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PENSION REFORM IN CENTRAL ASIA: AN OVERVIEW [*]

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Abstract : (*JEL* classifications **G23**, P35, J26)

Seven years ago, Kazakhstan embarked on a dramatic reform of its pension and social security system in order to move from a public defined benefit ("solidarity") system to one of defined mandatory contributions (accumulative system). At the same time, Kyrgyzstan embarked on a move to a notional defined contribution (NDC) system that has made little progress. Today, major reforms are being planned in both Uzbekistan and Tajikistan as well. This paper surveys the reforms that have taken place, discusses the planned reforms, and places them in the underlying fiscal and demographic contexts of the various countries in the region.

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PENSION REFORM IN CENTRAL ASIA: AN OVERVIEW

Thirteen years ago, Central Asia's new nations had just emerged from seven decades of Soviet power. To varying degrees, all were unprepared for Independence. Each faced its own opportunities and constraints; the ruling groups in each country had differing perspectives on the manner in which economic transformation would take place, on the extent to which democratization and pluralism would be introduced, and the extent to which their country would embrace openness and globalization. This diversity of approaches extended to social policy, and in particular to social security and pension reforms. The heterogeneous response is the topic of this paper. We explore the extent to which the varying measures reflected differences in underlying pressures and in capacities to undertake reforms: it will come as no surprise that we conclude environment was important in determining response.

At the same time, we argue that the diversity of social policy reforms owes much to different objectives of various rulers and policymakers. While unmodified maintenance of Soviet welfare state practices was untenable, especially during the years of rapid decline throughout much of the 1990s, the wide range of responses reflected broader differences in economic policy and engagement of the world. To a large degree as well, the policies embraced or avoided embodied policymakers' responsiveness to external pressures from bilateral donors and international organizations, many of which sought to experiment with social policy reforms in what might be termed virgin lands.

As we see below, on paper the social security systems of Central Asia are diverging, and may well diverge still more in the coming years. In reality, though, the differences in formal policies may overstate effective differences, with the main distinctions in practice being driven by government capacity. These differences in capacity are discussed in the following section, as is the underlying need for reform, as indicated by differences in demography and economic growth. Section 2 then examines the Soviet pension system, as it served as the starting point for each country examined, and also briefly surveys common reform options. Sections 3 through 6 then discuss each country individually, starting with Kazakhstan's dramatic move to an individual account system, and following with a discussion of Kyrgyzstan's rather stillborn move to a notional defined contribution system. Uzbekistan's resistance to pension reform and belated

embrasure are described in Section 5, after which we turn to the impending reforms in Tajikistan.[1] It is difficult to read these sections without sensing the rush now underway. We conclude by examining whether the sense of hurry is objectively merited, or whether it reflects a pressured reaction to encouragement from international bodies, and a fear of being left behind.

Before turning to descriptions of the "objective" setting and of individual countries, three key points warrant comment. First, by any standard, public provision of pensions and various social allowances in Central Asia is very generous relative to expenditures in non-socialist countries at similar levels of PPP per capita income. As public sector, recurrent expenditures must be funded by incentive-distorting taxes or the inflationary printing of money, competition with countries at similar economic levels has placed pressure on governments throughout the region to reduce welfare commitments. This pressure was especially strong during periods of economic decline and shrinking tax revenues; it has lessened in Kazakhstan as exceptional economic recovery has taken place. On the whole, though, one would expect pressure to reduce public sector commitments, and this in fact has been observed.

Second, reinforcing this effect has been strong external encouragement to undertake reforms, especially from the World Bank, the Asian Development Bank (ADB), and the US Agency for International Development (USAID). The different objectives of these and other bodies are described in Becker and Paltsev (2001). Briefly, following publication of the influential "James Report" (World Bank, 1994), the World Bank enthusiastically promoted the adoption of "multi-pillar" social security reforms throughout the developing world. In this scheme, some sort of basic social payment was to comprise the first, public pillar (usually envisioned as a defined benefit [DB], unfunded or "PAYGO" system). The second pillar consisted of a mandatory individual defined contribution (DC) system, usually privately operated, but possibly publicly operated and simply used to buy current government debt, thereby making it a "notional" defined contribution (NDC) system of individual accounts but PAYGO funding. Rather fancifully, the James Report also envisioned the creation of a third, voluntary private pension account pillar. Subsequent pension reform technical assistance (PRTA) and pension reform implementation loan (PRIL) projects would include this mirage as a prospective pillar, but a genuine third pillar has not yet been sighted in Central Asia.

[1] Turkmenistan is not discussed, as to our knowledge no reforms have been undertaken, and pension reform is not a major theme of President Niyazov's *Rukhnama*.

The World Bank's multi-pillar approach was paralleled by ADB's and USAID's advocacy of private, DC systems. In Kazakhstan, these approaches coincided, and all external organizations promoted the development of a private, DC pillar (though some at the World Bank appear to have since backtracked). In Kyrgyzstan, the approaches conflicted: ADB hoped that development of a private DC system would both replace the first DB pillar and kick-start development of a private financial sector, while the World Bank pushed for a NDC reform. As events transpired, neither development bank would have its dreams realized in Kyrgyzstan, while lack of public capacity in Tajikistan and determined resistance to reform in Uzbekistan frustrated their efforts there as well. The International Monetary Fund (IMF) throughout the period has played the role of an interested and nervous party: the Fund is concerned that major reforms will place severe burdens on already weak current public finances, and therefore tends to favor simple pillar one PAYGO reforms.

Finally, as Seitenova and Becker (2004) note, the first steps to reform the Soviet pension system actually were taken before the USSR's collapse. In response to economic problems, in the late 1980s, the Soviet Government enacted the following pension legislation:

- Introduction of the law "On state pensions in the USSR" (April 28, 1990)
- Introduction of the law "On pension provision in the USSR" (May 15, 1990)
- Formation of the Pension Fund of the USSR (August 15, 1990).

In connection with these measures, republican divisions of the USSR Pension Fund were established in all Central Asian states just prior to their independence. In consequence, in each of these newly independent countries, their own, national Pension Funds naturally evolved from the recently created USSR Republican funds. Each of these Pension Funds initially were governed by the laws adopted from the Soviet 1990 law on pension provision. The length of time during which Soviet pension laws were used as a given country's pension system regulatory framework, and hence how long uniform Pension Funds operated throughout Central Asia, depended mainly on the complexity of problems of financing the pension system. These problems, in turn, most forcefully appeared in those countries in which the emerging private sector was able to evade taxes.

I. THE BACKGROUND: FISCAL CONDITIONS, ECONOMIC GROWTH, AND DEMOGRAPHIC STRUCTURE.

I.1. Demographic Position

The overall demographic situation in Central Asian countries was and remains favorable for traditional, pay-as-you-go (PAYGO), defined benefit social security systems. By international standards, all countries have fairly low old-age dependency ratios (**Table 1**). The main causes of that are the traditionally high fertility rates in Muslim nations, along with adult/child mortality rate ratios that are unusually high by international standards. The highest dependency ratio (0.11) is observed in Kazakhstan, and reflects a high population share non-Kazakhs (mostly Russians), who are characterized by higher mortality and lower fertility. However, even Kazakhstan's dependency ratio is much below the critical levels of 0.2 and higher observed in developed countries.

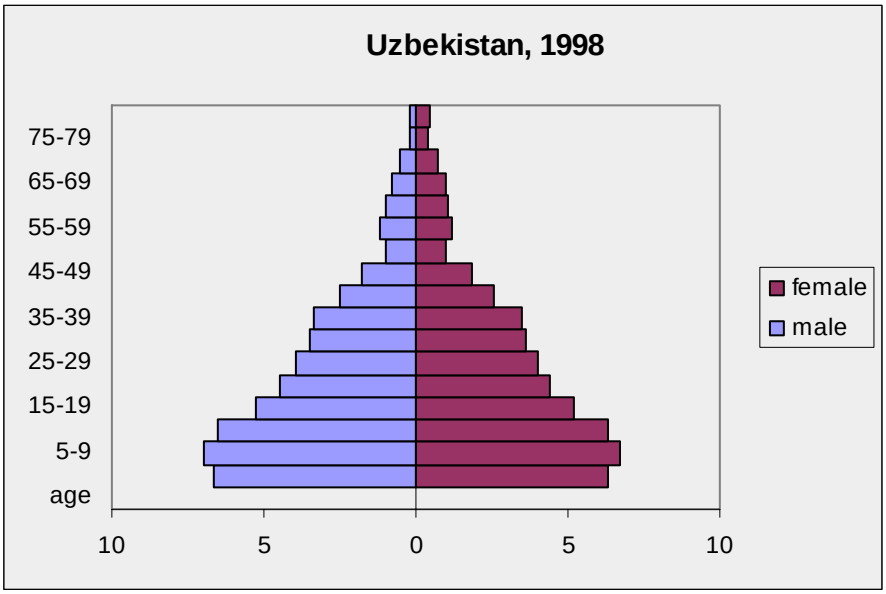
Table 1. Old-Age Support and Dependency Ratios[2]

