Cover Title Page

A STUDY ON "PENSION REFORM IN UZBEKISTAN: LESSON FROM KAZAKHSTAN"

By

LAPASOV Farhod

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

MASTER OF PUBLIC POLICY

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Abstract

The present pension system of Uzbekistan belongs to a type of solidary pension systems, according to Prof. Islamov, Prof. Shadiev foundings, this system was transformed from pension system of former USSR, since, the Uzbek economy has already moving towards market based economy. This paper evaluates long-term financial sustainability of a pay-as-you-go pension system in Uzbekistan and analyzes indicators of financial sustainability under various economic and demographic scenarios. In addition, it also evaluates pension reform in Kazakhstan that moved from a pay-as-you-go to fully funded pension system, which had been solution of financial pressure.

To assess the financial sustainability of the pension system, the actuarial valuation method is used.

Estimated results show that the operation of a pay-as-you-go pension system in Uzbekistan is facing financial sustainability problems, as a result number of unsolved issues that need urgent reform implemented.

In order to deal with this sustainability problem, this paper suggests to reform a pay-as-you-go pension system to fully funded one as Kazakhstan did so, by increasing in the retirement age, strengthening of eligibility criteria for early retirement, increasing in the labor force participation and labor productivity rates.

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I. Introduction

Pension systems in developing countries, as well as former Soveit Union countries, are under increasing financial pressure caused by pay-as-you-go (PAYG) type of pension system, which means that a retiree's benefits are solely financed by current worker contributions. Because, the sustainability of pension systems is deteriorating, since they are not funded.

Similar case, the current PAYG pension system of Uzbekistan is inherently fragile in terms of its financial sustainability, due to the low level of active workers (contributors) in the labor force, the high level of privileged pensions, which increases the average pension's share in average wages, and the absence of a reserve fund to provide at least three monthly pensions (Islamov & Shadiev, 2003).

A study by scholars Anita M. Schwarz & Asli Demirguc-Kunt (1999) found that the only way to effectively solve the pension system issue on a permanent basis is to move toward the fully-funded defined contribution reforms currently underway in Latin America, Australia, Poland and Kazakhstan under consideration in a variety of other countries.

However, to the best of my knowledge, no study has been done on assessing the fiscal sustainability of the PAYG pension system of Uzbekistan. This paper is thus designed to evaluate and give policy suggestions to improve the fiscal sustainability pension system of Uzbekistan under the experiece of Kazakhstan, which had similar pension issues as Uzbekistan has nowardays, by using systematic approach of pension reform.

II. The Pension System of Uzbekistan.

2.1 Historical Overview

Pension institutions in Uzbekistan have been implemented after the World War II in line with the communist ideology. After the independence, Uzbek pension system was transformed from pension system of former USSR, at which the financing of pension payments till 1991 was carried out completely from means of the state budget at the expense of general tax receipts. Fixed pension payments, which had no links to individual productive characteristics such as experience or marginal productivity as measured by wage, were paid out of the federal budget in the former Soviet Union. (Islamov & Shadiev, 2003).

The state budget was also the main tool of distribution and of redistribution of resources from the sphere of production to social sector, which is deemed as a priority direction of the state policies.

To forecast of the budget were used to analyze the situation of the previous 5 years, and this was done not only by each section of financing of education or health care, but by each types of expenses, i.e. separately by schools, by hospitals, by orphanages etc. Then the average percent of the growth of expenses for 5 years was calculated, which was used for the prognosis of the next year. Each type of expenses had its norms, both in kind and in money terms. That is, there was rationing of nutrition, medicines, and different kinds of furniture. These norms were applied to general indicators: the number of students, patients etc. After the approval of the budget, each direction was financed strictly according to the plan.

Practically, all newly formed independent states have confronted a problem of maintenance of duly payment of pensions. Many from these states till now can not completely solve this problem. Uzbekistan also has met a problem of financing of pension system. Created in 1991 without the account of an economic and demographic situation the Pension Fund of Uzbekistan already right at the beginning was financially insolvent, i.e. the profitable part of Pension Fund did not cover a spending part. Till August, 1991 the deficiency of Pension Fund of republic was dated from the Center, and after disintegration of the former USSR this problem should be solved at the expense of the state budget of republic of Uzbekistan through the budgetary support to compensate for the arrears in accumulation and distribution.

In 1991 the partial reform of pension system was carried out after the independence of the country, as a result of which the sizes of pensions were put in closer dependence on duration of the experience of work and monthly average earnings, and the financing of pension payments has become to be carried out from means of specially created Pension Fund. In spite of the fact that the reform of 1991 has brought in significant changes to the order of assignment and payment of pensions, nevertheless it could not solve the main problem - stabilization of financial maintenance of pension system. The reform did not take into account regional and national features, and also economic situation in the republics. It became especially apparent after disintegration of the former USSR. After collapse of Soviet Union in 1991 Uzbekistan established its own Pension Fund but under the same operating principals of former Soviet Pension Fund: publicly mandated, defined benefit, unfunded PAYG pension system.

In 1994, the Law on State Pension Security (LSPS) was introduced to provide the legal basis for administration of pensions in Uzbekistan. The LSPS provided for (i) old age security, (ii) disability allowance, and (iii) an allowance for loss of the family breadwinner.

An annual subsidy required from the budget to meet the Pension Fund defecit has been around 3 percent of GDP, though it has gradually declined to around 1 percent in 1995 and 1996. The measures accepted by the Government of Uzbekistan have allowed at the end of 1996 and the beginning of 1997 to stabilize the financial position of pension system and to liquidate the debts on pension payments, formed to that period.

2.2 The Current Situation

Uzbek Pension system has 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. The size of minimal pension was 18 605 soms per month (about 18 $ USA) at the end of 2004.

In 2005 a new law on pension system was adopted, according to which the new system incorporates two tiers: old PAYGO scheme and funded scheme.

All of current benefits are still financed from PAYGO scheme, whereas part of new contributions is to be deposited on individual special banking accounts of workers. This part will be returned together with accumulated interest as benefits, in addition to PAYGO scheme benefit, to workers when they retire. Funding sources of PAYGO scheme are as follows:

- workers contribute 2.5 percent from their salary;
- employers contribute 30 percent from payroll, and 0.7 percent from total turnover.

Funding system is financed as follows:

- workers contribute 1 percent from their salary;
- employers contribute 1 percent from payroll.

The pension system establishes 2 basic requirements for pension maintenance:

i) Presence of a condition giving the right on pension maintenance (achievement of pension age, approach of physical inability, loss of the supporter);
ii) Presence of the required experience of work according to the given conditions. In case of absence of one of the specified requirements the right on pension maintenance is lost.

Totally, according to main indicators, characterizing any kind of pension system, and particularly the coefficient of correlation (relation of number of pensioners to number of employees) and coefficient of substitution (relation of average volume of pension to average salary rate), defining level of pension's maintenance.

Table 1.
The main Pension Indicators in the CIS and Baltic Countries

CIS and Baltic countries	Coefficient of correlation	Coefficient of substitution
Azerbaijan	0.30	0.35
Armenia	0.43	0.21
Belarus	0.56	0.40
Georgia	0.48	0.23
Kazakhstan	0.40	0.30
Kyrgyzstan	0.30	0.41
Latvia	0.63	0.39
Lithuania	0.71	0.28
Moldova	0.45	0.22
Russia	0.59	0.36
Tajikistan	0.32	0.28
Uzbekistan	0.30	0.52
Uzbekistan	0.67	0.35
Estonia	0.63	0.32

Source: Ekonomicheskoe obozrenie", # 10-11.2002, page 4.

Table 1 show that the situation in Uzbekistan is rather better than in other countries with transition economy. For example, in Bulgaria coefficient of correlation is 1 and coefficient of substitution – 0.3, whereas in Uzbekistan these indicators equal to 0.3 and 0.52 respectively. It means that in Uzbekistan there are more than 3 employees for 1 pensioner, and average pension covers 52% of average salary rate. Although it was mentioned earlier that in Uzbekistan the dependency ratio coefficient equals 0.3 it should be stressed that this is just a nominal coefficient. If recalculated in relation to the number of workers who actually make contributions to the pension system, than this coefficient equals 0.67, which implies high debts on contribution payments, and significant number of employed who are exempt from making contributions.

The pension system of Uzbekistan is managed by three organizations. The Ministry of Labor 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.

Table 2
The number of pensioners and composition of population.

	Number, thousand	**% of total population**
Disabled 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.

The laws of Republic of Uzbekistan guarantee equal rights for women and men in labor as an integral right of all people; right for equal access to employment opportunities, free choice of profession, education, right for social security in case of retirement, unemployment, sickness and disability as well as the right for health protection and safe working conditions.

As of beginning of 2001, number of women-permanent residents was 50.2%, and the men 49.8% respectfully of total population. According to for the last ten years statistical data, the number of women has been increased 1.9%. The rate of occupation in the work place for women is 44 % and men respectfully 56 %. But the rate of education of women is higher than that of men (in the year 2000 the ratio of women who received higher education in the total number of employed women was 18.0 %, and men — 17.3 %).

The ratio of aging has remained at the level of the year 1990 (6.45 % in 1990 and 6.47 % in 2000).

II. Major Issues in the Uzbek Pension System

Not many studies have been conducted to find out the reason that why current pension system is not working properly. Only the recent study, Islamov and Shadiev, (2003) and Prof.Shamsuddinov examined the main problems of Pension Fund of the Republic of Uzbekistan. These scholars found that despite of the favorable characteristics, the national pension system has the separate latent problems, which will be gradually shown during time and render negative influence on stability of its financial condition. 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. The main reasons behind issues are illustrated with following reasons:

3.1 Low contributors/labor force ratio.

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 3**,** an 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.

Table 3.
Selected pension indicators for the former Soviet Union countries

	Employed / Labor Force ratio	Contributors/ Labor Force Ratio	Pensioners / Contributors Ratio	Old-age Dependency Ratio	Replace ment Rate (%)	Pension Expenditu res (% of GDP)
Armenia	0.74	0.27	1.19	0.12	21	3.4
Azerbaijan	0.87	0.52	NA	0.1	53	3.6
Belarus	0.75	NA	NA	0.19	40	8.0
Estonia	0.59	NA	NA	0.2	32	7.1
Georgia	0.25	NA	1.2	0.18	23	NA
Kyrgyzstan	0.36	0.44	0.64	0.1	41	4.9
Latvia	NA	0.6	0.8	0.21	39	10.6
Lithuania	NA	0.62	NA	0.19	28	6.2
Moldova	0.78	0.58	0.62	0.14	22	4.9
Russia	0.69	0.58	0.75	0.26	36	4.8
Tajikistan	0.82	NA	NA	0.08	28	1.6
Turkmenist an	0.67	NA	sNA	0.07	26	4.0
Uzbekistan	0.52	0.7	NA	0.21	35	8.8
Uzbekistan	0.73	0.33	0.65	0.11	52	5.4
Kazakhstan	NA	0.48	0.73	0.11	30	4.4

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 razvitia'. Vseobshaya konfederatsia profsoyuzov. Moscow, 2001. www.amros.ru

Further more explanations of the above Table 3 and analysis shows that, employers were making contributions on behalf of about 5 million workers. This meant that 1.1 workers were paying for each pensioner, an extremely low ratio compared to the population demographics. In other words, the system dependency ratio, that is the ratio of pensioners to contributors, was 0.65 in 2003 while the old age dependency ratio, that is the ratio of persons age 60 and over to the working age population (age 20-59 years) was 0.11. Although the replacement rate seems high enough (0.52), it should be mentioned that the average monthly wage is very low in Uzbekistan (about 40 USD), so for older people who cannot afford side jobs the monthly pension of 20 dollars is much less than what is adequate for decent living support.

