ИКОНОМИЧЕСКИ ИНСТИТУТ НА БЪЛГАРСКАТА АКАДЕМИЯ НА НАУКИТЕ
ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
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THE BULGARIAN PENSION SYSTEM
(design, pre-reform and post-reform financial status)

The scientific objectives of the presented study are: (i) to provide an analytical overview of the main characteristics of the Bulgarian pension reform; and (ii) to present its financial aspects related to the pre-reform and post-reform deficit of the PAYG pillar. Several conclusions regarding the background, parameters and financial status (current and projected) of the Bulgarian pension system are summarized. Recommendations concerning the implementation of a mechanism for a regular external monitoring and evaluation of the pension system's development respecting the provisions of the adopted National Strategy and the necessity to develop a new National Strategy for the further improvement of the pension system are suggested as well.
JEL: H53, H55

I. Introduction

The economic, social and political need of reforming the pension insurance system in Bulgaria was clear still in the beginning of the 90's. The decline in the living standard of the elderly people, the high economic price of this system and its low efficiency were some of the major (but not the only) arguments. The postponement and the delay of the reform do not make it less needed but only more painful. The unstable financial situation was one of the most difficult problems of the pension system till the end of 1999. A number of negative consequences resulted from it, which influenced not only the internal situation and features of the system (and respectively its beneficiaries), however they had a broader social and economic impact (situation of the state budget, fiscal policy, social peace, etc.).

The type of the system was inherited from the socialist times. At the beginning of the transition the social security system in Bulgaria was entirely state-owned and it comprised (i) one universal social insurance regime covering the predominant part of the economically active persons and (ii) a social insurance regime whit a very limited scope - for craftsmen and people with freelance professions. The universal social insurance covered the main social risks according to the Convention 102/1952 of the ILO. This regime was based on the universal and mandatory pension insurance of all employed people. The pension system was PAYG type. The contributions were entirely paid by the "employer" (the state firms, state institutions, etc.) and they were "general" (i.e. without any differentiation and specification by

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insured risks). The contributions were accumulated by the state budget which was the main financial source for the social security system (including for the pensions). The "State Social Security" Fund was an integrated part of the state budget (till 1995). The access to pension rights depended by (a) the length of the labor service and (b) the age. The requirements were very liberal – e.g. for a man working III category of labor: 25 years contribution period and 60 years age (for women the conditions were respectively 20 and 55 years). The amount of the old-age pensions was equal to 55% of the average wage received during the 3 working years chosen by the pensioner from the last 15 working years. The main weaknesses of the inherited pension system are evident: state character; liberal conditions for access to pensions; non-accounting of the entire insurance contribution of the person; lack of target contributions for particular insurance risks; the insurance burden was entirely for the employer, etc.

During the 90's many parametric changes aimed at the financial stabilization of the pension system has been implemented[2]. Despite this, starting in 1990 and during the whole transition period, the own source revenues of the pension system from contributions were significantly lower than its expenditures – in 1991, 1993, 1994 the deficit was higher than 20% and it was covered by transfers from the state budget. The actuarial estimates from the end of the 90's clearly indicated financial collapse of the existing pension system and growing accumulated deficit reaching up to 22% of the GDP. This deficit resulted mainly from the inadequate architecture of the pension system allowing liberal access to pension rights (respectively generating large expenditures) and inability to provide sufficient own source revenues that would financially ensure these rights. This is why and – in the existing at that time favorable policy context, a national pension reform strategy was designed in 1998-1999 and the new pension system was introduced in 2000.

In this context, *the objectives of the presented study are* to provide an analytical overview of the main characteristics of the Bulgarian pension reform and to present its financial aspects related to the pre-reform and post-reform deficit of the PAYG pillar.

1. Main Characteristics of the Reform and Structure of the Bulgarian Pension Model

The Bulgarian pension reform is based on the *concept of the well known "three - pillars model*[3]" which relis on the "security through diversity"[4]. No other complete concept - an alternative to the three-pillar model, was presented in Bulgaria during the preparation of the reform in 1998-1999. On the other hand, there should be

[2] For more details see Shopov G. "The financial stabilization of the pension system in restructuring", Sofia, 2001 (in Bulgarian), page 31-41.

[3] This model was first described and proposed in 1994 by the World Bank in the report "Averting the Old Age Crisis. Policies to protect the old and promote growth", published by the Oxford University Press.

[4] "Security through diversity" is the title of the Polish strategy for reform of the pension insurance.

mentioned the influence of external factors as international institutions and donors, which supported decisions targeted at the introduction of the three-component model.[5] The *main objectives* of the pension reform and the modernized pension insurance system defined in the Mandatory Social Insurance Code - MSIC[6] are as follows:

First, increasing the general level of pension protection aiming at provision of better material status of the present and future pensioners.

Second, achieving financial stabilization of the pension system in mid-term and long-term plan.

Third, enriching the architecture of the pension insurance system by substituting the one-pillar pension system for the three-pillar pension system and by diversifying the pension insurance forms.

Fourth, regularizing the public relations in the area of mandatory social insurance in a new modern way corresponding to the deep changes in the public, political and economic structure and situation in the country.

Fifth, the deep changes in the mandatory pension insurance should provide its unification in two directions: (i) Internal unification – not allowing excessive segmentation of the system; (ii) External unification – compliance with the EU requirements (*aquis communautaires*) and accounting for the international requirements and standards set in documents on which the Republic of Bulgaria is a party.

The *main principles* of the reform are as follows:

1. Pluralism in the types and forms of pension insurance combining: public and private insurance; mandatory and voluntary insurance; universal and

[5] For more details about "why exactly the three – pillar model has been chosen and implemented" and what the policy context of the pension reform has been at the end of the 90's, see Shopov G. "Bulgarian Pension System in Restructuring", in the book "Ten Years of Economic Transformation", Volume III - Societies and Institutions in Transition, in: Studies in Industrial Engineering and Management, No 16, 2001, Lappeenranta University of Technology (Finland); "The Pension Reform in Bulgaria: Bridging Social Policy Research and Policy Making (an episode study)"- http://www.gdnet.org/middle.php?oid=203 and http://www.club2000.org ; Shopov G. "The Policy Context of the Pension Reform and the link "research-policy", Revue "Economic thought"-Bulgarian Academy of Sciences-Institute of Economics, 2005.

