggest losses are felt in the age groups of 35 – 39 and 40 – 45, of the order of 2-3 % of the consumption stream during the remaining lifetime. To sum up, the comforting result concerning the transition to an effective funded system, and at the same time alleviating considerably the problem of old-age poverty, is that even the maximum losses to current taxpayers seem to be rather small.

Contents

1. Introduction

Public pension systems throughout the world are under increasing strain. The major reason behind this phenomenon is a demographic transition, caused by declining fertility rates and rising life expectancy. As a result, the ratio of old people to people of working age is projected to grow rapidly over the next decades. In such circumstances, the rate of return, as perceived by working-age people, from contributing to the elderlies' social security may be unacceptably low. Population ageing may even entail such dramatic inter-generational transfers that the implicit contract between "young" and "old", a pillar of the pay-as-you-go (PAYG) pension system, collapses. If so, public pension systems operated on a PAYG basis are unlikely to survive.

The issue may also be assessed from the perspective of public finances. Indeed, these have been predicted to run into sustainability problems because of ageing populations. What that means is that current tax rates are not high enough to finance future expenditure programmes, at least in the absence of policy adjustments. Again, the critical question is whether such tax rises would be acceptable to working-age people. This is clearly a most pressing dilemma in countries where tax rates are already high, or where promises have been given to cut them. If the elderly themselves were to accommodate a larger population of elderly by cutting benefit rates, e.g. in the form of lower pensions, this might be felt as a substantive cut in their living standard which would also be difficult to accept.

In addition to such *inter*generational aspects, there may be some *intra*generational problems with the pension system that need addressing. Indeed, within the group of elderly, some may be very poor and others may be rich. Similarly, within the group of working-age people, some may have strong incentives to contribute while others may not because the link between contributions paid and benefits received has been decoupled. There may also be cases where inter- and intragenerational redistribution interact in an undesirable manner. For example, this would be the case if poor young families make transfers to comfortable retirees. In short, when talking about the need for pension reform, there are typically several dimensions involved, including fiscal, social and incentive problems associated with existing systems.

While this is the general background in most countries, there are specific issues that are relevant to a country in transition, such as Lithuania. This study, *The Lithuanian Pension System: Alternatives and Proposals for the Future,* is an attempt to provide a rather detailed examination of the (old-age) pension problems facing a new market economy with a well-established tradition for providing state-financed income and services to the elderly.

The study is divided into two major parts. The next two chapters constitute part 1. Chapter 2, entitled *"The Current Pension System: Scope and Design",* is descriptive in that it offers a brief portrait of the current pension system after the pension reform of 1995, and the social insurance and state pensions, respectively, are carefully described.

Also the broader economic significance of the entire old-age pension system is put into perspective by relating old-age pensions to other parts of social security in Lithuania as well as to the country's macroeconomic capacity. Chapter 3, entitled *"Challenges Facing the Current Pension System"*, is an attempt to identify the major problems confronting the current system. While this leads to a long list of specific problems, it turns out that these can appropriately be grouped into three main categories, namely fiscal, poverty and incentive problems. Among the problems considered most striking to the Study Group is the gradual emergence of a coverage problem, as indicated by the prospect that in 25 years or so from now only about a half of the elderly population is likely to be covered by public pensions through the social insurance fund.

It has been an important objective of the Study Group to establish a close link between the "diagnostic" part 1 and the "prescribing" part 2. Hence, part 2 of the report makes several suggestions as to how the specific problems pointed out in part 1 may be overcome. The Group is well aware that while Lithuania will face the ageing phenomenon in a fashion similar to most OECD countries, albeit on a slightly smaller scale, there are other problems more specific to a transition economy in general and to Lithuania in particular. Thus, it is necessary to consider a wide variety of policy measures if all the problems are to be addressed. The Study Group concludes its considerations of alternative solutions by outlining its own "blueprint" of a reform proposal.

As an analytical device to evaluate the effects of alternative policies, part 2 makes heavy use of a dynamic general equilibrium simulation model developed by researchers at ETLA, the Research Institute of the Finnish Economy. This not only allows us to provide quantitative estimates to the macroeconomic effects of our suggestions, but it also enables us to address the intergenerational welfare effects that are so important when reforming social security.

Chapter 4, entitled *"Possible Solutions to the Pension Problems"*, starts by noting that fiscal problems can, in principle, be solved by decreasing benefits or increasing contributions, but there are, as already alluded to, limitations to the feasibility of such adjustments. For example, cutting benefits or reducing the coverage of the system would almost inevitably aggravate the poverty problems. In a growing economy, however, benefits can be indexed at a rate less than the growth rate of the economy without making the current poverty problems worse in absolute terms. A promising cure for fiscal problems is to increase the retirement age, thereby at the same time increasing the number of contributors and decreasing the number of pensioners. Simulation results show that this would entail welfare gains to many and only rather small welfare losses to some cohorts, even if the labour supply effects are relatively small. Current problems with tax evasion may be addressed by switching the finance from payroll taxes towards value-added taxes. Specific measures could be taken to tighten the criteria for disability pensions. However, if the rising number of disability pensioners reflects more general labour market problems, the problem should be tackled by other means than pension reform. Higher economic growth, a likely prospect in view of where Lithuania currently stands in the transition process, would also help overcoming the fiscal problems.

The incentive problems can be addressed by tightening the link between contributions and benefits. The Group stresses the importance that changes to the incentive structure do not decrease national saving. Instead of making several "partial" changes to the current system, a more substantive reform is considered where a fully-funded pension system replaces the current earnings-related part of the public pension system. Alternative designs of this measure, broadly referred to as "privatisation", are considered in the report. The Study Group also pays much attention to the poverty problems among the elderly. While this could be remedied by increasing the benefits, this would lead to an immediate worsening of the fiscal situation. However, this could be alleviated by indexing the benefits partially to wages and partially to consumer prices. In an economy with good growth prospects, wages will grow faster than prices, so a differentiated indexation scheme would be worth considering.

The stipulated decline in the coverage rate could be solved by making the basic pension universal. The labour market history of each individual would then be irrrelevant for eligibility, only citizenship and age would matter. This coverage expansion would also impact adversely on public finances, and would require a sound financing solution for the longer term.

Against the background of an examination of the current stance of old-age social security and an evaluation of alternative approaches to pension reform in Lithuania, the final chapter of the report, entitled *"Conclusions and Recommendations"*, outlines and assesses the Group's own proposal. The Group has attached such a high weight to the poverty problems that it proposes not only to increase benefit rates but also to extend a basic pension benefit on a universal basis. The Group stresses as much as it can that these welfare improvements be financed within a sound long-term fiscal framework.

To be more specific, the proposal formulated by the Group consists of six points:

1. Increase the basic pension benefit rate by a substantial amount (40 percent), shift to differentiated (combined wage/price) indexation, and provide the basic pension in a universal fashion.
2. Increase the retirement age gradually to 65 for both men and women.
3. Shift the tax structure by cutting the contribution rate to the public pension system substantially (by more than ten percentage points) and raise the value-added tax rate equivalently so that the government budget is left unaffected.
4. Terminate the accumulation of new rights for the earnings-related part of the public old-age pension, but honour the rights that have already accumulated.
5. Convert gradually to a private, funded, mandatory and earnings-related pension system.
6. Create good framework conditions for voluntary pension savings.

2. The current pension system: Scope and design

This chapter describes the current Lithuanian pension system. We begin in section 2.1 with a brief sketch of the main elements of the 1995 reform. The new system comprises (i) pensions paid from a state social insurance fund which is independent of the general (state and local) budget, and (ii) state and social pensions which are financed from the general state budget. In section 2.2. we concentrate on the social insurance part. The sources of contributions to the system are explained, and the different expenditure categories are dealt with, focussing on pension insurance. Section 2.3 then describes the state and social pensions in greater detail. State pensions include schemes for military and police servants, national resistance victims, and distinguished persons. While state pensions may be paid along with social insurance pensions, social pensions are paid when a person is not eligible for other types of pension.

2.1. Elements of the 1995 Pension Reform

The *Law on State Social Insurance Pensions* was enacted in January 1995. It regulates old-age, disability, widows' and orphans' pensions. Before the reform, Lithuania operated virtually a flat-rate pension system. This was so because, although pensions were differentiated in nominal terms, the combination of high inflation rates and differentiated indexation schemes favouring low pensions led to a very compressed structure of benefit rates. Later, this structure was considered a social injustice in Lithuania, and more dispersion in benefit rates was therefore restored.

The new laws abolished early retirement pensions, changed the pension eligibility criteria, introduced the so-called pension formula and raised the retirement age. The remainder of this section explains these changes in more detail.

Before the reform, Lithuania provided a variety of early retirement pensions inherited from the Soviet era. They were offered to people in certain occupations, especially those working in detrimental conditions, which led to an increasing number of pensioners. With the aim of raising the worker/pensioner ratio, the reform abolished most of the early retirement pensions. However, in order to mitigate the transition, compensations are now being paid based on years of service. These compensations are temporary and rather small compared to the abolished pensions. It is planned that these specific professional groups will be offered a supplementary fully-funded insurance with pension funds, outside the social security system.

On the adoption of a new pension law, Lithuania switched to an earnings-related pension scheme. Only those who have a state social insurance record are entitled to social insurance pensions. The insurance period covers only the years when contributions have been paid. People lacking years of coverage may apply only for social assistance benefits. It was believed that the linking of social insurance contributions to future pension benefits would make people quit the shadow sector in

favour of legal business activity and pay contributions to earn old-age pensions. Yet, the number of insured has continued to decline.

The pension reform also introduced a new pension formula which includes two differently calculated and indexed parts: a flat-rate basic pension and an earnings-related supplement.

The final major change was to increase the retirement age, thereby clearly expecting to alleviate the effect of population ageing on the social insurance budget. Lithuania inherited from the Soviet era an early retirement age of 55 years for women and 60 years for men. As of 1995, the retirement age is being raised by four months per year for women and by two months per year for men until it reaches 62 years and six months for men and 60 years for women in the year 2009.

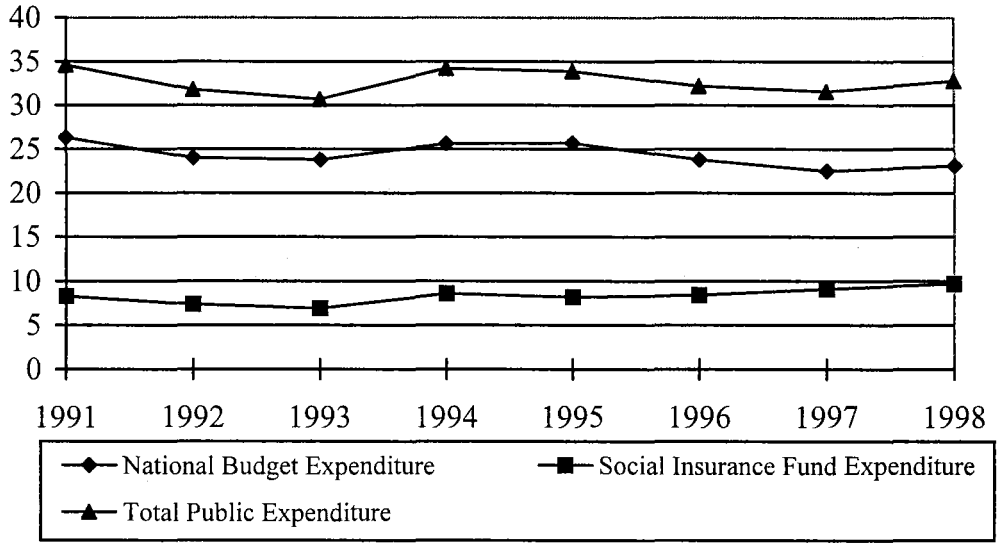
The terms of providing social insurance pensions and state pensions are briefly described below. For a more comprehensive description, see Morkuniene (1998).

2.2. The Social Insurance Fund Pension System

The social insurance pensions constitute more than 90 % of Lithuanian pensions, thus by far the largest part of the Lithuanian pension system. In 1997 its outlays amounted to 28.6 per cent of the state budget. In comparison, state pensions accounted for 1.8 per cent and social pensions for 0.8 per cent of the state budget.

The state social insurance fund was established in 1991. It is separate from the national budget. The fund is governed by a tripartite council representing employers'

Chart 2.1. National Budget Expenditure and Social Insurance Fund Budget Expenditure compared to GDP (per cent)



Source: Department of Statistics, 1999.

organisations, labour unions, and the government. Chart 2.1. shows the relative sizes of the fund and the national budget.

The fund is operated on a pay-as-you-go basis. It is financed by a 30 per cent employer contribution on the wage bill plus a 1 per cent employee contribution on their individual wages. These rates have not been changed since 1991.[1] Some contributions are also paid by the self-employed. Social security contributions are used to finance pensions (old-age, disability and survivorship), short-term benefits (sickness, maternity and funeral), as well as unemployment and health insurance.[2] Table 1 serves to illustrate the significance of these revenues and expenditures relative to Lithuania's GDP for the years 1993-97. It appears that old-age pensions constitute the biggest share, namely almost 5 per cent of GDP in 1997. This is equal to 55 per cent of all social insurance expenditures and 77 percent of pension outlays.

Table 2.1. Lithuanian Social Insurance Fund Revenues and Expenditure (per cent of GDP)

	1993	1994	1995	1996	1997
Revenues:					
Employer's contributions	6.5	7.5	7.8	7.8	8.5
Employee's contributions	0.3	0.3	0.3	0.3	0.3
Self-employed contributions	0.01	0.02	0.06	0.07	0.08
Voluntary contributions	...	...	...	...	...*
Expenditure:					
Pension insurance					
Old-age pensions	3.9	5.0	4.8	4.7	4.9
Disability pensions	0.7	1.0	1.0	1.0	1.1
Survivorship pensions	0.2	0.3	0.3	0.3	0.4
Short-term benefits					
Sickness benefits	0.4	0.4	0.3	0.4	0.5
Maternity benefits	0.5	0.4	0.3	0.3	0.4
Funeral benefits	0.04	0.05	0.05	0.05	0.05
Unemployment insurance	0.3	0.2	0.2	0.3	0.3
Health insurance	0.5	0.7	0.8	0.8	0.7
State budget expenditure for state pensions	0.3	0.3	0.3	0.9	0.6

* negligible

Social insurance is mandatory for all residents employed under labour contracts and self-employed people. Owners of sole proprietorships and farmers are insured only

[1] As per January 2000, the employer contribution rate was raised to 31 percent and the employee contribution rate to 3 percent.

