Pension Security System in the Slovak Republic

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INTRODUCTION

The main subject of this study is the Pension Security System - PSS - in the Slovak Republic. The study presents an overall view of the PSS position in the social insurance system and its main principles. The core of the work is the evaluation on individual PSS institutes in terms of maintaining system solvency in the long run and the proposition of measures that could contribute to an even balance.

The first part of the study is devoted to the institutional PSS framework and it briefly characterises the system with the objective to provide a basic tool for orientation to our foreign partners. The second part elaborates on the economic context and the following parts are intended for a broader public.

In several parts of the study the argumentation is based on the results of a simulation carried out in the model of Pension Security in the SR - SOCPROG - which is the subject of a separate research by the author at the Institute for Forecasting of the Slovak Academy of Sciences. A brief description of the basic model is a part of Annex 1.

1. INSTITUTIONAL FRAMEWORK

1.1 BASIC FEATURES OF THE PENSION SECURITY IN SR

The Pension Security System in the SR is undergoing a transformation in the moment. The need for reform ensues from the need to adjust the heritage of the socialist period in the social sector to new economic conditions. For a better understanding it would be appropriate to characterise briefly the former system of social security and the reform policy.

The typical features of the social security in the SR before 1989 were:

- a broad coverage of the population,
- a broad range of kinds of individual benefits,
- complex systems of preferences to certain groups of the population,
- financing of claims through the reallocation of state budget funds and state guarantees to the solvency of the related system.

The funding was based (which is the case till today) on the so-called pure pay-as-you-go principle while the capitalisation elements were missing.[1]

One of the basic principles of the social insurance system reform in the SR is its division into three tiers - the so-called "pillars"[2] in which various functional principles should be applied:

- the insurance principle on a pay-as-you-go basis within the obligatory uniform system of basic insurance guaranteed by the state,
- insurance principle on a capitalisation (or mixed) basis in the system of voluntary supplementary insurance guaranteed by commercial entities (with a certain level of state supervision),
- social solidarity and charity in the system of social assistance to the groups of population in social need.

The Pension Security System - PSS - which is the subject of this study is together with the system of sickness insurance, health insurance and unemployment insurance[3] a part of the first pillar at present. It includes four basic insurance schemes of the citizens of the SR. Funding of benefits in these schemes is on the pay-as-you-go basis. As of 1994 their funding has been fully separated from the state budget and is provided for by means of public institutions - the so-called funds.

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[1] *Pay-as-you-go system is characterised by the payment of pensions to current pensioners from contributions collected from the current payers (the active population). It is a kind of inter-generation solidarity. The so-called capitalisation principle when the pension is paid from the funds the pensioners saved as his/her contributions during the previous active period of their life is the opposite.*

[2] *The Social Transformation Policy approved by the Government of the SR.*

[3] *This is the so-called material security in unemployment and some other services and payments provided to the unemployed from the Employment Fund of the SR.*

In the nearest future the Pension Security in the SR should also move in the sector of commercial insurance, in particular through the implementation of supplementary Pension Security[4]. The supplementary scheme should be based on the capitalisation principle of funding provided for by commercial insurance founded or used for these purposes by employers and trade unions. The implementation of supplementary Pension Security could partially relief the basic PSS which would, thus, acquire potential for larger reforms. It is true that the current basic system has already undergone several radical changes[5], however, as described in detail later, many institutes are still expecting their fundamental solution.

It cannot generally be claimed that the Pension Security system in the SR is not sufficiently comprehensive. Just the opposite, the development in the recent years indicates that the total number of entitlements to Pension Security benefits is growing in absolute terms as well as in its ratio to the number of inhabitants in the post-productive age. At the same time the capacity of the system to maintain the real level of benefits paid out is decreasing.

A typical feature of the current basic PSS is the suppression of the merit principle in favour of the social re-allocation principle. This is reflected in a rather high level of re-allocation ensuing from the basic rules for the determination of contributions and the PSS benefits paid out[6].

1.2 PENSION SECURITY SYSTEM - KINDS OF PENSIONS

Based on the currently valid regulations in the SR, the Pension Security System comprises several kinds of benefits which can be divided into the so-called basic benefits, i.e. pensions and the so-called derived benefits which include an increase of pension for immobility, educational benefit added to pensions, allowance to educational benefit, and other benefits paid out to pensioners. Table 1 gives a brief description of the individual benefits and benefit schemes[7].

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[4] *In March 1966 the legislation for supplementary pension scheme has been approved for a limited group of employees.*

[5] *E.g. the abolishment of a preferential approach in working categories and the introduction of a cost-of-living adjustment mechanism (see part 2.1).*

[6] *E.g. the disproportion between the real income and the basis determined for the calculation of the pension (higher income is taken into account with lesser weight or not at all). insufficient indexing of pensions to the life-long income, etc. (for details see part 2.1).*

[7] *Compiled from: Matlák et al., 1993:199-259. A benefit scheme is a set of conditions the satisfaction of which gives generates an entitlement to a certain type of benefit.*

Table 1: Basic benefits of the Pension Security:

Old Age Pension (full) is provided to citizens who meet the condition of the necessary period of employment (25 years) and reach the retirement age (60 years for men, and 53 to 57 for women depending on the number of raised children). Exceptionally, this pension can be provided two years before the retirement age if the citizen was employed at least for 25 years and was laid off for organisational reasons and the relevant state administration body is unable to provide her/him with an appropriate employment.

Proportional Old Age Pension is paid to citizens who do not meet the condition of the necessary employment period (25 age): to men who were employed at least 10 years and while being employed completed at least 65 years of age, to women who were employed at least 20 years and while being employed completed at least 60 years of age.

Full Disability Pension is paid to citizens with a long-term bad health condition and with reduced work capacity provided they meet the following conditions. the citizen became disabled, was employed for the period necessary for the generation of the entitlement (structured according to the age of the citizen from a period less than a year for citizens younger than 20 years for a period of at least 5 years for citizens older than 28 years) a in the time of disability appearance did not meet conditions for old age pension entitlement.

Partial Disability Pension is paid to citizens after the reduction of their work capacity and after meeting conditions for the generation of entitlement: the citizen became partially disabled, satisfies the requirement for the employment period needed for the generation of the entitlement (a similar evaluation as in a disability pension) and his income has significantly dropped.

Pension for the Years Served is paid to citizens who were employed in specific jobs (e.g. aircraft crews, artists, etc.) for the period necessary for the generation of the entitlement (20 to 30 years depending on the type of the job).

Widow's Pension is paid to a widow after the recipient of an old age pension, proportional old age, disabled, partially disabled pension or a pension of the years served during one year from the death of the husband. It is provided for a longer period only when other conditions are met (the widow is disabled or takes care for at least one minor child, or has reached the age of 50 years, etc.)

Widower's Pension is paid to a widower provided he is providing for at least one minor child. The benefit is paid as of August 1, 1991.

Orphan's Pension (for a child with one parent or none) is paid to a minor child or an adopted child of a deceased parent.

Wife's Pension is a state benefit. It is paid to the wife of a citizen who was employed for the period necessary to be entitled to an old age pension or a disabled pension or a pension for the years served or to the wife of a recipient of these benefits provided she is not earning income, or she does not have entitlement to another pension or is disabled or has achieved the age of 65 years. The pension is paid only during the marriage.

Social Pension is paid to citizen whose life needs are not secured and who has either achieved the age of 65 years or is disabled.

Another Pension includes e.g. benefits the entitlement to which was generated according to regulations valid before January 1, 1957. However, due to the number of paid benefits and expenses this group is insignificant.

Derived pension scheme benefits:

Pension Increase due to Immobility is added to al pensions if their recipient is immobile. The amount of the benefit depends on the immobility class (3 levels). In orphan's pensions it is paid only until the 7th year of child's age.

Education benefit and allowances to educational benefit are paid to pensioners and have the function equivalent to children's benefits in the economically active population.
Other benefits paid to pensioners. spa treatment, support at child's birth, allowance for funerals.