[6] See "Strategy for pension reform in Bulgaria", report of the governmental work group on the pension reform approved by the Government and the Parliament (1999); Code for Mandatory Social Insurance - CMSI adopted in 1999 by the Parliament and in force since 2000; J. Hriskoskov "Mandatory social insurance – changes, nature and contents of the Mandatory Social Insurance Code", in: "The Bulgarian pension model", published by the United Sates Agency for International Development, Pension Reform Project, Sofia, 2000, p.12.

occupational insurance; pay-as-you-go and capital-funded insurance; the principle of defined contributions with the principle of defined pensions.

2. Diversity in the pension system architecture consisting of three main pillars. Therefore there is a dispersion of the risks, typical for each type of pension system.

3. Strict observance of the national solidarity principle in all dimensions and manifestations: among generations; among economic agents (employers, employed and self-employed); among high and low income groups of insured persons.

4. Incentives for employers, employed and self-employed to participate in the pension insurance system and to pay the legally due insurance contributions.

5. Provision of more adequate link between insurance rights and insurance contributions.

6. Decreasing the insurance burden and more equal and more just distribution among employers, employed and self-insured persons.

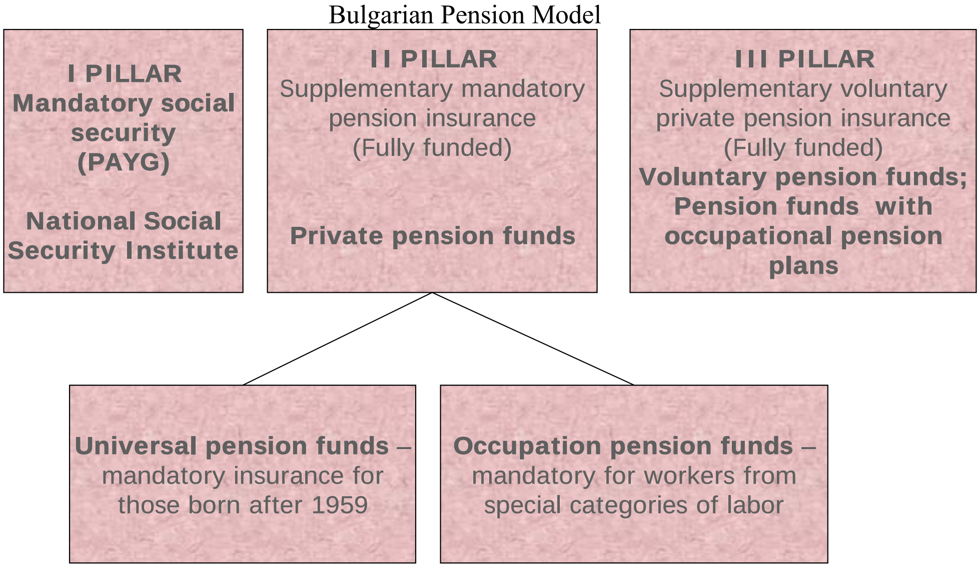
7. Support for the development of the capital market and generation of additional resource capacity for economic growth through the development of the second and third pillars.

Pillar Design

The current earnings related pension scheme in Bulgaria comprises the following three main components (See Figure 1) in compliance with the objectives and principles of the pension reform.

Figure 1

Bulgarian Pension Model



The first pillar encompasses the public system for mandatory pension insurance. It is a defined benefit scheme financed on a PAYG basis. The pillar is managed on a tripartite principle and is administered by the National Social Security Institute - NSSI.

The second pillar is a scheme for supplementary mandatory fully funded defined contribution pension insurance. This pillar includes two types of supplementary mandatory pension insurance – occupational and universal. *The supplementary insurance in an occupational pension fund* is mandatory for everyone working under the conditions of first and second labor categories. It works on the basis of a personal contract between the pension-insurance company and the insured person. The aim of this component is to make available possibilities for early retirement of the persons working under the conditions of first and second labor categories by providing a fixed-term occupational pension. *The supplementary insurance in a universal pension fund* is mandatory for the persons born after 1959. Insurance in such fund entitles to: (i) supplementary life pension **after** becoming eligible to old-age and length of insurance pension; (ii) lump sum or installments payment of the accumulated amount in the personal account paid to the heirs of a deceased member or pensioner of the universal fund. The pension funds are managed by private pension fund companies.

The third pillar encompasses the supplementary voluntary fully funded pension insurance. It is similar to the second pillar but the participation of employers and insured persons (employees and self-employed) is on voluntary basis. This pillar is private as well.

The introduction of a pension system with such design corresponds to important objectives, tasks and principles set in the pension reform strategy. This system combines two main types of pension schemes (pay-as-you-go and capital funded types); the risks of each of these schemes are dispersed (e.g. demographic factors – major risk factor for the first type and the sharp fluctuations of the capital markets – major risk for the second type); combination of public type (the first pillar) and private type (second and third pillar) insurance and management; combination of the principle of defined pensions with the principle of defined contributions, etc. That design also has basic social-economic functions of the insurance system as distributive and redistributive functions, stimulation of savings and support for the economic growth.

These main pillars are supplemented and supported by a “zero” (non-contributory) pillar and by the “fourth” pillar (healthcare) – see Table 1.

Table 1

Structure of the Bulgarian Pension System (2007)

	Pro-vision	Coverage	Type	Function	Financing	Generic Benefit	Benefit Indexation	Taxation		
								Contributions	**Investment Income/Capital Gains**	**Bene-fits**
Zero-Pillar (Non-contributory): **Non- contributory pensions:** **- military disability** **- citizen's disability pension;** **- social disability pension.** **- old-age social pension;** **- personal pension**	Public	Universal Means tested	Life time or for the period of disability Life time	redistributive	Tax revenues	Amounts fixed by the law	Annually – as % of the old-age social pension Percentage equal to 50% of the CPI (previous year) + 50% of the ave-rage insured income growth (previous year)	Na.	Na.	Exempt
First Pillar (Earnings Related)	Public	mandatory	PAYG	Insurance	% of individual earnings (contributions paid by the employer and the employee)+ tax revenues	Benefit calculated on the basis of length of the contribution period and the value of the individual coefficient of the pensioner (equal to the level of the individual insurance income divided by the average insured income for the same period)	Percentage equal to 50% of the CPI (previous year) + 50% of the average insurance income growth (previous year)	Exempt	Na.	Exempt
A) Second Universal Pillar (Earnings Related)	Private	Mandatory for all born after 1959	DC	Insurance	% of individual earnings. Contributions paid by the employer and the employee	Life time annuity based on capital accumulation (projected)	Depends on options chosen.	Exempt	Exempt	Exempt
B) Second Occupational Pillar (Earnings Related)	Private	Mandatory for all working in risky environment	DC	Insurance	% of individual earnings. Contributions paid by the employer	Fixed term early pensions based on capital accumulation in the individual account	Depends on options chosen.	Exempt	Exempt	Exempt
Third Pillar (Voluntary)	Private	voluntary	DC	Insurance	voluntary contributions	pension from capital accumulation	Depends on options chosen.	Exempt	Exempt	Taxed
A) Fourth Pillar (Mandatory Public Healthcare)	Public	mandatory	Na.	insurance	% of individual earnings+ tax revenues	Specified health service package	Na.	Exempt	Na.	Exempt
B) Fourth Pillar (Voluntary Private Healthcare)	Private	voluntary	Na.	insurance	voluntary contributions	Supplementary health service package (contracted)	Na.	Exempt	Na.	Exempt