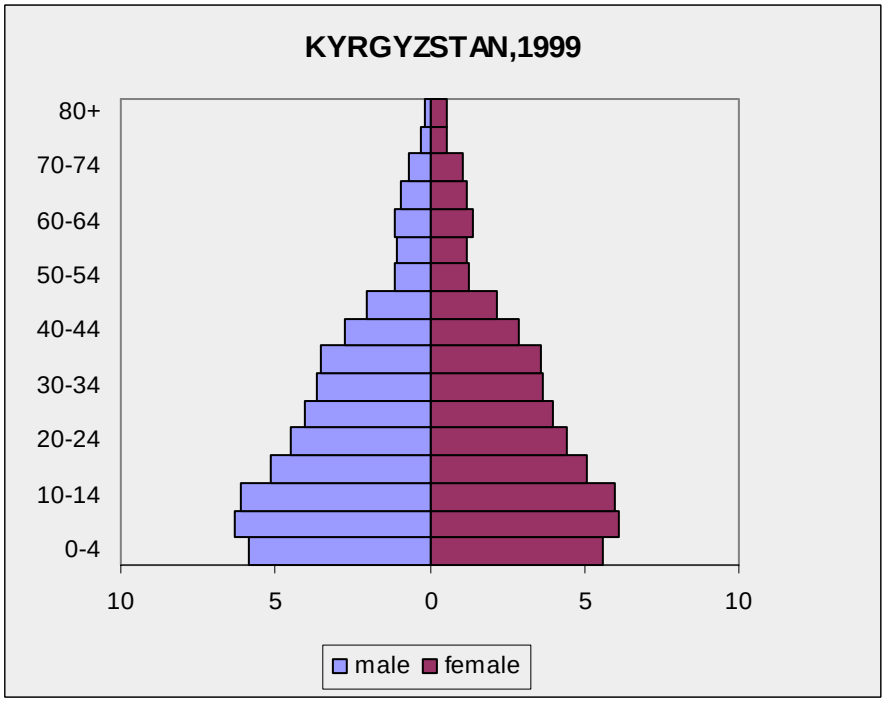
	Uzbekistan		Kyrgyzstan		Tajikistan		Kazakhstan	
	1989	2002	1989	2003	1989	2003	1989	2003
Share of age groups in total population,%:								
0-14	41	36	37	33	43	40	32.3	25.7
15-64	55	60	58	62	53	56	62	67
65+	4	4	5	5	4	4	5.7	7.3
Old-Age Support Ratio (Population at age 15-64 / Population at age 65+)	13.8	15.0	11.6	12.4	13.3	14.0	10.9	9.18
Old-Age Dependency Ratio (Population at age 65+ / Population at age 15-64)	0.07	0.07	0.09	0.08	0.08	0.07	0.09	0.11

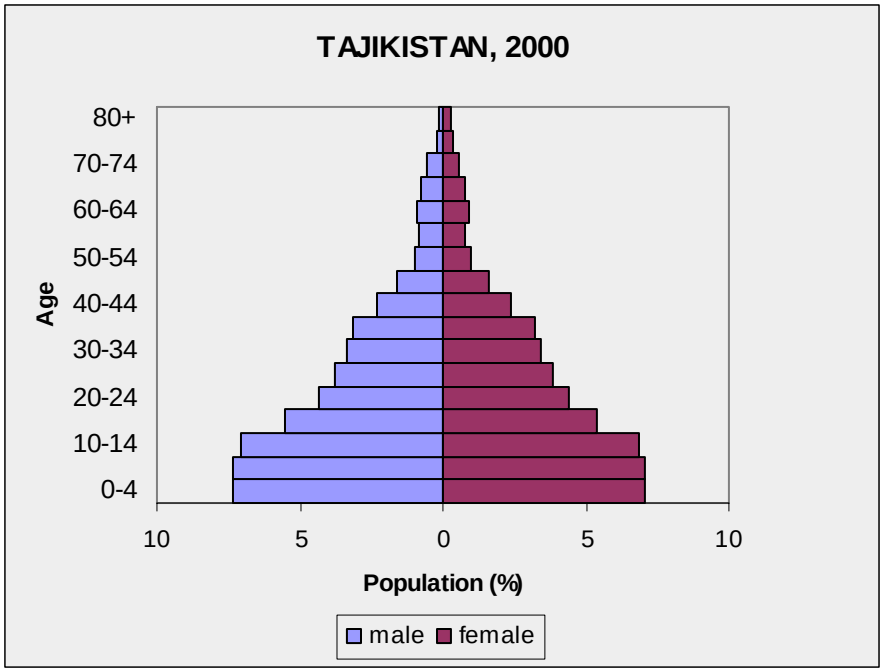
Population pyramids for the four countries are shown in **Figure 1**. These are largely self-explanatory, and quite affirmative of the favorable age structure of populations. Only in Kazakhstan do elderly cohorts comprise a significant share of the population. However, this optimistic picture is somewhat misleading from the perspective of pension policy, since premature retirement is significant, and grew rapidly in the early independence years (Becker and Urzhumova, 1998; Seitenova and Becker, 2004).

[2] The old-age dependency dependency ratio reported understates the actual dependency ratio, since retirement age is below 65, and because there are also many early retirees.

Figure 1. Central Asian Population Pyramids






TAJIKISTAN, 2000
80+
70-74
60-64
50-54
40-44
30-34
20-24
10-14
0-4
Age
10
5
0
5
10
Population (%)
male
female

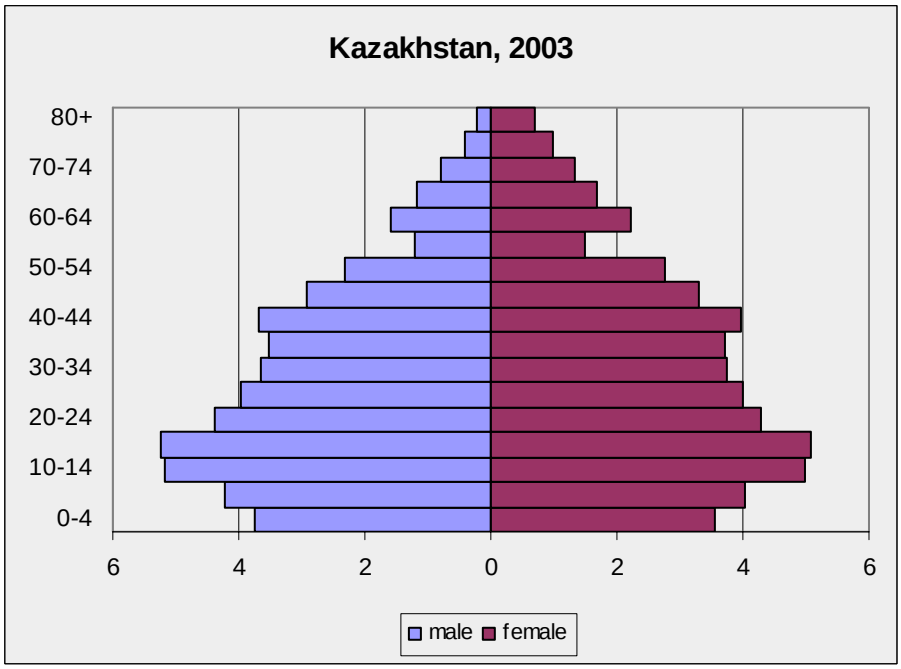
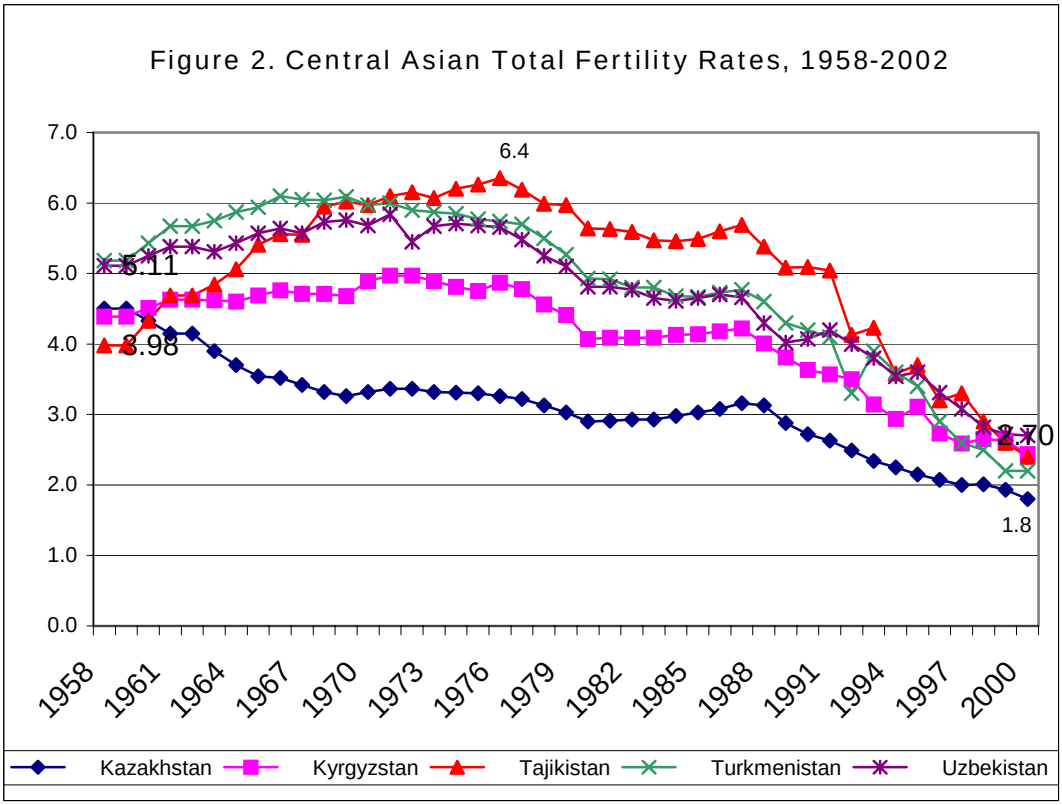

Kazakhstan, 2003
80+
70-74
60-64
50-54
40-44
30-34
20-24
10-14
0-4
6
4
2
0
2
4
6
male
female

Figure 2 shows long run total fertility rate (TFR) trends for each of the five Central Asian republics. Prior to independence, differences in TFRs reflected overall levels of economic development and ethnic composition, but there were few sharp movements. A sharp decline in fertility followed independence in all countries. These declines have no short-term impact on the social security system, but will have a long-term effect starting around year 2015, when the smaller generation born after 1991 will enter labor markets and, at the same time, the generation of baby boomers (people born in 1946-1965) will start retiring.