Uzbekistan, a country with favorable demographics for a pay-as-you-go pension scheme, had a high system dependency burden and correspondingly high payroll taxes due to ineffective collection procedures and early retirement ages. Essentially, the growth of the informal sector and the development of wage arrears led to a relatively small tax base relative to the actual labor share of income in the economy.

3.2 Inapproprate significant pension privileges.

It is connected to presence of significant pension privileges not appropriate to character of the market relations and which was not adequate social validity. The specific feature of pension privileges consists of:

. the presence of privileges worsens real factor of dependence. For example, the prescheduled exit on pension results in reduction of number of the workers, that are making payments and to the increase of the number of the pensioners, that worsens the factor of dependence and negatively influences a financial condition of pension system;

. privileges on making the payments for the separate enterprises and kinds of activity, and also the reduction of pension age for separate categories of the workers results in necessity of increase of the tariffs of payments for other enterprises, and, hence, to increase of the cost price and decrease of competitiveness of their production.

The legislation permits to separate categories and groups of the population not to participate in a profitable part of Pension Fund. So, for the military men of all categories it is not required at all any participation in a profitable part of Pension Fund.

To the majority of categories and groups of the population the legislation gives significant privileges as double calculation of the experience of work (for example, the one year of a service of the military men of an urgent service is set off as 2 years of work), offset in the labor experience of the periods of a presence without work (care of the invalids of 1 group and the disabled children till 16 years, time of a presence of the wives of shepherds and officers with their husbands during a service, time of a care of children before achievement by them of age 3 years etc.), offset in the labor experience of the periods of activity, when the pension payments were not paid (study, military service, leaves of absence on a care of children) and various extra charges to pensions not having additional sources of covering of these charges. National security employees are also exempt from making contributions to the Pension Fund.

3.3 Inadequecy of women contribution.

There is inadequacy of participation of the citizens in profitable and spending parts of Pension Fund to a gender attribute. So, for reception of the right on complete pension, the participation in Pension Fund for 20 years suffices to the women, men - during 25 years. The women receive the right on pension at achievement of age 54-55 years, men – at achievement of age of 60. Taking into account, that the average duration of life of the women makes 72 years, and the men 67 years, it is possible to make a conclusion that the share of participation of women in a spending part of Pension Fund is more than 2 times higher than a share of participation of men. Thus it is necessary to note, that the share of participation of the women in a profitable part of Pension Fund is much lower than a share of participation of the men.

Unequal conditions and the requirements for pension maintenance established by the legislation for men and women, result in essential distinctions in an estimation of each year of participation in a profitable part of Pension Fund of the citizens to a gender attribute. So, each year of participation of the women in Pension fund is estimated in 2.75% (base size of pension - 55% required experience - 20 years), men - in 2.2% (base size of pension - 55% required experience - 25 years) of the base pension.

3.4 Disproportion of sizes of payments between workers and employers.

Another imperfection of the pension legislation is that it establishes the disproportionate sizes of payments in Pension Fund for the employers and workers, and also for various groups of commodity producers. It is established by new legislation on pension system, which incorporates two tiers: old PAYGO scheme and funded scheme.

All of current benefits are still financed from PAYGO scheme, whereas part of new contributions is to be deposited on individual special banking accounts of workers. This part will be returned together with accumulated interest as benefits, in addition to PAYGO scheme benefit, to workers when they retire. Funding sources of PAYGO scheme are as follows:

Funding sources of PAYGO scheme are as follows:

- workers contribute 2.5 percent from their salary;
- employers contribute 30 percent from payroll, and 0.7 percent from total turnover.

Funding system is financed as follows:

- workers contribute 1 percent from their salary;
- employers contribute 1 percent from payroll.

The people consider, that the Pension fund is formed at the expense of their payments, whereas in reality the employers bring in to Pension Fund around 90 %, and workers only around 10 % of a payment.

Such situation has a place in many countries of CIS, whereas in advanced Western countries the employers and the workers bear practically equal responsibility for formation of pension funds. For example, in the USA, Germany, Japan and majority of other advanced countries the workers and the employers pay a pension payment in equal shares.

Table 4.
Pension age and time of a pension payment in the separate countries

Country	Pension age (year)		Size of a pension payment	
	Men	Women	Employer	Worker
England	65	60	10 %	10 %
Germany	65	65	10.15 %	10.15 %
USA	65	65	6.2 %	6.2 %
France	60	60	9.8 %	6.65 %
Uzbekistan	60	55	31.7 %	3.5 %

Source: “Ekonomicheskoe obozrenie” magazine, # 10-11.2002.Page 5

All contributions are mandatory, and the system does not offer any fringe benefit programs to system participants. As one can see, funded scheme is very dismal. In addition all contributions to funded scheme are held in one State commercial bank (Halk bank). Pension Fund has no authority over these funds. It is used or invested by Halk Bank on its discretion.

VI. Pension reform of Kazakhstan.

4.1. The pre-reform system.

Kazakh Government decided on an ambitious pension reform primarily as a result of serious arrears in pension payments in an environment that made a more moderate reform unlikely. The problems under the old system were manifold.

Table 5.
Pre-Reform System, 1996

Retirement Ages	55 years for men, 60 years for men
Pension Formula	60% highest wage, 1% extra per year of service for service over 25 years for men and 20 years for women
Pensioners	2.8 million pensioners
Contributors	5 million contributors
Actual Replacement Rate	36 percent of average wage
Arrears	5 months of pension payments

First, retirement ages, based on the former Soviet system, were extremely low, at 55 years for women and 60 years for men. While these ages were supposed to be raised in 6-month increments under 1996 legislation, the increase was unusual as workers could still retire at earlier ages with a reduction in benefits, which would subsequently be topped-up to full value upon reaching normal retirement age. In effect, this meant that people continued to retire at the same age. The normal pension formula was extremely generous at 60 percent of the highest past wages averaged over 12 months for workers with full service (20 years for women and 25 years for men). Above that, the base was increased by one percent for each year of service above the minimum. In many occupations, more than one year was credited for each year of service.

Pensions were paid to 2.8 million persons in mid-1996. Of these, old- age pensions accounted for some 2.1 million. About 19 percent of old-age pensioners received pensions on favorable terms with supplementary years of credited service. Further, these pensioners received higher than average pensions, as outlays for them amounted to 23 percent of all old-age payments. While statutory replacement rates were very generous, actual average replacement rates were much lower than the formula would suggest because indexation trailed wage growth. In July 1996 average pensions were 36 percent of average wages. In fact, throughout the 1980s and 1990s, the pension replacement rate ranged from a low of 24 percent of the average wage in 1992 to a high of 42 percent in 1991.

Collection. In mid-1996, employers were making contributions on behalf of about 5 million workers. This meant that 1.8 workers were paying for each pensioner, an extremely low ratio compared to the population demographics. In other words, the system dependency ratio, that is the ratio of pensioners to contributors, was 0.56 in 1995 while the old age dependency ratio, that is the ratio of persons age 60 and over to the working age population (age 20-59 years) was 0.18. By comparison, in the United States, these ratios were 0.31 and 0.30 respectively. Kazakhstan, a country with favorable demographics for a pay-as-you-go pension scheme, had a high system dependency burden and correspondingly high payroll taxes due to ineffective collection procedures and early retirement ages. Essentially, the growth of the informal sector and the development of wage arrears led to a relatively small tax base relative to the actual labor share of income in the economy. In fact, estimates suggested that less than half of all potential contributions were actually collected. This, of course, is not just a problem in Kazakhstan but affects virtually all CIS countries, as tax collection shortfalls are much more severe in the CIS than in Central and Eastern Europe.

The system of collection and payment under the old pension system was inefficient and ineffective. The Ministry of Labor and Social Protection (MLSP) and the local departments of social protection were responsible for the collection of pension fund revenues and the delivery of benefits. Each 'raion'[1] department of social protection had a pension fund department. That department was responsible for the auditing and enforcement of contribution collections. Monthly contributions were deposited into two accounts. Seventy percent of collections went to a raion account and the remaining 30 percent were supposed to be deposited into a central account for reallocation to the oblasts. The result of this arrangement was that funds remained at raion level until all local pensioners were paid. Further, relatively well off oblasts, such as Almaty, appeared not to actively enforce collection compliance once they had sufficient funds to pay their own pensioners. While collections under this system were aided by local self-interest, the inefficiencies in allocation called for administrative reform. Local authorities actually used pension fund revenues to pay for family allowances based on the premise that these funds would be reimbursed by local budgets. Since local funds were generally insufficient, these expenditures frequently were not repaid.

[1] The relevant administrative units in Kazakhstan are raions, oblasts and the center. Raions consist of municipal and rural localities. Oblasts consist of the total of regional raions, and the center oversees the raions.

Arrears. Under the former PAYG system, considerable arrears in collection were accumulated on the part of contributing employers, with the duration of back-payments differing from oblast to oblast. Prior to reform, the accumulation of arrears both in terms of payments and contributions -- was growing. On January 1, 1996, contribution arrears from enterprises totaled 40 billion tenge, 26 billion tenge higher than one year earlier. Contribution arrears from local and republic government ministries and organizations amounted to another 2.3 billion tenge. By July 1, 1996, reported contribution arrears from enterprises were 49.6 billion tenge -- equivalent to five months of pension payments.

Further, even if these arrears could have been made up, the pension fund only collected taxes from 5 million out of an estimated labor force of 7.8 million. Moreover, collections only amounted to 45-52 percent of potential revenues due to the underreporting of wages.

Contribution arrears and the general state of non-compliance led to a significant backlog in pension payments. Pension payment arrears were 26 billion tenge at the beginning of the 1996 and peaked at 32 billion tenge (2.5 percent of GDP) by the end of June 1996. As a result, Government transferred 36 billion tenge from the state budget to the pension fund in 1997 to cover payments, including arrears, covering the deficit for the rest of the year, and paying other administrative expenses. But the build-up of back pensions had begun to be a focal point for social unrest, which, ultimately, opened a window of opportunity for the enactment of the Kazakhstan pension reform. With this as background, the President appointed a task force to develop a plan for pension reform during the first half of 1997 to finally overhaul the system in a fundamental way, as partial measures had not led to any reductions in cost. As a result, the reform concept was outlined early in 1997, and legislation was drafted by a committee of experts, during an April retreat outside the capital city of Almaty[2]. According to one of the intellectual leaders of the reform, “the pension reform is an integral part of the triangular economic development strategy encompassing privatization, capital markets development and the pension reform.”(Marchenko, 1998). Thus, the success of the reform should, in part, be measured by this objective.

