

Actuarial aspects of pension reform in Uzbekistan.

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Abstract.

Application of actuarial valuation methods is very actual for the new pension system of Uzbekistan because of a high riskiness of its financial, microeconomic and demographic environments. This is caused by the fact that the pension system operation currently depends on the multiple factors, including labor market situation, economics and demography, which presumes a high coordination of complex range of the pension system elements, demographic and economic mechanisms. The application of these actuarial methods is dictated by required performance of medium- and long-term forecasts of the pension system design parameters ensuring financial stability in the pension system.

Keywords: pension reform, pension indicators, PAYGO, actuarial modeling.

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Introduction

The Pension System of Uzbekistan is in the stage of modernization. The pension system structure, role and liability of subjects of legal relations, financial and organizational mechanisms are changing. The new combination of civil and public laws regulating proprietary issues of pension accruals, acquisition and exercising of pension rights is being organized.

For the new pension system it is actual to apply actuarial methods of evaluation and forecast of the pension system operation in a high riskiness of financial, microeconomic and demographic environments. This is caused by the fact that the pension system operation currently depends on the multiple factors, including labor market situation, economics and demography, which presumes a high coordination of complex range of the pension system elements, demographic and economic mechanisms. The application of these actuarial methods is dictated by required performance of medium- and long-term forecasts of the pension system design parameters ensuring financial stability in the pension system.

About Pension system of Uzbekistan

The pension system of Uzbekistan is built on a defined-benefit, pay-as-you-go (PAYGO) scheme. There are two basic types of pensions: labor pension and social pension. Labor pension includes three types of pensions: old-age pension, disability pension, survivor pension. For old-age pension eligible those workers, who have reached the retirement age and have a minimal required working record. Retirement age is 55 and 60 years for women and men respectively. Required working record is 20 years for women and 25 years for men. Social pensions are assigned to invalids, children who have lost working parents' income, and persons who have reached pension age, if they are not eligible for labor pension.

The level of an old-age pension is 55% of the average monthly wage for 5 years in succession from whole labor period but cannot be less than the minimal pension. For every additional year of work, pension increases by 1% of the average monthly wage. At present the size of minimal pension is 18 605 soms per month (about 18 \$ USA).

The pension system of Uzbekistan is managed by three organizations. The Ministry of Labour and Social Protection of Population states social policy and develops laws connected with social security system (and pension system as a part of it). It also calculates the pension

level according to the legislation in use, controls the use of funds of the Pension Fund. The State Tax Committee of Uzbekistan collects pension contributions from various sources and keeps them in the special accounts of the Off-Budget Pension Fund in the Central Bank of Uzbekistan. The Off-Budget Pension Fund in the Ministry of Finance of Republic Uzbekistan accumulates financial resources for a realization of the state guarantees in the system of social security.

Benefits are financed mainly from payroll taxes, equal to 30% of the wage bill, paid by employers. The contribution rate for employees is 2.5 % from the wages. Total amount of pension benefits paid in 2004 was equal to 5.9 % of GDP.

Table 1. Number of pensioners and composition of population. (2004, end)

	Number, thousand	% of total population
Pensioners, total	2.671	10.27
Old age	1.914	7.36
Disabled	537	2.06
Survivor's	220	0.85
Social pensioners	240	0.92
Employees	9.910	38.11
Contributors	4.500	17.30
Population in the working age (females 16-54, males 16-59)	14.300	56
Old aged population (females over 55, males over 60)	1.872	7,2
Population	26.007	100

.Sources: 1. The State Statistic Committee of Uzbekistan

2. Uzbekistan Economy. Statistical and Analytical Review for the year 2004. www.bearingpoint.uz

3. Demographical year-book of Uzbekistan. Statistical Bulletin. State Statistics Committee of Uzbekistan. Tashkent, 2003.

On problems of Pension system of Uzbekistan

The major problems of the pension system are caused by a serious developmental lag in the reform of earnings system of hired and self-employed citizens. It is impossible to recreate the pension system without affecting the overall fundamental socio-economic constituents of social life. The pension reform may succeed only with simultaneous reform of the overall system of distributive relations, first of all, labor remuneration.