Along with declining fertility came a sharp increase in mortality, observed in all countries from 1991 through 1995.[3] This mortality rise will have significant short-term effects on the social security systems. On the expenditure side, the rise implies an increase in the number of survivorship beneficiaries and a decrease in the number of old age retirees; and on the revenue side, increased mortality must have resulted in a decrease in the number of social taxpayers. This latter effect, however, would have been unimportant, since the collapse of formal sector

[3] Unfortunately, only Kazakhstan discloses age-specific mortality rates in regular statistical reports, leaving one to compare crude death rates (CDRs) or highly inaccurate estimates of life expectancy at birth. The comparison of crude death rates is somewhat deceptive given different age structures of populations in the four countries (see population pyramids above). The best public data set, to our knowledge, is available at www.demoscope.ru.

employment and emergence of widespread unemployment rendered supply constraints non-binding. Thus, the net effect of increased mortality should have been to reduce social security pressures – but quite modestly relative to the other shocks taking place.

Official CDR data show mortality improvement in Tajikistan and Uzbekistan, which seems implausible given the economic crises (along with a low-grade civil war in Tajikistan) and the overall deterioration of health care in Central Asian countries. The likeliest explanation for these counterintuitive trends is deterioration of data collection practices, resulting in underreporting of deaths. This is especially true in Tajikistan and Kyrgyzstan, where central governments lost control of many remote and rural areas. Another possible explanation is underreporting of deaths for political reasons. Thus, all data other than from Kazakhstan and northern Kyrgyzstan must be treated with considerable caution.[4]

The substantial negative net migration observed in all Central Asian countries in the 1990s resulted in decreasing numbers of both retirees and people at working age. It is difficult to make any assertions about the short-term impact of large-scale emigration on the social security system, since only emigration of formal sector employees affected revenues (emigration of unemployed people seeking jobs abroad would not have any impact on revenues). However, we do know that emigration rates have been unusually stable across age and gender groups (for example, Becker and Paltsev, 2004; Becker *et al.*, 2005), so that there would have been little impact on the population distribution. However, it is almost certain that many elderly "European" citizens from the poorer Central Asian republics would have left to claim pensions in relatively more prosperous parts of the former USSR, thereby diminishing local pension burdens. Moreover, in collapsed economies such as Tajikistan, emigration of both refugees and labor migrants (who sent back remittances) have played an important role in compensating for the state's loss of capacity.

The long-term effect of the demographic changes must be negative as mortality is expected to recover (in Kazakhstan, mortality significantly improved over the period from 1995 through 1999 and stabilized in the recent years: see Becker and Urzhumova, 2005). At the same time, while fertility recovery is underway now that economic stabilization and recovery is taking

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[4] For discussions of underreporting issues dating to the Soviet era, see Anderson and Silver (1997); for a discussion of underreporting in Kyrgyzstan, see Becker *et al.* (1998).

place, it seems most unlikely to return to the high levels observed in the Soviet era. Ultimately, the demographic situation in Central Asian countries must converge to that in the developed countries with high dependency ratios (0.2 or higher). The pace of this convergence will depend on the pace and scope of economic recovery.

Because the most reliable and detailed data are for Kazakhstan, these patterns are most clearly observed in that country. Even though its economic situation has improved dramatically in the past five years, Kazakhstan's demographic improvements have not been correspondingly great. While TFRs have recovered to population maintenance level, mortality rates have not recovered to pre-crisis levels. In fact there was slight increase in urban mortality at working ages from 1999 to 2003. This happened in part because the economic growth of the recent years occurred mostly due to the growth of harmful productions such as oil and gas, mining and construction industries. Continued high rates of accidental death outside the workplace also have been critical in sustaining very high adult mortality rates (Becker and Urzhumova, 2005). In addition, given the poor condition of health care in Kazakhstan (preventive and emergency care, in particular), gains in child and elderly mortality also have been slow, although infectious disease mortality has declined markedly. Without significant investment in health care (including health care restructuring) and without significant structural changes in the economy, mortality will not improve to the levels observed in developed countries. This statement almost surely holds true for the other Central Asian republics as well, as all are far poorer than Kazakhstan.

Therefore, population dependency ratios in Central Asian countries may remain significantly below the critical level (0.25) for a long period of time. For example, demographic projections made by Seitenova and Urzhumova (2003) show that the population dependency ratio in Kazakhstan will grow to 0.25 only by 2040 if life expectancy at birth improves from 60.3 in 2001 to 65 in 2015 and to 73 in 2050 for males, and from 71 in 2001 to 75 in 2025 and to 81 in 2050 for females, and with TFR recovering from 1.8 in 2001 to 2.05 in 2025 and then to 2.08 in 2050. Given that fertility has already recovered to 2.0 in 2003, it is reasonable to conclude that the dependency ratio in Kazakhstan will reach critical level later rather than before 2040. In other Central Asian countries the demographic situation is more favorable, given higher fertility and lower mortality rates -- though, as emphasized above, the quality of demographic statistics in these countries is poorer than Kazakhstani data, which means that mortality in these countries may be underreported.

I.2. Economic Changes

Economic crisis after the collapse of the Soviet Union – *i.e.*, closure of a large number of enterprises, growing unemployment, and emergence of shadow labor markets – characterized the entire region. **Table 2** shows changes in the structure of employment in four Central Asian countries over the period from 1992 to 2003. By 2003, the formal sector of the economy (*i.e.*, employment at tax compliant enterprises) decreased from about 100% of employment prior to 1990 to 75% of employment in Uzbekistan, about 60% of employment in Kazakhstan and Tajikistan, and to less than 40% of employment in Kyrgyzstan. Tax evasion became a common practice among the growing numbers of self-employed who had small volumes of business and, therefore, could conduct direct buyer/seller transactions in cash without bank involvement, thereby making their revenues non-transparent to tax authorities[5]. In Uzbekistan, Kyrgyzstan, and Tajikistan, hired labor includes workers employed under labor contracts at large, medium-size and small enterprises, as well as workers hired by individual entrepreneurs. Based on Kazakhstan's (better-documented) tax compliance situation, it is reasonable to conclude that only a limited part of hired labor in these countries represents tax-compliant employment. The figures given for Kazakhstan represent the number of employed at large and medium-size enterprises, *i.e.*, the fully tax compliant sector.

Table 2. Structure of Labor Resources
(all figures are in thousands unless otherwise stated)

	Uzbekistan		Kyrgyzstan		Tajikistan		Kazakhstan		
	1992	1999	1992	2003	1992	2003	1992	1997	2003
Labor Resources (able-bodied population)	10,413	12,297	2,264	2,915	2,668.8	3,644	9,355.3	8,813.6	10,936.0
Economically active population	8,291	8,924	1,837	2,011	1,912.9	1,931.3	7,577.8	7,440.1	7,657.3
as % of Labor resources	*80.0*	*73.0*	*81.1*	*69.0*	*71.7*	*53.0*	*81.0*	*84.4*	*70.0*
Employed Population	8,272	8,885	1,836	1,824	1,908.9	1,885.0	7,210.2	6,472.3	6,985.2
as % of Economically active population	*99.8*	*99.6*	*100.0*	*90.7*	*99.8*	*97.6*	*95.1*	*87.0*	*91.2*
including:									
Hired Labor	6,824	6,637	1,521	720.0	1,508.1	1,072.0	6,842.6	3,862.7	4,229.6
as % of Employed Population	*82.5*	*74.7*	*82.9*	*39.5*	*79.0*	*56.9*	*94.9*	*59.7*	*60.6*
Self-Employed	1,448	2,248	314.7	1,104	400.8	813.0	367.6	2,609.6	2,755.6
as % of Employed Population	*17.5*	*25.3*	*17*	*61*	*21.0*	*43.1*	*5.1*	*40.3*	*39.4*

[5] In Kazakhstan, another category of tax evaders consists of small enterprises that also take the advantage of cash-based transactions to underreport revenues and wages paid to employees. Therefore, this category may be termed semi-compliant.

Table 3. Effective Support and Dependency Ratios

(all figures are in thousands unless otherwise stated)

	Uzbekistan		Tajikistan		Kyrgyzstan		Kazakhstan		
	1992	1999	1992	2003	1992	2003	1992	1997	2003
Number of formal sector employees (Hired Labor) *	6,824	6,637	1,508.1	1,072	1,521.2	720	6,305	3,665.7	4,229
Number of Pensioners & Social Allowance Recipients, at the beginning of year	2,499	3,054	572	534	621	593	2591	2,720.7	2,394
Effective Dependency Ratio (the number of formal sector employees relative to the number of Beneficiaries)	*0.37*	*0.46*	*0.38*	*0.50*	*0.41*	*0.82*	*0.41*	*0.74*	*0.57*

* Number of Hired Labor for all countries, except Kazakhstan. For Kazakhstan, the numbers represent employment at large and medium-size enterprises i.e. the fully compliant segment.

Lower estimates of effective dependency ratios for Uzbekistan, Kyrgyzstan and Tajikistan, as well as the actual effective dependency ratios for Kazakhstan are given in **Table 3**. The shrinkage of formal labor markets resulted in a slump in real social fund revenues and the financial viability of social security systems in all Central Asian countries. The increases in effective dependency ratios are largest in Kyrgyzstan and Kazakhstan, but in the latter case, this is somewhat offset by larger payments from the actually contributing population.