4.2. Directions of the Reform

Using the World Bank’s Pension Reform Options Toolkit (PROST) a projection of future benefits and the dynamics of the transition of the pension system was developed. This projection is based on “sustained growth” economic scenario in which real non-oil GDP growth is anticipated to stabilize at 3% per year with real wage growth and inflation at 2.5% and 2.0% respectively. Demographic trends were derived from World Bank projections. The age-wage distribution is anticipated to gradually transition from the current relatively flat pattern characteristic of the early transition period to one in which the average worker attains a 1% per year increase in real wages in addition to the average wage increase related to overall economic growth. The current relationship of male and female earnings was held constant for the projections.

These assumptions provide a conservative estimate of the outcomes of the reformed pension system when measured in terms of the capacity of the new Fully Funded system to provide income replacement. This is due to several factors including the projection of the future path of wage distributions which results in a rather steep age related wage

[2] The capital was moved from Almaty to Astana (formerly Akmola) in 1998.

increase compared to the current pattern and the assumption that gender wage differentials will remain at the present level. This steeper pattern of the age-wage distribution increases final wage relative to average career earnings. This effectively lowers the assumed contributions in the early years and raises the final wage relative to projected account balances.

A less pronounced age related wage increase would be closer to the current pattern but inconsistent with the experience in other transition economies or the current pattern in more developed countries. It would also result in a greater difference between interest rates (the rate of growth on account accumulations) and wage growth. All of these would interact in some rather complex ways to increase the projected value of pension savings accounts relative to wages and result in higher pensions.

Preliminary sensitivity analysis indicates that the net effect of a flatter wage profile would be to raise projected income replacement rates by about 15% (not percentage points) in regard to final wage and 30% in relation to average wage. This provides a rough means to estimate an alternative upper bound of a reasonable projected replacement rate. A final wage replacement rate of 20% may therefore be interpreted to represent a range of 20% to 23% depending on what path of wage distribution is assumed for the future. A 20% of average wage replacement rate represents a range of 20% to 26%. These differences were not deemed to warrant a full presentation of alternative scenarios in the results because they do not alter the general nature of the findings. The report therefore provides only the results from the basic scenario with the expectation that these will be interpreted as a relatively conservative base case to illustrate the dynamics of the transition to the reformed system.

Projections over a 75 year period were developed from the model to provide estimates of:

(1) The distribution of benefits among the two components of the system to illustrate the dynamics and timing of the transition to the reformed system

(2) The value of projected benefits in terms of their ability to replace the final earnings of the average worker to evaluate the capacity of the reformed system to sustain consumption levels among retirees,

(3) The average benefits in comparison to average wages to provide a measure of the capacity of the

reformed system to maintain retirees within the broader income distribution, a key issue in considering the political economy of the reform

(4) The anticipated cost of benefits funded through the Republican Budget to evaluate the future public financing requirements of the system and assess the capacity to finance potential policy initiatives within the pension system

The reformed pension system also has significant implications for financial markets in Kazakhstan. The movement to Fully Funded pension savings accounts will accentuate the gap between the demand for and the supply of high-quality domestic securities. In 2003, the total volume of domestic corporate instruments (mostly corporate debt) available at Kazakhstan's capital market was US$1 bln., 70 percent of which was owned by pension accumulation funds. It is expected that the aggregated value of individual accounts will continue to rise sharply from the current 13 percent of GDP, and will reach a steady state at around 70 percent of GDP in 2040. As the accumulation of pension assets advances, they will become the dominant institutional investor on Kazakhstan's financial markets.

This will have significant long-term implications for the growth of the financial sector and insurance industry[3].

It is likely that the domestic financial market in Kazakhstan will not be capable of effectively absorbing the increasing accumulation of pension assets over the short term. At this early stage in its development it is important that the financial sector be well regulated and efficiently supervised. However, it is also important that the regulatory regime for the investment of pension assets, in the effort to guarantee the security of contributors, does not result in inefficient allocation of investment resources or constrain the diversification of the portfolios.

4.3 Transitional Costs of the Reform

Initial estimates- The fiscal framework for 1998 budget was designed to accommodate an increased deficit of 1.7 percent of GDP resulting from the pension reform for a total deficit of 5.5 percent

Table 6.
The Transition Costs of Pension Reform

State Budget plus Pension Fund (1997 tenge)	1997 Former System	1998 No Change In Policies	1998 New System	Loss of Revenue
Retirement Pensions	89.4	92.4	91.4	-1
Social pensions / allowances	19.8	21	21	0
Military pensions	5.1	5.2	5.2	0
Gov't contrib. to	0	0	10.9	10.9

[3] For more recent discussion on these topics, see: Quick Response Note on Priorities For Financial Sector Reform: Selected Issues And Options, available from www.worldbank.org.kz.

accumulation funds				
Total Outlays	114.3	118.6	128.5	9.9
Net payroll taxes	48.4	48.7	28.2	-20.5
Gross inflows to SPPC	70.2	70.5	41	-29.5
less, gov't contrib. - own employees	21.8	21.8	12.8	-9
Net Cost to Government	65.9	69.9	100.3	30.4
Percent of GDP	3.9 %	4 %	5.7 %	1.7 %

(If funding from privatization is omitted then the overall fiscal deficit for 1998 was an estimated 7.8 % of GDP). The underlying adjustment in recurrent revenues and expenditure items equaled a decline of 0.7 percent of GDP. Projections of the cost of transition based on Government's actuarial model indicated that the implicit government debt would amount to 110 percent of 1997 GDP.

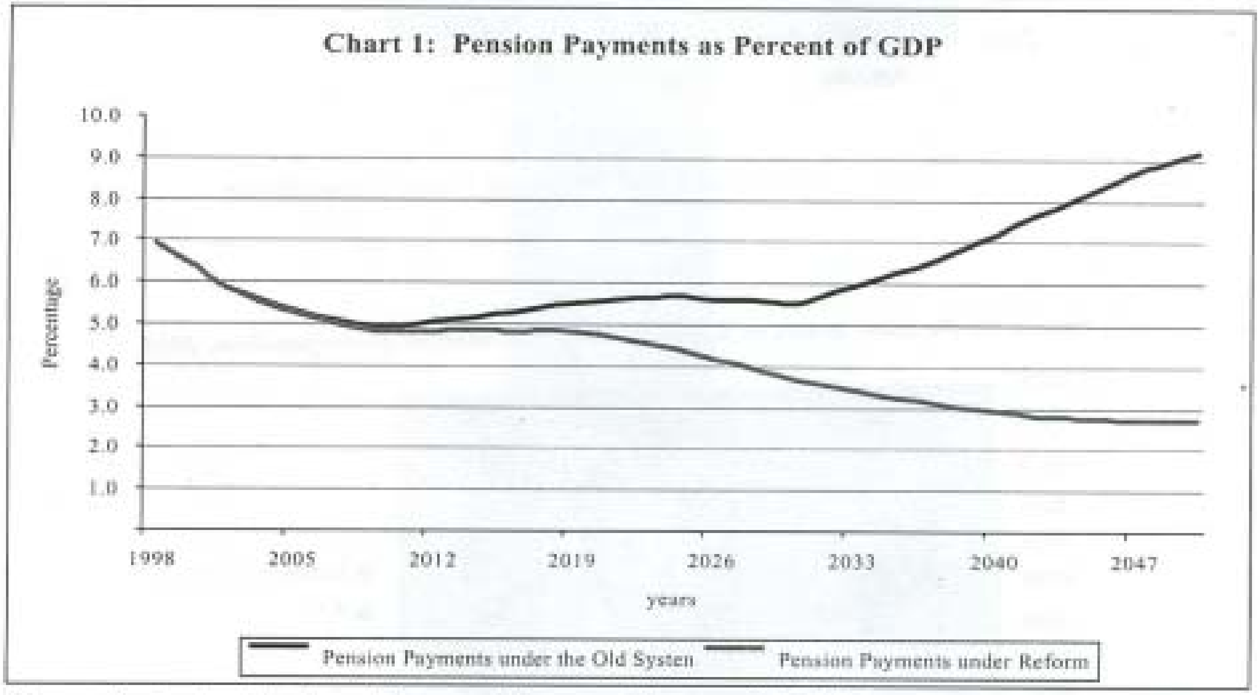
The actuarial projection model showed that in the absence of reform, the existing system costs would have increased slightly in 1998, from 3.9 to 4.0 percent of GDP, mainly as a result of additional pensioners. With reform, the cost of the new system was estimated to be 5.7 percent of GDP. The transitional cost of reform was due to the reduction in the payroll tax rate from 25.5 percent to 15 percent in 1998, which was estimated to reduce gross inflows to the PAYG system by 30 billion tenge.

Updated estimates. In 2000, Government again estimated the annual costs of the PAYGO system as part of its fiscal planning process[4].

These projections demonstrate that total expenditures for the PAYGO system will be considerably less as a result of the pension reform (Chart 1).But with life expectancy at retirement reaching 12 years for men and 20 years for women, it is not surprising that

[4] The costs of the pension reform are now assessed based on the World Bank's PROST model (adapted for Kazakhstan) using official economic assumptions to make actuarial projections of the PAYGO system. Earlier estimates were based on a model created for USAID to assist the Kazakhstan authorities in their development of the pension reform.

current pension costs are not significantly reduced until 2012, when the cost of the reformed system is below the pre-reform projection by 5 percent of GDP. Further, the reform did not alter the benefit formula for pensioners entitled to old-system benefits, although retirement ages were raised and special early retirement provisions were suspended. After 2012, the costs of the residual PAYGO system decline dramatically as a percent of GDP compared to the former PAYGO system. In fact, the present discounted value of pension payments is reduced by 43 percent after the reform over the period 2000-2050 compared to stream of expenditures under the unreformed PAYGO case.



Source: Projections for Annual Report of Ministry of Finance, PROUST model.

Nonetheless, the new projections also show that transitions costs are greater than initially forecast, probably as a result of reduced tax collections following the Russian crisis, and subsequent employment shifts from the formal to the informal economy.

Consequently, while initial projections indicated a first-year deficit of 1.7 percent of GDP, the actual deficit came in at 2.2 percent of GDP[5].

Updated forecasts indicate that the transition deficit falls slowly until 2036. The discounted value of the incremental cost (and savings in later years) is less than 0.2 percent of the discounted value of GDP from 2000 to 2050. In other words, on the whole, the reform is essentially cost-neutral, as the reduction in tax rates is close to the reduction in pension expenditures over time. Under the old system, pension costs would have started to rise in 2011 after falling for 10 years, and would have reached their 2000 rate in terms of GDP by 2039, rising thereafter. Thus, the pension reform creates a system that is sustainable for later in the century as these increases are avoided.

4.4 Current pension system after the reform.

The most popular way of solving the fiscal imbalances of PAYG pension systems is to use a systematic approach, which implies completely changing the PAYG system into a new, fully-funded pension system with a defined contribution principle. A pioneer in this field is Chile, which replaced its PAYG regime with a fully-funded pension system in the second half of the last century, based on individual capital accounts managed by private companies (OECD, 1998). The new pension system makes a direct link between

[5] This is defined as the relative shortfall in *total* tax revenues after pension reform (due to the 10-percentage point reduction in the payroll tax). Over time, the need for this lost revenue is reduced as PAYGO pension expenditures decline under the reform relative to what they would have been otherwise. Because post-reform PAYGO pensions are now financed from general revenues, and not from payroll taxes, usual direct comparisons of pre- and post-reform payroll tax revenues can no longer be used to determine the transition cost.

contributions and benefits, which did not exist under the PAYG system. More importantly as the study noted, the financial problems of the pension system were automatically solved because pensioners started receiving benefits based on their contributions, and government bonds were issued to those who had already contributed to the old system.

