Pensions after pension reforms: A comparative analysis of Belarus, Kazakhstan, and Russia

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Abstract

The pension systems of the post-Soviet space, which had in the background one of the best in the world USSR PAYG (pay-as-you-go) basis, currently continue to evolve and improve. Some of the countries have made major pension changes, while others start their first reforms. How implemented various pension reforms impact on the retirement benefits and wealth of pensioners: pensions, their indexation, pension ages, and life expectancy?

In this article we consider the results of pension reforms on the example of Belarus, Kazakhstan and Russia, which entered three different pension models: PAYG, fully-funded, and mixed, respectively. We found that PAYG pension system is more suitable and beneficial now for pensioners. However, the advantages of other pension models may appear in the future due to demographic and economic reasons.

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1. Introduction

The pension system has several goals, the most important of which is to ensure an adequate source of income for retirees. This and other objects are depend on the model, environment, and the results of each of the pension system.

The research interest in the evaluation of the level of pension security and wealth of pensioners as a result of pension reforms is connected with countries from former Soviet Union, which was providing one of the best social...
protection for elderly. For example, the basic old-age pensions was about 65% of pay in 1959, but can ranged up to almost 90% of pay for an individual, who had in dangerous employment and has the maximum creditable number of dependents (Myers, 1959). Despite on the not high replacement rate, which was approximately 40% for the average pensioner before reforms of 1990, with other additional pension benefits and contributions it was enough high within country (Fox, 1994). In this evaluation also included free medical service, absence of inflation and low retirement age: fifty-five for women and sixty for men. Despite of low level of pensions in comparison with countries from Central Europe, we should take into consideration, that pension system in USSR had some real positive aspects before its reforming.

All post-Soviet countries have inherited a state monopoly PAYG schemes that used conventional defined benefit (DB) formulas for the calculation of pensions. The transition period with economic and social shocks gone them to the creation new pension systems. During the last couple of decades various countries have reformed their pension systems, that was reflected in the articles and surveys (Branco de Castello, 1998), (Grishchenko, 2007), (Lindeman et al., 2000), (Müller, 2001), (Pallares-Miralles et al., 2012). Currently the pension systems of the former Soviet Union countries are in different stages of their reforms ranging from the initial creation of the pension system up to minor perfections in their pension arrangements. Some countries have chosen a change in their pension models with the introduction of a new multi-level (multi-pillar) systems, while others prefer to use a fully-funded scheme or have not changed PAYG option.

The objective of research is to investigate which of the pension system is more suitable for pensioners in comparison with three countries: Belarus, Kazakhstan and Russia, which were the first with the implementation of their pension reforms in the end of 1990 and earlier 2000. We consider the hypothesis, that the PAYG pension system and the countries, which prefer to leave it, have the most effective pension protection for pensioners in connection with their transition periods and present issues in the financial, economic and social spheres. However, the growth of demographic and economic factors can change this situation.

In this paper, we (i) observe the features of pension systems’ architecture of the former Soviet Union states and review three models of pension systems of Belarus, Kazakhstan, and Russia; (ii) examine the indicators of efficiency of pension systems; and (iii) summarize some conclusions with respect to the design of pension systems and their reforms.

2. Three models of pension systems: in Belarus, Kazakhstan, and Russia

Since the beginning of the 1990 most of the countries of the former Soviet Union had been viewed or conducted different pension reforms in scope and content. Some countries, such as Kazakhstan, Russia and the Baltic states are now in the next round of pension reforms, while the majority of other countries are in the process of their initial reforms or their pension systems have passed only through the first stage of serious and major changes (the Ukraine, Turkmenistan, Armenia, and Azerbaijan).

The reforms, which were implemented in twelve countries in the past twenty years, have included the introduction of the second pillar. Nevertheless, different countries have chosen to rely on different pension maintenance and insurance systems. Nowadays, the majority of countries have multi-pillar pension systems with three pillars (tiers). The three-level pension system with involving the state-funded, insurance and a savings-funded elements has been introduced in Russia, the Baltic states, Azerbaijan, and Kyrgyz Republic. Belarus, Moldova, Tajikistan and Turkmenistan have PAYG pension system with the gradual introduction of the new pension arrangements such as personalized retirement accounts and the development of non-state pension insurance. The savings-funded pension system was introduced and developed in Kazakhstan (1998) and Armenia (2014). Only Georgia has maintained the previously existing solidarity pension system (Table 1).

However, all their differences are not limited to one or two pension schemes and can include various combinations. In the framework of this article we consider the variation of pension elements in three main groups: 1) states with PAYG systems and steps for future pension reforms; 2) states with insurance pension systems and mandatory pension accounts; and 3) states with fully-funded pension individual accounts. We compare representatives from each group taking into account the duration of their experience after retirement reforms and evaluation of available pension indicators. And we also taking into consideration three key criteria, which describe the model of the pension system, according to the classification of the World Bank: (i) the basic form of the pension benefit promise; (ii) how the
pension benefits are financed; and (iii) whether the system is managed by public or private institutions (Table 2).