On the expenditure side, growing unemployment caused an increase in the number of applicants for disability benefits with moderate disability (Seitenova and Becker, 2004). Under more favorable labor market conditions, these people would have stayed in the labor market and would not apply for the benefits. In addition, there were numerous disability benefit abuses (*i.e.*, false assignment of moderate disability to healthy lives induced by bribes).

As is well known, economic collapse did follow the political dissolution of the USSR, while the late Soviet period was characterized by stagnation. This decline extended to Central Asia as well, making it impossible to sustain the comprehensive Soviet welfare state. Between 1991 and 1995, real GDP declined by 18% in Uzbekistan, 31% in Kazakhstan, 45% in Kyrgyzstan, and 59% in Tajikistan (www.cisstat.com). Considerable recovery has occurred since then (**Figure 3**), by which point Kazakhstan's exceeded the 1991 level by 6% and, should one choose to believe the numbers, Uzbekistan's GDP was 12% greater in real terms. On the other hand, Kyrgyzstan's GDP remained 19% lower in 2003 than in 1991, while Tajikistan's GDP was 46% less.

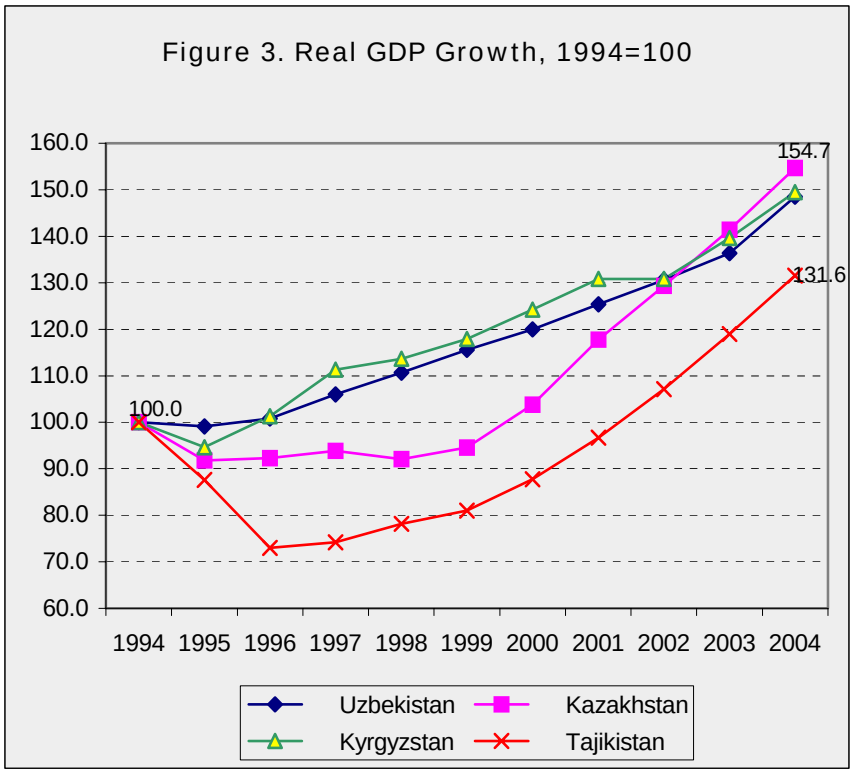


Figure 3. Real GDP Growth, 1994=100
160.0
150.0
140.0
130.0
120.0
110.0
100.0
90.0
80.0
70.0
60.0
154.7
131.6
100.0
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
Uzbekistan
Kazakhstan
Kyrgyzstan
Tajikistan

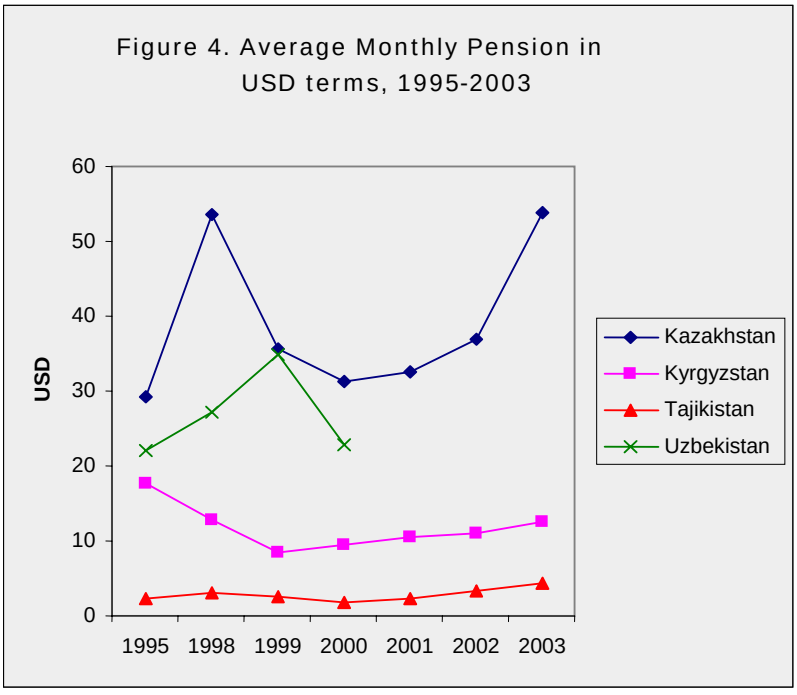
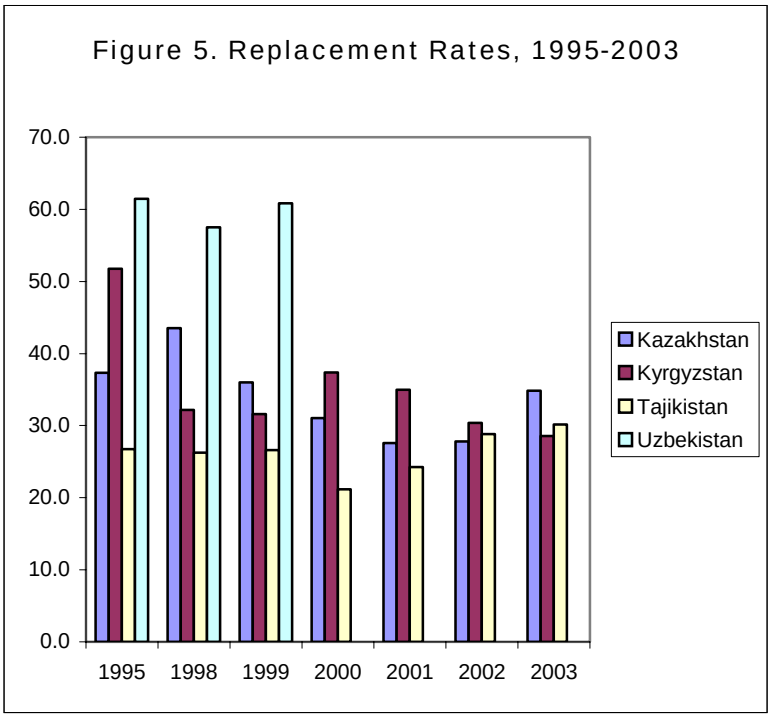


Figure 4. Average Monthly Pension in USD terms, 1995-2003
USD
60
50
40
30
20
10
0
1995 1998 1999 2000 2001 2002 2003
Kazakhstan
Kyrgyzstan
Tajikistan
Uzbekistan



As real GDP declined, declines in social welfare payments were inevitable. Not only was overall GDP shrinking, public sector command over resources, and hence its ability to make transfers, declined further. In Kyrgyzstan, for example, government consumption as a share of GDP declined from 25.0% in 1990 to 17.9% in 1998 (ADB, 2003). Yawning public deficits emerged; since large international borrowing was infeasible, plummeting tax collections enforced public sector shrinkage. Even in resource-rich Kazakhstan, public consumption fell from 12.0% of GDP in 1990 to 10.8% in 1998, which also witnessed a public budget deficit of 8.0% of GDP. Base data are not available for Tajikistan, but in 1998 government consumption only accounted for 4.2% of GDP. Although total public expenditures were 14.2% of GDP, less than 2% of total expenditures (and hence less than 1/3 of 1% of GDP) were spent on social welfare.

In light of this diminished capacity, it is not surprising to find that real pension values were very low (**Figure 4**), as was the ratio of average pension to average wage (the so-called "replacement rate" shown in **Figure 5**). With economic recovery, pension payments have risen, but only in Kazakhstan are they substantial. Kazakhstan allowed its replacement rates to deteriorate as economic recovery took place, and only raised pensions substantially when it became clear that the nation had regained its previous peak GDP levels. In contrast, replacement

rates in Kyrgyzstan have continued to dwindle slowly, while there has been no clear trend in Tajikistan. For the region as a whole, with the exception of Uzbekistan, replacement rates are currently about 30% -- implying tiny payments in Kyrgyzstan and Tajikistan.

II. INITIAL CONDITIONS AND POLICY OPTIONS

Before examining each country in some detail, it is important to present background information to provide a sense of the setting, and also to discuss the range of reform options being considered. As distinct from low and middle-income countries outside the former USSR and Eastern Europe, Central Asia's republics enjoyed a comprehensive social welfare system as part of the USSR. This well-established system was not only socially popular, it was seen in effect as a birthright, thereby creating enormous pressure on today's leaders to maintain substantial universal coverage.