After Chile, many countries successfully employed a systematic approach, among which Kazakhstan is the best, and so far the only, example from the former Soviet Union. A study by Andrews (2001) examined the basis for pension reform in Kazakhstan, including transition costs and the institutional structure of pension reform, further defining development areas of the country's pension system. This study noted that Kazakhstan simply followed Chile by replacing the old PAYG pension system with a fully-funded, defined contribution pension system in 1998, but in contrast to Chile, the pension liabilities of Kazakhstan's PAYG system are covered by payroll taxes of 21%.

Disadvantages of Kazakh pension reform is that it forced all workers to transfer to the new private pensions and to accept a formula that values their contributions to the old public plan. Similar reform proposals in Argentina and Hungary were abandoned when it became clear that the valuation of accrued rights would be challenged in the courts. The absence of such challenges Kazakhstan is interesting. It could reflect differences in the legal system or the political economy of these countries or it might be that the valuation was generous, pre-empting criticism.

There are two risks with forced switching

. The reform could just as easily be reversed by a new government, since switching was imposed and not a choice.

. Minimizing political and legal resistance might be costly if the valuation of accrued rights is raised above the level necessary to persuade most workers to switch. True preferences are revealed when workers have a choice.

Switching and reform objectives[6] - A successful reform must meet a number of objectives.

First, the new scheme should aim to provide a reasonable level of retirement income.

Secondly, the benefit level must be consistent with long-run fiscal policy. The diversion of payroll taxes from financing current pay-as-you-go pensions into the funded scheme will increase deficits at first, so short-term fiscal constraints are also important.

Thirdly, pension reform has microeconomic objectives: improve the workings of capital and labor markets.

Finally, the reform must be politically palatable. It is vital to inform the public of demographic change and future benefit promises and their effects on the pension system's finances. Political resistance is likely to come principally from workers who have already paid into the system and are then forced to switch to the new scheme. Even when credits are given for past contributions, how these accrued rights are valued can be controversial.

Although Kazakhstan pension reform has some disadvantages, but it meets a number of objectives requirements as a successful reform.

The followings are Kazakh pension reform descriptions:

Old-age pension benefits are provided through the two elements comprising the pension system – (1) The Pay as you go (PAYG) solidarity component that currently constitutes

6 "Switching - The role of choice in the transition to a funded pension system", World Bank Pension Reform Primer.

the major source of pension benefits; and (2) the Fully Funded (FF) defined contribution (DC) component now in its initial accumulation phase. The Fully Funded system will rapidly become the dominant source of retirement income with the PAYG system completely phased out within 40 years. The reformed pension system began operation on January 1, 1998. At that time benefit accruals under the old system ceased and all workers were required to participate in the new system through mandatory contributions into the new individual pension savings accounts. Retirees continued to receive their benefits under the old system and workers who had accrued benefits prior to that date retained the right to receive those benefits on reaching their respective retirement age in the future. The residual benefits of the old system will be financed through the continued payment of a Social Insurance Tax of 21 percent of wages now applied to all workers (regardless of whether they had accrued any benefits under the PAYG system) that also finances several other types of social assistance and health benefits. The new system utilizes a centralized collection and record keeping system. Employers are required to forward the Social Insurance Tax, contributions to the individual accounts and the associated identifying information to the State Pension Payment Center (SPPC). Although the Social Insurance Tax was earmarked for specific benefits this has lost meaning over time and the funds are now simply transferred to the general budget which allocates funds for the payment of benefits under the PAYG system to the same institution. Social Insurance Taxes and contributions to the Fully Funded accounts are excluded from salaries and wages for income tax purposes. Benefit payments from either type of pension are taxable as income. Mandatory Fully Funded pensions are financed by a contribution of 10 percent of wages, allocated to individual accounts in the newly established Pension Accumulation Funds (AFs). Each employee is required to choose one AF to manage his/her pension savings. These contributions are collected by the employer and transferred on a monthly basis to the SPPC which re-directs the funds to the AF designated by the employee. The mandatory pension contributions cannot be paid by third persons into the worker's account. Workers are permitted to supplement the mandatory contributions with voluntary contributions to the accounts. On reaching retirement age individuals who choose to continue working are exempted from the mandatory contributions. There are 15 private pension accumulation funds (NSAFs) and one state accumulation fund (SAF) in Kazakhstan. The SAF was created as an alternative to the private funds and serves as a default AF for all who failed to designate a fund. Initially, each NSAF was required to contract with one Asset Management Company (AMC) for the day-to-day management of its portfolio consistent with an investment strategy defined by the NSAF. AMCs were allowed to manage the assets of more than one NSAF. A recent change in regulations allowed AFs to manage accumulated assets on their own by creating asset management units within their administrative structure. This change acknowledged a general practice of common ownership for the AF and its AMC. This was also a step towards unification of the rules applied to the SAF and NSAFs. For the time being, however, AMCs continue to manage the assets of AFs.

Eligibility and payment of benefits

The legal and institutional framework for the reformed system is set forth in the Pension Reform Act of 1998. This law set the terms for recognition of accrued benefits, imposed the mandatory pension savings requirement and established the legal and institutional infrastructure on which the new system would be based. The Pension Law of 1998 was drafted to cover all aspects of the FF DC pension system. After its creation this law was amended on seven occasions by decrees in 1999, 2001, 2002 and 2003. However, certain important aspects of the pension system are still left unresolved. These predominantly concern the design of the payout phase of the pension system, the future of the minimum pension guarantee, and the prospective characteristics of social assistance pensions.

Eligibility-According to the Pension Law, citizens of the Republic of Kazakhstan, as well as non-citizens, permanently residing in the country, enjoy the right to old-age pensions upon meeting the eligibility criteria. Retirement-age people who continue to remain employed are also eligible to receive pension benefits. As of July 1st, 2001 retirement ages are 63 years for men and 58 years for women. At that age contributors become eligible to receive both their PAYG pensions and the right to access the savings in their individual accounts under the Fully Funded system. The same age requirements generally apply to voluntary funded pensions, social allowance and survivorship pensions. Disability pensions are granted upon the certification of the person as Group I or Group II invalid.

Payment of benefits-The State Pension Payment Center (SPPC) is responsible for paying PAYG pension benefits to all who reached retirement age and have paid the Social Insurance Tax for at least six months prior to January 1st, 1998. PAYG pension benefits are paid in equal monthly installments for life. The payout phase for the fully funded pension benefits has yet to be fully developed. Currently retirees receive their accumulated funds as a lump-sum. The Law envisages that FF pensions (mandatory and voluntary) will be paid out as annuities through insurance companies. According to the Law, only a person who has funds sufficient to provide him/her with a minimum pension is allowed to purchase an annuity. A regulation from July, 2003, specifies that retirees whose individual accounts are less than 20 minimum pensions or less that 100,000 Tenge will receive their pensions as lump-sums. The Law also provides for inheritance of funds in individual accounts. Apart from these provisions no concrete arrangements are made (such as on the types of annuities to be offered and the annuity factor to be used). Designing the payout phase of the pension system is one of the most urgent challenges Kazakhstan faces.

State guarantee for pensions-The State guarantees the pensions for all who retired prior to January 1, 1998. For those who retired after this date, and who have continued to work for at least three months following this initial implementation of the reform, the State guarantees that their PAYG pension benefits will be at least equal to the minimum pension. For the Fully Funded accounts the Accumulation Funds are required to guarantee contributors that the real value of their contributions will be at least maintained, effectively ensuring that, over the working life of contributors, there is not a net negative return on aggregate contributions. The level of the minimum pension is set by the Government and adjusted on an ad hoc basis. As of June 1st 2003, the minimum pension was increased from 5,000 to 5,500 tenge. For accounts in the AFs, the Pension Law states that if the value of the account balance at the

time of retirement is less than the aggregate level of contributions indexed to inflation, due to bad management on behalf of the AF, the AMC, or the custodian bank, the institution responsible is required to supplement the individual account of the retiree up to the real value of the contributions PAYG pension benefits are supposed to be indexed on a regular basis to the consumer price index (CPI). Prior to the June 2003 general recalculation of PAYG benefits, which indexed all pensions to sector-specific wage growth, only minimum pensions were indexed to inflation on an ad-hoc basis.

PAYG benefit formula-All men having a work record of at least 25 years and all women with a minimum of 20 years as of January 1, 1998 are eligible for the full service old-age pension benefit from SPPC, upon reaching retirement age. Partial old-age pension benefits are awarded to those citizens who do not meet the work record requirements for full service old-age PAYG pension benefits. The size of the pension benefit is adjusted to the number of years worked prior 1998.

Military personnel and personnel of internal affairs bodies are eligible for length-of-service pensions if they are dismissed because of staff reduction or a health condition. Pension payments to military and internal affairs personnel with minimum 10 years of service as of January 1, 1998, are calculated at the rate of 2.4 percentage points of the salary received for every year of service. For every year of military and internal affairs service beyond 25 years pension benefits are increased by 2 percentage points. The length of the work record should be certified by a work record book, or alternatively by a court decision, or by documents on the payment of insurance contributions to an AF. There are over twenty special cases for calculating work records, including provisions on child care, education, taking care of an invalid, seasonal labour, and activities during the Great Patriotic War. Under these conditions the majority of those born before 1960 for women and 1955 for men are entitled to a full PAYG pension.

The Pension Law stipulates that for contributors with full service working history, pension benefits would be 60 percent of the average of the monthly salaries received during any three successive years of work, preferably after 1995 to minimize the impact of inflation. For each additional full year worked, over full service and prior 1998, one percentage point is added to the replacement rate, up to a maximum of 75 percent. The income base used to calculate the value of SPPC pensions cannot exceed 15-times the monthly base enumerate for the given year, currently 13,080 Tenge equivalent to about US$90. According to the Pension Law, PAYG pensions were to be indexed to the average yearly CPI index. However, historically only the minimum pension had been periodically adjusted to inflation. Thus, due to the high inflation the country experienced the real value of old-age pension benefits gradually eroded to a point where in a few years after retirement the majority of retirees were receiving minimum pensions. This imposed the need for a general PAYG old-age pension benefit indexation and an indexation of the pension assessment base. In June 2003, the PAYG pensions for all who retired prior 2003 were subjected to a one-time indexation equal to the wage growth until the end of 2002 in the specific branch where the retiree worked. This resulted in a 23 percent increase of the average PAYG pension. However, the formula employed for this recalculation placed a low cap on the maximum pension. Consequently, now more pensioners receive benefits between the minimum and maximum pension and due to the low maximum ceiling - a significant number of them de facto receive the maximum benefit.