[2] It should be noted that only a minor part of the public outlays to health is financed through the Social Insurance Fund. The major part is financed through the personal income tax.

for the basic component of the old-age pension. Their monthly contribution is flat-rate and equal to half of the so-called basic pension. The number of farmers and self-employed individuals who contribute to the scheme is negligible (only 1,406 farmers, or 3 per cent of all them, and 39,899 self-employed persons in 1997). Those who are not obliged to contribute to the state social insurance scheme (e.g., artists who work under authorship contracts) can insure themselves on a voluntary basis, but in 1997 merely 460 persons did so. In general, the number of people insured under the state social insurance system, and therefore contributing to the social insurance fund, is steadily shrinking. We return to this coverage issue in the next chapter.

In the remaining part of this section we restrict our attention to the pensions part of the social insurance fund's activities. The fund provides old-age, disability, widows' and orphans' pensions. Individuals who are entitled to old-age and disability pensions receive only one of them, chosen at their discretion. Widows' and orphans' pensions are provided along with old-age or disability insurance pensions.

Old-Age Pensions

Old-age pension is granted if a person fulfils the following two requirements: (i) has reached the official retirement age and (ii) has had a state social insurance record for at least 15 years.

The current social insurance pension consists of two parts: the basic pension and the earnings-related supplementary component.

The basic pension is almost flat, and it depends only to a minor extent on a person's insurance period. The basic pension rate cannot be lower than 110 per cent of the minimum subsistence level (MSL). The MSL is occasionally adjusted for inflation and is used as a basis to determine other social benefits as well.

To qualify for drawing the full old-age pension, a person is required to have the so-called obligatory state social insurance period, which is 25 years for men and 20 years for women (as of 1995, this period is being raised by one year annually until it reaches 30 years). If not satisfying this criterion, the basic component is reduced proportionally.

The supplementary pension component is calculated separately for every individual according to a certain formula. The pension formula is designed so that the basic pension reflects inflation, and the supplementary pension reflects the rise in incomes.

The old-age pension formula is as follows:

$$\mathbf{P = B + 0.005*S*K*D,}$$

where

B stands for basic pension (or part of it if the recipient does not have the obligatory social insurance period).

S stands for a person's social insurance record of working under labour contract.

K stands for the so-called ratio of a person's insured income, which is calculated by dividing the annual income earned by the insured by the country's average annual wage. K cannot exceed 5.

D stands for insured income, which is calculated as the average of the earned income from which pension insurance contributions are collected in the country, as well as of sickness, maternity and unemployment benefits. The State Social Insurance Board approves the annual and quarterly average insured income.

The ratio 0.005 means that 0.5 per cent of the monthly wage of the employee is added annually to the supplementary component of the future pension.

In order to calculate pensions and other social insurance benefits, social insurance offices keep individual contribution records for each insured person.

The law does not require that employment be terminated in order to qualify for state social insurance pension. On the contrary, working pensioners who have reached 65 and more can draw a full old-age pension. Younger individuals who have the obligatory social insurance period and earn not more than 150 per cent of the official minimum wage are also eligible for full pensions. Those who earn more are entitled only to the basic component.

Disability Pensions

Disability pensions paid from the state social insurance fund accounted in 1997 for 11.76 per cent of the fund's total expenditures. The number of recipients of disability benefits is increasing.

The right to a disability pension is granted to people who have the minimum insurance period for invalidity pension and a social insurance record for the last years before the disability. The length of required insurance period depends on the person's age. For individuals under the age of 23 only the fact of insurance, but not a social insurance record, is required.

There are three disability groups depending on how limited working capabilities are. Group I disabled have in most cases no working capabilities and need nursing. Group II also includes people with very serious disabilities. Group III disabled are considered to have limited working capabilities.

The disability pension is calculated in the same manner as old-age pensions. Both the years of a given person's social insurance contributions and the years left until the

official retirement age are included in the social insurance period. One assumes that a person would work until his/her retirement age and earn as much as right before the disability. The amount calculated comprises the disability pension for Group II disabled. A supplement in the amount of 50 per cent of the basic pension is paid to Group I disabled, and only half of Group II's disability pension is paid to Group III disabled.

As in the case of old-age pension, it is not necessary to terminate employment in order to qualify for disability pension, but there are limitations on the level of payable pension.

Survivor's Pensions

The spouse and children of a deceased person are eligible for widows', or widowers', pension and orphans' pensions accordingly if the deceased was entitled to or received old-age or disability social insurance pension.

There are two main categories of persons entitled to *survivors' pension*: persons who take care of the deceased person's children, if these children qualify for an orphan's pension, and widows/widowers who have on the death of the spouse five years or less left until the retirement age. The *orphans' pension* is payable to the deceased person's children under 18 and children above 18 if they are full-time undergraduate students (but only until they turn 24).

Survivors' and orphans' pensions are calculated in the same manner as the disability pension for Group II disabled. The pensions are paid in the following way: 20 per cent of the pension is paid to the survivor, 80 per cent is divided equally among the orphans (if there is only one orphan, she/he is awarded 25 per cent of the pension). Orphans who lost both parents are awarded pensions for each parent.

2.3. State Pensions

Despite changes in the pension system that linked the right to a pension to the payment of contributions, certain privileged pensions were retained. All of them are financed from the state budget and are completely independent from the state social insurance fund. These pensions include pensions for military and police servants, national resistance victims, and distinguished persons plus state pensions for academics.

State pensions may be granted in the event of retirement, disability, and survivorship. Only state pensions for scientists cannot be inherited. In other cases, the state pension of the deceased is divided among the survivor and orphans in the same manner and amounts as the social insurance pension.

State pensions are awarded and paid regardless of whether a person receives a social insurance pension or not. A total of 17.93 per cent of all pension recipients receive not only a social insurance pension but also some other type of state pension, in most cases persecuted persons' pensions (11.43 per cent of all recipients). However,

individuals who are eligible to several types of state pensions may receive only one pension chosen at their discretion.

State budget expenditures are shown in Table 2. Among pensions paid from general state revenues, *State Pensions for Persecuted Persons* have the largest number of recipients and account for the biggest part (almost a half in 1998) of state pension outlays. They are awarded to political prisoners and deportees, participants in the resistance movement, persons who during World War II were departed for forced labour or imprisoned in ghettos and concentration camps, and other persecuted persons.

Table 2.2. State Budget Expenditures for Pensions (per cent of total state pension outlays)

	1996	1998
Level I and II Pensions	1.7	3.1
State Pensions for Persecuted Persons	32.1	49.8
State Military and Officials' Pensions	7.6	12.1
State Pensions for Scientists'	1.9	2.5
Social Pensions	56.7	32.3

Level I and II State Pensions are awarded to distinguished people for their merits in restoring the country's sovereignty, economy, culture, arts and sports, for top state officials, and mothers of ten or more children. The award of the pension must be approved by a special commission chaired by the social security and labour minister.

These pensions are flat-rate. The highest pension is Level I state pension, equaling 4 times the basic pension. The size of the pension for persecuted persons may vary depending on the reason of the assignment of the pension: from 0.75 of basic pension up to 4 basic pensions.

The only early pensions left in the Lithuanian pension system are *State Military and Officials' Pensions*. In most cases the eligibility for this pension depends on a person's length of service set by the statutes and not the official retirement age. In addition, they are not flat-rate. The size of the pension depends on the length of service and the wage earned in the person's last position. In order to qualify for the state military and officials' pension, it is necessary to terminate service, but a person may take another job and receive a full pension.

State Pensions for Scientists were introduced as a replacement for the government-provided installments, which were paid to retired scientists before the 1995 pension reform. After the reform, these supplements to social insurance pensions, although much lower, are guaranteed by a provisional law on scientists' pensions. Pensions are awarded to retired scientists if their length of service as Doctor of Science or Doctor Habilius is at least 10 years. The size of the pension depends on the length of service of a scientist but not on the wage earned.

Social Pensions constitute the second biggest part (32.3 percent) of state pensions outlays. This type of pension is flat-rate and equal to the basic pension. When in 1995 the size of pensions was linked to the contributions paid, people who have never worked or those who worked a short time forfeited the right to receive a pension. This gap is partly filled by social pensions, which are granted only to individuals who through no fault of their own were unable to work and are therefore uninsured. These are people who were disabled from childhood or while studying in secondary and high schools, those who took care of their own disabled children, and mothers of large families who gave birth to five and more children. All others who have reached retirement age are entitled to means-tested social benefits, but not pensions.

3. Challenges facing the current pension system

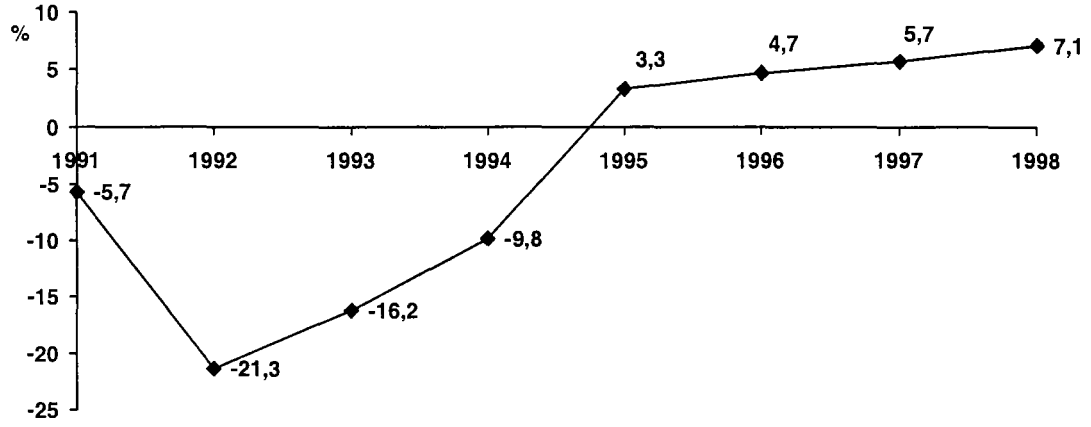
Unfavourable demographics cause difficulties to all pay-as-you-go arrangements. But the Lithuanian pension system faces also other problems whose roots are in the economic turmoil that the economy has been in especially during the early 1990's, in its transition from a part of a large centrally planned system towards an internationally open market economy. In the following these problems are classified into three groups: fiscal problems, poverty, and incentive problems.

3.1. Fiscal Problems of the Pension System

3.1.1. GDP and Labour Market Developments during the 1990s

Transformation in the economy stipulated a significant fall in GDP in 1991-1994, as Chart 3.1. shows. The level of GDP in 1994 was about one half of the level in 1990. This economic turmoil was reflected in a significant fall in pension contributions.

Chart 3.1. Changes of Gross Domestic Product (in constant prices 1993)



Source: Department of Statistics, 1999.

After total employment in a totalitarian society, market for labour has emerged in Lithuania. It includes atypical employment forms that are widespread in the world at the end of the XX century and are revealed by the growing number of persons in employment without labour contracts. In Lithuania, this has had an especially negative impact on the social insurance system, because the number of insured persons (contributors) has decreased from 1 760 000 in 1991 to 1 330 000 in 1995, i.e. almost by 25%. Partly, this also reflects the tax-evasion phenomena. The fall after 1995 has been much smaller.

Thus, the transformation in the economy and the transition from universal employment to labour markets stipulated a rapid drop in the number of insured persons - the social insurance financial contributors.

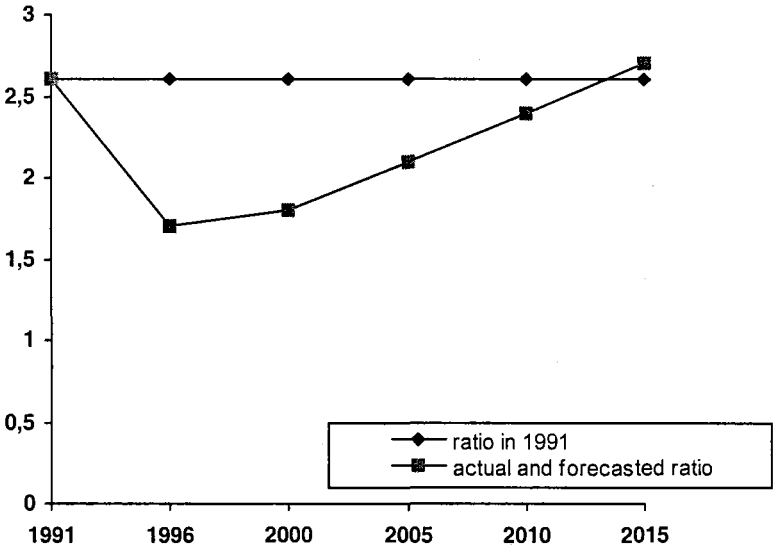
Table 3.1. Employment in Lithuania (as % of Total Population in Working Age)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Population in working age	2111.1	2127.6	2119.7	2108.3	2101.9	2110.8	2121.3	2128.6	2141.9
Employed	1852.7	1897.6	1855.2	1778.2	1675.0	1643.6	1659.0	1669.2	1656.1
Employed as a per-centage of working-age population	87.8	89.2	87.5	84.3	79.7	77.9	78.2	78.4	77.3

Source: Department of Statistics, 1998.

The share of old-age pensioners in the total population of retirement age should in the future reflect the current share of insured persons in the total working-age population. If the latter share remains constant, the social insurance system will return to a balanced situation in due course as Chart 3.2. shows. The ratio of old-age pensioners to insured persons in 2015 will reach the ratio that prevailed in 1991. But for a period of 15 years the social insurance fund will face an unfavourable ratio of contributors to beneficiaries.

Chart 3.2. Forecast of the Ratio of Insured Persons to Old Age Pensioners



Source: Pocius, 1997.

3.1.2. Wide-spread Tax Evasion

The World Bank estimates that approximately 85% of contributions that ought to be collected under the law are actually collected (The World Bank, 1998). One reason

to evade social taxes is probably the high rate of redistribution through the pension scheme, which is discussed in Section 3.3 below. Obviously, tax evasion is a dire threat to social insurance and to the society in general, but the lack of information prevents us from assessing it in any useful way.

3.1.3. Increased Obligations of the Pension System

When the new social insurance system based on the PAYG principle was introduced in 1991, it was decided to accept the obligations of the Soviet social security system for the present and future pensioners. It meant the acknowledgment of the length of service accumulated during the Soviet period and granting the rights to social insurance pensions. As the level of employment was very high during the Soviet period, almost all people of retirement age have met the work record requirement. On the adoption of the 1995 pensions law, the pensions of those already retired were recalculated, and raised when the new outcome was higher than the old pension, but not lowered in the opposite case.

The pension reform in 1995 introduced strict contribution record requirements. It will reduce the coverage for pensions in the future. Although that will reduce pension outlays, it is a significant problem in itself. We will discuss the coverage issue below.

