

THE PENSION SYSTEM SUSTAINABILITY IN KOSOVO

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Abstract: Each country implies strategies with the aim to ensure social security for its citizens by including at-risk groups, people with health problems, the elderly and the unemployed. Consequently, in a way, the welfare of the society of a state is ensured by redistributing the income. Pension system is considered as one of the main strategies of social security that provides financial support for the elderly as well as for those who are unable to work. In the Balkan countries as well as in Kosovo, in general, pension benefits are the main source of income. However, the pension system in Kosovo is not stable due to numerous aggravating circumstances including low level of economic development, high unemployment rate and the consequences of the war. Thus, the aim of this paper is to propose a model of pension reform and to examine the fiscal effects in Kosovo. Additionally, this paper tends to present the effects on indicators of unemployment and poverty developments from the pension reforms in Kosovo after five, ten and twenty years. For this purpose, there is built a dynamic micro-simulation model, which simulates scenarios for pension system reforms in Kosovo. The model has a dynamic shape and involves the movement of individuals from the sample over a period of time as they get aged. In the model are considered the role of interpersonal relationships of individuals in the sample, behavioral responses and the effects of a change in them in labor market status within labor indicators (such as poverty and unemployment). Thus, the dynamic model creates a life path for each individual in the sample, including probability of death, change in economic status, retirement time, earnings, and so on. The pension system needs to undergo three structural reforms in order to achieve its fiscal consolidation in the next 5-10 years such as: reforms whose burden affects a key stakeholder (retirees or contributors), reforms where the burden is shared between generations and a reform where the burden is shared and changes are cascading and occurring gradually in a time horizon of 20 years.

Keywords: poverty, unemployment, pension system, fiscal effects.

1. INTRODUCTION

Since the post-war period in Kosovo, the legal regulation of the issue of pensions has started since 2001 with UNMIK Regulation 2001/35 on Pensions in Kosovo (UNMIK, 2001), followed by Regulation 2002/15 on the Promulgation of the Law adopted by The Assembly of Kosovo on the methodology for determining the amount of the basic pension in Kosovo and setting the date for providing basic pensions (UNMIK, 2001). The pension system in Kosovo was approved on October 2007. After the war and after the theft of the pension fund from Serbia, with an UNMIK Regulation, the generational pension system was replaced by the investment system. This change made a cut between contributors who have contributed for many years to the Yugoslav fund and future contributors to the Kosovo Pension Savings Trust. Former contributors to the previous fund were excluded from the right to receive pensions, to which they had contributed for many years. Instead of a pension, it was decided that they would receive some allowances / pensions which were not scaled in proportion to contributions or work experience, but included all persons who have reached the age of 65, regardless of gender.

Based on the Riinvest Institute (1998) estimations, Kosovo in 1997 had about 2.3 million inhabitants, including citizens who are temporarily abroad, while in 2001 it had over 2.4 million inhabitants. In recent years, Kosovo have a population at 2.2 million (Kosovo Statistic Agency). Of this number over 5.7%, or about 130,000 individuals are aged 65 or older. While working age (16-64 years old) will be about 1.5 million people.

Based on UNMIK estimates, it is expected that the number of pensioners is doubling - the number of retirees will be doubled during the next 5 decades. Based on population growth estimates, a population increase over the age of 65 is projected, with an average annual rate of 3% to 4%, which requires the need for a consistent pension system that will be stable and will provide support for retirees.

In many countries of Europe and the Balkans, the aging of the population puts a lot of pressure on pension funds. In Kosovo, the participation of persons over 65 years of age will remain relatively low, which in the context of major problems in the construction of pension funds in Kosovo is a mitigating circumstance.

The pension system in Kosovo is not stable due to numerous aggravating circumstances including low level of economic development, high unemployment rate and the consequences of the war. The Pension System due to a variety of political and social reasons is organized in three main pillars. This organization has been influenced by the

unified legal basis and the need to make ad hoc solutions depending on the occurrence of pressure situations by certain groups in society. Let's explain these three pillars.