Fully funded pensions

Fully funded pensions can be mandatory and voluntary. Whereas the mandatory pensions are funded by a 10 percent payroll tax, contributors are free to decide on the size of their contribution to their voluntary pension savings. Pensions from pension accumulation funds are paid to contributors who have accumulated pension savings in their individual pension accounts. Pensions from mandatory pension contributions are paid upon attaining retirement age. Pensions are also paid when the contributor becomes unemployed and does not resume working, but has paid pension contributions for a minimum of 35 years. These are paid upon reaching the age of 55. Pensions from voluntary pension contributions to non-state pension accumulation funds are paid upon fulfilling any of the following conditions:

1. Voluntary pension contributions have been accumulated for at least 10 years and the contributor has reached the age of 55. For certain categories, as determined by the Government, eligibility can be lowered to age 50;
2. Disability;
3. Loss of the bread-winner (the contributor to the AF);
4. The conditions for eligibility for a SPPC pension;
5. The conditions for eligibility for length-of-service pensions.

Social assistance pension benefits

Social assistance pensions, which include disability, survivorship and old-age social allowance pensions are provided by the State from the same 21 percent "social security" payroll tax that funds PAYG pensions. These may only received by persons who have ceased working. Retirement-aged individuals can receive either an old-age pension or a social assistance pension, but not both. According to the Pension Law, in addition to old-age retirement at 58 years for women and 63 years for men, people are allowed to retire in case they are certified as Group I or II invalids, or if they suffer injuries which permanently prevent them from participating in the labor force. If, at the time of retirement due to disability, the pension system contributor has accumulated benefit rights for service prior 1998, he/she receives a PAYG pension. This may be either a full pension if the service requirements are met or a partial pension corresponding to his/her years of service. This pension can be substituted with a disability pension, if the latter is larger. If the disability retiree started working after 1998, and is not entitled to a PAYG pension, then in the case of retirement due to disability he/she can receive their funded pension. Disabled retirees, who did not participate in the pension system (due to unemployment or because of young age), may be granted a disability pension benefits. In 2002, 17 percent of all social assistance and pension recipients received a disability pension. The old-age social allowance pension covers all who do not participate in the pension system. In 2002, 10.5 percent of pension recipients received a survivorship social allowance, and 0.7 percent – an old-age social allowance. Currently there are no provisions for the way social assistance pension benefits will be financed and paid out when the PAYG component disappears. Due to this and the limited number of recipients of such pensions, this report does not address social assistance pensions, exception in reference to estimating the future costs of maintaining the current level of social assistance pensions for individuals who are not projected to accrue a pension under the new FF system.

Collection and payments-The State Pension Payment Center (SPPC) collects both the 10 percent contribution to the funded individual accounts, and the 21 percent "social security" tax that finances the PAYG pension, disability, survivor, and social assistance benefits. Although it was originally intended for the "social security" tax to decrease as transition financing requirements fall, no specific provision for this to occur are presently in place. The SPPC assigns FF contributions to the AF chosen by the contributor – a function similar to the role played by clearing houses in other pension systems. While the Clearing House in countries such as Sweden and Croatia collects information on the choice of funds directly from contributors, the SPPC collects this information through the employers. SPPC also assigns social identification codes (SICs) to citizens and produces computerized reports on the status of the pension system. SPPC is also responsible for paying PAYG pensions.

V. Lessons and Recommendation for Uzbekistan.

5.1. Comparative analysis of two pension systems.

Kazakhstan's pension reforms were broad and were implemented quickly. The accumulation of pension assets has stimulated the evolution of capital markets. As Uzbekistan reviews the

Kazakhstan experience, there are important comparisons that should be considered while getting lessons:

Statistical comparison of Uzbekistan and Kazakhstan is provided in Table 7 below of comparitions.

Comparison 1: Lack of Diversified and High-Quality Domestic Assets May Reduce Yields and Delay the Implementation of the System.

Kazakhstan is experiencing a growing gap between the demand for and the supply of high-quality domestic securities. 70 percent of domestic corporate instruments (mostly corporate debt) are owned by pension accumulation funds. The World Bank concludes:

"It is likely that the domestic financial market in Kazakhstan will not be capable of effectively absorbing the increasing accumulation of pension assets over the short term. At this early stage in its development it is important that the financial sector be well regulated and efficiently supervised. The sudden inflow of contributions may easily distort the evolution of under-developed capital markets."

With few private sector equities and bonds, an undeveloped municipal bond market Uzbekistan will encounter many of the start up problems that Kazakhstan faced. Some countries have allowed pension funds to invest extensively in overseas capital markets to make up for limited amounts of safe domestic investments. Kazakhstan has a program to develop new financial instruments to meet the growing need -- including the development and securitization of mortgage lending and the resumption of government borrowing. As the World Bank argues, expansion of the financial sector must be accompanied by the development of the necessary regulatory structures.

Comparison 2: The Transition Costs of Introducing an Accumulation System are Very High.

Diverting social insurance contributions from the PAYG system into accumulation accounts has required large state budget subsidies to maintain PAYG benefit payments. As the number of people eligible to receive PAYG benefits declines, the cost of this subsidy will also decline. Kazakhstan was in a much stronger position in 1998 than Uzbekistan is today to pay for the transition.

First, the costs of the Kazakh PAYG system were a much smaller share of Gross Domestic Product (3% in 1998) than is the case in Uzbekistan today (where pension payments account for 5.9 % of GDP).

Second, Kazakhstan has enjoyed strong economic growth fuelled by the expectation of future oil and gas revenues and a per capita income 12% above that of Uzbekistan today. And third, Kazakhstan raised the pension age to reduce pension costs. Pension age is 58 for women and 63 for men compared to 55 and 60 in Uzbekistan.

Comparison 3: Kazakhstan's Favorable Demographic Conditions Helped to Reduce Transition Costs.

The demographic situation in Uzbekistan is much less favorable than it was in Kazakhstan in 1998. Kazakhstan's population is older than Uzbekistan's -- pensioners were only 15% of the Kazakh population in 1998 but account for 10.3% of Uzbek's today. The average Kazakh woman between the ages of 18 and 49 will have 2.03 children; the average Uzbek woman will have 3.2 children. Positive population growth helps increase the number of contributors in both countries. One quarter of the Kazakh population is below the age of 14 compared with 32.9% in Uzbekistan. But Kazakhstan's favorable demographic conditions are projected to decline as birth rates fall and life expectancy at retirement age increases.

Comparison 4: the Mandatory Accumulation System will not Cover Everyone. Only people who have paid in contributions are eligible to receive benefits from the accumulation system. Others must be protected from poverty during their old age by some type of social pension or social assistance payment. Only 43% of the working age populations in Kazakhstan are paying contributions into their own accumulation accounts regularly. Others are paying irregularly (and will, therefore have accumulated less by retirement) and a significant number are not participating in the system at all.

Recognizing the need to protect the elderly from poverty, Kazakhstan provides old-age social allowance pensions on a means-testing basis to those not covered by the pension system. Currently this benefit amounts to 13 percent of the average wage in the economy – far below Uzbekistan's minimum pension that is almost 50 percent of the net average wage. In addition to the old-age social allowance, Kazakhstan offers two other types of social assistance benefits – disability and survivorship pensions. All social assistance benefits are financed form the Social Insurance Tax. But the World Bank forecasts a massive increase in the budgetary burden of social assistance payments in Kazakhstan as the number of people receiving PAYG pension benefits declines. Such payments must be financed from the state budget and must be tightly means-tested to contain costs.

Uzbekistan has not yet established a comprehensive means-tested assistance program on which a fiscally sustainable social pension could be based. The World Bank recommends that the basic pension benefit should be means tested through the creation of the "zero pillar" to protect the elderly from poverty7.

Comparison 5: Make Sure that the Administrative Systems are in Place before Beginning Reform.

The implementation of pension reform in Kazakhstan did not proceed without problems in large part because there were significant aspects of the administrative system that were not in place. For example, the state pension system was not personified and therefore it was not possible to create accumulation funds for contributors. As a result the number of

[7] See World Bank, Old-Age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform, Washington DC, 2005.

people covered by the pension system fell from 5 million in 1996 to only 3 million in 2000. Systems have been improved but the transition could have been much smoother.

Comparison 6: Pension Benefits from Kazakhstan's Accumulation System Will Not Keep Pace with Wage Growth.

The growth of pension benefits under an accumulation system is determined by the rate of return earned on the investments purchased with contributions. The real rate of return tends to be below the rate of wage growth. World Bank projections of future pension benefits in Kazakhstan indicate that in 2010 the average retiree can be expected to receive a total pension equal to a bit more than one third of average wages. By 2040 this is likely to have declined to just over 15% as the PAYG system is phased out and the value of annuities from the FF system, that are fixed at the retirement date, do not keep pace with a growing wage base. By this measure the value of women's pensions will decline to only about 10% of the average wage, which is below the current level of social assistance benefits.

Comparison 7: Clearly Define the Goals of Introducing the Mandatory Accumulation System.

The World Bank recommends that policymakers should assess the need for reform beyond merely considering fiscal pressure and demographic challenges. Policymakers should understand "the limits and other consequences of mandating participation in pension systems, particularly for low-income groups, for which risks other than old age may be more immediate and much stronger."[8]

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[8] Old Age Support in the 21st Century, p.3.

In summary, the “initial conditions” for pension reform are very similar in Uzbekistan today than they were in Kazakhstan when it introduced its mandatory accumulation system in January 1998. Because Uzbekistan’s population contains much similar proportion of pensioners and because its PAYG system offers almost similar benefits to Kazakhstan, the budgetary costs of diverting a portion of social insurance contributions into accumulation accounts would be proportionately much similar in Uzbekistan to they were in Kazakhstan.

Table 7. Comparative Statistics for Uzbekistan and Kazakhstan:		
	Uzbeksitan	**Kazakhstan**
Economic and Demographic Statistics		
Total population, 000	26.007	15,100
Annual population growth:	2% (1990-1998)	0.7% (1975 – 1997)
Projected population growth: (2000–2015)	0.8%	0.2%
GNI per capita, atlas method (*World Bank, 2005*)	$650	$2930
Growth in real GDP: (1994 – 2004)	32.4%	53%
Total Fertility Rate (births per women aged 18 - 49)	2.89	2.03
Population 0-14, %	NA	24.5%
Population 15-64, %	63.3%	67.4%
Population 65 or older, %	7.9%	8.1%
Pension system Statistics		
Number of pensioners	2.8 million	1.8 million
Pensioners as a percentage of total population	11 %	17.1 %
Pension system dependency ratio (number of pensioners per number of contributors)	0.59	0.67
Regular contributors as percentage of working age population	31.4%	33%
Dependency ratio (population aged 14 and under plus population aged 65 or older, divided by total population	65%	51.1%
Statutory pension age (male/female)	60/55	63/58
Public pension spending as percentage of GDP (2004)	5.9	5%
Mandatory social insurance contributions	31.7 % from	10% of wages for the

	employer 3.5% worker From wages	accumulation system + 21% of wages for the PAYG system
Type of the pension system	Pay-as-you-go (solidarity) with defined benefits)	Fully funded, defined Contributions (accumulation), introduced in 1998
Minimum pension guarantee	Minimum subsistence level, or about 50% of net average wage ($18 in 2005)	21% of average wage for those receiving PAYG benefits – zero for those receiving benefits from accumulation fund
Maximum PAYG pension benefit cap	No direct caps, especially for privileged categories of pensioners. Indirectly, maximum pension benefit is limited by the wage cap	About $90, calculated as 15 times a minimum monthly wage
PAYG benefit formula	Formula: 1% * # of years of service	60% of the average monthly salary over a three year reference period
Old-age social allowance (social pension)	Minimum pension provided that is equal to the Minimum Subsistence Level established for People Who are Unable to work	Old-age social allowance pensions are granted on a means testing basis to those not covered by the pension system. Currently this benefit amounts to 13 percent of the average wage in the economy
Mandatory Accumulation System	Not yet implemented	Benefits will be a direct function of contribution levels (directly related to wages) and the interest and appreciation of the investment accounts