Table 1. The Features of Pension Systems of the Former Soviet Union States.

| States with PAYG systems and steps for future pension reforms | Year of creation | Country      | Pillar 0   | Pillar 1 | Pillar 2              |
|---------------------------------------------------------------|-----------------|--------------|------------|----------|-----------------------|
| 1) State (budget) pensions without connection with earnings   | 2003            | Georgia      | U          |          |                       |
| 2) PAYG (solidary) system with the elements of public and private-sector pension insurance | 1997            | Belarus      | DB         |          |                       |
|                                                               | 1998            | Moldova      | DB         |          |                       |
|                                                               | 2013            | Tajikistan   | DB         | DC (Co.) |                       |
|                                                               | 2013            | Turkmenistan | DB         |          |                       |
| 3) Two pillars PAYG (solidary) system with the elements of public and private-sector pension insurance | 2003            | Ukraine      | T          | DB       |                       |
|                                                               | 2005            | Uzbekistan   | T          | DB       |                       |
| States with insurance pension systems and complementary funded accounts | 4) Defined Benefit Scheme (DB) with basis pensions and complementary private elements | 2002            | Estonia     | B         | DB, DC (Co.)         |
|                                                               | 2004            | Lithuania    | B          | DB       | DC (Co.)             |
| 5) Notional Defined Contribution Scheme (NDC) with targeted pensions and complementary private elements | 2001            | Latvia       | T          | NDC      | DC (Co.)             |
|                                                               | 2002            | Russia       | T          | NDC      | DC (Co.)             |
| 6) “Mixed” Defined Benefit Scheme (DB) with Notional Defined Scheme (NDC) with targeted (basic) pensions and complementary private elements | 2006            | Azerbaijan   | T          | DB, NDC  | DC (Co.), planned    |
|                                                               | 2008            | Kyrgyz Republic | B    | DB, NDC  | DC (Co.)             |
| States with fully-funded pension individual accounts           | 7) Mandatory privately fully-funded managed schemes (DC) with universal (targeted) pensions for previous generation of pensioners | 1998            | Kazakhstan | U         | DB, DC               |
|                                                               | 2014            | Armenia      | T          | DB       | DC                    |

Source: The World Bank Database; www.worldbank.org; author’s classification

According to these criteria and the duration of the reforms we can determine representative country from each group: Belarus – the First Pillar, PAYG, Unfunded, Public management; Kazakhstan – DB, Funded, Public and Private Management; Russia – NDC, Partially Funded, Public Management.

Only three countries from OECD states use NDC pension schemes as Russia: Italy, Poland and Sweden, and it shows a certain decrease in attention to the notional pension accounts (NDC). A limited number of countries also are using the mandatory DC schemes as Kazakhstan: Australia, Bulgaria, Slovak Republic. Kazakhstan is compared by the main indicator: fully-funded DC pension scheme and other pension pillars also represent in comparative countries. In contrast, most countries in Europe and Central Asia, and the highly developed countries of the OECD use the DB schemes as in Belarus.

Kazakhstan has introduced the most radical pension reform on the whole post-Soviet territory. Mandatory fully funded pension system operates in the country since 1998 with fixed payments: 10% of salary. The solidarity system is preserved only for those, who already have work experience or retired. Recent changes have been made in Kazakhstan in 2013 when all private pension funds were united into one, which manages by National bank.

According to the classification of World Bank, OECD, and other world organizations: First pillar or pillar 0 form as some variations of social (targeted – T, basic – B, and universal – U) pensions, which provide minimal or basic level of income to the pensioners. Second pillar includes some variations of mandatory publicly managed schemes as defined-benefit (DB) or notional defined-contribution (NDC) schemes which depend on incomes of retirement pensioners and notional interest credited to individual accounts. And third pillar includes mandatory privately schemes either fully-funded (DC) or defined benefit (DB), which may be on optional or complementary scheme (Co).
### Table 2. The Design of Pension Systems of the Belarus, Kazakhstan and Russia.

| Country     | Year of implementation | Type of Pension System                                      | Examples from OECD Countries                        |
|-------------|------------------------|-------------------------------------------------------------|-----------------------------------------------------|
| Belarus     | since Soviet Union     | Traditional PAYG scheme with non contributory and non earning social pension for all population above certain age | Bosnia and Herzegovina, Montenegro, Serbia, Turkey, Austria, Finland, France, Greece, Portugal, Spain |
| Kazakhstan  | 1998                   | Mandatory individual savings-funded pension accounts        | Australia, Bulgaria, Slovak Republic                |
| Russia      | 2002                   | Notional defined contribution (NDC) pension scheme with complementary private part | Italy, Poland, Sweden                               |

Source: The World Bank HDNSP Pensions Database; www.worldbank.org; OECD Database; stats.oecd.org

Russia began its pension reforms in 2002 and maintains solidarity scheme for all generations. Pension payments on the investment accounted for 6%; nowadays they account 22% and pay by employers without the investment element. The main part of pension savings is concentrated in the State bank VEB. Russia also has some problems with the financing of the deficit of the state pension fund.