1.3 ADMINISTRATION OF THE PENSION SECURITY SYSTEM AND PROCEDURAL ISSUES OF BENEFITS GRANTING

To understand the procedural principles for benefits granting better it is appropriate to learn the basic substantive rules for the generation and existence of the entitlement to these benefits.

In all Pension Security benefits the entitlement to a benefit and the entitlement to benefit payment should be distinguished.

Entitlement to a benefit of Pension Security arises as of the satisfaction of all eligibility conditions to a particular benefit which form the so-called benefit scheme (see Table 1 for a brief overview of schemes). The entitlement to a benefit is linked to a particular physical person and it cannot be transferred to another person. The entitlement to the benefit extincts as of the death of the beneficiary.

Entitlement to benefit payment arises as of the day of satisfaction of conditions for benefit payment stipulated by law. The entitlement to benefit payment does not have to extinct with death of the beneficiary. If the beneficiary died after claiming the entitlement for benefit payment other persons get involved in the procedure for the benefit (spouse, parents who lived with the beneficiary in the time of his/her death in a common household) and they acquire entitlement to amounts payable till the date of beneficiary's death.

In general it can be said that though the entitlement to the benefit arises upon the satisfaction of eligibility conditions the entitlement to benefit payment arises in the benefit granting procedure. In the procedure the pension granting agency decides on benefit granting upon the receipt of an application submitted by the beneficiary. The obligatory form of the request is in writing. So in practise it may happen that the entitlement to the benefit is generated but the payment is not made because the entitled person did not ask for its granting. Upon the satisfaction of benefit scheme eligibility conditions, granting can either be obligatory (e.g. in the old age pension) or optional (e.g. spa treatment benefit).

The entitlements to benefit payment are grand-fathered upon change of legislation based on which the concerned benefits were granted. With respect to the expectations of participants and the maintenance of system credibility, the change of legislation in PSS should not have a retroactive effect, i.e. the new legislation would not have a retroactive validity, either[8].

[8] *A so-called prohibition of retroactivity. An example of the application of this principle in the current law of Pension Security in the SR may be the preservation of the entitlements generated during the existence of the so called labour categories. These categories were abolished as of January 1, 1994 and the entitlements generated during their existence will be acknowledged till the year 2017. (The reform of material security in unemployment in which the period of entitlement to material security was shortened from 12 to 6 months as of January 1, 1992 and the change*

In the benefit granting procedure the evaluation of entitlement scheme conditions satisfaction is performed with the participation of social security evaluation commissions. An inappropriate burden on individual commissions is prevented through operational changes (e.g. the change of districts)[9]. The number of pensions of a certain type (e.g. disability pensions) depends, to a certain extent, on the legal practise of these commissions. In the beginning stages of the transition process, especially during 1991, a more rapid growth of certain types of pensions, especially the old age[10] and disability ones occurred. A basic overview of the number of pensions paid out and the overall expenses are given in Table 2.

Decisions made by pension granting authorities can be appealed against[11]. Decisions on remedies are made by courts.

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also applied to those unemployed who were granted or paid benefits before January 1, 1992 is an opposite example.)

[9] *E.g. the number of inhabitants in the catchment areas of individual social security evaluation commissions should not exceed 500 thousand.*

[10] *The increase of old age pensions was related to the mass retirement of labour in the post-productive age and the granting of early old age pensions. This situation was the reflection of a dramatic unemployment increase.*

[11] *Remedies against the decisions made by the regional insurance which are the basis for the decision made by the Pension Security Fund Administratio on the provision for the legal entitlement to benefit as well as against the decision made upon the request to mitigate the strictness of the law are not admissible.*

Table 2: Number of pensions paid

	1990	1991	1992	1993	1994	1995
Kind of pension						
Old age	637438	671715	695010	707461	716056	723963
Old age prop.	16715	16922	17046	17140	16982	17275
Disability	191418	200480	212637	219886	223003	223451
Disability prop.	58676	57980	59846	61969	63016	55668
Wives	25465	25064	24798	23510	21329	19240
Widow's	274751	279041	282778	285806	288207	290827
Widower's	--	1941	2813	3024	3102	3168
Orphan's	42409	40834	40809	40582	39923	39049
Years served	25	32	74	83	80	84
Social	10596	9856	9058	8424	9365	8662
Other	1108	798	524	372	274	196
TOTAL	1258601	1304663	1345393	1368257	1381337	1381583
Expenditures on pensions (thous. SK)	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**
Kind of pension						
Old age	11350185	14665166	17246632	19931306	22756986	26592376
Old age prop.	182118	221234	252630	247287	294332	337838
Disability	3477690	4426607	5220907	5739238	6738566	5831906
Disability prop.	638556	748442	813843	996076	1150155	1221395
Wives	107103	106424	99717	109701	123460	112939
Widow's	2645490	3281209	378966	4309914	4698807	5424190
Widower's	--	--	23625	26564	33846	41474
Orphan's	311257	345424	362121	384106	422889	482473
Years served	528	748	2252	2670	2995	3360
Social	164291	191870	205527	2036944	215805	214546
Other	95029	1517	916	567	356	259
TOTAL	18972247	23988641	28012136	31951123	36438197	42262775

Note:

Widower's pension has been introduced since 1991.

Source: Statistical Yearbook Labour, Social Affairs and Family 1994, SR 1994 Social Policy, MOLSAF SR

2. ECONOMIC CONTEXT

2.1 CONSTRUCTION OF OLD PENSION

Conditions for the entitlement (the entitlement scheme)

Entitlement to old age pension is generated upon the satisfaction of two conditions:

- the achievement of retirement age,
- the achievement of necessary period of employment.

Retirement age

In the presented study the retirement age is understood as the age at which the entitlement to a full old age pension is generated under simultaneous completion of the required employment period. Currently, the retirement age in the SR could be described with two basic features:

- it is low,
- it is differentiated according to the sex (and for women also according to the number of raised children).

In an international comparison, both these features are non-standard[12]. There is a possibility of an early old age retirement two years before achieving the actual retirement age, provided the condition of employment period is met. The actual mean retirement age is thus around 55 years for women and 59 years for men.

The necessity to increase the retirement age in the SR should be seen from several perspectives. One of the priority criteria is to keep the financial balance of the Pension Security in the long run. Solvency of the retirement scheme is influenced by the retirement age through the so-called dependency ratio[13]. The higher this ratio the greater the risk of deficit management. The increase of retirement age is inevitably manifested in the decrease of this ratio.

In contrast to the Czech Republic the envisaged increase of the retirement age has not been introduced in the SR, yet. Taking into account the social sensitivity of such a reform, it would be desirable to announce its implementation longer time in advance and to disclose the schedule of gradual increases of the retirement age in intervals determined in advance (faster in women) so that the level needed is achieved at a

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[12] *The retirement age for men is set at 60 years and for women to 57 years from which a deduction is made according to the number of raised children, however the minimum age is 53. In the past the retirement age was also differentiated according to the so-called labour categories in a way which would give preferential treatment to certain jobs (mostly physically intensive work e.g. like mining). In men the retirement age could thus be reduced to 55 or 58 years. The period of employment and the pension rates were differentiated in a similar way.*

[13] *The dependency ratio is defined as the ratio of the number of inhabitants in the post-productive age to the number of inhabitants in the productive age.*

certain date in future, however, after the year 2000[14]. Thus, the solution of the retirement age is a topical problem already today.

To estimate the impact of retirement age increase on the dependency ratio the SR Population Forecast to the Year 2015 elaborated by the Statistical Office of the SR as well as the model of Pension Security System in SR - SOCPROG (Annex No. 1) can be used. Table 3 shows the results of dependency ratio development estimations with two alternatives of the retirement age: the current situation (proxied by a productive age for women of 15-55 years and 15-60 for men) and the change of the retirement age to 62 years from women and men till the year 2007. Both forecasts show that in the short term the demographic conditions will be developing favourably for the Pension Security. The dependency ratio should be dropping and achieving its lowest value around the year 2000. In the subsequent period, the ratio will be growing. In the year 2010 (and also later period), the increase of the retirement age should result in dependency ratio values lower than the reality of 1993.