Sources: 1. The State Statistic Committee of Uzbekistan
2. Uzbekistan Economy. Statistical and Analytical Review for the year 2004. www.bearingpoint.uz

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4. Human Development Report, Uzbekistan 2000
5. CER, UNDP Tashkent 2001

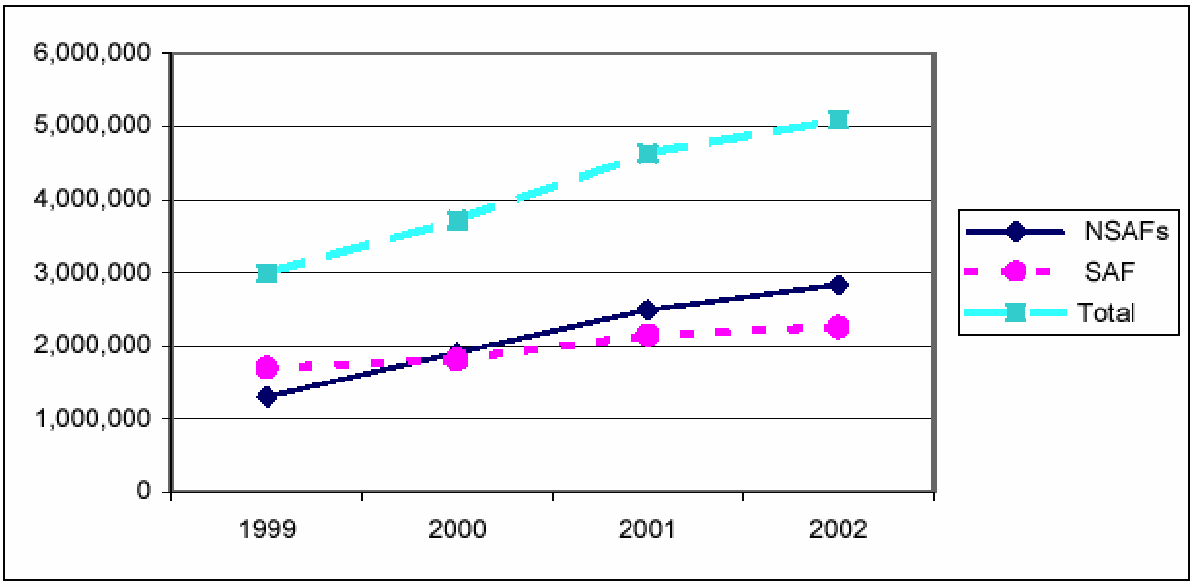
5.2. General lessons from Kazakhstan.

The current part of research answers the most current issues of Uzbek pension system through the experience of Kazakhstan.

Regarding solution of the issue of low contributors/labor force ratio in Uzbekistan:

Pension System Coverage- In 1996, the pension system covered 5 million workers, out of a 7.8 million workforce. In 1998, when the pension reform was enacted and individual accounts created, the number of individual accounts was only about 3 million. According to Interfax-Kazakhstan, more than 3 million workers were participating in the pension system in 2002. Other studies indicate that the number of accounts grew to 5 million in 2002 (see Figure 1). Those differences can be attributed to the difference in estimating methods.

Chart 2 ***Number of Individual Pension Accounts in Kazakhstan, 1999-2002***



Sources: Ministry of Labor and Social Policy and National Bank of Kazakhstan

The latest estimates based on corporate reporting data and statistics of enterprises show that in 2002 the economically active population in Kazakhstan was 7.4 million people, of whom 6.7 million were employed. Among the employed, 2.9 million regularly paid social insurance taxes. Although the population that pays the taxes is not always the same, the number of people participating in the pension system can be estimated to be much higher, potentially as many as 5 million. In Chile, with a similar pension system, only around 50 percent of the work force is paying contributions at any point in time while the aggregate participation in the pension system is estimated to be close to 70 percent. Therefore, it is reasonable to assume that the pension system is covering more than 43 percent of the economically active population with a large number paying contributions on an irregular basis. Coverage is highest among the urban formal sector workers. Farmers, the self-employed, many small entrepreneurs, the temporarily unemployed and workers in the informal sector are the least likely to be contributing.

The main reasons behind the sudden drop in coverage in 1998 is attributable to administrative problems the SPPC faced in creating the individual pension accounts and in assigning individual social insurance codes (SICs). The division of regulatory functions among different institutions and the lack of regulatory experience, system supervision and information management capacities led to numerous cases of contributors not being issued SICs or contributors having more than one account. For example, in early 2003 the SAF was operating about 700,000 accounts with unidentified owners, many of who are likely to hold accounts with one of the NSAFs. Furthermore, anecdotal evidence suggests that when workers switch pension funds, their assets are not always transferred to the newly chosen fund, so some of the insured have more than one account. However, the most significant reason for the low coverage of the FF DC system is the tax regime that system which generates incentives for tax evasion. The burden of a 31 percent social insurance tax rate on the earned income is often considered too high a price to pay for participating in the system in light of the expected benefits.

On the other hand, Uzbek pension system is covering only more than 33 percent of the economically active population, but on an irregular basis like Kazakh people. Coverage is highest among the urban formal sector workers. Farmers, the self-employed, many small entrepreneurs, the temporarily unemployed and workers in the informal sector are the least likely to be contributing. This research shows that compare to Kazakhstan, Uzbekistan has very low contribution even though Uzbekistan has younger population than Kazakhstan.

This research concludes that the reason behind this issue is mainly from high unemployment rate [9] (3% officially by the Ministry of Labor, plus another 20% underemployed in 2006) in economy of Uzbekistan. Due to this reason many people work in informal sector, and informal sector has a higher wage payment rather than formal sector. In order to solve this issue Uzbek government should implement fully funded pensions, and pensions should be mandatory and voluntary. By this way, many people, who work in informal sector, can participate in the voluntary pensions.

In general, the low contributors/labor force ratio issue in Uzbekistan is correlated with other major economic policy of Uzbekistan, in order to solve this issue; Uzbek government should reform overall economy not solely the pension system itself.

Regarding inappropriate significant pension privileges issue:

By looking through this issue (see chapter II), it's obvious that the reason behind of this issue is giving the significant pension privileges to certain categories of pensioner's, especially to military personnel and personnel of internal affairs bodies.

In Uzbekistan, the legislation permits to separate categories and groups of the population not to participate in a profitable part of Pension Fund. So, for the military men of all categories it is not required at all any participation in a profitable part of Pension Fund.

To the majority of categories and groups of the population the legislation gives significant privileges as double calculation of the experience of work (for example, the one year of a service of the military men of an urgent service is set off as 2 years of work).

On the other hand, in Kazakhstan, military personnel and personnel of internal affairs bodies are eligible for length-of-service pensions if they are dismissed because of staff

[9] Source: www.cia.gov/cia/publications/factbook/print/uz.html

reduction or a health condition. Pension payments to military and internal affairs personnel with minimum 10 years of service as of reform date (January 1, 1998), are calculated at the rate of 2.4 percentage points of the salary received for every year of service. For every year of military and internal affairs service beyond 25 years pension benefits are increased by 2 percentage points.

This study examine that Uzbek government should significantly reduce the pension privileges of the military men. And should impose them that, they also should participate in the profitable part of Pension system, even though with some privileges like Kazakhstan case.

Regarding inadequecy of women contribution issue:

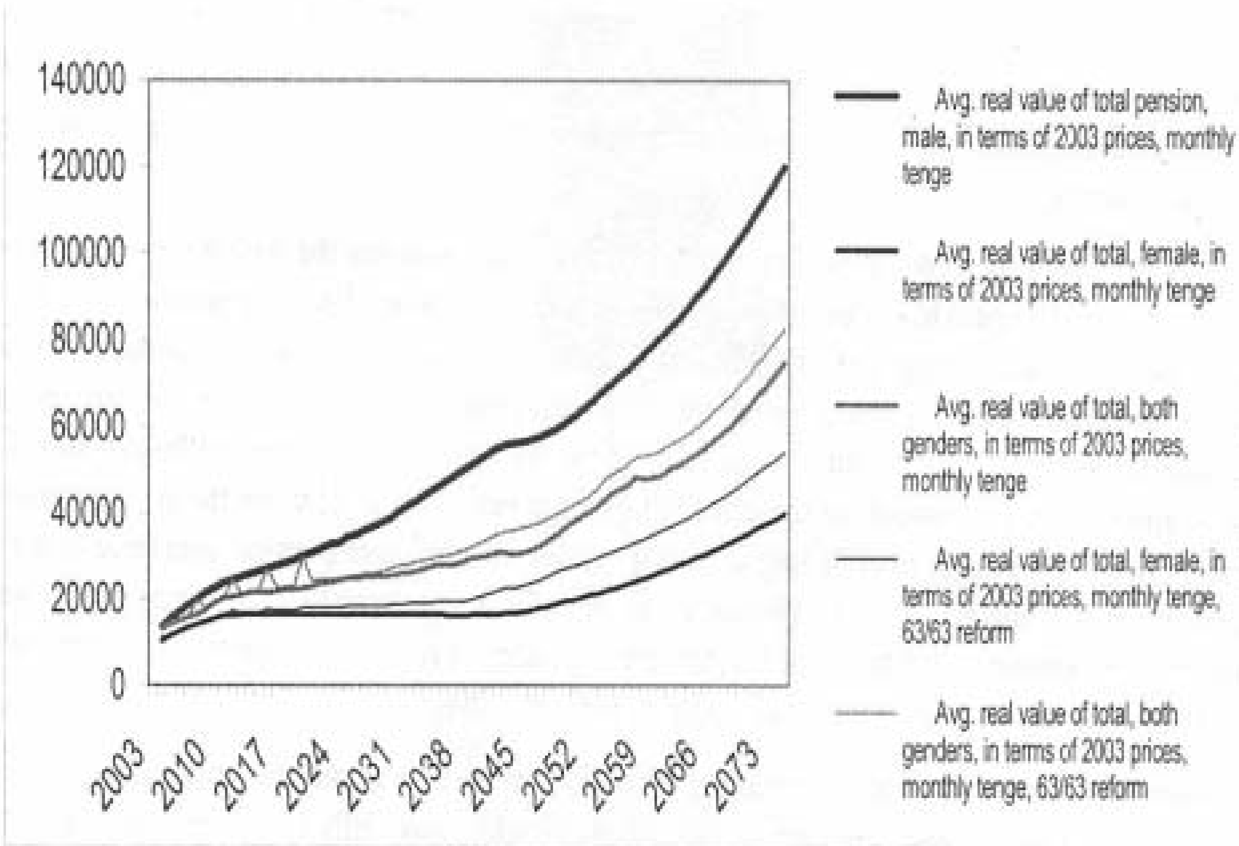
In Uzbekistan, there is inadequacy of participation of the citizens in profitable and spending parts of Pension Fund to a gender attribute. So, for reception of the right on complete pension, the participation in Pension Fund for 20 years suffices to the women, men - during 25 years. The women receive the right on pension at achievement of age 54-55 years, men – at achievement of age of 60. Taking into account, that the average duration of life of the women makes 72 years, and the men 67 years, it is possible to make a conclusion that the share of participation of women in a spending part of Pension Fund is more than 2 times higher than a share of participation of men. Thus it is necessary to note, that the share of participation of the women in a profitable part of Pension Fund is much lower than a share of participation of the men.