The pension actuaries may be useful in methodic solution of this issue, may formulate their relation to this problem, determine feasible proportions of earnings ratio ensuring optimum operation of the pension system.

One more major factor affecting the status of the pension system is a labor market situation (unemployment, shadow market, latent form of unemployment and earnings). In Uzbekistan with a 1% level of unemployment (official statistics), a considerable part of employees just formally keep their positions at an enterprise, but actually work short week or do not work at all. Wages of part-time employees and earnings of self-employed persons are nominal (of symbolic

significance). Their payments to the Off-Budget Pension Fund of Uzbekistan are nominal either, but their pensions granted are real.

Numerous other pension challenges exist in Uzbekistan. Since the proportion of the working age population currently contributing to the Off-Budget Pension Fund is low, the ratio of pensioners to contributors is greater still (the current system dependency ratio is 65%). As shown in the **table 2**, a indicator 'contributors/labor force ratio' in Uzbekistan is very low among the countries of former Soviet Union (with the exception of Armenia). The informal economy, which is often mentioned to be about 35% of Uzbekistan's economy, significantly reduces the level of pension contributions that the pension system should receive. Moreover, the policy choices regarding benefits, retirement age, contributions and years of service have not been well thought-out, analyzed or curtailed sufficiently to bring stability and predictability to the pension system.

Table 2. Selected pension indicators for the former Soviet Union countries

	Employed/ Labor Force ratio	Contributors/ Labor Force ratio	Pensioners/ Contributors ratio	Old-age Dependency ratio	Replacement rate (%)	Pension Expenditures (% of GDP)
Armenia	0.74	0.27	1.19	0.12	21.0	3.4
Azerbaijan	0.87	0.52	na	0.10	35.0	3.6
Belarus	0.75	na	na	0.19	40.0	8.0
Estonia	0.59	na	na	0.20	32.0	7.1
Georgia	0.25	na	1.20	0.18	23.0	na
Kazakhstan	na	0.48	0.73	0.11	30.0	4.4
Kyrgyzstan	0.36	0.44	0.64	0.10	41.0	4.9
Latvia	na	0.60	0.80	0.21	39.0	10.6
Lithuania	na	0.62	na	0.19	28.0	6.2
Moldova	0.78	0.58	0.62	0.14	22.0	4.9
Russia	0.69	0.58	0.75	0.26	36.0	4.8
Tajikistan	0.82	na	na	0.08	28.0	1.6
Turkmenistan	0.67	na	na	0.07	26.0	4.0
Ukraine	0.52	0.70		0.21	35.0	8.8
Uzbekistan	0.73	0.33	0.65	0.11	52.0	5.4

Sources: 1. Katharina Mtiller. Towards contributory approaches: pension reform in the transition countries.

The DSA Annual Conference, Glasgow, September 10-12, 2003

2. 'O pensionnykh sistemakh v stranakh Sotrajestvo I perspektivakh ikh razvitiya'. Vseobshaya konfederatsia profsoyuzov. Moscow, 2001. www.amros.ru

In addition to the problem of contributions evasion, the pension system suffered from a number of fundamental design flaws and operational problems including (i) high contribution rates, (ii) arrears in the payment of contributions by employers, (iii) special privileges awarded to certain categories of workers, (iv) early retirement provisions for persons working in hazardous conditions or in designated special occupations, (v) low replacement rates, (vi) the use of contributions to provide other forms of social protection (such as support for low income families), (vii) ad hoc and poorly structured benefit increases that further eroded the connection between contributions and benefits.

On actuarial modeling of the Pension System in Uzbekistan.

The pension reform in Uzbekistan is occurred in conditions of large economic, social and political changes. Thereupon the important issue is a synchronization of the pension reform and the reforms in other spheres. They are interconnected.

One of the most important control tools of these complex processes is actuarial methods, which enable comprehensive and realistic evaluation of status and prospects of developments in the pension sphere.