Table 3.2. The Number of Disability Pensioners (in thousands; 1 January)

1992	1993	1994	1995	1996	1997	1998
113,4	123,8	127,2	126,5	137,1	143,5	150,8

Source: State Social Insurance Fund Board, 1998.

There has also been increases in the number of different types of additional pensions. Increases in the retirement age are typically accompanied with increasing numbers of invalidity pensions. This has happened also in Lithuania, where the number of invalidity pensions has increased rapidly during the 1990s. But there must also be other reasons, because the retirement age has been increased only since 1995 (Table 3.2.).

One probable reason is the more complicated situation in the labour market. Persons who are not successful in finding jobs, seek the invalidity pension. Besides the growth of unemployment, the increase in the number of invalidity pensions is related to weak controls on invalidity diagnosis and undeveloped schemes for invalids' integration and rehabilitation. Expenditure on invalidity pensions rose from 10.3% in 1992 to 12% in 1997 (as a % of the State social insurance fund budget).

The number of social insurance pensioners entitled to additional pensions has increased since 1995. The trend has been similar for old-age pensions, disability pensions and survivors' pensions, as Table 3.3. shows.

Table 3.3. The Number of Pensioners Entitled to Additional Pensions

Type of pension	1995		1997	
	Number of pensioners entitled to additional pensions	As a percentage of the total pensioners getting that type of pension	Number of pensioners entitled to additional pensions	As a percentage of the total pensioners getting that type of pension
Old-age	67522	10.29	110117	16.89
Disability	9332	6.81	14270	9.47
Survivors'	9925	60.90	37327	69.23

Source: State Social Insurance Fund Board, 1998.

There are some supplementary pension schemes financed from the State budget for military and police servants, academics, distinguished people and resistance victims. They are mostly paid in addition to the social insurance pension. The total cost of the supplementary pension schemes was 160 million Lt in 1997 (or 6.5% of the social insurance pension scheme expenditure).

3.1.4. Demographic Factors

During the last thirty-year period, demographic trends in Lithuania were similar to those in other industrial countries - a rise in the proportion of those above retirement age and a decline in the younger age groups. For example, the share of the population in retirement age in total Lithuanian population increased from 17.7% in 1970 to 18.0% in 1985, 19.0% in 1989 and 20.2% in 1995 (Table 3.4.).

Table 3.4. Share of Population in Retirement Age in Lithuania[3] (as of January 1, %)

	Male	**Female**	**Total**
1970	13.1	21.8	17.7
1975	12.5	21.1	17.1
1980	11.4	22.5	17.3
1985	11.3	24.1	18.0
1989	12.1	25.1	19.0
1995	13.2	26.4	20.2
1999	...	...	20.1

Source: Department of Statistics, 1998.

[3] In 1995 the retirement age started to be raised annually, by four months a year for women from 55 years and by two months a year for men from 60 years, until reaching 60 years for women and 62 years and 6 months for men in 2009.

Most of this rise is due to declining fertility rates. While in 1960 the natural increase in the population was 40.900, it fell to -3.700 in 1996, and the rate of births per 1000 population fell from 22.5 in 1960 to 10.6 in 1996, accordingly. Declining fertility rates are indeed alarming: according to Lassila (1999 b), the share of people over 60 years of age in the total population will rise from 18 per cent currently to about 28 per cent in 2050, if fertility stays at the average 1990 - 96 level. Currently, the level is even below that.

Table 3.5. Total fertility rates in Lithuania

1990	1991	1992	1993	1994	1995	1996	1997	1998
2.00	1.97	1.89	1.69	1.52	1.49	1.42	1.39	1.36

Source: Department of Statistics, 1999.

Although changes in mortality seem minor compared to those of fertility, they are still important. The average life expectancy for men grew from 64.9 in 1959 to 66.6 in 1990, while for women, during the same period, it rose from 71.4 to 76.2. The number of people in retirement age as a percentage of the number of people in working age will rise in the future.

Table 3.6. Forecast of Population by Age-groups in Lithuania in 1997-2025 (Retirement Age is Increased till 2010)

	Share of population in working age, %	Share of population in retirement age, %	Working-age population per retirement age population
1997	57.2	20.1	2.8
2000	58.0	19.5	3.0
2005	61.2	18.1	3.4
2010	62.2	17.9	3.5
2015	61.0	18.6	3.3
2020	59.6	19.6	3.0
2025	58.0	21.1	2.7

Source: Pocius, 1997.

Forecasts showed that the share of the population in retirement age in 1995 - 2025 will increase from 20% to 26%, if the retirement age (55 years for women and 60 for men) is not changed. These demographic prospects and their assumed cost implications gave rise to a necessity to increase the retirement age. From 1995, the retirement age is being raised annually. It will improve the demographic situation only till 2010. Later this situation will again become worse, and in 2025 the share of population in retirement age will be higher than in 1997 (Table 3.6.).

3.1.5. The Financial Balance of the Social Insurance Fund

The fall in the number of contributors and the increases in pension expenditure have driven the social insurance fund into deficit (Table 3.7.). To change the trend in deficits, the employee's contribution rate was increased from 1 % to 3 % from January 1, 2000. The employer's contribution rate was raised from 30 % to 31 % due to the introduction of a mandatory work injuries and professional decease insurance. These increases in contributions will help the fiscal situation of the Social Insurance Fund. Whether they are sufficient in the long run remains to be seen.

Table 3.7. Social Insurance Fund Revenue and Expenditure (in million litas)

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Revenue	42.3	264.6	774.2	1480.2	1973.3	2607.9	3431.2	4159.4	4203.8
Expenditure	35.1	249.8	761.2	1454.8	1972.3	2643.3	3461.0	4164.0	4535.0
Surplus / deficit	7.2	14.8	13	25.4	1	-35.4	-29.8	-4.6	-331.2
Surplus / deficit (%) of xpenditure)	+20.1	+5.9	+1.7	+1.7	+0.1	-1.3	-0.9	-0.1	-7.5

Source: State Social Insurance Fund Board, 1998.

Table 3.8. Projections for the Social Insurance Fund

	Number of old-age pension beneficiaries (thousands of persons)	Net cash flow, percent of GDP (constant 1995 prices)	Cost rate, percent of payroll (constant 1995 prices)
1995	657	0.03	22.6
1996	667	-0.28	21.8
1997	667	-0.32	22.4
1998	668	-0.24	22.7
1999	669	-0.04	22.5
2000	671	-0.02	23.0
2005	674	0.01	23.7
2010	673	0.18	23.1
2015	748	-0.15	25.0
2020	824	-0.48	26.8
2025	894	-0.77	28.4
2030	965	-1.08	30.1

The World Bank, 1998.

The World Bank predicts fiscal problems coming with ageing. The Ministry of Social Security and Labour (with input from the World Bank) made projections for the social insurance pension scheme in 1995. Under current law, these projections

predict annual cash flow deficits in the range of 1.0 to 1.25% of taxable payroll – between 5.0% and 6.5% of total pension expenditures, and roughly 0.3% of GDP – for the next three years (starting from 1995). Deficits are projected to drop to zero between 2000 and 2005, and to actually turn into small surpluses. In about the year 2010, however, the surpluses will disappear, and the projections predict persistent annual deficits, approximately 5% or more of taxable payroll (between 1 and 2 percent of GDP) by the year 2030. Based on simulations with an overlapping-generations model, Lassila (1999 b, p. 5) estimates that the fiscal burden on old-age pension expenditure that comes from ageing is around 5 % of the wage bill in 2050.

In these projections, the increase in the number of pensioners is forecast purely on the basis of demographic patterns. The requirements of contribution records have been left aside. We now return to this issue, which is a matter of crucial importance to the whole pension system.

3.2. Poverty Problems

3.2.1. Insufficient Coverage in the Long Run

The new Law on Pensions includes strict requirements for contribution records. These requirements have not had a significant impact on the number of old-age pensioners so far. From 1995 to the middle of 1997, the number of old-age pensioners decreased by 1.6%. However, in a longer perspective, the number of pensioners will be influenced much more by the requirements for the contribution period.

People who do not participate in the labour market officially, and do not pay contributions, will not be able to accumulate sufficient contribution records. Self-employed people and especially farmers will face this same problem. Most of them probably do not pay contributions because of their very low incomes. Other possible explanations exist. Avoiding contributions may be a part of general tax avoidance, or it may be related more closely to the pension system itself. Reasons for the latter case are, e.g., low incentives to participate in the pension system, or perceived low credibility of current pension promises.

Table 3.9. Forecast of the Ratio of Old-Age Pensioners to the Total Population in Retirement Age

	%
1991	93
1996	88
2000	89
2005	81
2010	73
2015	66
2020	60
2025	54

Source: Pocius, 1997.

The sudden drop in the number of insured persons, which has occurred since 1991 (see Chart 3.2.), will in time bring a fall in the number of persons who meet the requirements for the contribution records, that is, in the number of social insurance old-age pensioners. The forecast presented in Table 3.9. shows a decreasing share of pensioners in the total retired population.

This forecast assumes that the level of participation in the social insurance scheme will not increase, and that the requirements for contribution records will not be softened. There are other possibilities. Firstly, some people will perhaps participate in the scheme during only a part of their career, but enough to still earn a partial basic pension and a very low supplementary pension. Coverage may thus be extended but at the expense of the level of pensions. Secondly, some people will perhaps be included in the social insurance scheme if non-contributory periods are granted to them.

However, a huge decrease in coverage is expected if non-participation and non-contribution lasts. The prospect that after 25 years from now only 54% of the total population in retirement age would have a right to social insurance old-age pension seems both incredible and unacceptable. It would demonstrate a gross failure of the pension system. It would not save the society much money, either. The decrease in the number of social insurance old-age pensioners will increase the burden for social assistance. It will have to support many elderly persons, who are not entitled to social insurance pension.

Gradual adjustments to the current system could be designed to cure the coverage problem, if its reasons were well understood. But too little is currently known, and thorough research is warranted. We have no basis here to ponder the problem further. The policies we later recommend will deal with the coverage problem in a more radical way.

3.2.2. Low Level of Pensions

Lithuania is one of the thriftiest countries in Eastern and Western Europe with respect to its pensioners. Only 6.2% of GDP is spent for social insurance pensions, and only 4.8% of GDP for old-age pensions. This percentage is rather low in comparison to other Western and Eastern European countries.

The ratio of average old-age pension to average wage does not exceed 40% in Lithuania. Thus, it is lower than in many other European countries. (The World Bank, 1998). The presence of poverty in pensioner households is greater than in households on average in the country - 22.0% and 16.6%, respectively (Lazutka, 1998).

3.3. Weak Incentives

The incentive problems concern both working and saving incentives. As a PAYG system with unfavourable future demographics, the rate of return from current

contributions can be expected to be low. This is probably one factor behind the contribution evasion. High redistribution within the system, described below, is one factor that weakens the work incentives of middle- and high-income earners. The fiscal difficulties, due to, e.g., demographics, point towards future political risks and make the credibility of the system suspect. The current system entails no funding, so as far as it is deemed credible it discourages national saving compared with funded alternatives.

During 1991-1994, when GDP decreased, it was necessary to prevent inflation from devaluing the pensions proportionally. The falling standard of living due to the transformation in the economy forced small pensions to stop decreasing, so that beneficiaries could at least to survive. Thus, small pensions were more indexed during inflation, and the consequence of this was the flattening of pensions in 1990 - 1994. At the end of 1990 the minimum pension was one-third of the average pension, and at the end of 1994 it made up 70% of the average pension. (UNDP, 1995). The pension system thus became more redistributive in favour of low-income earners.

The pension reform of 1995 included redistributive components into the pension formula. It was constructed to fulfil two functions. The first function is the provision of a basic pension to all persons, who meet at least the minimal contribution requirements. The second function – income maintenance – is the provision of a supplementary part of pension, which depends on former income. The inclusion of a basic pension, which does not depend on former wage, created a strong redistributive effect.

Table 3.10. shows the amount of pensions for persons with different work incomes. Pensions are calculated using the pension formula which is in force today. The basic pension in 1997 is 132 Lt, the average monthly insured income (the amount approximately equal to wage) is 800 Lt, and the length of insurance pension, when a constant income is earned, is 30 years.

Table 3.10. The Ratio of Pension to Wage

The average monthly wage, Lt	400	800	1600	2000	3200
Supplementary monthly pension, Lt	60	120	240	300	480
Total monthly pension, Lt	192	252	372	432	612
The ratio of pension to wage (%)	48	32	23	22	19

The replacement rate gets lower when we move from low-income earners to average income and high-income earners. It is probable that the ratio of the pension to former wage is too small even for a middle class to be eager to support social insurance. The contributions are to a large extent simply taxes.

Political Risks and Breaches in Uniformity

All pension systems involve a political risk, for the rules regulating pension benefit formulas, eligibility criteria, contribution rates and payment requirements might be changed by political will. Especially pure PAYG systems are commonly considered to be exposed to such type of risks.

Laws regulating pension provision in Lithuania have been changed 15 times, from the pension reform in 1995 to the year 1999. Some changes were made in response to pressure from certain lobby groups. This and the current financial predicament of the social insurance fund add to a common lack of confidence in the system. The pension system is regarded as very complex, and ordinary people are in most cases unaware of legal provisions and changes made to them. The purpose of such changes is often vague. They are ostensibly intended to enhance social security, but the real aim is to raise more revenues. It is not surprising that 26.4% of Lithuanians do not expect to get any pension from the state in the future, as elicited from the latest sociological survey (Baltijos tyrimai, 1998).

Despite the principles of uniformity declared by the 1995 pension reform, some privileged pension schemes were retained. Certain groups of the population are eligible for several pension benefits at the same time: these are military and police servants, academics, distinguished people, and resistance victims. As many privileged schemes, these tend to expand by, e.g., making the eligibility criteria looser and vaguer. The number of social insurance pensioners entitled to supplemental pensions increased from 10.3% in 1995 to 16.9% in 1997. Pension awards became a matter of lobbying and political manipulation.

Privileged pensions are financed from the state budget but not from social insurance contributions. In 1997, they made up to 160 million Lt, or a mere 6.5% relative to social insurance pension outlays. A separate source of funding and the small amount needed to finance them are often used as a cloak to disregard the problem of privileges in the Lithuanian pension system. However, given fairly low levels of social insurance pensions benefits, the payment of substantial additional amounts for certain groups of the population is considered to be unfair, undermining incentives to participate in the system.

4. Possible solutions to the pension problems

4.1. Introduction

The previous chapter showed that the Lithuanian pension system will face the ageing phenomenon and its effects in a fashion similar to most OECD countries, and also other problems more specific to a transition economy in general, and to Lithuania in particular. Thus, it is necessary to consider a wide variety of policy measures, if all the problem groups – fiscal problems, poverty and weak incentives – are to be addressed.