In Kazakhstan pensioners with full years of service (equal to 25 years for men and 20 years for women) are eligible to receive a minimum pension if their combined pensions fall below a minimum amount.

Rising the retirement age for women - one of the main elements that lead to the wide gender disparity of average expected benefits from the reformed pension system of Kazakhstan is the difference in retirement age that results in a shorter asset accumulation period for women. This effect of is compounded by the longer life expectancy of women that disburses their accounts over twice time the period of men.

If the retirement age for women were increased to 63 years, making it equivalent to that of men, the projections based on the assumptions about earnings, interest rates and life expectancy used in the "The New Pensions in Kazakhstan: Challenges in Making the Transition" report show a significant increase in the annuity value of their benefits. As shown in Figure 33 below, this would increase the real value of benefits in 2043 when the reform was fully mature. This would raise the average replacement rate for new female pensioners above 20% over the long run.

Figure 1 Benefit after Retirement Age Increase , in real 2003 Prices



Measured in terms of the average wage, an increase to age 63 would raise the stock of female pension benefits from the current estimate of 10% to about 15%. The result of this is shown in Figure 2 below which indicates that the proportion of women projected to receive a benefit below the current level of the guarantee level of 21 percent of the average wage would be reduced by nearly half, from 48 to 27 percent of the general pool of female retirees.

Figure 2 Distribution of Old-Age Pension Recipients II

Another argument in favor of increasing the retirement age of women is the reduction in PAYG expenditures. As Figures 35 and 36 reveal, a 5 year increase in the retirement age of women will result in a substantial short term decrease in the cost of the PAYG component, averaging 0.5 percent of GDP for the period until 2018. In the medium term this policy will bring a fall in PAYG expenditures by 0.2 percent of GDP. When measured in terms of the wage bill, PAYG expenditures would fall by 2 percent until 2024. After 2024 the gains from the increased retirement age for women would gradually decrease.

Figure 3 PAYG Costs, Share of GDP II

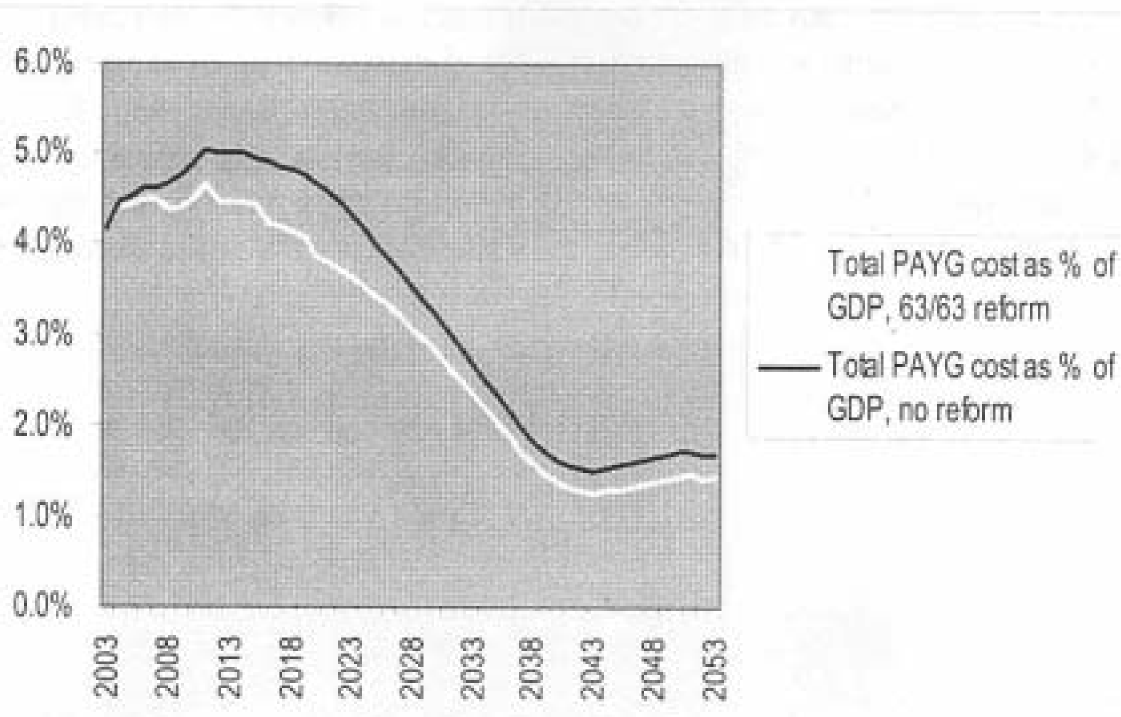
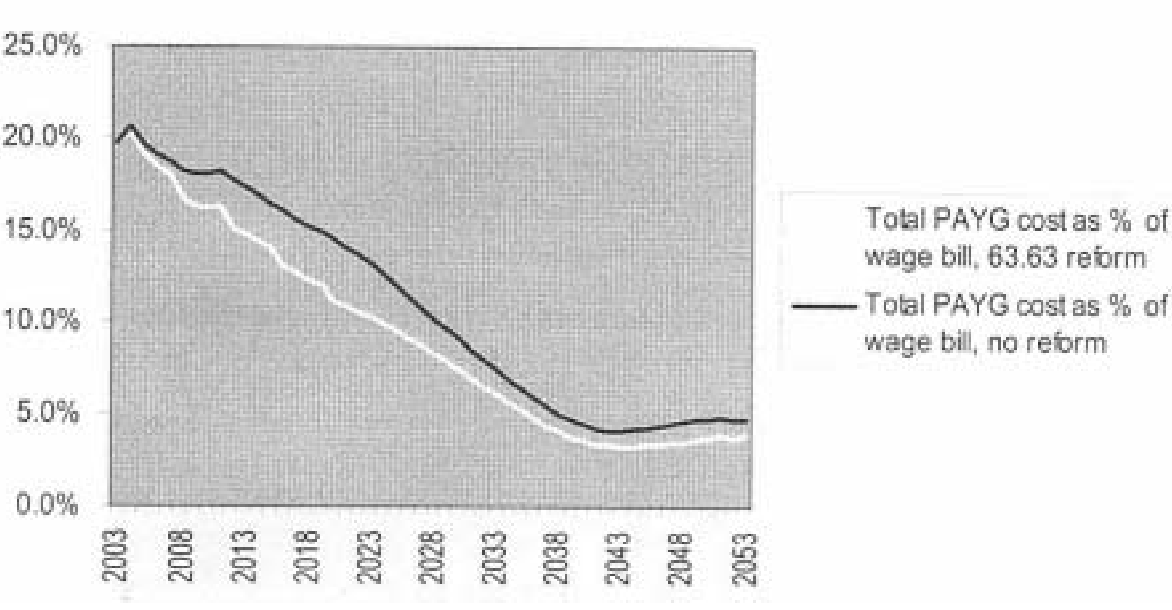


Figure 4 PAYG Costs, Share of Wage Bill II



By examining from Kazakhstan pension reform and research done by World Bank[10], it might be a clear evedence and example to increase retirement age of women for Uzbek pension as well. If we consider the average duration of life of the women are 72 years, and the men 67 years and other factors. Retirements ages should be increased equal for both men and women up to 63/63 in the Uzbek pension system.

Regarding disproportion of sizes of payments between worker and employer issue;

Another imperfection of the pension legislation is that it establishes the disproportionate sizes of payments in Pension Fund for the employers and workers, and also for various groups of commodity producers.

Funding sources of PAYGO scheme are as follows:

- workers contribute 2.5 percent from their salary;
- employers contribute 30 percent from payroll, and 0.7 percent from total turnover.

Funding system is financed as follows:

- workers contribute 1 percent from their salary;
- employers contribute 1 percent from payroll.

The people consider, that the Pension fund is formed at the expense of their payments, whereas in reality the employers bring in to Pension Fund around 90 %, and workers only around 10 % of a payment.

On the other hand, in Kazakhstan were this issue, and it was solved by reforming pension system.

[10] The New Pensions in Kazakhstan Challenges in Making the Transition.

In Kazakhstan, old-age pension benefits are provided through the two elements comprising the pension system – (1) The Pay as you go (PAYG) solidarity component that currently constitutes the major source of pension benefits; and (2) the Fully Funded (FF) defined contribution (DC) component now in its initial accumulation phase. The Fully Funded system will rapidly become the dominant source of retirement income with the PAYG system completely phased out within 40 years. The reformed pension system began operation on January 1, 1998. At that time benefit accruals under the old system ceased and all workers were required to participate in the new system through mandatory contributions into the new individual pension savings accounts. Retirees continued to receive their benefits under the old system and workers who had accrued benefits prior to that date retained the right to receive those benefits on reaching their respective retirement age in the future. The residual benefits of the old system will be financed through the continued payment of a Social Insurance Tax of 21 percent of wages now applied to all workers (regardless of whether they had accrued any benefits under the PAYG system) that also finances several other types of social assistance and health benefits. The new system utilizes a centralized collection and record keeping system. Employers are required to forward the Social Insurance Tax, contributions to the individual accounts and the associated identifying information to the State Pension Payment Center (SPPC). Although the Social Insurance Tax was earmarked for specific benefits this has lost meaning over time and the funds are now simply transferred to the general budget which allocates funds for the payment of benefits under the PAYG system to the same institution. Social Insurance Taxes and contributions to the Fully Funded accounts are excluded from salaries and wages for income tax purposes. Benefit payments from either type of pension are taxable as income. Mandatory Fully Funded pensions are financed by a contribution of 10 percent of wages, allocated to individual accounts in the newly established Pension Accumulation Funds (AFs).

By examining the experience of Kazakhstan, there are should be a reform in Uzbekistan pension system as Kazakhstan did. And the general budget should allocate the pension funds. The residual benefits of the old system (PAYG system) should be financed through the Social Insurance Tax of 21 percent. And Mandatory Fully Funded pensions should be financed by a contribution of 10 percent of wages, allocated to individual accounts for Pension Accumulation Funds (AFs).

5.3.Policy directions for Uzbekistan.