Non-contributory schemes for elderly people in Bulgaria (a special focus)

The social security of the elderly people in Bulgaria is provided trough the two main branches of the social safety net – social insurance and social assistance. This system, with exception of the second and the third pillar of the pension's model, is state owned. It combines the targeted contributions and targeted benefits with general (tax) revenues and universal benefits: the pensioners (who, as default, are beneficiaries of the pension system) can receive social assistance benefits under the universal national schemes for poverty alleviation. They are also eligible for the services provided by the universal public healthcare insurance system – their healthcare contributions are totally paid by the state budget. This diversity allows the system to be more flexible and adaptable to the changing economic and social conditions in the country.

(**A**) More specifically, as it can be seen in table 1, the "zero" pillar provides *non-contributory pensions*, i.e. – the existence of classical social insurance contract (relationships) is not mandatory. The main beneficiaries of the benefits provided by this pillar are the people which disability has resulted during their military service ("military disabled pensions"), or during the fulfillment of their "citizen's duties" ("citizen's disability pensions"); this group includes also pensions for 70 and more years old non-insured persons ("social old-age pension"), social disability pension (70% and more loss of working capacity) and some special pensions – "personal pensions" (the beneficiaries are personally defined by the Council of Ministers) and "pensions for very special merits" (the beneficiaries are personally defined by the Parliament).

The Bulgarian pension system includes also a non-contributory income-tested social pension provided to elderly persons not collecting a pension. The main eligibility requirement for social old-age pension is the person to be at least 70 years old and the average income per family member (or personal income if the person lives alone) to be lower than the so called "guaranteed minimum income" for a 12 month period. The guaranteed minimum income is used for determining the amount of the social benefits in the social assistance system and its amount in 2006 is BGN 55.

The amount of the social pension is determined annually by the Government according to the general rule of pension indexation - its percentage is equal to 50% of the CPI (previous year) + 50% of the average insured income growth (previous year). The actualization is usually made in the middle of the year (July 1st). Since January 1st, 2006, the level of the old-age social pension is BGN 63, or 17,7% of the average wage (BGN 355; 2006). The social pensions, as other non-contributive pensions, are paid by the fund "Pensions not related to labor activity", which is financed through transfers from the state budget.

In 2005, the number of social pension beneficiaries has been 4 592 or 0.20% of the total number of pensioners. This low scope is due to the fact that the people from this age group have worked during the socialist time when the paradigm of "full employment" and respectively – the full social insurance coverage has dominated which means that most of these persons receive a "regular" old-age pension.

The people who are disabled by birth or who have become disabled before starting work are entitled to social disability pension at turning 16 years of age. This pension is granted in case of 70% loss of working capacity. The amount of social disability pension is as follows: a) over 90% loss of working capacity – 120% of the social old-age pension; b) 70-90% loss of working capacity – 110% of the social old age pension.

(**B**) Another non-contributory source of income available to the elderly people in Bulgaria through *the social assistance system* is the Guaranteed Minimum Income (GMI). The GMI is guaranteed to the very low incomes individuals and families, including the elderly. The initial amount of GMI was defined in 1992 and it was based on minimum consumption basket. Since then the nominal level of GMI was increased depending on the available resources from the budget without any specific indexation rule. In some periods, the GMI has been frozen for a long time: for example since March 2001 until the end of 2004 the GMI was US$25[7] (BGN 40), or about 33% of the minimum working wage at the end of 2004. In the middle of 2005 the GMI was increased (to BGN 55) but it was only about 37% of the minimum wage (BGN 150, 2005). Due to indexation below the rate of inflation over the years, the real value of GMI was eroded with a value higher than the value of the other minimum incomes – i.e. since the end of 1999 the minimum wage increased almost 3 times, the social pension – almost 2 times, while the GMI- 1,7 times).

The amount of GMI (or more precisely - the level of so called "differentiated minimum income - DMI") of each family is determined based on the family size and using a set of coefficients (larger families could receive a higher benefit). The coefficients for elderly people are as follows (see Table 2):

Table 2

Coefficients for GMI program and values of the Differentiated Minimum Income since mid-2005

	Percentage of GMI	Value of DMI (BGN)
GMI		55
for a person under 65 years of age living by him/herself	73	40.15
for a person over 75 years of age living by him/herself	165	90.75
for a person over 65 years of age living by him/herself	140	77.00
for a person over 65 years of age	100	55.00

Source: Social Assistance Agency.

Other income sources, including retirement benefits, are taken into consideration in determining the DMI provided to individuals/or families. The level of income support (so called "monthly social assistance benefit") is determined based on the difference between the level of DMI and the actual income of the individual/or family.

In 2005 the number of the "elderly beneficiaries" (i.e. the persons above working age) receiving monthly benefits under the GMI program has been 21 600 or approximately 10% of the total number of the beneficiaries of this program. The elderly persons (over 75 years old) living by themselves represent the biggest part – 14 819 people or 68,7% of all assisted elderly beneficiaries (see Table 3).

[7] Figure for 2004 with an exchange rate of US$=1.575 BGN. Over this period the value in dollar terms changed and in BGN it remained constant.

Table 3

Elderly beneficiaries of monthly social assistance benefits

Beneficiaries	2003	2004	2005	2006
Persons below the age of 65 years, living by themselves	1 431	1 266	1 553	1 694
Persons age 65-74 years, living by themselves	7 138	4 544	3 399	2 763
Persons over the age of 75 years, living by themselves	24 036	19 500	14 819	10 481
Families, in which lives one person up to the age of 70 years	1 564	1 329	1 450	1 376
Families, in which lives one person over the age of 70 years	550	298	353	349
Total number of elderly beneficiaries	34 719	26 937	21 574	16 663
Total number of beneficiaries	268 241	222 040	212 180	183 122
Total expenditures for monthly social assistance (GMI program) – mln. BGN	98,9	86,6	95,4	82,7
% of the GDP	0,29	0,23	0,26	0,17

Source: Social Assistance Agency.