The main arguments against raising the retirement age in the SR are the low average age[15] and high unemployment rate. It is true that in the time of dramatic unemployment increase the retirement of employees under the old age scheme and early old age scheme was a welcome phenomenon absorbing, to a certain degree, the excess labour. On the other hand, this has increased the financial burden on the PSS. Currently, when the labour market is consolidating and the PSS has shifted to a self-funding principle, there is no justification for the substitution of the PSS for a labour market tool. Moreover, demographic forecasts are warning. The short-term drop in the dependency ratio will change into a long-term growth after the year 2000.

Necessary term of employment

The term of employment necessary for the generation of an entitlement to old age pension is currently 25 years. With a shorter period of employment and the completion of a certain age the entitlement to a proportional old age pension may arise. With respect to the relatively low retirement age in the SR any measures motivating a later retirement are important in terms of securing the Pension Security solvency. Such measures include increase of the per cent rate for the calculation of pensions from the calculation base for a longer term of employment than the necessary one.

However, the increase is conceived in an asymmetric way: before achieving the necessary term of employment the rate is increased by 2% annually, then until the completion of the retirement age the rate is increased only by 1% annually. After completing the retirement age (and, thus, the entitlement for a full old age pension is created) it is increased by 4% for each term of 360 days of employment (or by 1% for each 90 days). On the one hand, the increase of the rate from 1 to 4% motivates a later

[14] *E.g. the variant of a uniform retirement age of 62 years for women and men till the year 2007 would require an annual increase of the retirement age for men by two months and an equidistantly stepped increase of retirement age for women depending on their original retirement age (9 months in the retirement age of 53 years, 8 months in 54 years, and so on) starting with the year 1996.*

[15] *At present the average life expectancy at birth is approximately 68 years for men and for women it is by some 10 years more. At the same time, the actual retirement age is around 55 years for women and 59 years for men.*

retirement which reduces the demand after benefits payment. On the other hand the increase of the rate seems to be in disharmony with the policy if at the same time early retirement is supported through the provision of exceptional old age pensions already 2 years before completing the retirement age[16]. Under these conditions, the reduction of the rate from 2 to 1 % before the generation of the entitlement to a full old age pension gives motivation for an early retirement.

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[16] *After the satisfaction of conditions for the generation of the entitlement to a full old age pension a short-term parallel payment of the pension with income from employment is even possible provided the employment is concluded for the period of one year the utmost.*

Table 3: Forecast of the development of the population in post-productive age to the population in productive age ratio in the SR (a)

Impact of increase in retirement age				
A. Population forecast, Statistical Office SR				
	1993	2000	2007	2010
Current situation	28.3 %	26.3 %	27.7 %	29.5 %
Reform (b)	18.4 %	18.8 %		
B. Forecast based on the simulation in the SOCPROG model				
	1993(c)	2000	2007	2010
Current situation	30.1 %	30.5 %	33.9 %	37.1 %
Reform	22.9 %	24.1 %		

Note: (a) The so-called dependency ratio (see discussion in the text)

(b) Increase of the retirement age to 62 years for women and men till the year 2007

(c) Reality (simulation base year)

Labour categories

The abolishment of labour categories effective as of January 1, 1994[17] can be considered to be a positive feature in the development of the Pension Security in the SR. In the past, jobs were classified into labour categories depending on their physical or mental intensity for the needs of Pension Security. The most preferred Ist category would include some jobs with hazardous work with resulting frequent and permanent health disorders. Thus, the Pension Security was adopting some tasks in the provision for social justice according to the criteria of the era. In the transformation of the Pension Security the abolishment of labour categories was the right step contributing to the simplification, transparency and improvement of efficiency of the state-guaranteed basic Pension Security system. The abolishment of various exceptions, asymmetric principles and differentiations should be one of the main criteria of the transformation. This simplification is necessary for the creation of a system flexible in its response to economic developments. The solution of particular problems of individual jobs, prevention of social hardship and so on should be shifted on the shoulders of the emerging system of supplementary Pension Security which based on its contractual freedom offers a variety of modifications.

The criterion of social justice was also considered in the abolishment of labour categories as this abolishment does not have a retroactive effect. All entitlements ensuing from the classification of performed employments into preferred labour categories (I or II) prior to January 1, 1994 are granted till the end of 2017. All jobs performed after January 1, 1994 are considered to be jobs of category III. The Pension Security System will, thus, have to continue to bear the fading requirements of the previous period which will make the achievement of a balance more difficult.

The Old Age Pension Amount

[17] *Act No. 235/1992 Coll. As amended by Act No. 59/1993 Coll*

The following criteria are decisive for the calculation of the old age pension amount:

- the amount of average monthly earnings achieved in the reference period,

- employment period duration,

- number of years of work in preferred labour categories (the period prior to January 1, 1994 is only taken into account).

Considering the above criteria the basic parameters for the calculation of the pension are:

- reference earnings[18],

- rate as a percentage of the reference earnings.

Despite the abolishment of labour categories which made the calculation of the pension difficult due to various differentiation rules applied both basic parameters are still subject to various variations and restrictions which are not contributing to the transparency and predictability of the system.

Reference earnings

Reference earnings[19] are the basis from which the amount of old age pension is calculated by applying a percentage replacement rate. The reference earnings itself are subject to two important limitations. The first of them is the determination of the upper ceiling of the average reference earnings which is considered when determining the reference earnings.[20]

The second one is the ceiling on the reference period for the calculation of the reference earnings. The application of these rules endorses the PSS with some redistributive and egalitarian features.

The redistributive features of the PSS resulting from the ceiling on the reference earnings can be illustrated on the example of a citizen who before completing retirement age worked in a III category job for either 25 years (term needed to generate the entitlement to a full old age pension) or for 35 years. The replacement ratio of his pension to his earnings changes depending on the amount of the average income as illustrated in Table 4. Without any ceiling on the reference earnings the replacement ratio would be 50% in case of 25 years and 60% in 35 years in our particular example. As the table indicates (columns [1] and [2]) the ceiling on the reference earnings results in a very progressive decline of the replacement ratio with a growing income. In case of income at the level of 7 to 8 thousand Sk - which is around the contemporary monthly average wage - the replacement ratio is below 30%. This is in discrepancy with ILO Convention No. 102 which requires a 40% replacement rate

[18] *The so-called limited average monthly earnings*

[19] *The Reference Earnings is a parallel to the so-called Maximum Insurable Earnings in the western pension schemes*

[20] *Earnings up to 2,500 Sk are taken into account without limitations, out of the earnings in the interval of 2,501 to 6,000 Sk one third is taken into account, out of the earning from 6,001 to 10,000 Sk one tenth is taken into account and any part of the earnings above 10,000 Sk is disregarded. The maximum reference earnings is thus limited to 4,067 Sk which is even less than the double of the current minimum wage.*

after completing 30 years of employment. The redistributive effect is further enhanced in case the old age pension is the sole source of income - SSI. In the SR the pensions which are the only source of income are subject to regulation guaranteeing their minimum amount[21]. The comparison of columns (1) and (2) with the SSI column shows that the application of this lower limit of pension level only further enhances the redistributive features of the system. In low work income categories the replacement ratio is increased even to 100% and, thus, the redistribution rate within the system is also growing.