Generally, fiscal problems could be solved by reducing expenditures or increasing the income of the pension system, or both. It has to be kept in mind that all these measures also affect poverty and incentives. Cutting benefit levels or reducing the coverage of the system would directly make the poverty problems larger. In a growing economy, however, it is possible to cut benefits over time through changes in the indexation of benefits, without making the current poverty problem worse in absolute terms. This is discussed in Chapter 4.6.

A promising cure for fiscal problems is to increase the retirement age. It can, if successful, both increase the number of contributors and decrease the number of pensioners, and lead to welfare gains to many and only rather small welfare losses to some cohorts. Even if the labour supply effects are small, the measure still reduces costs by postponing the starting age for receiving the benefits. Retirement age issues are discussed in Chapter 4.2.

Contribution evasion and tax evasion problems may be addressed by switching the source of finance from payroll taxes towards value-added taxes, as shown in Chapter 4.3, and by increasing the expectations concerning the rates of return from participating in the pension system by, e.g., privatising parts of the pension system, see Chapter 4.7.

Specific measures could be taken to tighten the criteria for disability pensions, if current problems are visible signs of more general labour market problems, which should not be cured by pension policies but rather by some other policies. Higher economic growth also helps the fiscal problems.

In principle, the cure to the poverty problem is simple: increase the benefits and their coverage. The coverage issues are discussed in Chapter 4.4, and different ways to increase the benefits are considered in Chapters 4.5 and 4.6.

The incentive problems can be addressed by tightening the link between contributions and benefits, and by making sure the system does not decrease national saving. Instead of many partial changes to the current system, we study the effects of introducing a privately funded pension system that replaces the current earnings-related part of the public pension. This measure we call broadly "privatisation", and discuss its different features and applications in Chapter 4.7.

4.2. Increasing the Retirement Age

The retirement age is already being raised since 1995. According to the opinion of the experts from the World Bank, this decision is very important for the stability of the dependency ratio as well as the balance of the social insurance fund. "For the next decade, the old-age dependency ratio remains relatively stable. It is a direct reflection of the policies introduced in 1994, which raised the retirement age and eliminated early retirement privileges". (A World Bank Country Study. p. 280). However, the consequences of the increase in the retirement age on other economic indicators are not analysed. In addition, it is purposive to evaluate the consequences of the further increase in retirement age up to 65 years for men and women as well. Such an increase was foreseen at the beginning of the pension reform in 1994. Although its implementation is temporarily refused, however, the ageing of the population will renew discussion on this problem. The World Bank also continually reminds us about the need to do it.

Dynamic CGE models give an opportunity to analyse the consequences of both a current and planned increase in the retirement age. Based on the analysis in Lassila (1999b), the consequences of the increase in retirement age on labour supply and dependency rate, fiscal situation of the Social Insurance Fund and contribution rate, savings and investment, consumption and intergenerational effects will be discussed below.

The retirement age, after which a person can receive old-age pension benefits, was 55 years for women and 60 years for men in Lithuania in 1994. Since 1995 it has been increased by four months every year for women and by two months for men. In 2009 the women's retirement age will be 60 years and men's 62 years 6 months. There is also a plan to continue the increase at the same speed until 2024, when both women's and men's retirement age will be 65 years.

Labour Supply and Decreasing Dependency Rate

The effects of retirement age rules on labour supply depend on the possibility of continuing working and earning wages while receiving pensions.

The Lithuanian social insurance pension scheme allows one to receive a wage and pension at the same time. But a restriction is applied for those who are under 65 and receive above 1.5 times the minimum wage. They lose the earnings-related part of pension.

The pension formula doesn't create sufficient incentives to work longer. "The current program creates disincentives for workers to remain in the workforce beyond the statutory retirement age. Full-career workers receive no additional credit for added years of service under the years-of-service basic pension. For workers who remain in the workforce beyond the statutory retirement age, the actuarial adjustments for delayed retirement may be too low". (The World Bank, 1998).

Table 4.1. Population Employment Rate by Age Group[1] (1997; in per cent)

Age group	Total	Males	Females	Urban	Rural
Total	52.6	59.9	46.3	53.2	51.2
50-54	73.4	77.6	69.8	71.6	77.4
55-59	53.3	72.8	38.0	54.6	50.9
60-64	24.1	35.5	15.8	24.7	23.2
65-69	9.5	11.7	8.0	6.2	14.4
70+	5.3	8.4	3.9	2.9	8.3

[1] Refers to the ratio of employed to surveyed age population

Source: Statistical Yearbook of Lithuania. 1998.- Vilnius, 1998.

Table 4.2. Working Old-Age Pensioners' Employment Rate by Age Group[1] (1998; in per cent)

Age group	Total	Males	Females
Total[2]	14.4	5.6	8.8
50-54	0.5	0.1	0.8
55-59	13.4	1.1	23.1
60-64	20.1	24.2	17.1
65-69	12.9	17.8	9.7
70+	5.9	9.3	4.4

[1] Refers to the ratio of working old-age pensioners to surveyed age population

[2] Refers to the ratio of working old-age pensioners to the population in retirement age

Source: State Social Insurance Fund Board.

However, there are rather clear motives to work while getting full or part of a pension. It is predetermined by the low level of pension benefits. The share of the working population in retirement age is shown in Tables 4.1 and 4.2. These tables are made on the basis of two different sources - the Department of Statistics and the Social Insurance Fund, and therefore the data are slightly different.

The rising retirement age increases the supply of labour. Incentives to work longer rise because of two main reasons. First, the increased retirement age cuts off pension payments to those age groups that are younger than the new retirement age but older than the previous age. Second, it increases earnings-related pensions as more years add the 0.5% in the formula.

The third effect is that the period when working diminishes pensions gets shorter, so not only do new pension rights accrue but the old negative effect also vanishes. This holds at the aggregate, but not necessarily individual, level. The fourth effect, which comes to force in time, is that when those generations that have earned pension rights according to the new age go past the retirement age, working then reduces these higher pensions, and this makes working less rewarding and thus reduces labour supply in these age groups. Thus the increase in retirement age affects incentives more than the restrictions on decision-making. The incentive effects encourage almost everybody to work more. There is also a pure income effect, as the basic part of the pension is paid during a shorter period.

Assuming that retired people do not face very strict constraints on working while receiving pensions, the simulations show rather small effects on labour supply. Labour supply increases by about 1% at most. If the retirement age is increased to 65 years, the increase in labour supply is twice as large, 2% at most.

Table 4.3. Macroeconomic Effects[1)] of Increasing the Retirement Age

	5 years	10 years	50 years
Increasing the retirement age from 55(women) and 60(men) to 60 and 62.5			
Old-age pension expenditure	-4.0	-9.0	-14.2
Contribution rate*	-0.9	-2.0	-3.2
Wages	0.4	0.8	1.8
Consumer prices	0.0	0.0	-0.2
Capital stock	0.2	0.4	0.8
Labour supply	0.3	0.6	0.9
Consumption	0.0	0.1	0.9
Net foreign debt / GDP*	0.3	0.3	0.1
Increasing the retirement age from 55(women) and 60(men) to 65 and 65			
Old-age pension expenditure	-4.0	-8.9	-30.1
Contribution rate*	-0.9	-2.0	-6.7
Wages	0.4	0.8	3.9
Consumer prices	0.0	-0.1	-0.3
Capital stock	0.2	0.5	1.9
Labour supply	0.3	0.6	1.9
Consumption	-0.1	-0.1	2.0
Net foreign debt / GDP*	0.3	0.2	-1.0

[1)] Per cent deviation (* = percentage point deviation) of simulation run from base run.

Source: Lassila, J. (1999b).

Fiscal Situation of the Social Insurance Fund

The increase in retirement age improves the fiscal situation of the social insurance fund. The contribution rate might be reduced. The size of the possible reduction is mainly determined by the relative amount of the population that belongs to the relevant age groups. The fall is also affected by the work efficiency in those groups. The size of pension benefits, the number of people covered by the system, the share of employers paying the contributions and the share of employees paying their contributions also affect the outcome. The cost-saving effect is estimated to be 3 percentage points of the annual wage bill, when the change is completed and the average retirement age for men and women is increased to 61 years and 3 months. If the retirement age is increased to 65 years, the contribution rate falls by over 6 percentage points in the long run. These results were rather robust in the sensitivity analysis that was carried out.

Savings and Investments

A positive impact on investments is usually attributed only to funded schemes. Simulations show that it is possible to have an influence on investments in the PAYG scheme by changing the retirement age as well. However, the impact on savings and investments can be very different. It depends on the behaviour of the persons in pre-retirement age. If the increase in retirement age repeal the former restrictions to work, people feel that removing the working constraint makes them richer in the lifetime perspective, and younger cohorts want to spend a part of that wealth increase immediately. That leads to decreasing household saving and increasing foreign indebtedness.

However, if the official retirement age does not restrict the possibilities to work, which seems to be the case in Lithuania, the increase in retirement age will have the opposite consequences. Now the increase in retirement age decreases the period when pensions are paid, and it is thus a way to cut benefits. People respond to this by saving and by working more. Part of the savings goes to the domestic capital stock, part goes abroad and net foreign debt declines or net foreign assets accumulate.

After the increases in labour supply, the capital-labour ratio is no longer optimal, and investments increase accordingly. Increased consumption and investment leads to a current account deficit and an increase in net foreign debt. The terms of trade deteriorate slightly.

Consumption and Intergenerational Effects

The increase in labour supply due to the higher retirement age will increase consumption. The current increase in retirement age can gradually increase consumption by 1%. If the increase in retirement age were to be extended further to 65 years, consumption would rise by 2% in fifty years.

Changes in the possibilities of consumption will be different for different generations of the population. The simplest explanation concerns the advantages of current pensioners and the young generation. Current pensioners gain from the increase in retirement age. Consumer prices fall slightly due to the increased supply of domestic goods. The increase in wages is reflected also in pensions, which depend on average earnings. Younger workers gain, as do all future generations. They will fully benefit from higher wages, and also enjoy the interest incomes from higher household wealth.

Older working-age cohorts suffer a little. They will not receive pension payments as soon as they had expected. They benefit from higher wages and lower consumer prices, but working more reduces leisure.

If they were as effective as younger generations, labour input would increase substantially. In that case, everybody might gain, even those who suddenly have to work for more years than they earlier anticipated. They would get a good wage income for the work they do, and it would more than compensate the loss of one period's pension. They would suffer from reduced leisure in one period but gain from the fall in the price of consumer goods in all remaining periods. Unfortunately, this scenario is not very likely.

The distribution of the gains or losses depends on how the surplus of the insurance fund is used. In the simulations described above it was used to lower the contributions, which is a natural assumption in the face of the ageing phenomena. An alternative would be to increase the benefits. The difference in the contribution rate policy affects the wage level quite a lot. If the contribution is lowered, wages will be about 3% higher throughout than if the surplus is distributed as transfers. If it is used as transfers to all, the gains spread more evenly across cohorts. The overall gains are bigger when the contribution rate is lowered, because that encourages working.

The means saved due to the increase in retirement age could also be used to pay supplements to low pensions or to support those who would not be entitled to social pension. These possibilities are foreseen in other alternatives below. In terms of money, 3% of social insurance contributions would make up to 327 943 million Lt (estimated on the basis of social insurance fund revenue in 1997), and 6% would make up to even 655 886 million Lt.

4.3. From Contributions to VAT

Changes in the pension system need not consider only the benefit side. The financing structure also merits considerations.

A shift in the financing structure is simulated in Lassila (1999b). The employers' contribution rate is reduced by 9 percentage points to 21 %. The resulting decline in the social insurance fund's income is financed by the State, which increases the VAT rate and diverts a part of the receipts to the fund.

In the base case, pensions are financed by the proceeds of a payroll tax. The measure studied is to fix the payroll tax paid by employers at a level that is 9 percentage points lower than the current level, and to compensate the revenue loss by transfers from the State to the social insurance fund. The State finances this by raising the value added tax rate and balances, thereafter, the budget with the VAT rate. This measure could be justified, e.g., by a need to broaden the base of financing and to reduce the labour market distortions of taxation. A special justification comes from income tax evasion and contribution evasion: tax evaders also have to pay VAT.

The initial reaction in well-operating labour markets to the decline in the payroll tax rate is a rise in wages by almost as much as the fall in the tax rate, because the marginal product of labour has not changed. Real wages climb, however, markedly less due to the 5-percentage point increase in the value-added tax rate.

The permanently higher consumption tax also reduces the real value of the existing wealth and gives an incentive to the households to save more for their old age because part of the tax burden has shifted to the latter part of their life cycle. The result is that both consumption and saving increases. The economy ends up at a new equilibrium in which households have more wealth, the economy has less foreign debt, and the domestic demand is larger.

The generation-specific welfare effects are also presented in Lassila (1999b). The lower real value of existing wealth hurts the old generations most even though the purchasing power of their pensions rises because of the indexation on wages. Current young and future generations gain more from the shift the higher the share of labour incomes.

These outcomes can be contrasted to the ones by Auerbach-Kotlikoff (1987). They produced qualitatively similar welfare and macroeconomic results with a shift from income taxation to consumption taxation. Most of the long-term welfare gains turned out to be due to the shift of the tax burden to current wealth. The overall efficiency gains generated by the reduced tax distortion in labour markets were small. This result was confirmed by Fehr and Kotlikoff (1995), who decomposed the generational welfare effects and found out that the efficiency gains are, at least for the current generations, small compared to the overall utility changes.

As VAT is harder to avoid than income taxes for workers and contributions for employers, the welfare effects are also considered separately for those who pay taxes and contributions and for those who don't pay. According to Lassila (1999b), it is possible that law-abiding taxpayers gain in all cohorts. Normal taxpayers have less financial wealth in the model analysis than taxevaders, and the increase in VAT eats less purchasing power off the wealth. They have less wealth because they know that they will receive pensions as old, and so they save less for that purpose. If they are already retired, their pension incomes increase because the earnings-related parts are indexed to wages (depends on the average wage development in the economy). Tax and contribution evaders receive only other transfers, as taxpayers do also, and these other transfers are often unindexed. It may well be that tax evaders suffer on average

in all cohorts. It is crucial what happens to wages in the grey market when contributions are reduced. The lower limit is that the wages do not change at all, because the decline in contribution rate doesn't directly affect those who haven't paid them in the first place. The upper limit is that wages in the grey sector follow the general wage development, as workers compare their wages with those of other workers. It is probable that the truth is closer to the lower limit.