Over BGN 95 million have been spent under the GMI program in 2005 which represents 0,26% of GDP; 2006 marks a diminution in terms of number of beneficiaries and level of expenditures (0,17 % of GDP). The number of elderly beneficiaries has declined as well which means that the general level of incomes of the pensioners is enough to take them out of the social assistance system supporting the poor people and families.

The elderly people benefit also from a national social assistance program for heating allowances. It provides targeted, means-tested benefits during the winter season. The level of the “energy benefit” in 2005 is BGN 57,75. The principles of this program are similar to the GMI program. The person has right to apply for heating allowances when its incomes are below some threshold which is calculated on the basis of the GMI value and a set of coefficients. The coefficients for elderly people (153% - for a person over the age of 70 years; 229% - for a person over the age of 65 years, living by him/herself; 240% - for a person over the age of 75 years living by him/herself) are higher than the coefficients for other categories – e.g. 175% for a person living by him/herself, or 120% – for each member of a married couple, or 131% – for each child living in the family. In 2004, the number of the beneficiaries has been 986 900 and the total spending - BGN 100,4 million.

(**C**) The pensioners are fully eligible for the national *mandatory health insurance system* and they have right to receive any healthcare services, included in the National Healthcare Framework Contract (which is annually signed between the National Health Insurance Fund -NHIF and the representatives of the professional organizations of the physicians and doctors on dental medicine). The list of services includes (according to art. 45 of the Health Insurance Law), *inter alia*, medical and dental services for prevention of illnesses; medical and dental activities for early finding of diseases; hospital and off-hospital medical assistance for dyagnostics and treatment in case of illness; medical rehabilitation; emergency medical aid; dental and dental-mechanic assistance, prescription and provision of permitted medicines for home medical treatment on the country’s territory.

The NHIF purchases healthcare services from the healthcare providers on a contractual basis. The system provides a health service package to the participants. Individuals are provided with the option to choose their general practitioner but have to pay an additional fee if they go directly to other providers without a referral from the general practitioner. The choice of the healthcare provider is regulated by law. The health-insured people are entitled to free of charge or partially paid medicines according to a special medicine list. The pensioners do not have any special rights for free of charge medicines however the law envisages privileges for the disabled people.

The health care services are financed by contributions amounting to 6%[8] of earnings and paid by the employer (65%) and the employee (35%)[9]. The contributions for certain groups, as pensioners, children up to 18, students, individuals eligible for social assistance, etc., are paid by the state. The contribution paid on behalf of the pensioners by the state is based on the amount of the received individual pension without the pension supplements to the main amount.

Another source of financing of the healthcare system is the co-payments in return for the receipt of services. A co-payment in the amount of 1 % of minimum wage (BGN 180; 2007) is paid for each visit to a general practitioner and outpatient care specialist. The co-payment for each day of hospital stay is 2% of minimum wage with a maximum of 10 days in a year. Certain individuals such as the children below full age and unemployed family members, disabled military personnel, medical staff, prisoners and those individuals eligible for social assistance (including the elderly receiving social assistance benefits), are not required to pay co-payments.

2. The financial dimensions of the pension reform

Revenues, expenditures and fiscal deficit during the pre-reforming period

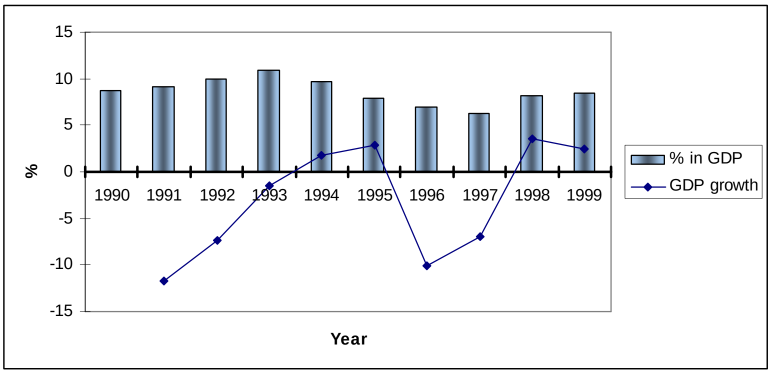
The transition from a centrally planned and state dominated to market economy affected all the sectors including the pension system. Its inadequacy to the new realities became obvious at the end of 1989 - immediately after the commencement of the political and socio-economic changes. A synthesized sign of the pension system crisis has been its financial instability. During the whole pre-reforming period (1990-1999) the pension expenditures represent an important part of the GDP[10], while the country suffered from deep economic crisis and negative growth (See Figure 2).

The revenues from contributions are insufficient - they can not ensure all expenditures and the deficit (which in 1991, 1993, 1994 exceeds the revenues from contributions by over 20%) is covered by transfers from the state budget (See Table 4 and Figure 3).

[8] The Government is planning to increase the health care contribution rate at 8% in 2008.
[9] This ratio has been 80:20 (in 2000); 75:25 (in 2002-2004); 70:30 (in 2005), and will be 60:40 (in 2008); 55:45 (in 2009) and 50:50 (in 2010 and after that).
[10] However, this level remains relatively lower in comparison to some other countries (Austria – 14,5% of GDP, Italy – 13,8%, Portugal – 13,3%, France – 12,1%, Germany – 11,8%, Finland – 11,3% etc.)

Figure 2

Share of the pension expenditures in GDP (1990-1999) - %



Source: Data from NSSI and Statistical Yearbook- Bulgaria- 2000 (National Statistical Institute).