[21] *Currently, the minimum level for an individual is 2,507 Sk monthly.*

Table 4: Redistributive features of the Pension Security; The example of old age pension

Av.gross earnings	Gross earnings replacement ratio			
	Labour category III			
	25 years of employment		35 years of employment	
	(1)	SSI	(2)	SSI
2500	50%	100%	60%	100%
4000	38%	63%	45%	63%
6000	31%	42%	37%	42%
8000	24%	31%	29%	31%
10000	20%	25%	24%	25%
15000	14%	17%	16%	17%
20000	10%	13%	12%	13%

continued

Av.gross earnings	Net earnings replacement ratio Labour category III 25 years of employment	SSI	35 years of employment	SSI
2500	67%	134%	80%	134%
4000	50%	84%	60%	84%
6000	41%	56%	49%	56%
8000	32%	42%	39%	42%
10000	27%	34%	33%	34%
15000	18%	22%	22%	22%
20000	14%	17%	16%	17%

Note: SSI - a pension adjusted on the grounds of being the sole source of income, see explanation in the text

As of Jan. 1, 1994 all jobs are classified as labour category III

The net earnings calculation assumes a 12% contribution into social insurance funds and a 15% income tax

So it is obvious that limitation of maximum insurable earnings is a disadvantaging higher income groups. On the other hand such a ceiling is, to a certain extent, necessary if self-funding of the Pension Security on a pay-as-you-go basis should be assured while the entitlements of pensioners are covered from payments collected from the active population at the same time. The system applies ceiling on pension payments in order to prevent deficit in the case of revenue reduction, e.g. due to an unfavourable demographic situation, low efficiency in contributions collection etc. As the solvency of the basic system of the Pension Security should be guaranteed by the state, no significant removal of redistributive features can be expected in the near future without further systemic changes in the PSS. However, fundamental reforms of Pension Security scheme - due to their social sensitivity - are demanding. Therefore the consideration of the merit principle should be more developed in the emerging system of supplementary insurance. The redistributive features are present in the PSS also in terms of the ratio of monthly contributions of a participant to the amount of calculated pension. The reference earnings have, in general, an upper ceiling - 8 times the minimum wage[22]. If we stay with our example of an average citizen who worked in a III category job for 25 years the ratio of monthly paid pension to contributions depending on income level are presented in Table 5.

[22] *Monthly minimum wage: 2,450 Sk (used in the tables illustrating redistribution effects), as of April 1, 1996 raised to 2,700 Sk.*

Table 5: Redistributive features of the Pension Security, The example of old age pension

Av.gross earnings	25 years of employment	SSI	35 years of employment	SSI
	Employee's contributions to pension ratio			
	Labour category III			
2500	0.12	0.06	0.10	0.06
4000	0.16	0.09	0.13	0.09
6000	0.19	0.14	0.16	0.14
8000	0.24	0.19	0.20	0.19
10000	0.29	0.24	0.24	0.24
15000	0.44	0.35	0.36	0.35
20000	0.58	0.47	0.48 0.47	
	Total contributions to pension ratio			
	Labour category III			
2500	0.53	0.26	0.44	0.26
4000	0.71	0.42	0.59	0.42
6000	0.87	0.63	0.72	0.63
8000	1.10	0.85	0.91	0.85
10000	1.30	1.06	1.09	1.06
15000	1.95	1.59	1.63	1.59
20000	2.55	2.07	2.13	2.07

Note: SSI - a pension adjusted on the grounds of being the sole source of income, see explanation in the text

As of Jan. 1, 1994 all jobs are classified as category III

As the table shows the ratio of contribution to monthly pension grows with the income level which is again an advantage for the lower income groups. The introduction of ceilings on the contribution amount mitigates the discrepancy between the contributions and pensions in higher income categories. The application of the SSI enhances the redistribution of funds in the PSS.

Thus, it may generally be said that the redistribution rate of funds in the PSS from higher to lower income groups depends on the way of introducing ceilings on the highest reference earnings for pensions and income and for the minimum pension. The current system of limitation by lump-sum amounts is rigid. Redistribution ratios in the PSS change in dependence on the quantitative limits which are determined ad hoc through administrative decisions. For the benefit of more stable ratios in the system it would be desirable to fix these ceilings as certain multiples of the average wage. In addition to a better transparency of system and a better linkage to the underlying economic situation this would also bring the reduction of the risk of political manipulation with the system[23].

Reference period

The reference earnings for the calculation of the old age pension are linked to the average income during the five strongest years in terms of income in the course of the 10-year employment period prior to retirement. This short reference period is not providing for a sufficient link with the life-time income (and thus also the contributions into the PSS) and the pension amount. Workers with a growing wage profile have an advantage to the detriment of workers with life-time high income and relatively flat profile and workers with a squared profile which culminates in the middle periods of job carrier (e.g. performance based remuneration).

The shape of the prevailing wage profile is of importance for the evaluation of the impact of reference period prolongation on the PSS solvency. When the growing wage profile prevails and economy is growing the consequence of prolonging the reference period would be the reduction of the reference earnings of old age pension.

Replacement rate

After the abolishment of work categories the calculation of the old age pension replacement rate has become more transparent. Currently, there are three basic rates: prior to completing the necessary term of employment the rate is increased by 2% annually. Afterwards it is increased by 1% annually till the retirement age is reached. After completing retirement age (and thus the generation of the full old age pension entitlement) it is increased by 4% for each 360 days worked (or 1% for each 90 days). The impact of this rules on the length of employment was elaborated in more detail in the section on the necessary term of employment. Briefly summarised, one can say that the differentiation of the reference earnings for a full old age pension erodes the merit principle. Under the current possibility of early retirement this differentiation of rates can be demotivating in the decision-making regarding further continuation of employment.

Pension cost-of-living adjustment

Cost of living adjustment of old age pension is an unavoidable measure guaranteeing the maintenance of their purchasing power. Almost each growing economy shows a greater or smaller inflation rate and a growth of costs of living. Growth of nominal wages which is often regarded as one of the inflation promoting factors and a cause of structural unemployment, is also influenced by collective bargaining. Pensioners as an economically inactive population have a relatively low leverage in bargaining and are in need of administrative increase of their income - the cost-of-living adjustment of pensions.

Cost-of-living adjustment can be made in different ways from single ad hoc measures through regular administrative increase to automatic increase according to criteria defined in advance. The last case is the true pension indexing in which the level of

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[23] Indexing against the minimum wage would not eliminate the risk of manipulation as the minimum wage is also determined in an administrative way.

nominal pensions is pegged towards one or several appropriate economic indicators reflecting the growth of costs of living. Pensions are, thus, increased in regular intervals in such a way as to maintain certain proportions to selected indicators.

The cost-of-living adjustment mechanism for pension was introduced in the SR in 1991[24]. The mechanism for the increase of old age, disability, partial disability, for the years served , widow's and orphan's pension was introduced and is effective as of March 1, 1991. This mechanism combines elements of automatic indexing with administrative elements.

The level of pensions is fixed to two economic indicators, namely the costs of living index and average wage. The pensions will be increased if the cost of living index grows by at least 10% from the last increase or accordingly the average wage grows by 5% at least. However, the period between two consecutive increases must not be shorter than 3 months. Pensions are increased either by a lump-sum, as a percentage rate or the combination of both. The lump-sum should reflect the increase of costs of living and the percentage increase should reflect the growth of average wage. This clearly defines the periods in which pensions should be increased. In terms of determination of time intervals and adjustment mechanism the cost-of-living adjustment mechanism can be perceived as exact and defined ex ante.

On the other hand the weakness of the system is in that the pension increase rate is not quantitatively defined and is not linked to the increment of the two mentioned indicators. Lump-sums and percentage increases of pensions are determined in an administrative way and they are subject to fluctuations in time the type of the pension and within particular types of pensions, as well as depending on the amount and the date of granting.

The applied principle of pension increase rate related to the date of its granting should provide for a differentiated approach to individual pensions in terms of their "history". Such a procedure is necessary for two reasons. Firstly, prior to 1991 a similar system of indexing was not applied (inflation and costs of living growth were neglectable compared with the values achieved in the period of economic transition). Secondly, neither now the cost-of-living adjustment of the reference earnings is incorporated in the calculation of old age pension.

Cost-of-living adjustment of Old Age Pensions

Adjustments of pensions are implemented through acts passed by the parliament which also determines the effective date of pension increase. The disadvantage of this adjustment is its rigidity. The general rule is that the measure cannot come into effect before the publication of the act in the Collection of Laws (ban of retroactivity). Therefore, there is certain time limitation of administrative origin. Such a delay may be compensated by granting pension increase also retrospectively and paying it out as a multiple single payment. However, this will not bridge the time discrepancy between the real need and implemented increase. Table 6 summarises time intervals between the performed cost-of-living adjustment of old age pensions by a lump-sum and the

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[24] *The cost-of-living adjustment mechanism was introduced in Act No. 46/1991 adjustment of pension benefits*

corresponding increases in the cost of living index in pensioners[25]. As it can be seen from the table the criterion of 10% growth of index in the period between pension increases has been exceeded in years 1993 and 1994, while with the other adjustment the growth in the periods in between was less than 10%[26]. The table does not include increase of December 1, 1994 as it was only an adjustment by percentage rate which should according adjustment mechanism compensate for the growth of wages and it was not accompanied by a lump sum adjustment which should compensate for the growth of costs of living.