Pillar I: Includes basic pensions, early and special pensions for categories which have not contributed to the pension fund.

Pillar II: Includes pension savings in individual accounts which are mandatory, respectively contributions to the Kosovo Pension Savings Trust, where the employer and the employee contribute 5% each.

Pillar III: These are supplementary savings which are liberalized for private funds in Kosovo (currently existing only one).

Under the first pillar, which includes the category which is financed by the state budget are included: 1. Old age or basic pension system; 2. Old age pension system who have contributed to the previous pension fund (all those who have contributed over 15 years); 3. Pensions for persons with disabilities; 4. Early pensions for former miners of the Treпча complex; and 5. Special pensions for former members of the KPC (family pension).

The pension system organized in three pillars in Kosovo regulates the category of former contributors in the first pillar, for which the Government is obliged to pay from the state budget. This has led to a large part of the poor budget being allocated for social issues, and at the same time the old age pensions in Kosovo to be the lowest in the region.

The pension insurance system index will be calculated according to the Allianz methodology (Allianz, 2004). The purpose of this index is to see the stability trends of the pension system for a certain period under consideration and to compare the pension system of Kosovo with other pension systems.

The model used is based on Saez's (2010) methodology which belongs to the family of "standard" static models where individuals / families choose to offer work (working hours) to the point where "marginal use of labor equals marginal utility of income (without tax). In this environment, taxes and social transfers affect labor market behavior by changing the relative value of labor against leisure. The model allows in the start-up year the simulation of taxes, pension benefits and contributions, health and unemployment insurance, social transfers and the repetition of pensions in a level system.

Regardless of the breadth of the static model for simulations and replication of system indicators as a whole, simulation of the pension system and forecasts of future developments require the inclusion of dynamic components as well.

Dynamic models have a possibility of modeling changes over time (Dekkers, 2007). Micro simulation models simulate all predicted changes in a representative sample of individuals, usually collected through surveys or administrative data (Gal et.al, 2009).

2. MATERIALS AND METHODS

The model used for this research is a dynamic model that involves the movement of individuals from the sample over a period of time, enabling individuals to be followed as they age, taking into account the interpersonal (family) relationships of the individuals in the sample, their behavioral responses and effects from changes in their labor market status on development indicators (poverty and unemployment).

The model adheres to the following equation:

$$\text{Pr}(Emp_i = 1) = \alpha_3 + \gamma_{31}age_i + \gamma_{32}gender_i + \gamma_{33}education_i + u_{3i}$$

Where Emp_i takes a value of 1 if the person is employed and 0 unemployed, regressed to a vector of explanatory variables; age_i indicates the age of the person i in years; $gender_i$ indicates gender, and has a value of 1 for men and 0 for women; $education_i$ is a categorical variable in relation to the level of education (primary education is the reference category) and u_{3i} indicates error. Therefore, the probability of transition of inactive individuals of working age and unemployed individuals from their status to the status of employed individuals is determined by a dynamic determinant of employment probability, calculated through the given equation. The forecast function is used to determine which individuals will be employed after a certain period. However, this transition from unemployment and inactivity is problematic. Namely, for individuals who move to the status of employed persons, the salary is unknown and it is essential to determine the increase in contributions driven by employment growth. To determine salary, the following Mincer earnings function is used:

$$\ln w_i = \alpha_4 + \gamma_{41}age_i + \gamma_{42}gender_i + \gamma_{43}education_i + \gamma_{44}experience_i + \varepsilon_i$$

Where $\ln w_i$ is the logarithm of the monthly earnings of the employed person; $experience_i$ is the experience while the other explanatory variables are the same as in the above equation; ε_i is the error term for salary. The projections from this equation are used to estimate the earnings of unemployed-inactive individuals, who are assumed to be employed according to the predictions in the previous equation.