Table 4.4. Macroeconomic effects[1)] of switching from contributions to VAT

	5 years	10 years	50 years
Old-age pension expenditure	5.9	6.0	6.4
Contribution rate*	-9.0	-9.0	-9.0
VAT rate*	4.8	4.9	4.9
Wages	5.8	5.9	6.3
Consumer prices	4.1	4.1	4.1
Capital stock	0.1	0.2	0.4
Labour supply	0.3	0.2	0.2
Consumption	0.6	0.6	1.2
Net foreign debt / GDP*	-0.1	-0.4	-1.3

[1)] Percent deviation (* = percentage point deviation) of simulation run from base run.
Source: Lassila, J. (1999b).

4.4. Expanding Social Pension Coverage

Even now, social insurance pensions do not cover all people in retirement age. Coverage will decline by the ageing of the current generation, a significant part of which is not insured. Thus, poverty in old age will depend even more on the possibility to get a social pension from the State Budget. It is necessary to expand these possibilities. Otherwise, there is a question left worthy of debates: doesn't this contradict Article 52 of the Constitution: "The State guarantees citizens' right to get old age and invalidity pension, social assistance in case of unemployment, illness, widowhood, losing of bread-winner or in other cases provided for in the law"?

A means-tested pension for everybody outside the social insurance pension scheme might be one of the solutions. The rate of means-tested pension for those who are over the retirement age is calculated according to the formula of negative income tax:

$$MTP = (BP-Y) \times 0.7$$

where: MTP = Means-tested pension;
BP = Basic pension = 100% of relative poverty line;
Y = pre-transfer personal income.
0.7 = compensation rate

Table 4.5. Forecast of the Ratio of Old-Age Pensioners to the Total Population in Retirement Age

	Persons entitled to old-age pension (in thousands)	Ratio of old-age pensioners to the total population in retirement age (%)	Persons in retirement age, who are not entitled to old-age pension (in thousands)	Persons entitled to means-tested pension (in thousands)	Expenditure on means-tested pensions (in thousands litas; per year)
1	*2*	*3*	*4*	*5*	*6*
1991	671	93	50	42	125 294
1996	655	88	89	75	223 740
2000	640	89	79	66	196 891
2005	541	81	128	108	322 186
2010	484	73	180	151	450 463
2015	457	66	236	198	590 674
2020	438	60	292	245	730 884
2025	426	54	363	305	909 876

The estimation of the total cost of the means-tested pension scheme is based on the following assumptions:

- According to the forecast, the number of persons entitled to an old-age pension would decrease from 640 000 in 2000 to 426 000 in 2025. The ratio of old-age pensioners to the total population in retirement age would decrease from 88% in 2000 to 54% in 2025, respectively.
- The employment rate in retirement age was 16% in 1997. It is assumed that it is stable till 2025, and 16% of people in retirement age, who are not entitled to old-age pension, would have personal income from work and would not be entitled to means-tested pension.
- The number of persons entitled to means-tested pension (assumed to have no income) would be equal to 66 000 in 2000 and 305 000 in 2025.
- The poverty line was 248.6 Lt in 1997 and, by assumption, would rise together with pension benefits.

Summing up, the total cost of the means-tested pension scheme would amount to as much as 197 million Lt in 2000 and 910 million Lt in 2025.

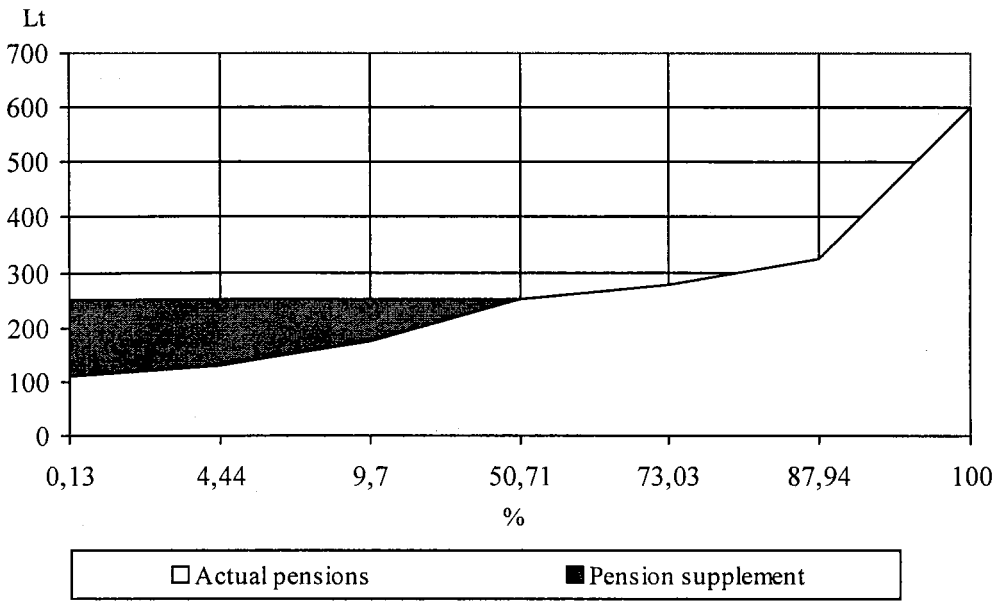
4.5. Increasing the Replacement Rate for Small Pension Beneficiaries

The main idea of this proposal is to increase the replacement rate for small pension beneficiaries by paying a means-tested supplement from general revenue for pensioners getting a pension under the poverty line. This method would ensure the protection of social insurance pensioners from being in poverty. Only a small part of pensioners, who have dependants, would belong to the group of poor persons and should be supported from social assistance. However, contrary to increasing basic pension to all pensioners, the means required would be significantly lower.

Table 4.6. The Poverty Line Ratio and Some Income Indicators in 1997 (%)

	Average wage before taxes (774,4Lt)	Average wage after taxes (574,3Lt)	Minimal wage after taxes (314Lt)	Average retirement pension (240Lt)	Basic pension (122 Lt)	Average supplementary pension (118Lt)
Poverty line (248,6Lt)	32,1	43,3	79,2	103,6	203,8	210,7

Chart 4.1. Pension Supplement on Top of Low Social Insurance Pensions



Data on the distribution of pensions by size allows making only rough calculations of required means. A total of 4.31% of old-age pensioners or 28059 people would need an additional 130 Lt., 5.26% or 34,243 persons 75 Lt., and 41.01% or 266,982 persons 25 Lt. The total number of old-age pensioners in 1997 was 651,018 (State social insurance, 1998). Thus, a total of 12.9 million Lt. per month or 154.8 million Lt. per year would be needed for means-tested supplements for those who have a pension under the poverty line. It is almost the same sum that would be saved by removing State pension schemes.

4.6. Increasing the Replacement Rate by Increasing Basic Pension for Every Pensioner

4.6.1. Doubling of the Basic Pension

Increasing the basic pension for everybody may solve the problem of poverty of pensioners as well. The basic pension (BP) is almost 50% of the relative poverty line (poverty line is equal to the 50% of average expenditure per household member. The

equivalent scales are applied). Only a small part of pensioners, who have dependants, would belong to the group of poor persons and should be supported from social assistance. PAYG earnings-related pension (ERP) could be maintained on top of the basic pension. ERP is calculated according to actual pension formula and is equal to about 20% of the average wage.

Increasing the basic pension up to the relative poverty line would imply an increase of around two times and would be almost the same as the present average pension. Thus, expenditure on pension, with regard to this reform, would increase by 50% or 1.23 billion Lt (in 1997 2.46 billion Lt was spent on social insurance pensions).

To finance this increase, social insurance contributions, would increase by almost 12%. Thus contributions for pensions would make up 35.5%, and general social insurance contributions 43%. This increase in contributions is politically impossible and irrational for the economy, because of high labour costs. Thus, it is more purposive to finance increased pension costs is from general revenues. A means required increase in the basic pension (1.23 bill. Lt.) would make up 14.3% of the National budget, or 3.2% of GDP.

4.6.2. Indexing the Basic Pension

Benefit increases can be justified by the current poverty problems. In an absolute sense, at least these problems will diminish with the economic growth. This could be used to reduce the fiscal burden of the benefit increases by, e.g., indexing them only partially to wages, and partially to prices. This type of measure is analysed in Lassila (1999 b): the basic pension is increased by 40 % and then indexed to the average of wages and prices for 20 years. If real wages grow on average by 4% annually, the relative level of the basic pension to wages is then roughly the same as before the initial increase. The basic pension was also made universal in the simulation.

The model-based analysis shows that the biggest welfare gains go to current pensioners, which is to be expected. Also those near retirement gain, because they will be able to enjoy the higher pension for some time. Younger workers lose, as they have to pay the pension increase but, when they retire, the benefit level has already declined in relative terms.

4.7. Privatising the Pension System

One of the main problems of the current pension system in Lithuania is the high level of redistribution and the weak link between social insurance contributions and benefits, which discourages participation in the system. The pension system, which is based on the PAYG principle, depends largely on the country's demographic situation, which has been worsening steadily over the past years. These problems could be solved through a pension reform designed to introduce private institutional savings and to diminish the role of state pension provision. As private pension systems tend to earn higher returns for its participants, they offer a higher replacement rate for lower contributions.

We shall discuss two alternative models of privatising the pension system in Sections 4.7.1. and 4.7.2. Section 4.7.3. contains results of a simulation analysis of privatisation.

4.7.1. The Model Proposed by the World Bank: Partial Privatisation of the Pension System or the Three-Pillar Approach

Partial privatisation of social security means that part of the individual pension is provided by private institutional sources and part continues to be paid by the state. This also means that the funding principles of these two components differ: the state pension is financed through taxes or social security contributions (PAYG) and the private pension is fully funded.

Thus the pension system is divided into two parts, or pillars, state (PAYG) and private (fully funded). Participation in both of these pillars is mandatory. Voluntary private provisions for old age constitute the third pillar of the pension system.

Three-pillar pension systems are better equipped to diversify old-age risks. The purpose of each pillar is different: the state pension constitutes the minimum subsistence level and creates a safety network for the elderly, while private pensions smooth a person's income at retirement by providing a benefit related to previous earnings. For those who seek more security than required by the mandatory system, there is a third pillar, voluntary provisions for old age, with some incentives provided by the state (usually a more favourable tax regime). The two ways of financing the pension system (PAYG and funded) diversify the burden of old age security provision and make the system more flexible.

Each of the three pillars of the pension system may be arranged in different ways. We will analyse different approaches in order to assess how they would meet the demands of people in Lithuania. Presently, pensioners receive state pensions, which are based on the PAYG principle and are payable from a separate social insurance budget. They consist of two pillars, which are actually integrated into one state social insurance pension, i.e. a minimum flat basic pension and a supplemental earnings-related component.

Pillar I – state pensions

State pensions, which constitute the first pillar of the pension system, are, as a rule, intended to alleviate poverty among the elderly. Provision of state earnings-related pensions under mandatory private pension provision would not be rational, as the purpose of these two components would be the same – to smooth income at retirement. A private pension would duplicate the one provided by the state, thus increasing the tax burden for the citizens.

As we shall see, the state pension can achieve its goal of poverty alleviation in different ways as well.

Means-tested pensions

Means-tested pensions are very similar to social assistance benefits, which are provided based on the testing of a person's income and assets. At the moment, the social security system in Lithuania provides a social assistance benefit intended to alleviate poverty. It covers 90 per cent of the difference between net income of an individual or a family and a minimum state guaranteed income, if the family's income is lower.

In the case of a pension, means-tested payments could be provided on a different basis. In order to encourage employment, social assistance benefits only partly compensate for the difference in income. As regards pensions, it might no longer be needed to stimulate employment, as in many cases the beneficiary would not be able to work for a longer period of time. So the minimum compensated income should be large in this case. On the other hand, consumption demands of the elderly differ considerably from those of families raising children. In most cases elderly people possess more durables and own the flats or houses they live in. Presently most retirees in Lithuania have their own flats or houses as a result of the mass privatisation of state flats in 1991-1992, when people could buy out their flats with privatisation vouchers at very low prices. In the future things will be different. Today the prices of housing are extremely high and not all families can afford to buy a flat or house of their own. No mortgage policies are available in the country, so in the future old people will need social benefits not only for subsistence but for housing as well. All this should be borne in mind when determining criteria for means-tested pensions.

Pensions or social benefits of this type are well targeted, that is paid only to those who really need them, and thus a smaller amount of money is needed to finance them. However, this target is not easy to achieve. In theory, the administration of means-tested benefits is expensive, as the income and assets of potential beneficiaries should be tested periodically. It is even more difficult in practice, as universal income declaration by the population does not exist in Lithuania. Currently, the testing is carried out every third month and covers only income declarations. In the case of means-tested pensions, the number of people required to declare their income and assets would increase immensely. Presently, about 2 per cent of the Lithuanian population receive social assistance benefits and 30 per cent receive pensions. It is difficult to estimate how many of the current retirees would be eligible for state pensions after the introduction of the income and assets testing, given that data on the living conditions of the elderly are very scarce.

Expenditures on social insurance pensions amounted to 1,889.7 mill. Lt in 1997. A total of 937,737 pensions were paid from the state social insurance fund. If all of the beneficiaries received pensions the size of social assistance benefits, the expenditures would amount to 1,519 mill. Lt. About 18 per cent of pensioners are still working and earning income. Many pension receivers live together with other working family members. The fact that the pension constitutes on average only 52.2 per cent of total disposable income of a pensioner's household shows that this additional income is

quite sizeable. About 20 per cent of pensioner households belong to the 9th and 10th expenditure deciles. So in reality the demand for means-tested pensions would constitute at least 20 per cent less, i.e. 1,215 mill. Lt, or 36 per cent less than current pension outlays. In the future the income received from the second, private pension pillar will be taken into account as well, so the need to support the elderly with public funds will diminish even further.

As regards administrative costs, social insurance administration absorbs 3.6 per cent of total outlays. It is estimated that the administration of benefits through means testing would be more expensive, especially given the current low capacity of the Lithuanian social assistance system. (Statistical Yearbook of Lithuania 1998, State Social Insurance, Statistical Data 1997, Household budget survey results of 1st half of 1998).

This points to the conclusion that this type of state pensions would require large administrative expenses, but the total costs of benefits would be the smallest as compared to any other types.

Means-tested pensions, as another social assistance benefit, should be financed from general revenues, given that the contribution-benefit link will be lost in such a system. This would ease the burden of old age support imposed on the working population, thus reducing labour costs and increasing the competitiveness of enterprises.

The worst aspect of the conversion to means-tested pensions would be the inevitable declaration that the state pension system ceases to exist as such. There will remain only a state social assistance system.