Briefly, the pension systems in Central Asian countries as of 1991 contained the following features inherited from the Soviet social security system. For those retiring on regular old-age terms, the normal retirement age was 60 years for males and 55 years for females. In order to receive full benefits, the complete service requirement was 25 years of service for males, and 20 years for females. This duration is quite liberal relative to the years that will be required in order to earn comparable rates under the various accumulative reforms, especially as the notion of service itself was quite liberal (including, for example, years spent in university study, maternal leave, and years out-of-work for spouses of Soviet workers abroad). The benefit formula was simple and generous. Full service retirees received 55-60% of final wage at retirement for complete service plus 1% of final wage for each year of work over complete service, with the maximum benefit equal to 75-85% of final wage, and with a rather generous cap imposed on final wage. Retirees with incomplete service years received pro-rated benefits. Retirees with no history of employment received old-age social allowances. The Social Security System also provided survivorship and disability benefits calculated based on the final breadwinner's or newly disabled worker's wage. This system has tended to create the idea of 55-60% of individual wage as a benchmark replacement rate, though one would expect this rate on average to be somewhat below 55-60% because of the wage cap for pension calculation and retirees with incomplete service years (and, therefore, pro-rated pensions).[6]

[6] Comparison with the average replacement rates in the preceding section is inexact. Note first that the rates reported in Section 1 include years well after 1991 when pensions were already affected by incomplete adjustment to inflation, distortions caused by new currencies, and benefit reductions. Moreover, there is a difference between RR to the average nationwide wage and to the individual final wage. In addition to caps, the national averages include

Beyond standard retirement conditions, many people were eligible to retire on favorable terms (*льготные условия*). This included a substantial number eligible to retire at early age for certain occupations, some of whom (such as workers at mining, construction and chemical industries) were in obviously more dangerous occupations, some of whom worked in ostensibly more dangerous conditions (regions qualified as environmentally disastrous) and some of whom were low-qualified manual laborers (such as a broad variety of agricultural workers). Early retirement age varied from 45/50 to 50/55 for females/males depending on the occupation; in certain occupations, the pension benefit paid within the period from early to regular retirement age was lower than the full benefit. In addition, the old pension system allowed workers at certain occupations for whom skills deteriorated quickly (*e.g.*, ballerinas and pilots) to retire at any age once they fulfill the complete service requirement (*i.e.*, 20/25 years for females/males). The same favor was granted to some categories of workers for whom there was no obvious reason (notably, school teachers and some categories of medical personnel). The system further contained service multipliers above 1.0 for each year of service in certain geographic regions or in certain occupations or in certain periods of time (such as war time), and benefit multipliers above 1.0 for certain categories of retirees.

In sum the old Soviet system provided generous benefits on favorable terms to a large proportion of retirees. In Kazakhstan, for example, in 1991 the number of retirees on favorable terms made up 20% of all old-age pensioners. For certain harmful occupations, the benefits were excessive in that workers had already received reasonable compensation for occupational risks in the form of higher wages, and, therefore, favorable terms of retirement resulted in overcompensation. However, the system was sustainable due to high employment and high adult mortality (which reduced the numbers who would receive social benefits). Social tax compliance was also essentially universal, though this point should be qualified: those working in agricultural cooperatives or state farms made very limited contributions – though they also received fairly modest payments.

The Soviet social security system had the advantages of generous benefits and sustainability. From the standpoint of the newly independent successor states, however, there

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people with incomplete service years. Wage growth also affects replacement rates. Rates are higher for the newly retired, because pensions are computed based on recent wages, than for the stock of retirees, which is the average reported in Section 1.

were several problems. The most severe was that the system's generosity could not be maintained in the face of collapsing employment, wages, and social tax compliance. Worse, declining resources in the early 1990s were paralleled by surging numbers of premature retirements (documented for Kazakhstan by Becker and Urzhumova, 1998, and Seitenova and Becker, 2004).

Generosity of the system was exacerbated by a lack of proper control systems – *i.e.*, no recordkeeping for contributions, and no nation-wide computer databases with individual records for retirees and beneficiaries. For example, in Kazakhstan individual recordkeeping for beneficiaries was a responsibility of local social security offices while birth, death and migration registration was a duty of local statistical offices. There was no verification of the two databases against each other, resulting in numerous abuses of the social security system by both beneficiaries and social security officers (misreporting of age by pension applicants resulted in premature benefits, unregistered emigrants continued to receive pensions, and social security officers appropriated pensions for the "dead souls;" *i.e.*, for the people who died but whose deaths were not properly recorded by local social security offices in order to over-report the amounts to be paid to locally registered beneficiaries). In addition, there was no control over individual social tax contributions. Years of service were verified based purely on labor books that contained individual records of employment. With a growing number of small private enterprises that had very short business lives, it became easier to falsify records as verification of the records made by an enterprise shut down by the time of retirement was impossible.

All these factors resulted in a significant increase in government expenditures, and a slump in social fund revenues. As obligations outstripped capacity, local Social Fund authorities made payments that were late, and often in-kind (typically flour, but on occasion other foods or vodka), especially in rural areas. By the mid-1990s, one of the most pressing issues in Kyrgyzstan was the elimination of in-kind payments, but we believe that such payments took place throughout Central Asia.

As authorities realized the extent of the problem, they took efforts to reduce inappropriate early retirements, consolidated Social Fund operations, and worked to reduce arrears. It became quite obvious that the terms and parameters of social security systems had to be revised to cope with the current budget deficits. The measures taken within the framework of the "Solidarity" PAYGO defined-benefit system can be summarized in the following five

categories. All of the measures listed, except for the multi-pillar arrangements, can take place within a conventional PAYGO system, as they simply involve changes in parameters and terms of system rules, plus control over tax history and benefits.

The most obvious step is a **revision (reduction) of benefits**. This is especially easy during periods of high inflation, since the Government does not have to reduce nominal payments – it simply does not fully adjust for inflation. In Central Asia, not only was there high to hyperinflation during the early post-Soviet period, currencies also were changed (and sometimes more than once, as Uzbekistan introduced a scrip temporary currency before establishing the *som* as the successor to the Soviet ruble). Real values of wages earned during the Soviet era plummeted, and so Solidarity pension payments quickly converged to minimum amounts, adjusted upward for some on the basis of recognized multipliers. The impact of the inflation and delayed indexation was to reduce average replacement rates markedly, and also to reduce the variance of pension payments. Put differently, replacement rates fell especially strongly for upper income, urban groups. In Kazakhstan, an additional measure to reduce benefits was the introduction of a low wage cap for the calculation of pension benefits that resulted in low replacement rates for newly retired. In the past couple of years, Kazakhstan has taken steps to link Solidarity pension payments to the real value of Soviet era wages while keeping the low wage cap. This measure improved pensions of those who retired years ago and whose pensions decayed over time as wages grew in real terms, but the replacement rates (to the average nationwide wage) of new retirees remained as low as 30%. To our knowledge, other countries in the region, which lack large mineral revenues, have not done so.

In addition to reduced benefits, many countries have taken steps to **curb the extent of favorable term retirement**, by raising eligibility requirements and reducing categories. The level of additional benefits also has been cut in some cases.

A third measure taken by several Central Asian republics has been to **increase social tax rates**. These rates have been the subject of frequent modification throughout the region, and we do not seek to quantify them all. Rather, we simply note the possibility of doing so, and mention that rate increases have been common. While raising social tax rates is in principle a simple solution, it invites evasion, and of course puts the formal sector at a competitive disadvantage with the lightly taxed informal sector. In Kazakhstan and Kyrgyzstan, individual entrepreneurs and small businessmen face relatively light social tax rates, and are likely to evade even these.

This evasion was a problem especially in the 1990s, but even today, full compliance is a huge problem. Defining the "formal sector" to mean that part of the economy whose employers or employees make regular and substantial social contributions (thereby excluding agriculture, from which payments are tiny), 2001 data from Kazakhstan indicate that only 42% of the employed labor force fits into this category. The proportions are surely far lower in other Central Asian countries, and less as well if we limit attention to the private sector. Raising taxes further is therefore costly, especially in those countries where the base rate is high. Thus, raising social tax rates had to be a short-term measure to balance social security funds, as it conflicted with the long-term goals to reduce unemployment and promote formal sector development that would provide for a long-run sustainability of social security systems.

A fourth, extremely unpopular measure is to **raise the statutory retirement age**. The World Bank has emphasized this reform, as to a lesser extent have other international bodies. The increase is an obvious measure, especially as it has an immediate impact. A typical reform in developing and middle-income countries is to raise retirement by three to five years, usually in increments of four to six months per year. Thus, the reform will tend to reduce the number of new retirees by one-third to one-half for a period of six to 15 years. In effect, this is an extreme example of benefit reduction – the "young elderly" are simply removed from eligibility. The measures have met with widespread opposition, especially in countries with pluralistic political systems, such as Kyrgyzstan or Kazakhstan.[7] There are many votes in opposing such reforms, and even the non-elderly tend to have an emotional reaction to efforts to remove benefits to those of (Soviet-era) pension age. In large Central Asian cities, especially during the 1990s, many among the elderly population were visibly poor (for example, engaging in scavenging activity), and this might have contributed to the belief that the elderly are the poorest social group. Evidence based on household surveys strongly suggests otherwise (as detailed in Anderson and Pomfret, 2003), and points to youth poverty and malnutrition as being a more serious problem, but there is no doubt that a crude move to cut the number of pensioners is seen as drastic. An obvious reason for this is that so few of the nearly-retired enjoy productive employment. In the former Soviet countries this was exacerbated by the economic crises and growing unemployment. State enterprises, which were non-competitive in the new market environment, closed or put

[7] To anticipate our argument in the following section, the different choices made by Kyrgyzstan and Kazakhstan had two underlying causes. First, the smaller, poorer, and less diverse Kyrgyz economy had fewer options. Second, while Kazakhstan is pluralistic, President Nazarbayev is the pre-eminent political figure, and when his decisions serve as a virtual order to the Majilis (Parliament) if he decides to press them. In contrast, President Akaev is much weaker politically in Kyrgyzstan, and faces more determined opposition, so that he probably could not have completely dictated to the Zhegorku Kenesh (Parliament) on the issue of pension reform.

many workers on extended furloughs. Large numbers of laid-off workers needed to undergo market-oriented re-training to obtain jobs in private businesses. Obviously, people at ages close to the statutory retirement age could not compete with younger people in the job market. Raising retirement age therefore was not merely an issue of prolonging working careers, but rather for most people close to retirement age it meant further delay to the time when a cash income again would be received. Another factor that limited appropriateness of retirement age increases in Central Asian countries was the overall low technological development in both industrial and agricultural sectors and, therefore, an emphasis on manual labor – which again places elderly workers at a distinct disadvantage. In addition, while in developed countries, retirement age increases are justified by the increasing life expectancy and, therefore, longer productive lives, this argument cannot be applied to justify such measure in Central Asian countries given high elderly mortality and morbidity.