Table 4

Bulgarian Social Insurance System Fiscal Balance Prior to the Reform (thousand leva*)

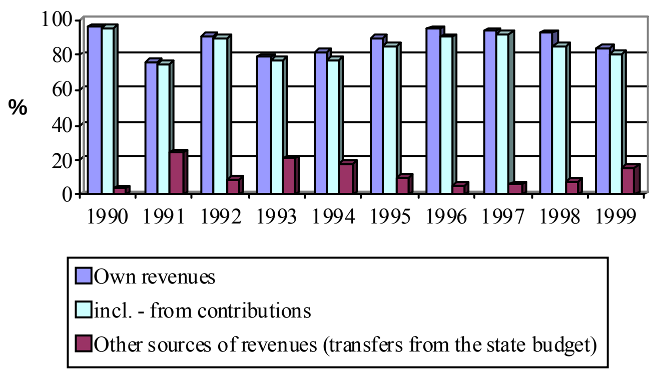
Years	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1. Revenues	5207934	16270623	24727525	40306707	60535465	81742600	137686708	1395714050	2188930593	2439764
incl. revenues from contributions	4983690	12250197	22158296	30938602	46752937	69790784	124205569	1284390079	1869616151	1972629
2.Expenditures	4955822	16270623	24727525	40306707	60304015	80790237	136632698	1283750518	2114777261	2330961
incl. for pensions	3562170	11460500	18768857	30822123	48151664	66079537	114666768	1077025842	1803302622	1952687
3. Balance	252112	0	0	0	231450	952363	1054010	111963532	74153332	108803
% of GDP:										
Revenues	11,47	11,99	12,31	13,48	11,52	9,29	7,87	8,18	10,14	10,71
incl. revenues from contributions	10,98	9,03	11,03	10,35	8,90	7,93	7,10	7,53	8,66	8,66
Expenditures	10,92	11,99	12,31	13,48	11,47	9,18	7,81	7,53	9,80	10,23
incl. for pensions	7,85	8,44	9,35	10,31	9,16	7,51	6,56	6,31	8,36	8,57
Balance	0,56	0,00	0,00	0,00	0,04	0,11	0,06	0,66	0,34	0,48

* till 1998 the data are in BGL; after that - in BGN, when 1000 BGL=1BGN.

Source: Statistical Yearbook of the National Social Security Institute – NSSI, 2005.

Figure 3

Structure of the consolidated revenues of the “State Social Security” Fund (1990-1999)



Source: Data from National Social Security Institute - NSSI.

The financial crisis in the pension insurance has the following basic characteristic features during the period preceding the reform: budget that cannot be balanced through revenues from social security contributions; increasing role of the "other sources" and particularly of the state budget subsidies; setting of deficit budget at the moment of the laws' adoption (first happened in 1995 in the State Budget Act); current updating of the budget in several years (e.g. in 1996); interest-free transfers from other insurance funds to be returned at a later stage (e.g. from the Unemployment Insurance Fund)[11].

The financial crisis of Bulgarian pension system was due to the usual (also for many other systems) economic, demographic and social factors as depopulation and population aging, increase of the dependency rates[12]; unemployment growth (from 10.9% in 1990 to 16% at the end of 1999); employment decline (between 1990 and 1999 the number of employed people declined by over 1,285 million people); increase of employment in the shadow economy (according to some evaluations in the middle of the 90's it covered about 1/3 of the employees); low incomes and limited insurance basis (the average insured income in 1998 was 165 BGN, and 180 BGN in 1999, while the average wage was respectively 187 BGN and 205 BGN); high inflation in some years growing to hyperinflation (574% in 1991; 411% in 1996, 697% in 1997), general crisis in the public finance and highly restrictive budget policy. Nevertheless, **during all these difficult transition years the pension system continued to operate and pay on time without delays all the due pensions. Thus this system turned into one of the important factors of the social peace in the country.** The price which the pensioners and the people in active age paid (and are paying) for this is another important issue.

The pre-reform fiscal/actuarial projections of the pension system

Actuarial projections about the possible situation of the pension system in case its architecture was preserved were developed in relation to the preparation of the pension reform in 1999. These estimates (no matter which of the two adopted scenarios they concerned[13]) clearly indicated a financial collapse of the existing pension system and growing share of the deficit in the GDP (see Figure 4). It would result from the inadequate architecture of the pension system providing liberal access to pension rights (and respectively generating large expenditures) and inability to provide enough own source revenues to ensure these rights.

The actuarial estimates developed during the preparation of the pension reform and considering its parameters set in the reform strategy and the draft Code for Mandatory Public Insurance indicated that: (1) it is possible the new pension system to overcome the deficit after 2009; (2) the old system (according to the Pension Law-PL in force at that moment) preserved continuous deficit (about 8% after 2005) – see Table 5 and Figure 5**.**

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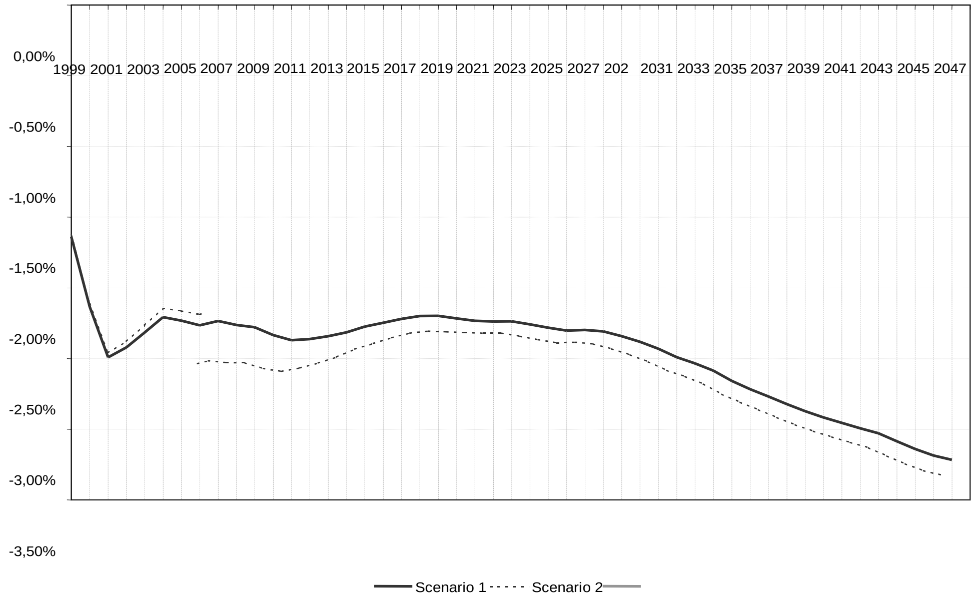
[11] For more details see Shopov G. "The financial stabilization of the pension system in restructuring", Sofia, 2001 (in Bulgarian). Chopov G. "Bulgarie: La réforme du système de retraite", in "Chronique Internationale de l'IRES", Paris, No55, Novembre 1998.
[12] These factors are reviewed below.
[13] Scenario 1 assumed faster per capita growth of GDP and respectively higher unemployment rate. Scenario 2 assumed a more moderate unemployment rate and lower growth of labor productivity per one employee.