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[25] *The cost of living index is calculated on the basis of the so-called statistics of family accounts in the SR. The Statistical Office of the SR follows selected groups of the population. Pensioners' households without economically active members are one of the sample subgroups. The pensioner's cost of living index is based on this population subgroup and it is not identical with the overall cost of living index to which probably the cost-of-living adjustment mechanism in the spirit of Act 46/1991 refers to.*

[26] *The cost of living index of pensioners is used in the table as it is probably a more true proxy for the costs of living of old age pensioners than the overall index of costs of living. The table thus cannot be interpreted as the verification of the cost-of-living adjustment mechanism pursuant to the law.*

Table 6: Cost-of-living adjustment mechanism related to the cost of living index of pensioners (a)

Date of effective increase of pensions by a lump-sum		Cost-of-living index for pensioners	
Year	Months	Jan 1989=100	Growth rate (b)
1991	July	175.9	
1992	July	187.1	6.4
1993	April	225.5	20.5%
1994	February	253.3	12.3%
1994	September	274.1	8.2%
1995	July	285.4	4.1%

Note:

(a) Cost-of-living adjustment mechanism pursuant to Act No. 46/1991 Coll.

(b) Percentage change the cost of living index of pensioners from the previous increase of old age pensions by a lump-sum

Since 1991 the pensions have been raised in this way eight times altogether[27]. Table 10 in Annex 2 shows a chronological description of the legislation regulating old age pensions adjustments. As can be seen from the table the measures implemented are rather confusing. Fig. 1 based on Table 10 in Annex 2 can be used to illustrate the overall effect of old age pensions cost-of-living adjustment achieved including the ninth planned increase in June 1996. Depending on the pension amount and the date of its granting. Pension amount is depicted in selected intervals with the highest benefit in the given period corresponding the generally highest admissible amount of old age pension pursuant to the valid legislation. As already mentioned the cost-of-living adjustment mechanism determines periods in which there is a need to raise pensions with respect to the growth of economic indicators. However, the mechanism does not stipulate by how much the pensions should be raised with respect to the growth of indicators. As depicted in Fig.1, the total effect of an abundance of measures applied ad hoc was rather uniform. The cost-of-living adjustment of old age pensions showed two main tendencies in practice. Firstly, lower pensions were raised more progressively. This has further enhanced the redistributive tendencies which are intrinsic to the system. Secondly, older pensions were raised more progressively. This adjustment pattern was necessary also because the reference earnings of old age pensions are not indexed against any economic indicators (growth of wages, costs of living, inflation, etc.). With a fixed determination of reference earnings and other rules of the real value of the reference earnings falls with time progressing and this is more the case for the "older" the pensions (older in terms of date of granting).

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[27] *The next, ninth in order, increase of pensions is planned with effect as of June 1, 1996.*

Adjustment of the reference earnings of old age pensions

In addition to the already mentioned cost-of-living adjustment of pensions per se it would nowadays be desirable to apply indexing also in the calculation of the reference earnings of pensions. The reference earnings are the average nominal earnings achieved during a certain reference period. The longer the period considered the higher the risk that earnings achieved are insufficient in comparison with the current price levels[28]. Therefore the reference earnings does not have to take into account cost of living even at the time of pension granting. Retrospectively, this problem is resolved through differentiated pension adjustments depending on the date of their granting. This is how the current cost--of-living adjustment functions in the SR. As the economy today undergoes more dynamic development, it would be appropriate in the future to resolve this problem with a systemic measure as e.g. incorporation of indexing into the formula for the determination of the reference earnings[29].

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[28] *At present the reference period in the SR is set to 10 years before the start of the entitlement period for old age pension which is a rather short term. In order to achieve a consideration of the merit principle and a closer link between the life-long earnings and the pension level it would be desirable to extend this period.*

[29] *E.g. in wage indexing system the earnings achieved in each particular year within the reference period for the purposes of reference earnings determination are multiplied by the ratio of the average wage in the year of pension granting to the average wage in that particular year during the reference period.*

Figure 1: Cost-of living adjustment mechanism (period from March 1, 1991 to June 1, 1996):

Cost-of-living adjustment of pensions according to their period of granting and their amount at the time of granting

Cost-of-living adjustment of the highest old age pensions

In addition to the already mentioned ceiling on reference earnings for old age pensions the pension itself has a maximum ceiling - the so-called highest admissible old age pension determined as a percentage rate and lump sum. Similarly to other quantitative ceilings in the PSS, also here the highest lump-sum amounts are determined both in absolute terms and in an administrative way. Table 7 presents a summary of the cost-of-living adjustment of the highest pensions for individual labour categories determined with a lump sum which was performed since the implementation of the cost-of-living adjustment mechanism in 1991. The cost-of-living adjustment of the highest pension amounts has also maintained the tendency of increasing the lower pensions more progressively. Altogether, the maximum ceiling of originally 3,800 Sk/month (valid for the most preferred labour category) has increased by 48.7% since 1991 while the maximum ceiling of originally 2,800 Sk/month (for the least preferred labour category) has grown by 53.2%.

Table 7: Cost-of-living adjustment of the highest of old age pensions, (since 1991)

Act No:	97/1993	285/1993	194/1995	135/1995	1996 (a)	
Amount (Sk/month)		Change against the previous period (%)				Total change (%)
3800	7.9	6.1	7.1	8.2	12.1	48.7
3250	10.8	5.6	7.1	8.1	12.0	51.7
2900	10.3	6.3	7.1	8.2	11.9	52.1
2800	10.7	6.5	7.3	8.2	12.0	53.2

(a) Proposed effect as of June 1, 1996

Source: Collection of Laws of the SR

2.2 EXPENDITURES ON PENSIONS AND THE NUMBER OF PENSIONS PAID PUT

In contrast to some other economies in transition (e.g. Poland or Slovenia) no dramatic growth of expenses on Pension Security occurred in the SR since 1990. Table 8 indicates that during a five-year period the ratio of Pension Security expenses to GDP has only modestly grown from 7.4% in 1990 to 8.4% in 1994. The ratio index related to the base period of 1990 (1990=100) achieved the value of approximately 114 in 1994. The ratio of total expenses on Pension Security to GDP can be understood as a multiple of four basic factors. The dynamism of individual factors determines the growth of this ratio[30].

(i) old age factor is defined as the population in post-productive age to the population in productive age ratio - approximated with the age limit of 60 years for men and 55 years for women,

(ii) entitlement factor is defined as the ratio of the number of retired pensioners to the total population in post-productive age,

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[30] *In order to define the main growth determinants of the expenses to GDP ratio the following decomposition can be used.*

Expenses of Pension Security / Gross domestic product =

(old age factor) (entitlement factor)* (transfer factor)* (activity factor)* = (PopO/PopP)* (Ret/PopO)* [(Exp/Ret)/(GDP/(Empl)]* (PopP/Emp)*

where: old age factor is defined as the ratio of the population in post-productive age (PopO) to the population in productive Age (PooP) approximated with the age limit of 60 years for men and 55 years for women, the entitlement factor id defined as the number of retired persons (Ret) in the total population in post-productive age ratio, transfer factor captures the rate of funds transfer to pensioners (expenses of pensions are indicated as Exp) from the productive (employed) population (Emp) , activity factor indicates the rate of economic activity of population in productive age.

(iii) transfer factor expresses the rate of funds transfer to pensioners (expenditures on pensions) from the productive (employed) population,

(iv) activity factor expresses the rate of economic activity of population in the productive age.

Dynamism of these factors in the period 1990-1994 is shown in Table 8.