That would be too radical a change for the people of Lithuania. Most retirees today "earned" their benefits in the Soviet era when the old-age social security was proclaimed to be exclusively the task of the state. The pension rights of today's retirees should be respected. Pension expenditures could be trimmed only in the future. But younger people are now paying earmarked contributions to the social insurance fund, hoping to collect pensions at retirement. The latest sociological survey (Baltijos Tyrimai, 1998) shows that more than a half of the Lithuanian population expect to receive some pension from the state. Thus the abolition of the pension system as such would hardly be acceptable politically.

There is a number of categorical benefits in Lithuania which should be reformed along means-tested lines. The introduction of income and assets testing is inevitable as the state is no longer able to pay social benefits regardless of the beneficiary's disposable income and assets. These, but not pensions, should be the first reform target in diminishing the role of the state in social security.

Universal pensions

Many of the aforesaid drawbacks could be avoided if pensions were granted to those who reached the official retirement age and who lived a set number of years in the country. Such a system would be the cheapest in terms of administrative costs, since there would be no sophisticated requirements to check eligibility. Pensions would reach everyone in old age, thus providing the minimum level of social security. To achieve this goal, the benefit should be sufficient to live on and so not too small despite a large number of receivers. Although administratively cheap, however, such a pension system entails more costs than one based on means testing. On the other hand, as this first-pillar pension is supplemented by the mandatory second-pillar benefit, it is not the sole source of income for elderly and so may not be so sizeable. Universal pension is a good supplement to a private pension system. In the case of lower investment returns or a person's longevity, income would be secured through a state-provided universal pension.

However, the weaknesses of the system involve not only expensiveness but also diminished incentives to participate in any kind of pension arrangements. There would be no incentives to pay contributions, as minimum maintenance would be guaranteed.

The current pension system in Lithuania has a flat-rate component. The difference from the universal pension is that its eligibility criteria are linked to the social insurance contribution record. Pensions in Lithuania are granted only to those who were insured under social insurance for a minimum number of years. At the moment, there is no difference between the share of population receiving pensions and that of individuals of pensionable age, because all periods of work in Soviet times were regarded as insurance periods. In the future only the periods when social insurance contributions were paid will be accepted as pensionable. So there will be a marked difference: only 54 per cent of the population of pensionable age will be eligible for state social insurance pensions in 2025. People not eligible for pensions will have to receive some social assistance benefits. It is very likely that most of them will not have any other income and thus will be eligible for the social assistance in full amount. At the moment the size of the flat rate basic pension (138 Lt) is very similar to that of the minimum income guarantee provided by the state (135 Lt). So it would be rational and less expensive in administrative terms to combine these two systems and establish one universal pension for all citizens of Lithuania in old age. It is estimated that such a pension system would cost the state 1,553 mill. Lt and would be 18 per cent cheaper than the existing one.

It should be noted that this would provide a possibility to cut administrative expenses and would not require keeping individual contribution records. Universal pensions would be financed from general revenues. It is estimated that the positive impact on the economy would be almost the same as in the case of means-tested pensions, although it may entail some incentives to avoid participation in the second-pillar provision.

Given the aforesaid considerations, the option of universal pensions seems to be suitable for Lithuania. It would help solve the problem of poverty alleviation in old age. It would be administratively cheap and transparent. As this type of pension will be supplemented with second-pillar private arrangements, it would require much lower costs than social insurance pensions do today.

Employment-related flat benefits

This scenario exists in Lithuania today. It is the basic pension, which constitutes one part of the state social insurance pension. This pension is granted only to those who paid social insurance contributions for at least 15 years. In order to receive a full pension, it is necessary to have a mandatory insurance record of 30 years. If coverage is lower (but still over 15 years), the size of the pension is diminished proportionally.

Calculating the size of the pension in this manner may encourage people to pay social insurance contributions. However, it has certain drawbacks as well. Persons who paid contributions less than 15 years do not receive any pension at all. On the other hand, there are no rewards for longer contribution periods. This undermines incentives to pay contributions after the obligatory coverage is fulfilled. This may be due partly to the fact that the basic pension is only one component of the social insurance pension and its earnings-related part continues to rise when contributions are paid for a longer period of time.

Another weakness of the system is related to eligibility criteria. The system does not provide income security for all people of retirement age. As was mentioned above, in the future an increasing number of people will not be eligible for this type of pension. So it will increase considerably the pressure on the social assistance system. Non-pension receivers will be provided with some means-tested benefits. The administration of the employment-related pension is more expensive than that of universal pensions due to the need to keep contribution records and to recalculate the benefits periodically. It doesn't seem rational to spend money on a sophisticated employment-related administrative system under which some people will not be eligible for social insurance pension but will still have to receive a benefit of almost the same size.

Employment-related pensions add to labour market distortions due to the burden of social costs placed on the labour force. Social contributions induce tax evasion, discourage job creation, and lower the competitiveness of enterprises.

These drawbacks speak against this type of pension as the first-pillar pension in a partly privatised multi-pillar pension system.

Pillar II – private fully funded pensions

The second pillar of a multi-pillar pension system should be private fully funded pensions. Pension funds represent the most effective channel to provide such pensions. Different approaches are available in organising private savings in pension

funds. The main choices are between insurance schemes and institutional arrangements of private pension providers. We will look at the suitability of these alternatives for Lithuania.

Generally, there are two pension insurance schemes – a defined-benefit (DB) scheme and a defined-contribution (DC) scheme. The DB scheme means that the level of future pension is set in advance and then contributions required to secure this level are calculated. Usually the size of the pension is related to a person's final or average earnings. To calculate the size of contributions, assumptions about a person's future wage growth and possible investment return should be made. As it is a funded scheme, the saving period (i.e. person's age) should be taken into account as well. The assumptions may not always prove true. Therefore there is a need to recalculate the required contribution rate periodically and to verify the reserves accumulated. In the case of a shortage, it should be covered, or pension promises should be lowered. If the scheme runs a surplus, the contribution rate should be diminished. Such a scheme is attractive for employers willing to secure a stable and skilled labour force. Thus employers are in most cases sponsors of DB schemes at closed employment-related pension funds.

In the DC scheme there is no sponsor responsible for the coverage of any shortfalls. What is predetermined is the contribution rate. The size of the future pension depends fully on the investment performance of the pension fund, the amount of contributions to be invested and the saving period. This scheme is more frequently used by open–type pension funds operating on the market.

The World Bank strongly discourages countries in transition from adopting DB-type pension schemes, which prevent labour mobility, are less transparent and more difficult to administer. Due to periodical recalculations of reserves and contribution rates, they may induce manipulations and require high quality supervision. These considerations are very important for Lithuania, whose economy is changing rapidly and needs a mobile labour force.

As the trend world-wide is toward open pension funds, DC schemes are becoming increasingly popular and are beginning to oust DB-type pension plans.

So far Lithuania has had no operating pension funds. It would thus be rational to start not from closed employer-sponsored pension funds but from open funds. Such was the World Bank's proposal as well. If large enough, employer-sponsored pension funds can achieve significant economies of scale. However, there is no perspective that there will be funds of such size in Lithuania. Lithuanian employers are willing to create small closed pension funds related to one enterprise and bearing low initial costs. In the long term such funds would not survive if confronted with free competition against open funds and a free choice for participants to enrol. So the possibilities of creating two types of pension funds in Lithuania are rather vague. It should be noted that this would also entail additional costs for supervision.

A law on pension funds is underway in Lithuania. It provides for the establishment of open-type pension funds operating based on the DC scheme. The main decisions concerning the insurance scheme and institutional arrangements of private pension provision has already been made, based on the World Bank's recommendations. The draft stipulates high requirements to secure financial soundness of these new institutions, a limited number of pension funds is likely to be created. Such pension funds will be able to achieve economies of scale.

The draft law is now under consideration in parliament and will be adopted soon. As these pension funds will be only supplemental to social insurance, they will provide savings for old age. Disability and survivorship pension insurance will remain intact. The introduction of a private pension system will have a major impact on the Lithuanian economy. Redistribution within the pension system will diminish significantly, as will tax evasion. People will have an incentive to enter the formal labour market in order to secure future pension benefits. The rate of contribution for state pensions will be reduced gradually, alleviating distortions in the labour market. Being fully funded, private pensions will have a profound impact on domestic capital markets. In addition to ensuring more security in old age, they will stimulate the development of the capital market, strengthening its institutional capacity and transparency. As the introduction of private pension funds will bring in new institutional investors, capital supply will increase, changing the ways of raising capital by domestic enterprises and stimulating the development of Lithuanian industry. Increased domestic savings will contribute to faster economic growth of the country.

The World Bank estimates that by the year 2025 capital accumulation resulting from the transition to a funded pension scheme will reach as much as 60 per cent of GDP or over five times the current market capitalisation in Lithuania (Lithuania: An Opportunity for Economic Success, a World Bank country study, 1998).

Transition to a multi-pillar pension system

The adoption of the law on pension funds will start a process of establishing new private institutions for pension provision. For the time being, however, pension funds will provide only a supplement to state pensions, so these changes cannot be viewed as privatisation of the pension system, but only the first step towards it.

The results of the above-mentioned Baltijos Tyrimai sociological survey suggest that Lithuanians support private pension arrangements. About 12 per cent of them are prepared to pay contributions to private pension funds, another 27 per cent would tend to pay rather than not in order to get a supplement to state pensions. A total of 41.8 per cent of the population would approve a multi-pillar pension system, combining state and private pension provision.

The privatisation of the Lithuanian pension system could begin by making insurance for a supplemental component of the current pension optional for all current workers. Only new entrants to the labour force would be required to place some part of their

contributions to private pension funds. The opting-out limit would be increased year by year following a special program until it reaches a rate sufficient for saving and fully replaces the social insurance supplement. Only the flat-rate basic pension would be left in the first, public pillar.

The basic pension now provides a 20 per cent replacement rate of the average income. The supplemental part should earn another 40 per cent of the wage. Which part of the current social insurance contribution rate (23.5 per cent payroll) could be cut?
For a 20-year-old person to start receiving as of age 65 pension benefits in the amount of 40 per cent of life-time earnings, it is necessary to pay contributions of 4 per cent of the wage. For a 25-year-old person, the contribution rate would be 5 and 6 per cent for men and women respectively. The calculation of the contribution rate depends largely on the assumptions about inflation, wage growth and investment returns. In this calculation, they are estimated to be similar to today's indicators.

For a person who reaches 45 years of age, the contribution rate would be approximately 15 per cent. It will thus be much lower than today (today the replacement rate in the state pension system is 40 per cent and the contribution rate 23.5 per cent). It could be beneficial for such individuals to enter a multi-pillar system. For older people a higher rate would be required, thus discouraging them from quitting the old pension system. Today working people who have accrued rights in the old system should be allowed to choose whether to join the new system or not. A computer program demonstrating the size of prospective state and private pensions would help people in deciding whether to participate in the new pension system.

The opting out from the social insurance supplement should be done gradually. In the first phase current workers would be allowed to channel, say, 2.5 per cent of their contributions to personal accounts. Thereafter the limit could be raised to 5 per cent for ten years and up to 10 percent later on when the transition is complete. For new entrants to the labour market these rates should be mandatory. Obligations to current retirees should be respected. By transferring part of contributions to private pension funds a shortfall in the revenues of the social insurance fund will occur. It is estimated that it could amount up to 0.3 per cent of GDP initially, rising to 2 to 3 per cent of GDP by the year 2015. The World Bank proposes to finance it by increasing the level of VAT, applying indexation of social insurance benefits to prices rather than wages and possibly increasing modestly the rate of contributions. Alongside these measures, it would be necessary to cut other government outlays and to reform the state pension system so as to diminish future payment promises. One of the ways to do that is by increasing the retirement age.

The Baltijos Tyrimai sociological survey shows that 26.4 percent of Lithuanians do not expect any pension from the state at all. As a rule, these are younger persons. So lower pension promises for them would be acceptable in general.

As the basic pension and the minimum social assistance benefit are very similar in size, it would be rational to consider later on switching to the universal pension payable from general budgetary revenues.

In addition to social insurance pensions, there are state pensions payable from the state budget and granted to distinguished people and victims of resistance. These pensions are a political rather than a social security measure. By abolishing these privileged benefits, the system would save up to 160 mill. Lt, which could be channelled to cover the deficit caused by part of contributions being shifted to private pension funds.

4.7.2. Total Privatisation of the Pension System

We will discuss two ways to totally privatise the pension system: the Chilean model and a model proposed by Prof. Kotlikoff (Kotlikoff, 1998b).

In both cases the state pension system is abolished. However, state regulation of the private system and the public safety net is preserved. So even total privatisation cannot be regarded as absolute, given that participation in the private pension system is mandatory.

The Chilean model

Under this model, there is an obligation for every citizen to transfer a defined part of their monthly wage (say, 10 per cent) to individual accounts in a private pension fund. Pension funds invest these accounts, earn investment returns and accrue proportionally part of them on personal accounts. The means in personal accounts belong to the participants. When a person reaches the retirement age, a life-term annuity is bought with the funds from the account balance.

Pension funds operate based on the DC scheme. However, insurance for disability and survivorship, which requires risk pooling, is arranged on the DB basis. For each participant an insurance police is bought from an insurance company, and a separate contribution for that purpose is paid. The retirement age is flexible – one can withdraw the benefit when there is a sufficient amount accumulated in the account.

Pension insurance is accomplished by private pension funds. Actually, they are management companies which manage the mutual funds constituted from participants' personal accounts. Pension funds operate on the market and receive management fees for their services, or remuneration from investment income. Pension funds are chosen by participants at their own discretion. Participants are also allowed to change the provider and to transfer the monies from their personal accounts to another pension fund. Therefore, pension funds compete with one another by offering higher quality of services, higher investment returns, and lower fees.

Participation is mandatory. Therefore the state not only oversees the system but also provides some guarantees. Regulation of investment returns and a guaranteed minimum pension benefit are the most common forms to secure the pension system.

Saving in personal accounts ensures the least possible redistribution, so it is very suitable for working people by providing an income-related supplement. However, in some cases people are not able to work for long periods of time and become vulnerable in social terms. So a needed supplement to the private pension system is the public safety net.

Minimum pensions create a safety net for those who were not able to save enough for themselves. A minimum pension guarantee means that, in case there are not enough means in the personal account to buy a minimum annuity, the shortfall is covered by the state. So no participants in the pension system are left without a source of subsistence in old age or in case of disability.

The minimum pension is a kind of a means-tested benefit, but in this case only pensionable income, but not all income and assets possessed by the person, are tested. The administrative costs of such a system are rather low, as it relies on data, regarding who needs assistance and in what amount, supplied by the private pension system.

However, minimum pension guarantees, just like all guarantees, may discourage people from contributing more, since a minimum pension will be delivered in any case. If very low minimum guarantees are applied, the incentives may be somewhat undermined. Still, there will be a need to assist such people in other ways.