More radical and expensive solutions require **the establishment of substantial information infrastructure**, either to reduce overpayments in the Solidarity system, or to prepare for a "multi-pillar" system. An important reform is to set up **proper nationwide control systems, with individual recordkeeping for both taxpayers and beneficiaries**. Even though this component is important for an effective social security system, the cost of establishing and maintaining such systems in the former Soviet Union was not justified by the efficiency gains, as the whole economy consisted of state enterprises and tax compliant labor market made up nearly 100% of employment. For the majority of retirees there was no need to abuse benefits due to the stability and certainty of jobs. Even if falsifications of work or wage history took place, they were not pervasive. Therefore, cost savings would be small as compared to the cost of the information systems.

In the changed economic and labor market environments in Central Asian countries, individual recordkeeping for both taxpayers and beneficiaries became crucial. However, the governments did not have financial resources to establish computer-based information systems given overall budget deficits. Such systems were established only in Kazakhstan and Kyrgyzstan as part of more drastic reforms (*i.e.*, establishment of a funded DC system in Kazakhstan and a notional accounts system in Kyrgyzstan). The governments could cover the respective costs due to the grants and loans provided by international donors (mainly the World Bank in both Kazakhstan and Kyrgyzstan, though the ADB and USAID assisted as well). Both countries

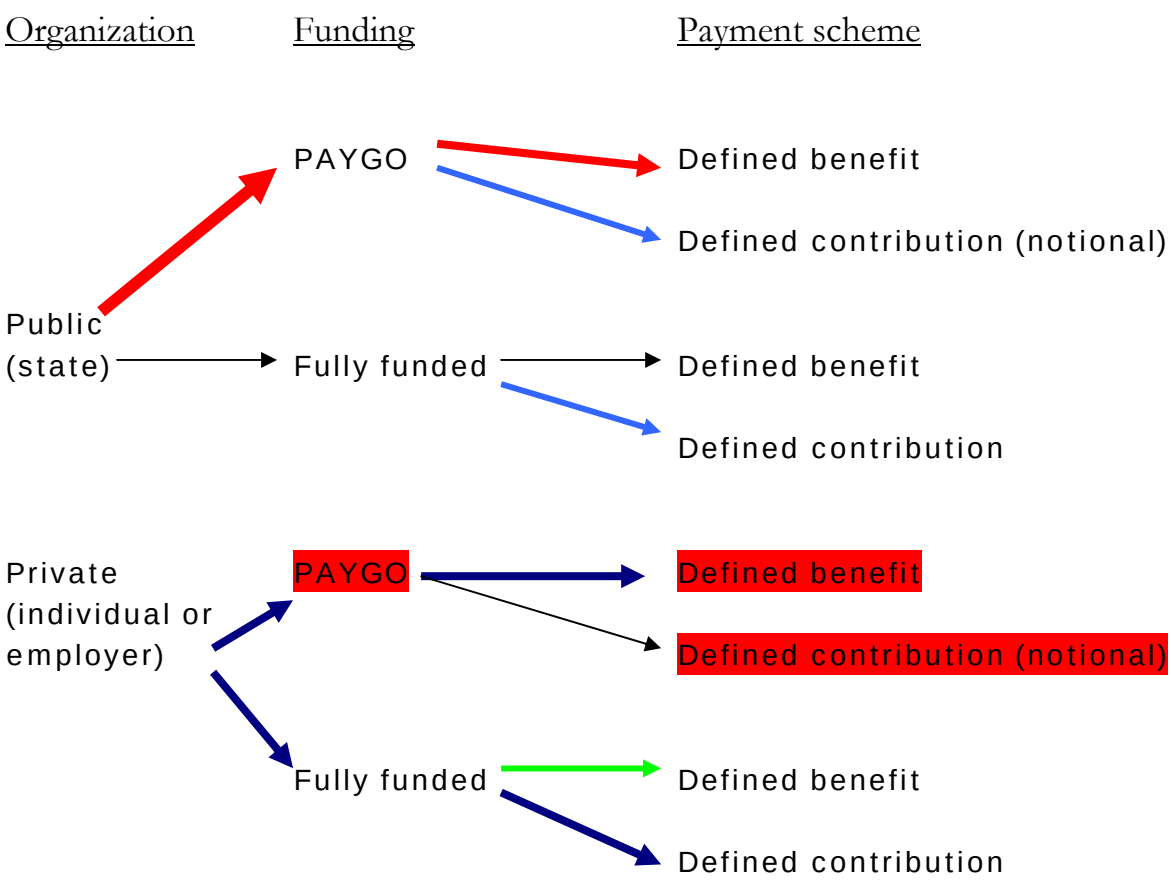
devoted considerable resources to establishing a national personal identification number (PIN) number and individual accounts. Doing so is anything but easy, as experience in both countries has shown – duplicate numbers for the same person are common, and the underlying information system database is sophisticated and expensive. Kazakhstan introduced individual recordkeeping system only for contributions to private pension funds and for benefit payments. Social tax payments are still made by enterprises in the form of a total amount due, with no individual breakdown.

Once a database capable of tracking individuals is established, a country can then consider more radical reforms. The set of options that exist ***in principle*** is outlined in **Figure 6**.[8] One can have public or private management of a welfare system; the system can be unfunded (PAYGO), partially funded, or fully funded; and payments can be defined benefit or defined contribution. In practice, most countries maintain a public, unfunded, DB system (of which the Solidarity systems are an example), and then consider adding one or two supportive pillars. Private, voluntary pension systems comprise a "third pillar," and are popular among transition countries' governments. In the Central Asian context, voluntary, private, funded, DC arrangements are virtually meaningless, since there is little demand for them.

This leaves the option of a second, mandatory pillar to supplement the Solidarity system. In principle, such a mandatory, (presumably but not necessarily) private, funded, DC "Accumulative" system could supplant the public first pillar, and this is the stated intention in Kazakhstan. In practice, however, the public Solidarity system seems unlikely to vanish there or elsewhere, barring dramatic economic collapse.

[8] In practice, private firms do not run PAYGO systems, at least not overtly. However, at least in the United States, many firms' pension funds are not fully funded, and, even when officially fully funded it is common for firms to hold a disproportionate share of pension fund assets in own company stock – making it something of a covert PAYGO scheme. Obviously, actuaries do not recommend such schemes, and they are distinguished in the Figure 6 by highlighting.

Figure 6. Organization and development of pension systems



The ultimate objectives of Accumulative systems include reducing public pension obligations and raising national savings rates. It is not obvious that an Accumulative system rather than extensive PAYGO reforms is the best way to address budgetary shortfalls: the shortfall reduction with an Accumulative reform is achieved by concomitant abandonment of prior PAYGO system commitments. By definition, the Accumulative system has nothing to do with budget deficits, as it cannot reduce current government obligations accumulated in the past.

However, Accumulative system goals should also seek to ensure adequate pensions (or supplemental pensions), rather than simply reducing PAYGO shortfalls. Logically, it is easiest conceptually for PAYGO by itself to balance revenues/expenditures through tax rates and benefit parameters and definitions. If the PAYGO system is financially sound, then the decision on whether to expend to a multi-pillar system is to raise mandatory or voluntary personal savings, in the event that a balanced PAYGO system with reasonable (and optimal for the economy)

payroll taxes cannot provide higher-than-basic pension incomes to regular contributors (*i.e.*, aging population problem). Moreover, such a combination diversifies risks, especially if the system permits holding of foreign assets (as Kazakhstan's does: pension funds are allowed an international assert share of up to 25% of total assets). If a person retires during economic crisis, her PAYGO pension would be low, as the government would not be able to pay high pensions. At the same time, the accumulations would have been made over a long period of time, including periods with high economic growth. The opposite is also true. If a person retires in the period of high economic growth, PAYGO pensions may be high, while accumulations might have been accumulated in bad times, and, therefore, funded pensions would be low.

Indeed, the move to a second pillar creates short-term financing problems, since contributions to individual accounts are generally enabled by reduced payroll contribution rates to the Solidarity system, while that system's obligations are not reduced for some time. This short-term deficit is at the heart of the IMF's nervousness about second pillar systems. Ironically, though, the short-term deficit issue also was a key issue in selling the Accumulative reforms, as by adopting this system, international financial institution loans (especially from the World Bank) were forthcoming. Of course, this too represented a gamble, since, had oil prices remained at mid-1990s levels for an extended period, the loans would have been difficult to repay.

Nor is it obvious, at least to a macroeconomist, why a small, open economy should want to raise its savings rate. The largest Central Asian economy, Kazakhstan, had a 2004 GDP of about USD 35 billion; Uzbekistan, the second largest economy, has a dollar GDP less than half that amount. Potential international capital flows will dwarf the additional net savings (which are, after all, net of added government dissavings) that will occur. This perspective is somewhat myopic, though, in that creating a large class of private asset-owning citizens implies the emergence of a group interested in safeguarding assets. That is, an Accumulative pension reform means creating a domestic lobby whose interests generally coincide with that of prospective foreign investors, and creating a set of enabling laws that safeguard property. Together, these forces may well "crowd in" foreign capital.