Children, students and retirees change their economic status in a static way as they age. Children switch to student status when they reach the age of 6; students pass to the status of inactive individuals of working age when they

reach the age of 15; and employed individuals switch to retirees after meeting pension requirements. Following a change in status, the model re-weighs the individuals in the sample according to their new status. This re-weighing is done only to statically determine the statuses (children, students, inactive working age population and retired persons).

3. RESULTS

Being designed in this way, the model is able to replicate the initial level of the number of contributors, pensioners and the average amount of pension (for the type of pension), contributions and benefits for pensions, health insurance and disability, the amount of expenses pensions, poverty levels and unemployment. Below is presented the following table:

Table 1. Evaluation based on official statistics

Basic income and expenses for the pension system (in million €)			
	Official data	Replicated data based on model	Deviation
Pension insurance contributions	576.87	592.78	3%
Pension expenditures	907.82	940.68	4%
Deficit	330.4	347.9	5%
Deficits as % GDP	-3.2%	-3.4%	5%
Number of pensioners (by age)	176543	176543	0%
Number of pensioners (who have contributed over 15 years)	57892	57892	0%
Number of pensioners (disabled)	15021	15021	0%
Total number of pensioners	249456	249456	0%
Unemployment rate	29.6%	29.6%	
Employment rate	28.8%	28.8%	
Degree of inactivity	59.1%	59.1%	

Source: Kosovo Agency of Statistics

Table 2. Evaluation of model results from equations of employment, health and salary

Variables	Equation for the health of pensioners (conditionally healthy)	Equation for employee health (conditionally healthy)	Employment equation	Salary equation
Age	-0.0271*** (0.0031)	-0.000691** (0.0003)	0.0912*** (0.001)	0.0531** (0.001)
Gender (male = 1)	0.116*** (0.035)	-0.0014 (0.0060)	0.257*** (0.021)	0.158*** (0.018)
Education	0.00590 (0.0082)	0.00331* (0.0017)	0.138*** (0.006)	0.0952*** (0.0073)
Marital status of pensioners (1 = married)	-0.0410 (0.0376)			
Pension income	0.0000059** (0.000)			
Family income		0.0000006*** (0.000)		
Chronic diseases		-0.351*** (0.0341)		
Constant				8.786*** (0.078)
Observations	899	2,089	2,426	1,289
R-squared				0.193

Source: Authors' calculations

*, ** and *** refer to the statistical significance, respectively of 10, 5 and 1 percent. Standard errors were corrected for heteroskedasticity and given in parentheses. Column (1) shows the results for the probability of a good health of pensioners; column (2) shows the results for the probability of a good health of the working age population; column (3) shows the results for employment probability; and column (4) shows the results for the salary. All ratios are marginal effects reported in the case of probit functions (1-3). Reports also include the expected sign. Age, gender and pension income are statistically significant for the health of retirees. As expected, each additional year of age reduces the chance of a good health for retirees. Men have a higher probability of a good health, and higher pensions increase the level of probability of having good health. Education and marital status are statistically irrelevant to the health of retirees (and they are not used for additional assessments).

The health of the working age population depends on age, education and family income. As in the case of retirees, an extra year of age reduces the probability of a good health.

However, in the working age population, the size of this ratio is drastically lower. This is also expected because in older populations, an extra year of age has a higher adverse effect on health than in the younger generations. Higher education and family income increase the probability of better health, while the existence of chronic diseases reduces this probability. Unlike the case of retirees, gender in the working age population is not statistically significant. The three explanatory variables of wages, age, education and gender are important for employment probability. Older individuals, men and individuals with higher education have a greater probability of employment. As in employment probability, age, education and gender are significant to the amount of salary. Older individuals have a higher salary. This is probably due to experience and salary negotiation skills, which are not observed variables in this equation. Men, on average, earn a higher salary than women by 18%, which confirms the results of the regulated gender pay gap in Kosovo. As expected, individuals with higher education have higher salaries. Below we present the fiscal effects of pension reforms.