The transition to this system differs from the case discussed above in that the contribution rate is not divided among state and private providers but fully transferred to the private system. Persons entering the labour market are required to participate in the new private system. Working people, with accrued rights, are free to choose whether to stay in the old system or to join the new one. Once a decision has been made, the full contribution rate is passed over to private pension funds and a person's accrued rights are acknowledged by issuing interest-bearing state bonds. These bonds are transferred to the pension fund chosen by the participant and are converted in due time.

Persons receiving pensions are not affected by the reform. Over time there will be increasingly fewer participants in the old system, leading to the dissolution of the state pension system.

Such reform proposals could have been considered in Lithuania when the process of privatisation started. The transition to the new pension system could have been financed from privatisation proceeds. Now that a negligible amount of privatisation funds is left, the transition is hardly possible. On the other hand, there would be little support for such radical reforms on the part of politicians and the public. The main reason is a lack of confidence in private financial institutions. As private saving for pensions also has a social dimension, the fear is even bigger in this sphere. Large transition costs represent another obstacle.

The model proposed by Prof. Kotlikoff - The Personal Security System

This model also envisages the use of individual accounts and a total abolition of the state pension system. There are certain differences however.

One of the main differences relates to the ensuring of minimum safety. As in the aforesaid case, all citizens are required to pay part of their wages to personal saving accounts. As regards the state, it provides progressive subsidies to these accounts and pays full contributions on behalf of the disabled. Married persons are required to pay half of their contributions to the spouse's account. This way, no non-working spouses or disabled individuals are left without income protection in old age.

Contrary to the World Bank's proposal, which emphasises the development of domestic capital markets through mandatory pension savings, Kotlikoff (1998b) proposes not to rely on national investment companies but rather to create a global institution for pension provision. He argues that personal accounts should be held at one mutual fund rather than at competing pension funds in order to invest all of them in a similar manner: by putting them into special issue PSS bonds and a market-weighted global index fund of stocks, bonds and real estate. This way investment diversification is secured throughout the world: accounts are invested on global markets and into the best shares and bonds around the world. This globalisation secures the highest possible investment returns and the lowest administrative costs. The mutual fund is administered by a company that wins an international tender announced by the government.

The cornerstone of this model is that the skills and expertise of international companies and markets are exploited on a wide scale. No one separate country, especially a nation in transition, would be able to provide services of such quality and credibility, so domestic companies would be less effective in all cases. If the purpose of a pension system is to earn as much as possible for its participants in the safest way, considerations about the development of capital markets should not be taken into account.

In addition to that, there is a different approach to annuity provision in the PSS model. When a person retires, the means accumulated in the account are converted into annuities not individually, as is the usual practice, but by the whole cohort. Starting from 60 years of age, a portion of the participants' assets is converted every day into indexed annuities until the cohort reaches 70 and all assets are transferred. Doing so, the value of the annuity is not so volatile, the insurance commissions are lower and the problem of adverse selection does not arise. Each member of the cohort receives an annuity in proportion to the amount of his/her assets in the total sum of the accounts. Accounts are inheritable as long as they are not converted into annuities.

According to this scenario, transition costs are also an issue. To finance the transition, a low payroll tax is left and other government expenditures are cut. The government borrows some funds from international institutions. Pensions to which

people were entitled in the old system continue to be paid. The payroll tax is defined in such a manner that it is phased out after the transition period.

This scenario is less known in Lithuania than the Chilean model. They both involve similar difficulties and would hardly work in Lithuania.

4.7.3. Simulating Pension Privatisation in Lithuania[4]

How to analyse privatisation with an OLG model

The privatisation discussion contains two main elements: moving from a public arrangement to a private one, and moving from an unfunded system to a funded one. The first discusses the efficiency and behaviour of two types of organisations, the second concentrates on the effects of financing the system and the links between contributions and benefits.

From an OLG-modelling point of view, only the second group of elements can currently be analysed. Institutional efficiency issues and different risks and their sharing are outside the scope of the model we use here. The model contains no risks and uncertainty, there are no institutional costs attached to running any kind of pension system, markets function perfectly, public sector behaviour is known in advance, and the arbitrage condition of every investor shrinks the expected rates of return of all assets to a common value. All these issues must be analysed outside the model, as is done in Sections 4.7.1. and 4.7.2.

What features of privatisation does the model then capture? In the following, privatisation consists of three main elements. Firstly, the earnings-related part of the current social pension system is abolished. Secondly, the contribution rate is lowered by an amount corresponding to the earnings-related part of the pension system. Thirdly, a funded pension system is introduced, into which saving is mandatory. The simulations capture the effects of changes in incentives to work and save, the fiscal consequences and effects on macroeconomic outcomes caused by the changes in households' and firms' decisions, and changes in households' welfare by cohorts caused by the different economic conditions they face because of the privatisation policy.

Privatisation usually also contains a possibility of participating in a voluntary private funded pension system. In the model, however, this has no effects. As institutions are costless and all savings yield equal expected rates of return, savings into a voluntary pension sector just mix in with other household savings. We can think of the following simulations containing a voluntary pension system or not, as the outcomes are the same.

Introducing a mandatory funded system, however, does make a difference in our model. The households can be liquidity constrained, in the sense that they cannot borrow against future incomes. Mandatory contributions reduce current disposable

[4] This section draws heavily on Lassila (1999b, section 6).

incomes, and for those households who would like to borrow but cannot they reduce current consumption. The savings in the private mandatory funded system are illiquid until they are paid out as benefits.

In Kotlikoff (1998a), the analysis of privatisation in the USA requires the following measures in the model. Firstly, set the payroll tax which is used to finance public pensions to zero. Secondly, phase out the payment of public pensions in a desired schedule. Thirdly, decide what tax instruments are used to finance the pensions during the phase-out period and the possible interest payments from the government debt, if debt financing has been used also in the phase-out period. All these measures are included also in our analysis, and in addition there is a fourth item: introduce the mandatory contributions to a private fund in a desired schedule. This fourth item is a consequence of the liquidity constraint discussed above.

We describe the various parts of privatisation separately.

Removing the earnings-related part of the pension

What happens if we cease to accumulate the rights for the earnings-related part of the pension. Old accumulated rights are honoured, and the corresponding pensions paid. No new rights accrue, however, and this comes as a surprise to everybody.

The transition is slow and smooth. Initially, labour supply declines. This happens in all age groups except those above the retirement age. The reason for this is because workers have rationally discounted the future pension benefits that have accrued from working, and this wage-like thing now vanishes. It takes time before wages rise, which again encourages labour supply to increase.

In time, labour supply shifts to older cohorts. For the young, the liquidity constraints are easened as wages grow. For the old, net remuneration from working increases as the earnings-related pension no more diminishes with working after the retirement age. Thus the age profile of labour supply responds to prices, namely the price of leisure here.

Some working-age cohorts suffer a welfare loss. They are at the prime of their work efficiency. By working a lot they could have built a sizeable earnings-related pension for their future. Now this possibility ceases to exist. The effect is as if net wages would decline just when they are working most. The increase in wages takes place only after several years, and does not console those cohorts. The decline in welfare is rather modest even for this group.

The long-term gain to future generations is sizeable, however. Essentially, people save for their old age more than before, which creates funds instead of the current unfunded system. This is one very important feature of privatization: people voluntarily compensate the removal of mandatory pension systems.

The next part in privatisation, **switching towards VAT in pension financing** was already discussed in Section 4.3., and is not repeated here.

Mandatory second pillar

Next we add a mandatory second pillar. Workers pay a 5 % premium in the first period to a fund, and 10 % thereafter each period. After reaching retirement age, the accumulated capital in their accounts is changed to an annuity. This feature is similar to Kotlikoff's proposal (1998b) and has solid economic justifications. The choice

Table 4.7. Macroeconomic effects[1)] of privatisation policies

	5 years	10 years	50 years
Privatisation without mandatory participation			
Old-age pension expenditure	5.6	4.8	-35.8
Contribution rate to public system*	-9.0	-9.0	-9.0
VAT rate*	5.0	5.0	-0.6
Wages	6.3	6.3	7.4
Consumer prices	4.2	4.2	-0.9
Capital stock	0.2	0.5	3.9
Labour supply	-0.3	-0.1	1.6
Consumption	-0.4	-0.5	3.1
Net foreign debt / GDP*	-0.8	-2.0	-14.2
Privatisation with mandatory participation			
Public old-age pension expenditure	4.8	4.3	-33.9
Total old-age pension expenditure	5.0	5.7	47.2
Contribution rate to public system*	-9.0	-9.0	-9.0
Mandatory private contribution*	5.0	10.0	10.0
VAT rate*	5.4	5.8	-0.4
Wages	5.0	4.4	10.5
Consumer prices	4.4	4.5	-1.0
Capital stock	0.6	1.6	8.6
Labour supply	0.2	1.0	1.3
Consumption	-1.5	-3.1	6.7
Net foreign debt / GDP*	-1.8	-6.6	-40.0
Mandatory pension funds / GDP*	8.5	26.1	113.3
Privatisation with mandatory participation and initial debt financing			
Public old-age pension expenditure	5.2	3.8	-34.4
Total old-age pension expenditure	5.4	5.3	47.5
Contribution rate to public system*	-9.0	-9.0	-9.0
Mandatory private contribution*	5.0	10.0	10.0
VAT rate*	0.0	6.5	0.0
Wages	5.4	4.0	9.6
Consumer prices	0.2	5.1	-0.6
Capital stock	0.0	0.9	7.5
Labour supply	0.3	0.9	1.3
Consumption	1.7	-3.6	5.8
Public debt / GDP*	11.4	11.4	11.4
Net foreign debt / GDP*	2.3	-2.1	-34.3
Mandatory pension funds / GDP*	8.5	26.2	113.9

[1)] Per cent deviation (* = percentage point deviation) of simulation run from base run.

Source: Lassila, J. (1999b).

here, however, was made on modelling bases; it is simply easier to model the use of wealth this way if the analysis includes mortality in all age groups. The idea goes back to Yaari (1965), and is widely used in OLG models, see e.g. Broer and Westerhout (1997). As noted earlier, mandatory saving has a role here, because the households, especially the young, are liquidity constrained.

The macroeconomic consequences of privatisation, shown in Table 4.7, are generally favourable. Simulations show a marked increase in investment and the capital stock, labour supply and current account. Net foreign assets are accumulated (or debt falls, as in the table). After 50 years, consumption would be 3-7% higher than in the base run. Notice that although the public earnings-related pension is gradually abolished, public pension expenditure increases initially, because benefits are indexed to wages.

But consumption declines initially for about 20 years. The transition period is not without welfare losses.

The mandatory second pillar leads to lower welfare than a voluntary second pillar, according to our model. This follows directly from our rationality and perfect foresight assumptions. Households make completely rational decisions, and adding restrictions to those decisions can only make the outcomes worse. As the restrictions also change the macroeconomic outcomes, it is of course possible that welfare increases by adding restrictions, e.g. due to the fact that mandatory pension saving makes future generations richer. In our simulations these effects were, however, dominated by the direct effects from restricting households' decisions.

That there are any differences in welfare from the mandatory – voluntary distinction is a result of liquidity constraints on households. Young households would like to consume more and borrow against future labour incomes. This is not allowed in our simulations. Mandatory pension saving reduces consumption and thus welfare in those periods where liquidity constraints are binding. Later in life the picture is reversed: households have more wealth and consumption possibilities than they would have liked from the point of view of evening out consumption over the whole lifecycle. Looking at periodic utilities, for many cohorts the effects of privatisation with a mandatory second pillar are such that they have less utility as young and more utility as old. The lifetime utility function weighs these periods together, so its specification and exact parameterisation may well be crucial to the sign of the overall effect. This kind of situation is difficult to assess: even though everybody may lose in a lifetime utility sense, there may be in every period more people who are happier during the rest of their lives than they would have been without the change. Young people are unhappier, but as time passes and the liquidity constraint is easened, they become happier.

An essential point is, however, that mandatory saving in practise is required to prevent shortsightedness, i.e., to prevent people from saving too little for their old age. Extreme myopia may be impossible to distinguish from rational free-riding, where people save too little and coolly expect others to take care of them when they are old. These features are not included in the model.

Using public borrowing during the transition

The transition costs of privatisation can be evened out in time with initial debt financing, as the bottom part of Table 4.7 shows. The only difference to the previous analysis is that VAT is kept constant during the first 5-year period, and the state finances the transfers to the social insurance fund by borrowing. After that, the debt is held at a new higher level (constant relative to GDP).

The macroeconomic effects do not differ very much. The capital stock is slightly reduced and net foreign debt rises. VAT is initially lower but then remains permanently higher. The welfare effects by cohorts, however, change rather much. By taking on debt, the state can postpone the welfare losses from current generations towards future generations. As the state must pay interest on the debt, the losses in the future are larger.

5. Conclusions and recommendations

The study identified three groups of problems in the Lithuanian pension environment. The first consists of fiscal problems of the current pension system. These are partly due to large obligations accepted from the Soviet era, partly connected with the tumultuous transition process, especially the fall in GDP in the early 1990's and the accompanied labour market developments. An increasing number of disability pensions is one result, and the problems have been the background for wide-spread evasion of social contributions and income taxes. Fiscal problems will prevail: ageing will raise pension expenditures in the coming decades, and current fertility rates, both their low level and continuous downward trend, are alarming.

The second problem group is the poverty of retired people. This results both from the low level of pensions and, to an increasing degree, declining coverage of the current system. Projections based on the current share of people contributing to the system show that only 54 % of the old-age population would be covered by the pension system in 2025. The current pension system seems to be failing to achieve its main objective.

The third group of problems is related to incentive issues, concerning both working and saving incentives. As a PAYG system with unfavourable future demographics, the rate of return from current contributions can be expected to be low. This is probably one factor behind contribution evasion. High redistribution within the system is one factor that weakens the work incentives of middle- and high-income earners. The fiscal difficulties due to demographics point towards future political risks and makes the credibility of the system suspect. The current system entails no funding, so as far as it is deemed credible it discourages saving compared with funded alternatives.

The retirement age is currently being increased gradually to 62.5 years for men and 60 years for women. This reduces the fiscal strain in the current system. According to the OLG model calculations, the effect is equivalent to 3 percentage points of the wage bill that is the base for contributions. If the retirement age is raised further, to 65 years for both men and women in accordance to a schedule that has already been proposed earlier, calculations made during the study show further reductions in the cost burden of the order of 3 – 3.5 percentage points in the contribution rate.

The cost-saving that comes from increasing the retirement age is, however, not nearly enough to keep the system solvent in the long run. The research group suggests that measures be taken to increase fertility. What kind of family policy or other measures should be taken is outside the scope of this study.