Figure 4

Annual deficit of the "Social Security Fund" as a % of the GDP



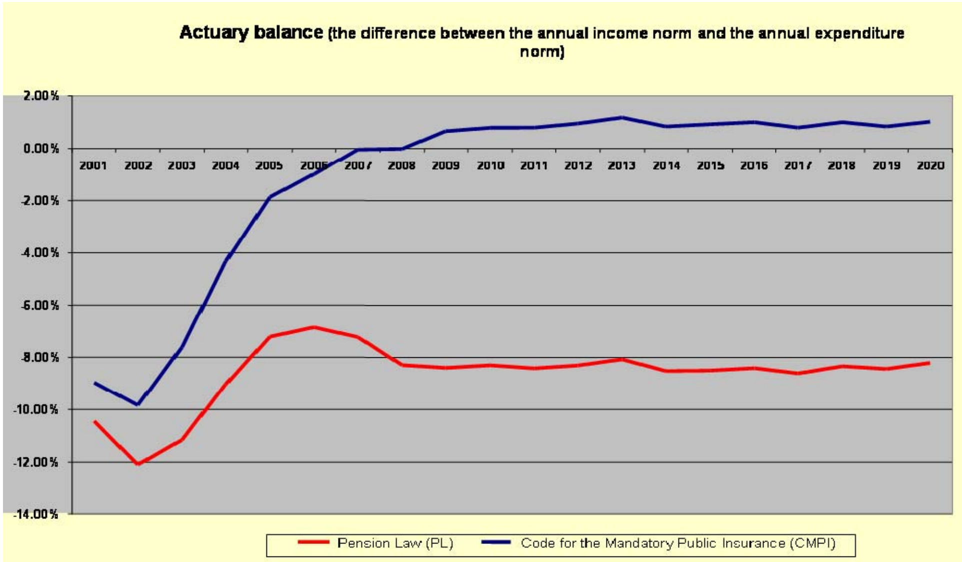
Source: Pension Reform Strategy of Bulgaria, 1999.

Table 5

Projections for the Development of Incomes, Expenditures and Balance of the Consolidated Budget - a Comparative table for the tendencies according to the old Pension law'1999 - PL (previous pension system) and the new Code for Mandatory Public Insurance'2000 - CMPI (new pension system)

Year	Incomes		Expenditures		Actuary balance		Expenditures as % of GDP (according to projections made in 1999)		Annual deficit as % of GDP		Accumulated deficit as % of GDP	
	PL	CMPI	PL	CMPI	PL	CMPI	PL	CMPI	PL	CMPI	PL	CMPI
2001	2.472	2.507	2.767	2.740	-10,45%	-8,97%	10,58%	10,46%	1,04%	0,82%	1,00%	0,78%
2002	2.388	2.428	3.076	3.003	-12,10%	-9,84%	10,00%	9,74%	2,24%	1,87%	3,16%	2,59%
2003	2.604	2.661	3.297	3.149	-11,17%	-7,62%	9,84%	9,38%	2,06%	1,45%	4,96%	3,83%
2004	2.919	2.994	3.539	3.302	-9,03%	-4,33%	9,61%	8,95%	1,68%	0,84%	6,19%	4,32%
2005	3.261	3.348	3.816	3.493	-7,22%	-1,87%	9,41%	8,61%	1,37%	0,36%	7,00%	4,28%
2006	3.540	3.638	4.105	3.727	-6,86%	-1,00%	9,55%	8,65%	1,31%	0,21%	7,92%	4,25%
2007	3.748	3.873	4.384	3.883	-7,24%	-0,05%	9,62%	8,50%	1,40%	0,02%	8,86%	4,03%
2008	3.889	4.030	4.667	4.034	-8,30%	-0,02%	9,66%	8,34%	1,61%	0,01%	9,97%	3,81%
2009	4.103	4.278	4.941	4.206	-8,40%	0,66%	9,65%	8,21%	1,64%	-	11,04%	3,45%
2010	4.353	4.543	5.226	4.455	-8,31%	0,79%	9,71%	8,28%	1,62%	-	12,14%	3,13%
2011	4.580	4.785	5.516	4.694	-8,42%	0,80%	9,76%	8,30%	1,66%	-	13,21%	2,82%
2012	4.801	5.028	5.776	4.914	-8,31%	0,95%	9,73%	8,28%	1,64%	-	14,23%	2,49%
2013	5.036	5.280	6.036	5.133	-8,08%	1,17%	9,68%	8,23%	1,60%	-	15,15%	2,14%
2014	5.194	5.453	6.296	5.345	-8,53%	0,84%	9,71%	8,24%	1,70%	-	16,27%	1,89%
2015	5.403	5.681	6.552	5.557	-8,51%	0,91%	9,72%	8,24%	1,71%	-	17,35%	1,63%
2016	5.629	5.911	6.817	5.772	-8,42%	1,00%	9,72%	8,23%	1,70%	-	18,38%	1,37%
2017	5.813	6.096	7.083	5.981	-8,62%	0,80%	9,71%	8,20%	1,74%	-	19,42%	1,16%
2018	6.062	6.347	7.348	6.194	-8,35%	1,00%	9,68%	8,16%	1,70%	-	20,37%	0,91%
2019	6.268	6.551	7.628	6.418	-8,45%	0,84%	9,67%	8,13%	1,72%	-	21,31%	0,71%
2020	6.540	6.822	7.923	6.653	-8,22%	1,01%	9,65%	8,11%	1,69%	-	22,17%	0,47%

Figure 5
Actuary balance according to the old Pension law'1999 (previous pension system) and the new Code for Mandatory Public Insurance'2000 (new pension system)



The main reasons behind the long-term fiscal deficits

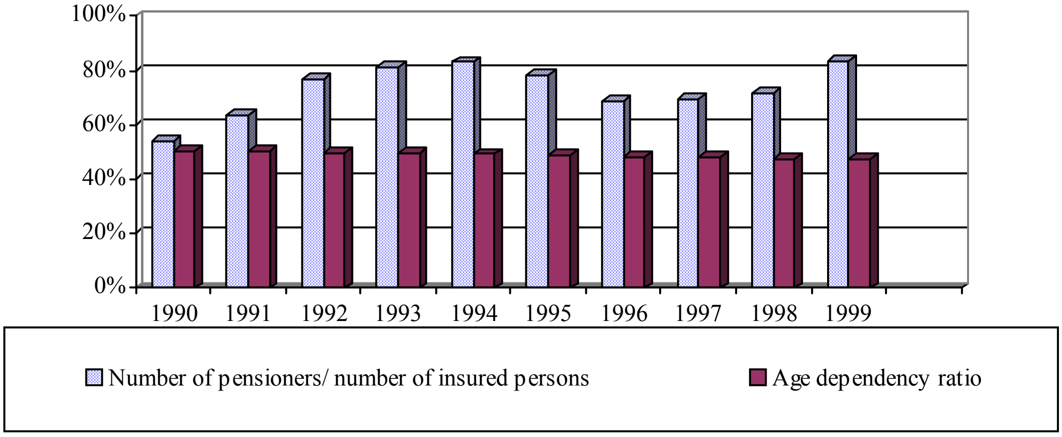
The following main factors determine the long-term fiscal deficit of the Bulgarian pension system