Table 3. Fiscal effects from pension reforms

	Actual situation	If pensions are regulated according to the statutory rate	After 5 years	After 10 years	After 20 years
Pension insurance contributions	529.78	592.78	688.31	773.35	967.82
Pension expenditures	940.68	940.68	1069.26	1234.15	1472.98
Deficit	(330.4)	(226.93)	(380.96)	(460.79)	(505.15)
Deficit as % GDP	-3.2%	-2.2%	-3.1%	-3.0%	-3.3%
Number of pensioners (by age)	176543	176543	208543	236543	426543
Number of pensioners (who have contributed over 15 years)	57892	57892	67892	74892	114892
Number of pensioners (with disabilities)	15021	15021	21064	23455	44650
Total number of pensioners	249456	249456	297499	334890	586085

Source: Authors calculation

Table 4 presents the fiscal effects if the pension system remains with its current model and if no reforms are made. Column 1 shows the replicas of the official figures and the baseline scenario to be compared with the results of the proposed reforms; column 2 shows the fiscal effects if the adjustment of the pension in the previous period has not exceeded the maximum set in the law for the adjustment of the salary increase and the cost of living; columns 3 to 5 show the results after 5, 10 and 20 years, respectively, if the system model remains the same and there is no pension reform.

The results show that if the pension increase in the previous period was only within the regulatory statute, today, the initial deficit (the difference between income and expenditure, without transition costs) would be 35% lower, and the share of the deficit in GDP would be lower by 1.2 percentage points. If there is no pension reform in the next

twenty years, and the pension increase remains only at the level of legal regulation, the initial deficit will continue to increase in absolute terms, but at a slower pace, while its relative share in GDP will start to lower down a bit. In the following table we will look at the impact of pension reforms on unemployment and poverty.

Table 4. Effects on unemployment and poverty

	Basic data	Without changes	Contributions increase by 22%	The retirement age is increased by 2 years	Survival pension for 3 years	Reduction of service years +3	PIC + 3pp, limit + 2, survival pension + 2, years of service +3
After 5 years							
Employment rate							
Unemployment rate	29.6%	34.5%	34.5%	34.6%	34.6%	34.6%	34.7%
Poverty rate (before retirement)	28.8%	23.1%	23.2%	23.2%	23.1%	23.2%	23.3%
Poverty rate (after retirement)	28.4%	27.7%	27.8%	27.6%	27.7%	27.8%	27.7%
Poverty rate (after retirement)	16.5%	16.6%	16.5%	16.7%	16.5%	16.3%	16.6%
The effect of pensions on poverty	21.4%	20.3%	22.4%	24.2%	22.3%	21.6%	22.5%
After 10 years							
Employment rate		38.1%	38.2%	38.2%	38.7%	38.5%	38.8%
Unemployment rate		14.3%	14.8%	14.6%	14.2%	14.4%	14.8%
Poverty rate (before retirement)		27.0%	27.1%	27.8%	27.3%	27.4%	27.3%
Poverty rate (after retirement)		14.3%	14.6%	14.8%	14.1%	14.8%	14.5%
The effect of pensions on poverty		26.3%	26.7%	26.4%	26.1%	26.5%	26.8%
After 20 years							
Employment rate		46.5%	46.2%	46.7%	46.9	47.1	47.3%
Unemployment rate		7.1	6.9%	7.3%	6.6%	7.2%	6.8%
Poverty rate (before retirement)		26.6%	26.8%	26.9%	27.0%	27.1%	26.9%
Poverty rate (after retirement)		11.2%	11.5%	11.7%	11.4%	11.0%	11.2%
The effect of pensions on poverty		34.5%	35.2%	34.9%	35.0%	34.7%	35.2%

Source: Authors calculations

Table 5 presents the results of the effects on unemployment and the poverty rate. Assumptions are that the employment rate will increase, on average, by 1 percentage per year compared to the next 20 years, and would reach an employment of up to 47.3% after 20 years, which stems from its average growth over the previous period. Therefore, unemployment is a remnant in the model.