The evasion of contributions by some employers and employees places a higher burden on those abiding by the rules. As value-added taxes are harder to evade, a switch from contributions based on wages to value-added taxes in the finance of pensions merits consideration. That kind of financial shift can be recommended on

other grounds also, without the tax-evasion phenomena, as it contains an element of a one-time tax on existing wealth that has no distortionary effects. But the overall positive effects of the switch are generally considered to be rather small. The tax evasion problem makes the case for lowering the contribution rate and covering the resulting deficit of the social insurance fund from VAT receipts stronger.

The poverty problem resulting from the low level of pensions could be remedied by increasing the benefits. That would yield a fiscal deficit. The fiscal problem could be alleviated in time by indexing the benefits partially to wages and partially to consumer prices. In an economy with good growth prospects, which we expect Lithuania to be, wages will grow faster than prices. Thus the relative role of indexed benefits will decline after the initial increase.

The simplest cure for the coverage decline would be to make the basic pension universal. Working history would not be required for eligibility, citizenship and age would suffice. This coverage expansion would also create a deficit in the finance of old-age pensions. This requires a permanent financing solution, as there is no point in trying to reduce the coverage again.

The incentive problems could, in principle, be mitigated by reducing the basic pension and other redistributive features of the system. This would, however, worsen the immediate poverty problem. Another measure, which also deals with the political risks of the system, is to introduce a private funded earnings-related system. This could replace the current unfunded earnings-related public pension. An entirely voluntary private system might result in low pensions, as high growth expectations may encourage current consumption. Mandatory contributions may thus be called for, introduced gradually and kept at a low level, while simultaneously encouraging voluntary additional contributions.

The research group thought the poverty problems so pressing that it searched for a way to finance both the increase in benefit levels and universality. The changes should be such that the system will also be efficient in the long run. The group formulated a proposal that consists of six points.

1. Increase the basic pension benefit rate by 40 percent, shift to differentiated (combined wage/price) indexation, and provide the basic pension in a universal fashion.
2. Increase the retirement age to 65 for both men and women.
3. Shift the tax structure by cutting the contribution rate to the public pension system by 11.75 percentage points and finance that by increasing the value-added taxes.
4. Terminate the accumulation of new rights for the earnings-related part of the public old-age pension, but honour the rights that have already accumulated.
5. Convert gradually to a private, funded, mandatory and earnings-related pension system.
6. Create good framework conditions for voluntary pension savings.

Each of these points has been discussed earlier. The effects of such a combination of measures are manyfaceted. They all have consequences for all three problem groups, and these consequences often contradict each other. Our assessment, after weighing the various issues and considering the simulation results, is that this policy package will effectively alleviate the poverty problems, result in an efficient pension system that will be a social asset also in the long run, and can be implemented so that the welfare losses to some cohorts, which cannot be avoided during the transition, will be small.

The first item is exactly the policy analysed in Section 4.6 of this report. The basic pension's coverage is increased, the level is increased, and it is indexed to both consumer prices and wages with equal weights until its relative size, compared to average wages, has returned to the current level. In the simulations that takes twenty years. After that the basic pension is again indexed fully to wages.

If the increase in retirement age is continued, to 65 years for both men and women according to a schedule that has been proposed already earlier, the analysis in Section 4.2 shows further reductions in the cost burden of the order of 3 – 3.5 percentage points in the contribution rate.

The switch from contributions based on wages to value-added taxes in the finance of pensions, justified e.g. by the tax-evasion phenomena, has been analysed in Section 4.3. The size of the switch is slightly larger here, 11.75 percentage points in total. Together with items 4, 5 and 6 the financial switch forms a privatisation policy, which was analysed in the previous section. The introduction of the private mandatory system is, however, done more gradually here. During the first 5-year period the contribution rate is 2 per cent. Then it is increased by 2 percentage points every five years, until the increase reaches 10 percentage points where it then stays. It is paid by the employee, whose one-percent contribution to the public system is abolished as a part of the total 11.75 percentage points reduction.

Besides being a combination of measures considered earlier with some differences mentioned in the previous paragraph, the following policy simulations differ in that their reference scenario is different. We now compare the economic outcome and the welfare of different generations to a baseline where the retirement age increases gradually to 60 years for women and 62 years and six months for men. This baseline, in fact, is exactly one of the simulation outcomes discussed in Section 4.2 of this report and presented more fully in Lassila (1999b, Section 3).

We simulate three implementations of the proposed policy package. In the first simulation, **the immediate switch alternative**, the contribution rate to the public system is reduced immediately to its new permanent level, and the whole financial burden is covered by increasing the value-added tax rate. In the second, **public borrowing** is used for 10 years while the VAT rate is kept at 25 per cent. After that the VAT rate is adjusted so that it covers the changes in public expenditures, including the interest payments made on the additional debt that was taken. The third

is the **gradual switch alternative**. The employer's contribution rate to the public system is reduced by 2.75 percentage points in the first five-year period, and then reduced by two percentage points every five years, until it reaches 19.25 %. The employees' one-percent contribution is again abolished immediately.

Table 5.1. Macroeconomic effects[1)] of the Study Group's proposal

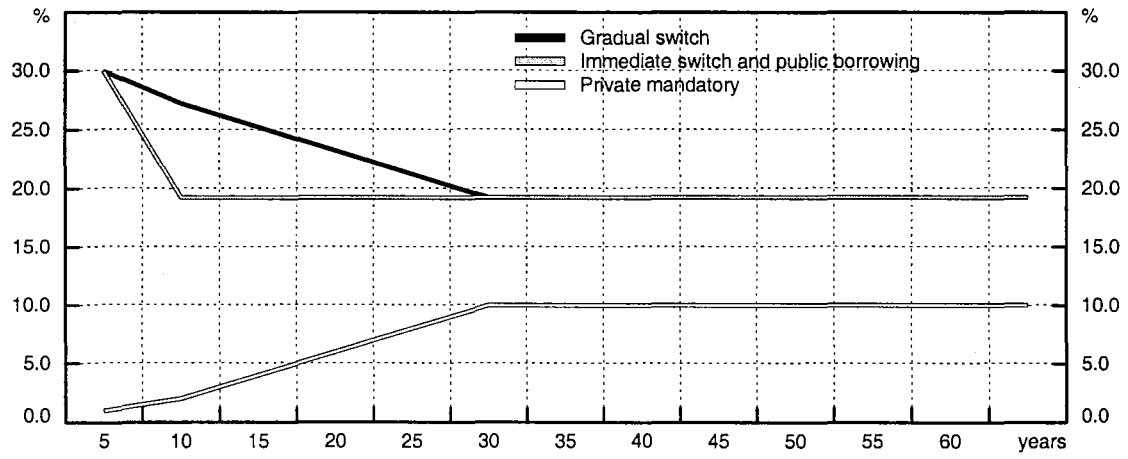
	5 years	10 years	20 years	50 years
Immediate switch alternative				
Public old-age pension expenditure	40.8	31.8	11.1	-44.6
Total old-age pension expenditure	40.9	32.0	15.7	27.0
Contribution rate to public system*	-9.9	-8.8	-7.1	-7.5
Mandatory private contribution*	2.0	4.0	8.0	10.0
VAT rate*	10.4	8.7	5.2	-1.6
Wages	7.0	5.9	4.6	11.1
Consumer prices	8.8	7.2	3.8	-2.5
Capital stock	0.4	1.2	3.6	12.4
Labour supply	-0.3	0.3	1.6	2.3
Consumption	-0.5	-1.4	-2.6	5.2
Net foreign debt / GDP*	-1.2	-3.8	-13.9	-57.3
Mandatory pension funds / GDP*	3.5	11.1	37.8	134.1
Public borrowing alternative				
Public old-age pension expenditure	41.2	32.3	11.4	-45.0
Total old-age pension expenditure	41.2	32.5	16.0	27.4
Contribution rate to public system*	-9.9	-8.8	-7.1	-7.5
Mandatory private contribution*	2.0	4.0	8.0	10.0
VAT rate*	7.0	7.0	5.7	-1.3
Wages	7.3	5.7	4.0	10.3
Consumer prices	6.1	5.9	4.3	-2.2
Capital stock	0.0	0.5	2.7	11.3
Labour supply	-0.3	0.2	1.5	2.3
Consumption	1.6	-0.5	-3.1	4.4
Public debt / GDP*	7.1	11.4	11.3	11.3
Net foreign debt / GDP*	1.5	0.7	-8.9	-51.8
Mandatory pension funds / GDP*	3.5	11.1	37.9	134.9
Gradual switch alternative				
Public old-age pension expenditure	33.8	26.6	8.8	-44.6
Total old-age pension expenditure	33.9	26.9	13.2	26.1
Contribution rate to public system*	-1.9	-2.8	-5.1	-7.5
Mandatory private contribution*	2.0	4.0	8.0	10.0
VAT rate*	5.6	5.0	3.9	-1.6
Wages	1.9	1.8	2.9	11.0
Consumer prices	4.8	4.2	2.8	-2.5
Capital stock	0.2	0.9	3.2	12.4
Labour supply	-0.7	0.0	1.6	2.3
Consumption	-0.5	-1.7	-3.1	5.1
Net foreign debt / GDP*	-0.4	-2.3	-11.9	-57.0
Mandatory pension funds / GDP*	3.4	10.6	36.8	133.6

[1)] Per cent deviation (* = percentage point deviation) of simulation run from base run.

Source: Lassila, J. (1999b).

The contribution rates thus follow the patterns of the next chart. The upper two curves represent the employer's contribution rate. It is either reduced directly to its new low level, or reduced gradually at the same speed as the employee's contribution rate, shown by the lowest curve, is increased.

Chart 5.1. Contribution rates in alternative transitions



The macroeconomic consequences of the proposed policy package in each alternative are shown in Table 5.1. Notice that now "contribution rate to public system" shows the difference between the proposed decline and the endogenous decline caused by the increase in retirement age already decided.

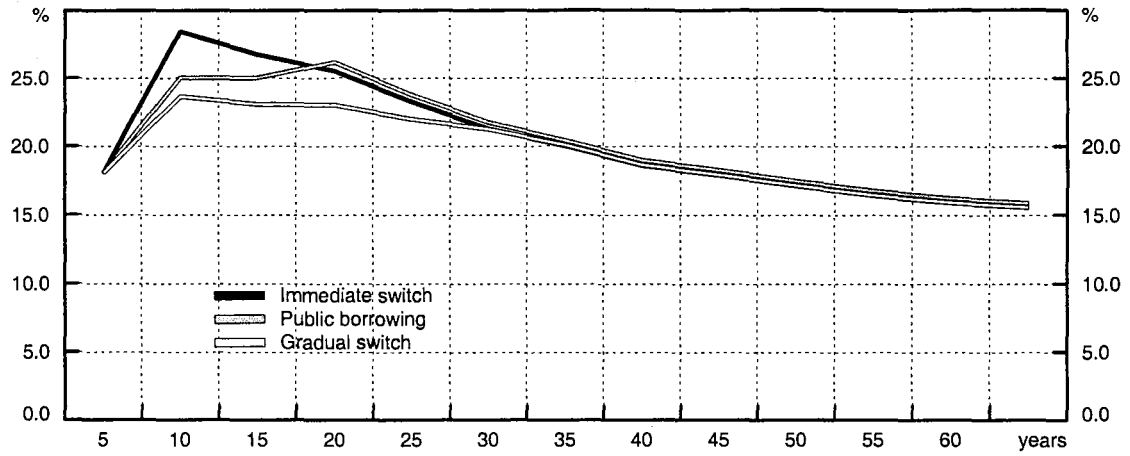
Transition costs

There are costs associated with the transition to the proposed system. Old obligations must be paid while at the same time paying into the funds for future obligations.

First, notice that the total contributions do not increase, if we add up the contributions to the social insurance fund (which actually has no funds) and to the private pension funds.

The costs come from the increase in VAT and the increase in retirement age. As shown by the uppermost curve in the following chart, the VAT rate would increase to about 28 % in the initial stage and then decline gradually towards its current level and finally somewhat below it. Using public borrowing temporarily, the VAT rate could be kept at, e.g., 25 % for ten years, and then it would slightly increase by before gradually declining towards the current level and below. The amount of public debt would increase by about 11 percentage points in relation to GDP, and stay at that level afterwards. The lowest curve shows the VAT rate in the gradual switch alternative.

Chart 5.2. VAT rates in alternative transitions



The VAT rate would rise to 23 % and then start to gradually decline towards the same long-run value as in the immediate switch alternative.

The welfare effects

The welfare costs will be borne by current workers. Estimates from the OLG model give small welfare losses, when compared to the situation where the first part of the retirement age increase would be carried out but nothing else would be done.

In all the alternatives those already retired gain substantially. That is mostly due to the increase in the basic pension. The gains for them are largest in the public borrowing alternative, as can be expected; they gain from the lower VAT but are not around to pay for the higher debt's interest costs.

Current workers will mostly suffer a little from the policy package, only those above 55 gain. The gradual switch transition hurts the working-age people most. Not only is the reduction in contributions gradual, so is the resulting increase in wages. The biggest losses, about 3 % of the remaining lifetime's consumption, are felt in the age groups of 35 – 39 and 40 - 45. An immediate switch would allow wages to rise faster. The public borrowing alternative is also best for current workers. Correspondingly, it is worst from future generations' point of view, as they have inherited a higher public debt. In all cases, however, the future generations will gain from the policy package.

The effects described above apply to the average household. Some comments can be made concerning the welfare effects for tax evaders. They suffer from the increase in VAT and probably do not gain from the wage increase resulting from the decline in the contribution rate. They do gain, however, from the increase in retirement age,

which puts a downward pressure on consumer prices, but this effect is minimal. If the tax evaders do not participate in the mandatory private system either, they don't directly benefit from the rates of return on accumulated assets, but may gain indirectly due to the favourable macroeconomic effects of the privately funded system. If they are liquidity constrained, the mandatory contributions which they evade won't accentuate the constraint. A bigger welfare effect, however, comes from the basic pension. If it is made universal, also current tax and contribution evaders receive it when they are old. That may increase their welfare substantially. A civilised society cannot, however, tolerate poverty, and old poor people will be supported by some means in any case. As discussed in Section 4.7.1, the basic pension replaces some other form of assistance for them, and also cuts administrative expenses. Tax evasion is of course a problem which the society should address irrespective of the pension system.

To sum up, the comforting result concerning the transition to an effective funded system, and at the same time alleviating considerably the problem of old-age poverty, is that even the maximum losses to current taxpayers seem to be tolerable, of the order of 2 – 3 % of the consumption stream during the remaining lifetime.

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