(a) The *negative demographic tendencies* related to the depopulation of the country and ageing of the population. The number of population declined from 8 669 thousand in 1990 to 8 191 thousand in 1999. The share of population above working age increased from 23% in 1990 to about 24,7% in 1999. Only for six years the average age of the population has increased by over one year and in 1999 it is already 39,6 years. The pensioners' families are over 1/3 of all families in the country. The demographic projections from the end of 90's envisaged that the number of population in 2010 will be 8 100 thousand people and in 2030 – 7 400 thousand people. The reality however turned to be much more unfavorable and by the end of 2005 the country's population was only 7 719 thousand people of whom only 69% were in working age (15-64 years). Projections made in the middle of the first decade of the XXI century indicated that by the year 2050 Bulgaria will have population of only 5 606 people of whom 62% will be in working age.

(b) Increase of the *dependency rates*. During the entire period preceding the reform these rates (age/demographic dependency rate[14] and pension dependency rate[15]) showed a declining tendency as the values in the middle of the 90's were particularly critical. At that time the pension dependency rate exceeded 80% and after a period of relative improvement the values again started to increase (see Figure 6).

Figure 6

Pre-reform dependency ratios



Source: Data from NSSI and National Statistical Institute - NSI.

This unfavorable trend is a result from the parallel running of two negative processes: *(i) large number and growing relative share of the pensioners in the population's structure*. In 1999 the number of pensioners increased by about 107 thousand people compared to 1990 and their share in the total number of population increased from 25.7% to about 29%. This process is due mainly to: the unfavorable demographic structure; the small length of service and the low retirement age; the liberal conditions for early retirement. *(ii) decline in the number of contributors* – from 4124.7 thousand people in 1990 to 3084.1 thousand people in 1998 and 2632.3 thousand people in 1999.

The perspectives till the year 2050 are highly unfavorable in terms of the anticipated demographic processes: the age dependency rate from being 47% in 1999 is expected to reach 60% in 2050.

The fiscal balance of the pension system (some recent estimations of NSSI)

In relation to the preparation of the national report „Bulgarian pension system in the context of the opened co-ordination method" the National Social Security Institute (NSSI) has recently developed actuarial projection for the period 2006 – 2050. The purpose was to

[14] Determined as a ratio between the number of the population below 15 years and 65 and over years (in the dependency ages) and the number of population from 15 to 64 years. (in the non-dependency ages).
[15] Determined as a ratio between the number of pensioners and the number of insured people.

determine the influence of the economic and demographic factors on the stability of the state pension system in the next 45 years. The NSSI actuarial model for long-term projection of the state social security funds has been used. The projection has been developed by using the updated version of the model which takes into account all legislative changes (the Social Security Code), made by the end of 2006. Table 6 presents the projected results for the revenues and expenditures of the state social security funds.

Table 6

Revenues, expenditures and balance of the state social security funds (2006-2050)

Year	Revenues (mln BGN)	Expenditures (mln BGN)	incl. expenditures for pensions (mln BGN)	Change in the balance (mln BGN)	Actuarial Balance - %	Revenues as % of GDP	Expendi-tures as % of GDP	incl. expenditures for pensions - as % of GDP	Change in the balance as % of GDP
2006	4604	4604	4069	0	0	9,88	9,88	8,73	0,00
2007	3193	5003	4383	-1810	-19,89	6,26	9,80	8,59	-3,55
2008	3219	5375	4711	-2156	-21,81	5,79	9,67	8,48	-3,88
2009	3463	5746	5040	-2283	-21,33	5,72	9,49	8,32	-3,77
2010	3753	6114	5360	-2361	-20,29	5,71	9,30	8,15	-3,59
2011	4062	6526	5721	-2464	-19,45	5,70	9,15	8,02	-3,45
2012	4382	6922	6067	-2540	-18,5	5,68	8,98	7,87	-3,29
2013	4725	7322	6414	-2597	-17,44	5,66	8,78	7,69	-3,11
2014	5095	7711	6749	-2616	-16,25	5,65	8,55	7,48	-2,90
2015	5494	8157	7137	-2663	-15,29	5,64	8,37	7,32	-2,73
2020	7779	10852	9514	-3073	-12,24	5,57	7,77	6,81	-2,20
2025	10916	14771	12952	-3855	-10,67	5,54	7,50	6,57	-1,96
2030	15042	19990	17514	-4948	-9,89	5,52	7,34	6,43	-1,82
2035	19791	26580	23287	-6789	-10,26	5,51	7,40	6,48	-1,89
2040	25907	35144	30836	-9237	-77	5,50	7,47	6,55	-1,96
2045	32666	44972	39516	-12306	-11,3	5,50	7,57	6,65	-2,07
2050	39349	55737	49036	-16388	-12,53	5,49	7,77	6,84	-2,28

Source: NSSI

The negative balance is due to the excess of the expenditures over the revenues in the budget of the state social insurance (see Figure **7**). The system will suffer a deficit of revenues of about 3,5 % of GDP every year in the next seven years. Although improvement of about 1,8% of GDP is reached till 2030 by the end of the projected period the deficit will remain about 2,3% of GDP.

Despite the undertaken reforms the Bulgarian pension system does not pass the tests for long-term actuarial balance because its accumulated norm of revenues is lower than the accumulated norm of expenditures, which leads to long-term actuarial deficit. This means that according to the projection scenario the system cannot finance itself in the next 45 years. The main reasons outlined by the NSSI are as follows:

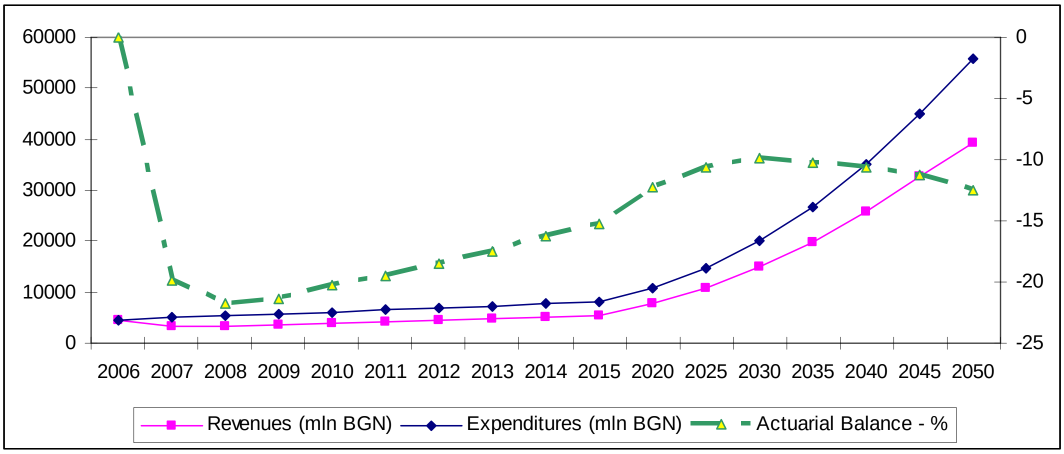
(a) The negative trends in the development of the dependency rates: pension dependency rates – increase up to 92,8% around 2050 and age dependency – increase up to 60%. These are rather high values which make it necessary to revise the possibility for further increase of the retirement age. Otherwise these trends will continue to restrict the revenue side (the number of insured people is expected to decline from 2 666 000 in 2006 to 2 256 000 at the end of 2050) and to require more and more expenditures (see Table 6), despite the expected decline in the number of pensioners to about 2 095 000 people in 2050.

(b) Incomplete coverage of the insured people (the hidden employment is about 25 – 30%) and incomplete coverage of the incomes on which social security contributions are paid (it is a common practice some employers to make contributions on a basis that is lower than the actually paid remuneration to the employees).

(c) The policy for reduction of the amount of social security contributions (by about 10 percentage points in the last five years[16]) According to NSSI estimates the conditional annual loss of revenues from the reduced amounts of the contributions in 2001-2006 amounts to about 1, 140 million BGN (or about 24% of the revenues for 2006).

Figure 7

Revenues, expenditures and balance of the state social security funds (2006-2050)



Source: NSSI; National Report "The Bulgarian Pension System in the Context of the Open Method of Coordination" (memo).

Some other reasons might be added to these major reasons: (a) The availability of guaranteed minimum pensions –115 million BGN are additionally spent per year for 650 thousand pensions; (b) stimulation of the small business and the agriculture at the expense of the public insurance system – e.g. the minimum insurance income for the self-employed people and the agricultural producers determines pensions for them that are far below the guaranteed minimum; (c) the existence of double standards in the payment of individual social security contributions and thence – of "social taxation" of the workers and employees paying personal social security contributions: because the state civil servants and the employees working for special institutions (Ministry of Interior) are free from payment of personal social security contributions and these expenditures amounting to about 76.4 million BGN per year are covered from the state budget (i.e. from taxes).

These factors might be compensated to some extent through the increase of the insurance income (the incomes in Bulgaria are the lowest in the European Union), restriction of the

[16] In 2006 the amount of social security contributions for „Pensions" Fund in the first pillar was reduced with 6 points, and in the middle of 2007 a new reduction of another 3 points is expected. Details on the changes in 2000-2005 are presented below in the text.

shadow economy (respectively – increase in the number of insured people and insurance on the amount of the actually paid incomes) and abolition of the double standards in the social insurance.

Overall though the achievement of financial stability of the pension system at the expense of its own source revenues was one of its major objectives, this objective was not fulfilled for the projected period. The state subsidy will most probably be preserved as a major source for covering the deficit. This seems logical considering that the legislative bodies make periodic changes in the parameters of the pension system affecting its revenue side (e.g. reduction of the amount of social security contributions for „Pensions" Fund in order to reduce the insurance burden and thence the price of labor force). However the preservation of a significant share of the state subsidy in the financing of the pension system contradicts to the insurance principles and the design of one modern pension model.

Some concluding notes

1. The expected huge financial deficit of the previous pension system has been one of the main reasons for launching this radical systematic change of the old pension model. The actuarial estimates from the end of the 90's clearly indicated financial collapse of the existing pension system and growing deficit reaching up to 22% of the GDP.

2. In the year 2000 Bulgaria has implemented the new pension model based on the three pillar concept. Thus starts the modernization of the pension system according to the National Strategy for Pension Reform (adopted in 1999 by the Parliament).

3. The social security of the elderly people in Bulgaria is provided through the two main branches of the social safety net – social insurance and social assistance. This system combines the targeted contributions and targeted benefits with general (tax) revenues and universal benefits: the pensioners (who, as default, are beneficiaries of the pension system) can receive social assistance benefits under the universal national schemes for poverty alleviation. They are also eligible for the services provided by the universal public healthcare insurance system. This diversity allows the system to be more flexible and adaptable to the changing economic and social conditions in the country.

4. One of the major objectives of the reform – to ensure the financial stability of the pension system at the expense of its own revenues, most probably will not be reached till the year 2050. According to some recent projection of NSSI, despite the undertaken reform, the Bulgarian pension system does not pass the tests for long-term actuarial balance because its accumulated norm of revenues is lower than the accumulated norm of expenditures, which leads to long-term actuarial deficit. The main reasons are: the negative trends in the development of the dependency ratios; the incomplete coverage of the insured people; the policy for reduction of the level of social contributions for the first pillar, etc.

These factors might be compensated to some extent through the increase of the insurance income; reduction of the shadow economy and abolition of the double standards in the social insurance. The state subsidy will mostly be preserved as a major source for covering the deficit. However, the preservation of a significant share of the state subsidy in the financing of the pension system contradicts to the insurance principles and the design of one modern pension model.

5. From conceptual and policy point of view, some fundamental factors eroding the financial stabilization of the pension system could be outlined: the governments and the leading political parties and other strategic stakeholders as well, in general prefer to undertake parametric changes without conducting ex-ante impact assessments; no system for monitoring and evaluation of the development of the pension reform has been implemented; the National Strategy for the pension reform is forgotten; the policy makers and other stakeholders have no new clear strategic vision for further development of the Bulgarian pension model; the national consensus on this development does not exist which opens the door for any ex-prompt "innovating" idea for change "argued" with the interests of the specific group and with external pressure.

6. The conclusion is that it is necessary to:

- introduce a mechanism for a regular external monitoring and evaluation of the pension system respecting the provisions of the adopted National Strategy;

- conduct ex-ante impact assessments of projected major parametric changes in the pension model;

- develop a new National Strategy for the further development of the pension system;

- reach a wide national consensus on it as a basis and guaranty for its successful implementation.