The role of a new Accumulative system in jump-starting financial sector development is difficult to assess empirically. Kazakhstan's experience is certainly consistent with the theory that an Accumulative system can play an important role, though it is critical to emphasize that Kazakhstan enjoyed many necessary conditions lacking elsewhere. While formal proof is lacking,

we find it difficult to envision what else could have played so critical a role (see Seitenova and Becker, 2004, for details). This jump-start model has been eagerly espoused both by the US Agency for International Development and Kazakhstan's National Bank.

The major downside of the Accumulative model is that it promises to greatly increase inequality among the pension population (Seitenova and Urzhumova, 2003). This is especially true if a strong Solidarity system does not remain in place. If minimum public pensions are guaranteed, then there is no incentive for low-income people to participate in the funded system. If the Solidarity system provides a minimum guarantee rather than a supplemental payment, then low-income contributors face an effective 100% marginal tax rate on their DC contributions. Since some sort of minimum pension will be maintained, and since virtually any plausible actuarial simulation indicates that individual accumulations will be very small for low-income earners (Seitenova and Urzhumova, 2003), the gains from switching to an Accumulative system will accrue overwhelmingly to high-income groups, who are subject to the wage cap in the Solidarity system

A successful Accumulative system aimed at promoting financial sector development also needs to have an economy capable of generating investment opportunities. Kazakhstan has produced a significant number of these, though less than in an ideal world. The same potential was not seen to exist in Kyrgyzstan, which instead elected to develop a notional defined contribution accumulative account (NDC) system. Such a system is run by the state, and can be seen either as a Solidarity system that credits individuals primarily or exclusively for their recorded contributions, or equivalently as a publicly run Accumulative system that only buys government debt.

While financial and economic aspects of pension reforms are important, the primary goal of any pension system (PAYGO, funded, or a multi-pillar system) should be the provision of adequate pension incomes to regular contributors (tax or pension contribution payers) in the country-specific economic and labor market setting. Countries contemplating reforms of their pension systems in the times of financial crises and significant social fund deficits tend to focus more on the short-term tasks of benefit reduction and longer-term tasks of financial and economic development, without due attention to future pension incomes. As a result, the model chosen may be far from the optimal solution of the problems faced by the existing social security system.

The assessment of the efficiency of a pension system should also focus on the fairness and adequacy of pension incomes for regular contributors (not on the financial sector development). There are other instruments to promote the development of financial sector and the growth of the economy. If a pension system is chosen to facilitate the development of the financial sector and the growth of the economy, and regular contributors to this growth do not benefit from their contributions in the future, the new pension system may not be viewed as successful. Put differently, the use of pension system reforms to promote financial sector development may conflict with the fiduciary responsibility of individual pension funds to act solely in the interests of those whose assets they are managing (that is, future pensioners), and the implicit obligation of the state in this respect as well. Therefore, use of social security system design as a macro or financial policy instrument is best undertaken only in the absence of viable alternatives, and not as a first resort.

Whether or not Kazakhstan had few or no alternatives *ex ante* (since it could not foresee the tripling of its oil prices) remains a matter of debate. The *ex post* problems discussed in Section III certainly are surprising. Currently, there are large amounts of assets accumulated in the pension system, while economic growth is mostly due to the oil and gas sector (which, however, draws international investments on a completely different scale), and problems with sound investments in the real sector remain. Kazakhstan thus has excess liquidity in the financial sector, with oil revenues and pension fund contributions accumulating in pension and bank sectors, and insufficient investment demand outside the minerals sector. High oil prices also have reduced the need for public budget deficit financing almost to zero, so that public debt issuance also has significantly decreased. In this setting, it is not surprising that real interest rates are negative.

Thus, rapid growth in Accumulative system funds has been met with insufficient demand, creating a scenario in which mandatory savings across the population create excess supply of assets, and hence negative returns. As we see below, currency appreciation has made this situation worse rather than better. The mix of financial sector maturation with slower growth in the non-minerals' sector at present implies financial losses borne by the working population, but during a time of economic boom in parts of the economy. Little if any of this was foreseen originally, but these problems provide an important warning: meeting objectives successfully does not guarantee that all the pieces will fit together, and hence that new problems will not emerge. In this case, Kazakhstan has enjoyed rapid economic growth, great success in generating

Accumulative system funds, and corresponding financial sector development – and now faces hitherto unanticipated issues. Whether these are temporary or permanent will depend on events far outside the pension system.

III. BREAKING WITH THE PAST: ACCUMULATIVE SYSTEM REFORM IN KAZAKHSTAN

Because Kazakhstan's pension situation is well-known, and discussed in detail in Seitenova and Becker (2004), our emphasis here is on the events of the past two years. Briefly, in 1998 Kazakhstan embarked on a dramatic Accumulative system reform. The stated intent was to have this second pillar replace the public Solidarity system. While this transition was intended to be gradual, the unanticipated oil wealth has pushed that horizon further back, and the dispassionate observer might well surmise that some sort of public safety net for the elderly and disabled will remain in place indefinitely.

In 2001-2004 Kazakhstan experienced high economic growth with real GDP growth rate over 9% per year (Figure 3), due in large part to the growth of oil production induced by the high worldwide prices for oil. Annual oil export receipts doubled from $1 billion in 2001 to $2 billion in 2004 (Moody, 2005). Other industries also experienced growth, although the growth rates were lower. Real wage growth rate averaged 8% per year. The deficit of the Republican Budget declined from 3.9% of GDP in 1998 to 0.1% of GDP in 2001 and 2002.

The impacts of rapid economic growth on the PAYGO and funded (Accumulative) components of the Kazakhstan pension system have been quite different. The Solidarity system has benefited unambiguously; in contrast, while the Accumulative system generally bas benefited, unanticipated problems have arisen

Impact on PAYGO system: The increase of the formal sector employment along with a high growth of wages resulted in a significant increase in social tax collections (**Figure 7**). On the expenditure side, the number of beneficiaries gradually declined from 1997 to 2003 due to the elimination of favorable terms of retirement and retirement age increases (**Figure 8**). In addition, pension growth rates lagged behind the wage growth in 1997-2001 (**Figure 9**) as pensions were not fully adjusted to inflation over that period.

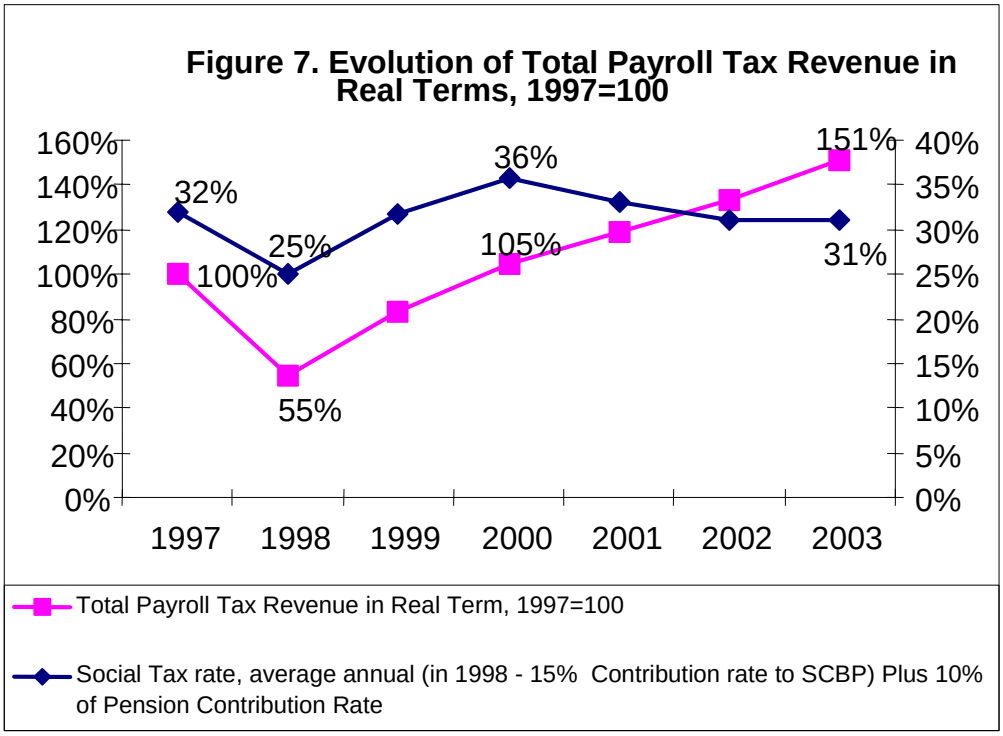


Figure 7. Evolution of Total Payroll Tax Revenue in Real Terms, 1997=100
160%
140%
120%
100%
80%
60%
40%
20%
0%
40%
35%
30%
25%
20%
15%
10%
5%
0%
32%
25%
36%
31%
100%
55%
105%
151%
1997
1998
1999
2000
2001
2002
2003
Total Payroll Tax Revenue in Real Term, 1997=100
Social Tax rate, average annual (in 1998 - 15% Contribution rate to SCBP) Plus 10% of Pension Contribution Rate