Uzbekistan should launch an extensive pension reform that envisages transforming the Pay-As-You-Go (PAYG) solidarity pension system into a fully funded (FF) defined-contribution (DC) system. After a transition period in which the old solidarity system should be phased out and the new system should be fully developed, workers will receive their pension benefits entirely through the madatory individual savings accounts that have been invested banking system. In order to do so, lessons from the country like Kazakhstan, that has the similar historical and economical background with Uzbekistan, is very essential tool. Kazakhstan faced similar pension problems, which are Uzbek pension system facing now, and after that solved them by reforming its pension system. Kazakhstan's pension reform was broad and was implemented quickly. The accumulation of pension assets has stimulated the evolution of capital markets. As

Uzbekistan reviews the Kazakhstan experience, there are important lessons that should be considered:

Government should implement new pension law, which citizens of Republic of Uzbekistan, as well as non-citizens, permanently residing in the country, should enjoy the right to old-age pensions upon meeting the eligibility criteria. By doing so, age contributors become eligible to receive both PAYG pensions and have the right to access the savings in their individual accounts under the Fully Funded system.

The same age requirements like old age pensions generally apply to voluntary funded pensions, social allowance and survivorship pensions.

Disability pensions are granted upon the certification of the person as Group I or Group II invalid.

Pension Fund in the Ministry of Finance of Republic Uzbekistan should be responsible for paying PAYG pension benefits to all who reached retirement age and have paid the Social Tax for at least six months prior to reform will be implemented. PAYG pension benefits should be paid in equal monthly installments for life.

The Uzbek government should guarantee the pensions for all who retired prior to reform is implemented. For those who retired after this date, and who have continued to work for at least three months following this initial implementation of the reform, the State guarantees that their PAYG pension benefits will be at least equal to the minimum pension. For the Fully Funded accounts the Accumulation Funds should be required to guarantee contributors that the real value of their contributions will be at least maintained, effectively ensuring that, over the working life of contributors, there should not be a net negative return on aggregate contributions. The level of the minimum pension should be set by the Government and adjusted on an ad hoc basis.

All men and women having a work record of at least 25 years as of reform be implemented should be eligible for the full service old-age pension benefit from Pension Fund, upon reaching retirement age.

The Pension Law should provide for the following exceptions to this rule:

1. Individuals who have lived in the extreme and maximum risk zones of the country are eligible for full old-age pensions as follows: men and women upon reaching the age of 50 with minimum work experience of 25 years.
2. Women living in rural areas who delivered 5 or more children and have brought them up to the age of 8 are eligible for pension upon reaching the age of 58.

Partial old-age pension benefits should be awarded to those citizens who do not meet the work record requirements for full service old-age PAYG pension benefits. The size of the pension benefit should be adjusted to the number of years worked prior to the reform.

Military personnel and personnel of internal affairs bodies should be eligible for length-of-service pensions if they are dismissed because of staff reduction or a health condition. Pension payments to military and internal affairs personnel with minimum 10 years of service as of reform, should be calculated at the rate of 2.4 percentage points of the salary received for every year of service. For every year of military and internal affairs, 2 percentage points should increase service beyond 25 years pension benefits.

Fully funded pensions can be mandatory and voluntary. Whereas the mandatory pensions should be funded by a 10 percent payroll tax, contributors should be free to decide on the size of their contribution to their voluntary pension savings. Pensions from pension accumulation funds should be paid to contributors who have accumulated pension savings in their individual pension accounts. Pensions from mandatory pension contributions should be paid upon attaining retirement age. Pensions should be paid when the contributor becomes unemployed and does not resume working, but has paid pension contributions for a minimum of 35 years. These should be paid upon reaching the age of 55. Pensions from voluntary pension contributions to non-state pension accumulation funds should be paid upon fulfilling any of the following conditions:

1. Voluntary pension contributions have been accumulated for at least 10 years and the contributor has reached the age of 55. For certain categories, as determined by the Government, eligibility can be lowered to age 50;
2. Disability;
3. Loss of the bread-winner (the contributor to the AF);
4. The conditions for eligibility for a SPPC pension;
5. The conditions for eligibility for length-of-service pensions.

Old-age social allowance pensions-from experience of Kazakhstan, after the reformed pension system, the Mandatory Accumulation System does not cover everyone. Only people who have paid in contributions are eligible to receive benefits from the accumulation system. Others must be protected from poverty during their old age by some type of social pension or social assistance payment. Only 43% of the working age population in Kazakhstan is paying contributions into their own accumulation accounts regularly. Others are paying irregularly (and will, therefore have accumulated less by retirement) and a significant number are not participating in the system at all.

Recognizing the need to protect the elderly from poverty, Uzbekistan should provide old-age social allowance pensions on a means-testing basis to those not covered by the pension system - far below Uzbekistan's minimum pension that is almost 50 percent of the net average wage. In addition to the old-age social allowance, Uzbekistan should offer two other types of social assistance benefits – disability and survivorship pensions. All social assistance benefits should be financed from the Social Insurance Tax. Such payments must be financed from the state budget and must be tightly means-tested to contain costs.

VI. Summary and Conclusion

This paper has tried to shed light on pension system development in Uzbekistan from experinece of Kazakhstan by using systematic approach, where the current Uzbek pension system is facing finanacial problems. Using comparision models of the pension system, we investigated why Uzbekistan is facing those problems.

There are several major problems of Uzbekistani pension system. Firstly, there exist significant volume of pension privileges that do not meet the requirements of market relations and social fairness. Main negative impacts of the privileges on functioning of the pension system are the following

- the privileges have a lagged impact on the conditions of pension system: workers eligible for privileges make no contribution but receive benefits later when retire;
- they increase the real dependency ratio. For example, early retirement reduces number of workers who make contributions and increases the number of pensioners. This increases the dependency ratio and affects the stability of the pension system;

Secondly, the benefit payment part the existing pension system is very sensitive to workers employed in the underground sector of the economy and to self-employed, because they are still eligible to receive pension benefit. However, the pension system fails to attract contributions from these workers.

The problems of Pension Fund stability can be explained by following factors:

- Wide scale of privileged pension benefits: (i) there are many groups of pensioners who are eligible to retire before reaching the official age of retirement – 55 for women, 60 for men. For example, workers of certain professions, which are considered as negatively affecting their health – miners, workers of industrial plants, etc. – can claim benefits much earlier than reaching the official retirement age. Same is true about national security employees: police, prosecution, army personnel. For them one year of employment is counted for two years;

- Non-adequate participation of workers in contributory and benefit part of the pension system according to their gender. Firstly, women can retire at the age of 55, and men at the age of 60. To be eligible for pension benefits women need 20 years of history of participation in the pension system, whereas men need 25 years of history of participation. In addition, each year of participation of women in pension system is assigned weight of 2.75%, and that of men is assigned 2.2%. Taking into account that expected life of women is 72 years, and that of men is 67 years it may be asserted that share of women in pension benefits is twice as much as that of men, while at the same time their share in contribution part is much lower;
- Some categories of workers are exempted from making contributions to the Pension system. National security employees are exempt from making contributions to the Pension Fund.

Another major drawback of the existing pension system is very big difference between employer's and worker's contribution to the Pension Fund. Currently according to the law Funding & PAYG scheme financed as follows:

PAYG scheme:

- workers contribute 2.5 percent from their salary;
- employers contribute 30 percent from payroll, and 0.7 percent from total turnover.

Funding scheme:

- workers contribute 1 percent from their salary;
- employers contribute 1 percent from payroll

So the employer almost full bears the burden of financing pension benefits.

Although it was mentioned earlier that in Uzbekistan the dependency ratio coefficient equals 0.3 it should be stressed that this is just a nominal coefficient. If recalculated in relation to the number of workers who actually make contributions to the pension system, than this coefficient equals 0.65, which implies high debts on contribution payments, and significant number of employed who are exempt from making contributions.

Although the replacement rate seems high enough (0.52), it should be mentioned that the average monthly wage is very low in Uzbekistan (about 40 USD), so for older people who cannot afford side jobs the monthly pension of 20 dollars is much less than what is adequate for decent living support. Therefore, it is obvious that Uzbekistan has to undertake major reforms of its pension system.

Chand and Jaeger (1996, 1999) suggest two ways to ameliorate financial stresses by making parametric adjustments to the structural characteristics of the pension system, such as the contribution rate and retirement ages, as well as making systematic reforms by developing a defined contribution, fully funded pillar inside or outside the existing pension system. In addition, broader fiscal adjustments, such as increasing taxes and

cutting expenditures not related to pensions and modifications to macroeconomic profiles by changing such aspects as the size of labor force participation, are also considered as improvement tools related to the financial sustainability of pension systems.
In regard to, this the study suggests implementing following short term and long term measures simultaneously in order to efficiently deal with fiscal insolvency of PAYG system of Uzbekistan.

In short term the following measures should be taken:

- The retirement age should be increased to 63 / 63 for both genders. As this study found from experience of Kazakhstan this measure is expected to significantly decrease financial burden to the pension system through increase in the working age population implying increase in employment.
- The eligibility criteria for early retirement should be strengthened. Even if a reduction in early retirement does not have a significant effect on the soundness of the pension system, this measure will decrease the incentives of the population at the working age to receive pension benefits before reaching retirement age.
- The labor force participation rate should be increased in order to boost revenues in the pension system. Labor force participation can be increased in different ways, which are subject to complex macroeconomic adjustments, such as trade liberalization, decreasing indirect government subsidies to enterprises, the elimination of price regulations on grain, cotton, etc. (World Bank, 2003). It should be noted that labor force participation in Uzbekistan is low, because of existence of the large informal employment sector and low

wages in formal sector. Therefore the measures aimed at increasing wages in formal sector should be one of the prioritized tasks in current government economic policy.

- Dominance of the PAYG system should be eliminated through decreasing replacement rate and further development of the Funded system. Kazakhstan pension reform is good model in this case.

In long term the following measures should be taken:

- The labor productivity should be increased, which in its turn increases average wage and contributions to pension system. This measure can be implemented through complete privatization of manufacturing sector of economy. Although currently almost all manufacturing companies are privatized, the government holds at least 25% of their share stocks, which affects to market-oriented decision making of manufacturing companies. Increasing of labor productivity may not only increase the average wages and contribution to pension system, but also may increase the labor force participation rate because of increase of wages in formal sector.

Besides above measure this study suggests that further research in this field is needed. Since this study only covers full scope of pension system and enables researchers to analyze fiscal insolvency problem of the PAYG system with opportunities to solve it by development of the funded system, which is focused mainly on financial balance indicators, the results of the model are limited in fully evaluating pension system development in Uzbekistan.

Particularly the following study should be done:

- A new study should evaluate implicit pension debt in Uzbekistan and consider other social security expenditures, such as allowances to socially vulnerable members of society in order to fully assess the sustainability of the pension system.

Appendix A: Abbreviations

AF	Pension accumulation fund
AMC	Asset Management Company
CPI	Consumer price index
DB	Defined benefit (pension system)
DC	Defined contribution (pension system)
FDI	Foreign direct investment
FF	Fully funded (pension system)
IFIs	International financial Institutions
KSE	Kazakhstan stock exchange
MAWBE	Monthly average wages by branch of the economy
MBE	Monthly base enumerate
NBK	National Bank of Kazakhstan
NSAF	Non-state pension accumulation fund
PAYG	Pay-as-you-go (pension system)
PLP	Personal labor participation coefficient
PPC	Personal participation coefficient
PWH	Personal work history coefficient
RR	Replacement rate
SAF	State accumulation fund
SIC	Social identification code
SM	Subsistence minimum
PROST	Pension Reform Options Toolkit

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