The pension system intending to provide basic level of earnings for a considerable part of population may be modernized only by a public consent and prior notifications to people of intended changes. The role of actuaries in preparing substantiation of any political decisions is critical.

Creation of the actuarial model of the Uzbek pension system is rather a challenge, as it requires evaluation and forecast of economic (GDP, wage, inflation, economic expansion rates, level of unemployment, rates of return and others), demographic (birth rate, death rate, disability rate, migration), fiscal (taxation, expenditure restrictions and other) and social (entry into manpower, retirement age, marriage rate, widow rate) factors. The critical problem here is lack of statistic and forecast base. The incomplete and poor statistic data reduce accuracy of actuarial forecast.

The Uzbek pension system has some specific elements required to be considered in the actuarial modeling. Some of them:

- the privileged pensions entitling to superannuate regardless the age and lowering general retirement age;
- the regulation entitling to receive a disability pension;
- the regulation entitling to receive survivor's pension;
- the pension formula for estimation of the basic share of pension;
- the earnings accepted for pension estimation is equal to a sevenfold of minimum wages;

The hardly forecasting demographic, financial and social processes caused by change of the political and economic system do not allow to apply "just as it is" an experience of the foreign actuaries in development of the actuarial pension model. In experts opinion, the PROST pension model recommended by the World Bank proved to be non-practicable after repeated attempts to adapt it to conditions of some countries of the former USSR (Russia, Armenia, Kyrgyzstan). The financial crisis in Russian in August 1998 evinced the PROST fragility in

many items (base on scenario of stable GDP growth, use of average wages and other). Therefore, in creation of the Uzbek actuarial pension model, it's desirable to use both traditional and new methods allowing to take into account high dynamic changes and relevant risks in economic, financial, social and political environments.

The actuarial model of the pension system of Uzbekistan created by the experts of The Ministry of Labour and Social Protection of Population in association with the foreign actuaries, Mr. Gary Hendricks and Mr. John Wilkin, in 2000 considers the Uzbek reality and specific features. For creation of this model the authors did a lot to collect, analyze and classify any statistic data required. Because of lack of some statistical key figures (age distribution of manpower, age distribution of disability pensioners, wages distribution by age and activities and others), these performance evaluations were applied in forecasting. Such assumptions surely impair accuracy.

Compare of forecast evaluations of this model and the actual data of receipts and expenditures of the Uzbek Pension Fund for 2000-2004 showed great discrepancies between them. In particular, such great discrepancy is resulted from a great reduction of fee rate. If compare the base wage rate for an employer in 2000 and the same in 2004, in 2000 its was 37.3% of a salary fund and by 2004 it was 31.6%. Such reduction of fee rate was not forecast.

Creation of this model is just a beginning. Its successful implementation requires its modernization considering ongoing macroeconomic, demographic and fiscal changes in Uzbekistan. In other words, Uzbekistan is at the beginning of the actuarial substantiation of its pension system.

Legal support of the actuarial activity

Creation of new pension institutions in Uzbekistan causes application of the actuarial methods, reliable forecasts of economic development, more effective evaluation methods of demographic environment and labor market situation.

The actuarial modeling of the pension system requires solution of some primary tasks of methodic, statistic, accounting and regulatory nature. The standard rules for collection of statistic data of demography, economic status of the insured and financial turnover are required to be established. No actuarial estimations may be performed without true and accurate data in the above key figures. For instance, it is critical to determine a true wage/GDP ration in Uzbekistan. The range of this figure to be determined by statisticians and analysts is too wide for actuaries.

Due to introduction from January 1, 2005 of the cumulative pension system, a necessity to make actuarial assessment of commitments of the People's Bank to pay pensions has raised. The

estimation of scope of such commitments will allow to make accurate annual indexation of this pension type and adjust investment resources management.

A key moment of actuarial activity is a form of a normative document regulating operating procedure, persons in charge, their powers and responsibilities. The main purpose of such normative document is to regulate activity of the governmental authorities in creation of an optimal model of pension system considering long-term social, financial and demographic reference points of development of the country.

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