Table 8: Share of expenditures on pensions in the GDP - growth decomposition

Year	1990	1991	1992	1993	1994	1995(a)
GDP (mill)(b)	257700	296200	332300	369900	441300	518000
Expenditures on pensions (mill)	19051	23989	28013	32737	37145	42853
Expenditures as GDP%	7.4	8.1	8.4	8.9	8.4	8.3
Indices 1990=100						
Expenditures/ GDP	100	109.6	114.0	119.7	113.9	111.9
Old age factor	100	99.0	98.5	97.8	97.2	96.3
Entitlement factor	100	104.1	106.7	107.9	108.1	107.6
Transfer factor	100	93.6	95.2	95.0	89.4	95.3
Economic activity factor	100	113.5	113.9	119.4	121.2	113.3

Note:

(a) 1995 - only estimates

(b) GDP in current prices, since 1992 calculated with the ESA method (source: Statistical Yearbook of the SR)

The growth decomposition of the expenditures on pensions to GDP into individual factors (Tab.8) implies the following:

1. The growth of this ratio is caused mainly by the activity factor the index of which grew by 21 points. This means that the share of employed persons in productive age population was persistently declining (this reflects the overall drop in the number of employed persons, increase of unemployment and drop of the participation rate).

2. The entitlement factor index grew by 8 points ranked second in terms of the growth. This means that in the population in post-productive age, the share of those having an entitlement to a pension was growing. Old age and disability pensions (including the payment of early retirements) contributed to this growth substantially.

3. The old age factor index dropped from 100 to 97.2 in the 1989-1994 period. This had an opposite effect (i.e. reducing the share of pension expenditures0 in the GDP). This means that the demographic burden on the Pension Security was temporarily reduced.

4. The transfer factor index also dropped, i.e. the relative transfer of funds from the productive population to pensioners dropped.

However, the growth of the activity factor and of the entitlement factor generally prevailed and the total ratio of expenditures to GDP slightly grew. This analysis indicates that in the 1989-1995 period the Pension Security was providing continually more and more pensions while the level of real security of pensioners was dropping.

Fig. 2 shows the development of the real level of average pensions (including components). The cost-of-living index is used as deflator[31]. As can be seen indexing of the average pensions towards the growth of the costs of living exhibits significant fluctuations as on the yearly basis as wll as within particular types of pensions. In 1995 the indices of real average pensions dropped below their 1989 level.

Indexing of average pensions towards average wages during the 1989-1995 period was slightly more successful. As Fig. 3 indicates, the level of indexing decreased in the last year as well, however, the 1995 level was in majority of cases above the 1989 level. A long-term decline experienced in proportional old age pensions and widow's pensions which are the most numerous after the old age and disability pensions. In the particular types of pensions the fluctuations stayed in the 10% band of the current average wage during the whole period.

Figure 2: Index of real average pensions (Deflator = costs-of-living index)

old age

proportional old age

disability

partial disability

widow's

Figure 3: Ratio of average pensions to average wages

old age

proportional old age

disability

partial disability

widow's

The development of aggregate PSS indicators is shown in Fig.4. The nominal expenditures on pensions grew much faster than the number of pensions. However, an even steeper growth of the cost-of-living index caused an almost continuous decline of real expenditures. This only confirms the overall picture of the PSS development after 1989; the absolute number of claims on the system was increasing while the real level of their maintenance was declining.

[31] *Average pensions in nominal terms are divided by the overall index of costs-of-living. Deflating by the costs-of-living index offers a qualitatively different picture of the development of the real level of pension than the deflating by price indices.*

Figure 4: Indices of some Pension Security indicators

Number of pensions

Nominal expenditures

Real expenses

Costs-of-living index

2.3 Early Retirement Scheme

Early retirement scheme was introduced by the government of the ČSSR in its regulation No.118/1988 as amended by later regulations[32]. The issue is the payment of old age pension before reaching the age necessary for entitlement generation, provided, the condition of employment period is satisfied. The conditions for granting early old age pensions are met if:

- the citizen was laid off for organisational reasons,
- the basic period of employment necessary for the generation of the old age pension entitlement is reached, i.e. 25 years,
- as of the day of lay off the person concerned would need not more than 2 years to reach the retirement age,
- the labour office cannot arrange the person an appropriate job.

The basic justification for the early granting of old age pensions was the effort to accommodate a rapidly growing unemployment. Due to restructuring as well as to the drop of aggregate demand elimination of over-employment and mass lay off of employees on organisational grounds occurred especially in the early stages of the transition process. The situation became critical mainly in 1991 when the registered unemployment grew from approximately 1% to 12%. Under the given situation early old age pensions were a tool to reduce registered unemployment. The increment of pensions granted in such a way culminated in 1991 and 1992 with a maximum of 23.8 thous reached in 1991. In this period increments slightly dropped while the numbers of pensions paid out till the end of the year kept a consistent high level due to cumulation (more than 28 thousand to the end of 1992, almost 26 thousand to the end of 1994)[33].

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[32] *Regulation of the Government No. 118/1988 as amended by the regulation of the Government No. 116/1989 Coll., Act No. 306/1991 Coll., Act No. 578/1991 Coll., No. 235/1992 Coll.*

[33] *To illustrate the financial impact of early retirement schemes on the expenditures of the pension security fund it is enough to make a simple approximation: the average of early old age pensions in 1994 multiplied by the average amount of the 1994 monthly old-age pension and the number of months is approximately 923 mill Sk which represents approximately 2.5% of overall expenditures on pensions (all type of pensions) in 1994.*

At the same time massive retirement of those workers whose entitlement to regular old age pension arose, took place. The financial burden on the PSS jumped up.

In addition to the mentioned financial impacts on the PSS the early retirement scheme has also other consequences: it reduces the real retirement age in the SR, the registered unemployment declines and at the same time the participation rate goes down[34]. The continuation or the removal of early retirement pensions will be determined by priorities ascribed to individual economic criteria. The criterion of unemployment rate decrease - which is topical in the short-term perspective - supports the maintenance of the existing status. The criterion of solvency maintenance in a self-financed PSS in the long-term perspective supports not only the elimination of early retirement pensions but also the prolongation of the retirement age limit. As elaborated in detail in Chapter 2.1, the retirement age of 53 to 57 for women and 60 for men is one of the lowest in Europe.

2.4 Issues in Old Age Pension Funding

Till January 1, 1993 it was not possible to think in the categories of income and expenditures of the PSS in the SR. Separate payments of contributions to Pension Security were introduced in January 1993. Until that time the expenditures on Pension Security were covered from the state budget, re-distribution of revenues from taxes and transfers. The new regulation included the formation of independent public institutions the so-called social security funds. Funds were establish to administer financial flows within individual security systems (health and sickness insurance, pension security and employment policy funding). In 1993, funds operation was simulated under the state budget. Thus, after a longer time it was possible to identify revenues and expenditures within individual kinds of security. Since January 1, 1994 their funding has completely been separated from the state budget and their transition to fund management was implemented.

Currently, there are certain financial links among individual funds and the state due to the variety and mutual links in the system of social benefits. E.g. the payer of contribution into the Pension Security fund is the State as well as the Employment Fund of the SR [35].

In this context, the granting of early retirement pensions was reflected in the growth of financial requirements on the Pension Security as those citizens who would otherwise receive unemployment benefit (funded from the Employment Fund) or another kind of social security for a certain period of time are perfecting their entitlement to pension early.

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[34] *The participation rate is the ratio of the population participating in the labour market (i.e. employed /including self-employed and women on maternity leaves/ and unemployed) to the total number of inhabitants in productive age (productive age is limited with the age limit for the generation of the regular entitlement to old age pension).*

[35] *They contribute for a listed group of citizens - e.g. the Employment Fund for registered unemployed persons receiving unemployment benefit and the contributions for other registered unemployed persons are paid by the state.*

In terms of the organisation of the Pension Security it has changed each year since it has been founded. The abolishment of the National Insurance and the foundation of Social Insurance [36] can be considered the last significant change. The total revenues of the Social Insurance were 52.3 billion Sk in 1995, out of which 15% (7.7 bill) were revenues from sickness insurance and 85% (44.6 bill) were revenues from Pension Security. Expenditures on social security benefits were 47.6 bill SK in a ratio of 41.9 bill Sk for Pension Security benefits to 5.7 bill Sk for sickness insurance systemic benefits. In terms of net expenditures on benefits the PSS is in surplus, today. These figures are not considering system administration costs.