In Belarus, the pension reform goes through some consistent steps to improve, while remaining basically solidarity PAYG pension basic. Pension payments account for 29% of salary, of which 28% is paid by the employer and 1% employee.

How do these three models of pension systems provide of the pensions of retirees in their countries and in comparison? Follows, we describe some indicators of pension systems of Belarus with PAYG (solidarity) system, publicly managed schemes, Russia with multi-pillar pension system with the NDC publicly managed schemes, and Kazakhstan with private managed fully-funded scheme.

### 3. Evaluation of the pensions of retirees in the pension systems of Belarus, Kazakhstan, and Russia

Is it getting wealth of pensioners more good in different pension models? One of the main pension indicators: gross replacement rate shows the presence of the difference between three countries with various pension systems (Fig. 1).

![Fig. 1. Gross Replacement Rates in Belarus, Kazakhstan and Russia, %](image-url)
The highest value shows Belarus, which has kept the PAYG system and the smallest: Kazakhstan with a fully-funded pension system. The situation is not fundamentally changed over the past five years. For comparison: the average gross replacement for the 34 OECD countries is 58% (OECD, 2013).

There follows three important indicators of pension wealth: indexation, pension ages and life expectancy.

For developing countries with the economies in transition is essential to how the pension is connected with inflation rate due to its relatively high values and possible divorce of pensioners. The impact of inflation we compare by indexation of average pension in three considering countries. Belarus and Russia are using the change of the average wage as a basic for increasing pensions; Kazakhstan takes into account changes in consumer prices, increasing by 2% (The World Bank, 2013). However, indicators associated with inflation have some drawbacks because of their absolute high or low values, that influence on comparability. To avoid such errors, we determine effective or real indexation of the average pension in Belarus, Kazakhstan and Russia as the difference between the average indexed monthly pension and the consumer price index, respectively (Fig. 2).

![Fig. 2. Effective Indexation of Monthly Average Pension in Belarus, Kazakhstan, and Russia, %](image)

Source: National Statistical Agencies, author’s calculation

Belarus and its PAYG pension system show better results of pension payments to pensioners in comparison with consumer prices: more than 15%. Then Kazakhstan has a second good trend with 10%, which were higher in 2010–2011 and have been low in 2013 and 2014. Russia had minimal, but the most stable indicator: about 2% per year. Thus, for the five-year period under review the most significant increase in pensions was observed in Belarus and the smallest: in Russia. In this regard, we can assume that the situation with the pension wealth in Belarus more suitable for retirees within three comparative countries.

The third important factor is connected with official retirement age, which gives rights for state pension. This indicator is a key for the reforms in the region. The level of retirement age was changed only in Kazakhstan in 2011 with increasing it on three years both for men and women. Russia and Belarus (also Uzbekistan) are the three countries from former USSR, which haven’t changes the pension retirement age since Soviet times (Fig. 4, 5). Since 2014 the age for women in Kazakhstan will increase for half in a year annually up to 63. Russia also is considering such pension changes. According to the indicators on the figures below, the difference between statutory retirement age and life expectancy almost no substantial change by countries. In general, there are limited years between pension age and life expectancy. The last is close to the official pension age, especially for men. This should be taken into account in the pension reforms with raising of the retirement age. Nevertheless, Belarus also shows relatively suitable results in these indicators.
Thus, PAYG system shows better results of pensions for retirees in current environment. However, these advantages may change because of present trends in pension surroundings. These tendencies became strong and influence on pension models in the near future. Among these factors such as aging population, declining birth rates, high levels of inflation, which limit the savings pension savings, high rates of pension taxes, low levels of financial and stock market, the ongoing transition. The security performance seniors currently is highest within solidary system, while in the future the best results can be funded system with individual savings accounts.

4. Conclusions

What are the basic features of PAYG, solidary pension system that allow it to demonstrate greater pension security pensioners in transition economies? In our opinion, it does not depend on the pension model in the first place, but on the conditions in which it is implemented. Having in the past quite a positive experience with the pension system and reforming it radically in terms of socio-economic reforms, Belarus took advantage of the architecture of the pension model, with good management and control. At the same time, Kazakhstan and Russia have chosen the path of substantial reforms of existing pension systems, that took some risks for the formation of sources of future pension payments in connection with the reforms of the tax system, the formation of the stock market, high inflation, long-lasting qualitative changes in the pension system, limited experience of management of public and private pension funds. However, pension reforms are delayed, and the results of which will be visible through a longer period of time. Thus, the need to simultaneously address the pension issues and responses to the challenges associated with the development of countries in the transitional economies complicates the positive results of the pension reforms. For the countries under consideration the current situation is complicated by the need to simultaneously solve the issues...
and answer the challenges connected with the development and reform of their pension systems in the demographic conditions of developing economies, and introduce new methods, solutions and mechanisms therein.

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