Simulations show that pension reform will not have a negative effect on unemployment. The unemployment rate will decrease insignificantly or will remain the same compared to the baseline scenario where there is no reform. The largest decrease in the unemployment rate is seen in the scenario that raises the retirement age limit and the reform combined with the increase of contributions by 3% and increases the retirement age limit by two years. At the same time, there is no significant change in the poverty level as a result of pension reforms. It grows insignificantly only in the scenario that increases the rate of contribution to the simulations for a five-year period. This development is expected because contributions directly affect lower net employee earnings. Meanwhile in the simulations of effects over a 10-year period, the poverty rate is declining or remains the same. However, at the same time, this is the scenario where the effects of pensions on poverty reduction are greater. This is due to the fact that the main burden in this scenario falls on the current contributors and the working age population. On the other hand, raising the retirement age reduces the level of poverty before and after pensions, as a result of increasing the income of individuals who remained in employment compared to the income that these individuals would receive from their pension, but this reduces the effect of pensions on poverty. The greatest effects are achieved in combined scenarios, i.e. the post-pension poverty rate is lower.

4. DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

For future projections, as data, we take the assumptions about the eligibility with the eligibility requirements for pension and its type, pension amount, benefits and degree of adjustment. In the simulations, we modeled old age, inherited pensions, and disability pensions. The simulations have a dual purpose: to assess future developments of the basic parameters if there are no reforms in the pension system; and to assess possible reforms of the fiscal effects of the pension system and the effects on poverty and unemployment. In the simulated scenarios, we proposed three

types of reforms: reforms whose burden affects a key stakeholder (retirees or contributors), reforms where the burden is shared between generations and a reform where the burden is shared and changes are cascading and occurring gradually in a time horizon of 20 years. In addition, in the simulations, the reforms involve a change in the contribution rate and the retirement age limit for different types of beneficiaries, including beneficiaries with reduced years of service based on a military occupation.

This paper provides the following recommendations for policy makers:

Pension adjustment in the next period should not be higher than the legal maximum, 50% increase in the cost of living and 50% increase in wages;

All kinds of additional measures that affect the reduction of the effective retirement age (increasing the benefits and easing the requirements for reduced years of service, old-age pensions and similar benefits) and measures that will bring additional burdens on the insurance fund pension and disability should be avoided;

The pension system needs to undergo a structural reform in order to achieve its fiscal consolidation in the next 5-10 years and to halve the initial deficit, where the first effect of the reform would be felt immediately;

Although the fiscal effects of stronger individual reforms (mainly contributions or increases in the retirement age limit increase in 2007) and the combined yields of reforms have similar results, combined reforms yield better results for unemployment and poverty, mainly due to the fact that they distribute the burden of pension reform among stakeholders;

Pension reform should be combined in order to divide the burden between generations, while implementation should be gradual and cascading.

Reforms in this paper include an increase in the contribution rate of two percent immediately (from 18% to 20%) and an increase of 1 percentage after ten years, extending the retirement age by one year after five years and an additional year after ten years (including survivors' pensions and pensions based on reduced years of service);

Raising the age limit should be considered and provide special benefits to workers in labor-intensive sectors and workers whose length of service exceeds 35 years, or the subsequent pension for these workers should be on a voluntary basis;

The cost of increasing contributions potentially needs to be shared between the employer and the employee;

By the time the retirement age limit is raised, incentive programs should be introduced for voluntary retirement later by introducing an additional premium, higher replacement rate or a one-time supplement;

It is necessary to consider the use of a portion of the shares from the privatization of socially-owned enterprises as compensation for pensioners who have made their contributions to the previous pension system, as has been the case in some countries;

It is necessary to implement a comprehensive technical assistance program to build the managerial and administrative capacity of the administration for the two proposed pillars;

It is necessary to implement a program of informing and educating the public on the solutions of the new pension scheme in the general economic and social context of Kosovo.

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