2.5 DEMOGRAPHIC CONSIDERATIONS

As described in Chapter 2.4 (in the decomposition of expenditures on Pension Security) the ratio of expenditures on Pension Security to GDP as well as the solvency of PSS are substantially determined by demographic factors. In contrast to economic quantities which often undergo jump changes the demographic proportions change in a longer time horizon. A standard indicator of the demographic situation in the pension system is the so-called dependency ratio expressing the number of inhabitants in post-productive age to the number of inhabitants in productive age ratio. The higher the dependency ratio the higher the Pension Security solvency risk as the contributions from productive population may not suffice to cover the payment of eligible benefits to pensioners[37].

The dynamism of the dependency ratio is determined mainly by the development of the birth rate and the mortality rate. These quantities change in longer time periods. Currently, because of the social situation, it may be expected that the birth rate will be declining relatively faster than the mortality rate. The average life expectancy in the SR is at the lower end of the European spectrum. The average age for men is around 68 years and for women some 10 years more[38]. The more difficult economic conditions and the break down of a broad state-subsidised pre-school facilities network are the reasons for a drop in the birth rate which will probably continue for some time. Slovakia, thus, enters the road of "population ageing" which is so well known from the developed countries of western Europe.

Utilising the Forecast of the Population in the SR till the Year 2015 elaborated by the Statistical Office of the SR and the model of Pension Security in the SR - SOCPROG (Annex 1) further development of the dependency ratio in the SR can be forecast (see Table 3). As the table indicates a short-term positive development till the turn of the

[36] *Act No. 274/1994 Coll. As amended by Act No. 374/1994 which is effective as of January 1, 1995.*

[37] *This argument is fully valid in a pay-as-you-go principle based system when in the same period the payments from active population and pensioners' claims are fully compensated. In a capitalisation system such concerns are less justified, however, in the SR the pay-as-you-go principle has been fully applied so far and capitalisation tendencies related to the implementation of supplementary pension security schemes will develop slower and in a limited scope.*

[38] *The low life expectancy is often used as an argument against the increase of the age ceiling for old age pension entitlement.*

century can be expected[39]. A change should occur shortly after the year 2000. In the subsequent period the dependency ratio will deteriorate (growth acceleration is expected mainly after 2005). Calculations based on the two mentioned forecasts allow to compare alternative solutions of retirement age in the SR: the current status (approximated with the productive age of 15-55 for women, 15-60 for men) and the change of retirement age to 62 for women and men from the year 2007. According to these forecasts, raising of retirement age would decrease the dependency ratio by some 33% in the year 2007 and by 35% in the year 2010.

The dependency ratio defined in pure demographic terms as an age-based ratio of two groups of population does not fully capture the aspects of financial maintenance of the Pension Security. Real revenues depend also on the size of the contributors base which is given by the size of economic activity. The prognosis is unfavourable in this respect as well as because the participation rate has nowadays a declining tendency and, thus, the relative number of "full-fledged"[40] contributors will probably continue to decline. Real expenditures also depend on the share of pensioners in the total population in post-productive age. Recently, this ratio has slightly grown in the SR causing an increase of PSS expenditures (see the entitlement factor in Table 8).

Pension security solvency simulation

The SOCPROG[41] model was developed in the research work of the Institute for Forecasting of the Slovak Academy of Sciences. It was developed with the objective to model the basic PSS in the SR and to forecast impacts of various reforms on system solvency. For illustration, simulation results of change impacts of some system parameters called scenario A can be given. Table 9 gives values of the percentage rate of contributions to the PSS and the efficiency rate of contribution collection which would provide for a break-even balance of the PSS in the period 1997-2015 under the given macro-economic scenario.

In the given example the percentage rate of contributions would have to be increased from the starting value of 26.5 to 28.5. Which, in turn, would continue to increase the currently high contribution burden and, consequently, endanger the social peace. The efficiency of contribution collection in per cents would have to increase from starting 75 to 79.9. This would require additional costs on system monitoring and administration which would also grow together with the growth of the private sector. Therefore, the search after a solution in the policy reform of individual PSS institutions is worth considering.

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[39] *This positive development is mainly ascribed to the baby-boom of 1970s.*

[40] *"Full-fledged" is understood as persons paying the full amount of the contribution. The State pays contributions, though in limited amount, for some groups of economically inactive population. The Employment Fund pays contributions for the registered unemployed who receive unemployment benefits which, however, continues to burden contribution payers (Fund resources come mostly from the contributions paid by the population just the same as in the sources of the PSS).*

[41] *A simplified version of equations of the basic model and scenario to which this text refers is described in Annex 1. A more detailed model presentation and discussion of individual scenarios is given in previous publications of Institute for Forecasting of the SAA.*

Table 9: The impacts of some parameters change on the PSS balance

Scenario A*

(A) Deficit(= revenues - expenses) of the system expressed as a percentage of revenues

(B) The percentage rate of contributions to the Pension Security which would provide for a break-even balance of the fund each given year, ceteris paribus

(C) The efficiency rate of contribution collection (in per cents) which would provide for a break-even fund balance each given year, ceteris paribus**

Year	1997	1998	1999
(A) Fond deficit	-2.00	-3.14	-2.59
(B) Transfer rate (in 1993 reference value of 26.5)	26.5	27.4	27.2
(C) Efficiency rate of transfer collection (in 1993 reference value of 75)	75	77.5	77.1

Year	2000	2001	2002	2003	2004	2005	2006	2007
(A)	-2.08	-2.39	-2.81	-3.29	-3.65	-4.05	-4.44	-4.88
(B)	27.1	27.1	27.3	27.4	27.5	27.6	27.7	27.8
(C)	76.6	76.9	77.2	77.6	77.9	78.2	78.5	78.9

Year	2008	2009	2010	2011	2012	2013	2014	2015
(A)	-5.40	-5.64	-5.83	-5.96	-6.06	-6.13	-6.18	-6.23
(B)	28	28	28.1	28.1	28.1	28.2	28.2	28.2
(C)	79.3	79.5	79.5	79.7	79.8	79.9	79.9	79.9

Note

* *Description of Scenario A see in model description (Annex 1)*

** *Efficiency rate of contribution collection is defined as a percentage ratio of the really collected contributions to the theoretical amount of total contributions (see model description)*

3. OVERVIEW OF SOME STUDIES ON THE PENSION SECURITY SYSTEM IN THE SR ELABORATED BY INTERNATIONAL INSTITUTIONS

The attention paid to the evaluation of the PSS in the SR by respected organisations like the International Labour Organisation (ILO), the Organisation for Economic Co-operation and Development (OECD) and the World Bank prove the importance of Pension Security. Experts from each of these organisations elaborated studies the summary of which is presented here.

ILO (1994)

One of the main conclusions of the ILO study is that "too low pensions are paid to too many pensioners"[42]. With respect to the replacement rate of pension for income the ILO report states that the resulting level of protection given by the current basic PSS in the SR is not in compliance with ILO Convention No. 102 On Minimum Standards of Social Protection which requires a minimum 40% replacement rate of pension for income after 30 years of employment.

The introduction of cost-of-living adjustment is positively evaluated as PSS improvement. However, the level of effective pension indexing is evaluated as insufficient. The efficiency rate of PSS contribution collection was estimated to 74% in 1993. ILO experts further recommended to remove early retirement and supported the intention of the government to introduce a reduced early retirement pension.

In reference to the proportional old age pensions the study states that their existence would meet the minimum standard stipulated in the above mentioned ILO Convention No. 102 which requires to have a reduced pension guaranteed for each person who worked less than 15 years.

ILO considers the implementation of reference earnings indexing towards the average wage to be a necessary reform of primary importance. The need to index the maximum and the minimum pensions is evaluated similarly. The study also elaborates on the individual PSS institutes using the estimates from the ESTEEM model elaborated by foreign experts and with the SR data applied.

World Bank (1994)

The World Bank study gives an overall evaluation of the Slovak PSS which is partially contradicting the ILO conclusions when it states that: "Slovakia has an extensive and overlapping system of social support programs with a broad coverage of the population and generous benefits"[43]. ILO generally evaluates the level of benefits as low.

In the whole World Bank report a macro-economic perspective and the evaluation of links between the PSS and macro-economic situation prevail. The individual PSS aspects are evaluated in view of the achievement of the basic goal - the reduction of expenditures on social security. The increase of retirement age and reduction of early

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[42] *ILO, 1994: p. 3*

[43] *World Bank, 1994: P.87*

retirement are considered prominent measures. Indexing of minimum pension towards the average wage should prevent inappropriate drop of the minimum pensions.

Similarly to the ILO study, the relatively short reference period for the calculation of the reference earnings and diversified determination of pensions are criticized. The calculation method of reference earnings is viewed as very progressive (in terms of bringing a too high degree of re-allocation). The World Bank study gives also a prediction of social security funds balance. The model includes also other benefits than the PSS ones, however, it is rather detracted from the particular features of the existing system. PSS solvency forecasts look more optimistic especially because pension indexing towards price level increase (and not towards the average wage growth) is anticipated.

OECD (1995)

The dominant theme of the OECD study is the situation on the labour market. The social security system is evaluated in macro-economic terms, individual PSS institutes are not discussed into detail. The study also includes individual data analysis based evaluation of social security benefits targeting and of the support given to the poorest layers of the population.

In the macro-economic perspective the significant growth of the number of old age and disability pensions during the transition period - which may be caused by a generous granting of entitlements to pensions - is pointed out. The retirement age is commented as follows: "In the future, the retirement age which is given by law and is extremely low compared with international standards will have to be raised"[44].

Insufficient indexing of pensions towards the price level and the related gradual drop of real pensions level are viewed as another characteristic feature of the Slovak PSS.

Individual data analysis results indicate a relatively effective targeting of social benefits to the poorest layers of the population. In the group of pensioners' households without any economically active member the inequality indices calculated on the basis of income were relatively low which indicates a balanced distribution of income in the group. However, the absolute level of income was low: when limiting the poverty limit with the minimum wage, then, almost every second household in the group was below this limit.

In its conclusions the OECD study emphasises that even after the implementation of useful reforms the system of social benefits remains "a slightly inconsistent mixture of insurance principles and social transfers based on pro-natal principles".

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[44] *OECD, 1995: p. 22*

4. SUMMARY

1. In the SR, the basic Pension Security System - PSS - undergoes reforms aimed at the adjustment to market conditions. The most important reforms in this respect were: the separation of the system from the state budget and the transition to self-financing within autonomous funds, removal of the preferred labour categories and the introduction of a costs-of-living adjustment mechanism for pensions.
2. Financing of the basic PSS is based on the pay-as-you-go principle in which the pensions are continually funded by contributions from the active population. The capitalisation principle of financing should be applied within the emerging supplementary pension security system. So far, the legislation on supplementary pension security for a limited pool of employees has been approved.
3. In the basic PSS there is substantial redistribution of funds from participants with higher income to participants with lower income. The social solidarity principle prevails over the merit principle.
4. PSS provides more than 10 kinds of pensions among which the most numerous are the old age pensions, disability pensions and widow's pensions. Benefit schemes are generally generous in terms of the eligibility conditions.
5. The age needed for the generation of the entitlement to a full old age pension (retirement age) is relatively low and differentiated according to sex and other criteria in the SR. The implementation of early retirement scheme further reduced the real retirement age and increased the expenditures on pensions. The dependency ratio defined as the number of population in the post-productive age to the population in the productive age achieved the level of 23.9% in 1994. Demographic forecasts indicate a short-term drop in the dependency ratio which will be after the year 2000 changed into a long-term growth resulting in a higher financial burden on the PSS.
6. Adjustment of retirement age is currently a topical problem. The main reason for its increase is the provision for a long-term solvency of the PSS with respect to the demographic development after the year 2000. The main arguments used against retirement age increase are the low average age in the SR and a high unemployment rate.
7. The extent of redistribution of funds in the PSS ensues from the rules for the calculation of pensions and from the way of implementation of quantitative restrictions. In this context the following restrictions are important: ceiling on the reference earnings, progressive calculation of the reference earnings, the ceiling on pension benefits, upper and lower limit on the amount of the reference earnings for the calculation of insurance contribution payments, minimum amount of pension as the sole source of income, limitation of the reference period for the calculation of the reference earnings, phasing-out effects of the application of the former preferred labour categories.
8. The cost-of-living adjustment mechanism for pensions introduced in 1991 determines the periods in which the pensions have to be raised in dependance on the growth of the cost-of-living index and the growth of the economy-wide average wage. The increase of pensions is not quantitatively linked to the size of

increments of the mentioned economic indicators. Adjustments are implemented ad hoc by a set of legislative measures. Since the introduction of the adjustment mechanism pensions have been increased eight times, the ninth increase being planned for June 1996. The adjustment pattern of old age pensions maintains the redistributive tendencies of the system: lower pensions grow more progressively than higher ones and "older" pensions grow more than the "younger" ones. The cost of living adjustment functions also as the prevention of the drop in the real level of older pensions, as the reference earnings are not indexed towards economic indicators.

9. The share of expenditures for pension to GDP has been slightly growing after 1989. The growth of this share was mainly caused by the drop of the economic activity of the population in the productive age and the growth of share of retired people in the post-productive population. Nominal expenditures on pensions were growing faster in the period 1989-1995 than the absolute number of paid pensions. The steeper growth of price indices and cost-of-living indices, however, caused an almost persistent drop of real expenditures on pensions during this period. The effective rate of indexing of average pensions to average wage was rather stabilised with total fluctuations within the particular pension types in the range of 10% of average wage. The real level of average pensions[45] fluctuated throughout the period and in the 1995 it was lower than in the year 1989.

The overall development of the PSS in the SR after 1989 can briefly be summarised as a growth of the absolute number of claims on the system accompanied by a parallel drop in the maintenance of the real level of payments. According to the forecasts of demographic development after the year 2000 the long-term solvency of the PSS is endangered. The situation requires continuation of the reforms. A clear policy based reform of individual PSS institutes could achieve full elimination of state subsidies accompanied by a permanently balanced budget, even in the case of lower economic growth.

[45] *Deflated by the costs of living index.*

5. CONCLUSIONS AND RECOMMENDATIONS

With respect to the arguments elaborated in the previous parts of the presented study some changes of the Pension Security system in the SR can be recommended. The individual changes may miss their target if they are not carried out consistently and mutually linked. The selection of a particular set of measures among the outlined ideas and the choice of quantitative proportions in the new system should be evaluated with view to global and long-term effects on the PSS. The priority criterion should be the provision for a long-term balanced budget of the system. The evaluation of particular reform scenarios can be performed by simulation in the SOCPROG model or other PSS quantitative model.

Recommended changes in the PSS:

1. Unification of the retirement age for women and men.
2. Raising the retirement age by gradual increments in the course of several years.
3. Limitation of the progressive calculation of the reference earnings for pensions.
4. Elimination of the ceiling on the reference earnings for pensions determined by a lump-sum and its replacement with a multiple of the economy-wide average wage.
5. Elimination of the bands on the lowest and highest pension determined by lump-sums and introduction of their determination in terms of the multiples of economy-wide average wage.
6. Elimination of the bands on the highest and lowest reference earnings for insurance contributions into the PSS determined as multiples of minimum wage and introduction of their relation to multiples of the economy-wide average wage.
7. Unification of the replacement rates for the old age pensions during the period before the generation of the entitlement and raising of the replacement rates for the period worked after the start of the entitlement.
8. Prolongation of the reference period for the purposes of the calculation of the reference earnings for pensions.
9. Indexing of the reference earnings towards the economy-wide average wage in the particular years of the reference period.
10. Modification of the pension adjustment mechanism by introducing an explicit relationship between the magnitudes of the pension adjustment and the growth of costs of living and average wages.
11. Abolishment of the early retirement.

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