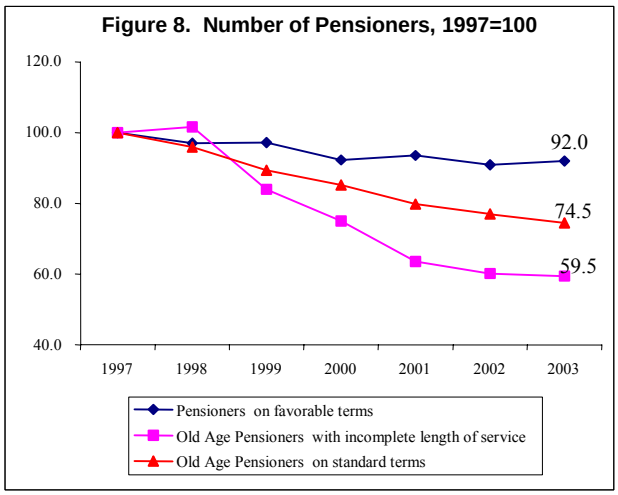
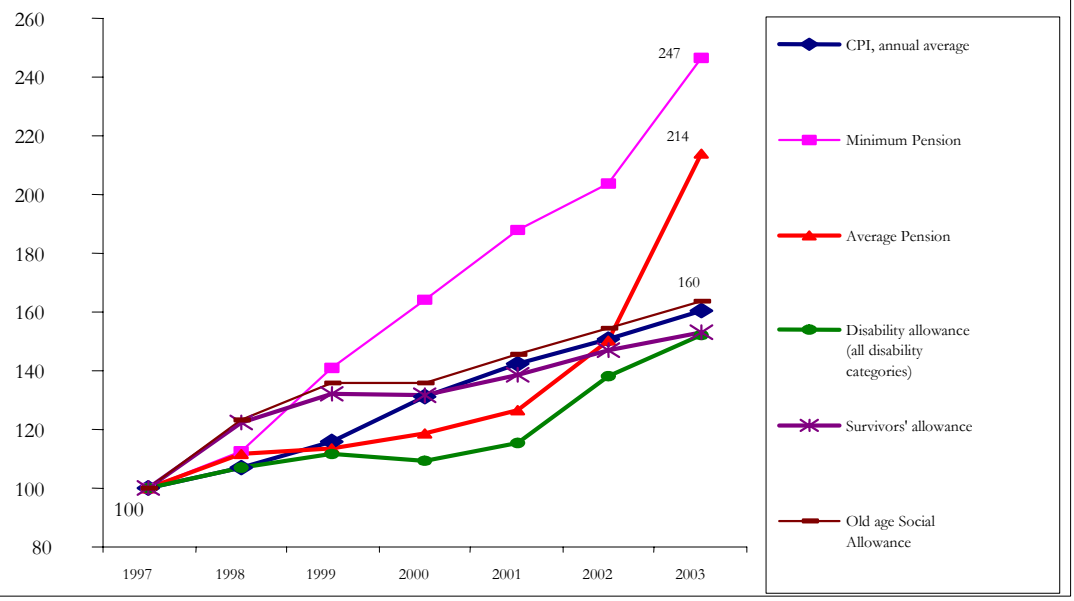


Figure 8. Number of Pensioners, 1997=100
120.0
100.0
80.0
60.0
40.0
92.0
74.5
59.5
1997
1998
1999
2000
2001
2002
2003
Pensioners on favorable terms
Old Age Pensioners with incomplete length of service
Old Age Pensioners on standard terms

Figure 9. Nominal Growth Rate of Beneficiaries' Benefit vs. Inflation Rate during 1998-2003,1997=100



Starting in 2003, the Government took a number of measures to improve social indicators. The minimum statutory pension was increased 27% (much above inflation). Another sharp increase in the minimum pension by 59% was announced to take place in mid-2005. In addition, in 2003, pension benefit of each old-age pensioner who retired prior to 1998 was re-calculated based on 2002 wage in the industry at which a pensioner worked prior to retirement, subject to the statutory wage cap for pension calculation. As a result, in 2003 the average pension for the stock of old-age retirees with complete service years almost doubled (Figure 9).

Effective January 1, 2004, the Government replaced the old uniform social tax rate of 21% by new regressive rates varying from 20% to 7% depending on the individual wage (with higher wages subject to lower tax rates). This was implemented to encourage proper reporting of wages by businesses (small businesses in particular) that tended to underreport their payroll because of the high tax burden.

In 2003, the Government also began considering the possibility of reinstituting the solidarity system in the form of a guaranteed minimum pension (demogrant) to all complete-service contributors irrespective of the accumulative pension (*i.e.*, keeping the first tier instead of phasing it out). This change is highly likely to take place in the future, although the final decision has not been made as of January 2005. Another measure taken in 2003 was the adoption of Law "On Mandatory State Social Insurance" that introduces the second (state-insured) tier for

disability and survivorship benefits, to supplement the respective basic state benefits regulated by Law "on State Social Allowances".

Impact on the Accumulative System: As opposed to the Solidarity system, the high economic growth of the past 4 years has been a mixed blessing for the Accumulative system. Increased oil revenues resulted in a significant decline in budget deficits and, therefore, in the government need to issue debt. As a result, the government started issuing mostly short-term debt to fund short-term funding needs that occurred due to the seasonal fluctuations in government revenues.

Since the major source of growth in the oil sector was funded through direct foreign investment, this growth did not result in an increase in the supply of corporate debt or equity instruments. At the same time, liquid funds were growing in both banking and pension fund sectors. Because of shortage of sound investments in other-than-oil sectors of the economy, banks could not significantly increase their loan portfolios and had to raise their securities portfolios instead, which added to growing pension fund demand for financial instruments.

Excess demand for securities resulted in negative real returns on short-term instruments. The situation was further exacerbated by the low rates of return in international markets, so that Kazakhstan's pension funds could not easily escape low domestic demand for funds and hence low domestic interest rates by buying foreign assets – even though the proportion of foreign assets a pension fund may hold in its portfolio is now 25%.

As a result of Kazakhstan's high economic growth and sharp the increase in dollar supply in the economy (from oil revenues), the tenge significantly appreciated against dollar by 2.4% in 2003 and 9% in 2004. While inflation stayed at about 7% per year, this resulted in low demand for foreign investments and local dollar-denominated securities and increased demand for investments denominated in local currency. **Table 4** shows the structure of the pension fund investment portfolios in 1998-2004.

Table 4. Portfolio Structure of Accumulation Pension Funds, 1998-2004

	1998	1999	2000	2001	2002	2003	2004
Treasury Securities	**95.71**	**91.28**	**70.05**	**53.77**	**35.64**	**29.94**	**16.92**
including :							
short-term (МЕККАМ) – T-bills	74.82	4.16	1.04	0.14	0.09	1.26	1.76
Bonds denominated in foreign currency (МЕКАВМ)	-	4.20	0.71	--	--	--	--
Medium-term (МЕОКАМ)	5.61	--	1.90	5.09	8.03	15.81	14.43
Long-term (МЕОКАМ)	-	--	--	4.47	3.24	0.05	--
CPI-linked (МЕИКАМ)	-	--	0.47	1.12	1.72	0.63	0.21
Bonds denominated in foreign currency (АВМЕКАМ)	-	47.26	--	--	--	--	--
Eurobonds (2002)	15.27	17.02	9.35	8.17	--	--	--
Eurobonds (2004)	-	18.63	20.80	14.32	10.11	3.30	--
Eurobonds (2007)	-	-	35.79	20.46	12.45	8.89	0.52
NBK Notes (Short-term)	**1.96**	**2.40**	**4.33**	**4.90**	**12.24**	**23.18**	**36.60**
Municipal securities	**-**	**0.29**	**0.23**	**0.63**	**0.45**	**0.21**	**0.03**
Foreign Non-government Securities	**-**	**0.40**	**2.44**	**2.99**	**3.95**	**4.22**	**1.81**
Foreign Government Securities	**-**	**-**	**-**	**-**	**3.69**	**2.39**	**0.14**
Securities issued by international financial organizations	**-**	**0.59**	**4.08**	**3.56**	**6.45**	**2.92**	**1.25**
Non-government Securities by domestic issuers	**0.37**	**1.96**	**15.89**	**23.22**	**27.93**	**29.73**	**35.58**
including :							
Stocks	0.37	0.67	2.14	3.56	3.82	3.98	6.82
Bonds	-	1.29	13.75	19.67	24.12	25.75	24.82
including: mortgage-backed securities	-	-	-	-	0.02	0.82	3.94
Deposits at commercial banks	**0.32**	**1.64**	**2.55**	**8.44**	**8.78**	**6.85**	**10.90**
Funds at investment account and other assets	**1.64**	**1.45**	**0.42**	**2.49**	**0.86**	**0.56**	**0.71**
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Pension funds had to invest close to 50% of the portfolio in short-term instruments (T-bills, NBK notes and deposits at commercial banks) in 2004 because of the lack of longer-term investments. **Table 5** summarizes annual rates of return on NPF pension assets and government securities.

Table 5. Rates of Return on Pension Assets, Short-Term Treasuries and NBK Notes

	Average Weighted Rate of Return on Pension Assets of NPF	T-Bills (MEKKAM)			NBK Notes			Medium-term Treasuries			CPI, annual average
		Share in APF investment portfolio (%)	Effective annual rate of return		Share in APF investment portfolio (%)	Effective annual rate of return		Share in APF investment portfolio (%)	Effective annual rate of return		
			nominal	real		nominal	real		nominal	real	
Dec-98	17.8	74.82	**20.1**	**13.0**	1.96	**26.9**	**19.8**	5.61	**16.9**	**9.8**	107.10
Dec-99	32.9	4.16	**17.3**	**9.0**	2.40	**14.28**	**6.0**		**14.7**	**6.4**	108.30
Dec-00	6.7	1.04	**13.5**	**0.3**	4.33	**7.87**	**(5.3)**	1.90	**17.5**	**4.3**	113.20
Dec-01	8.2	0.14	**6.6**	**(1.8)**	4.90	**5.8**	**(2.6)**	5.09	**13.6**	**5.2**	108.40
Dec-02	5.83	0.09	**6.7**	**0.8**	12.24	**5.93**	**0.0**	8.03	**10.1**	**4.2**	105.90
Dec-03	-0.34	1.26	**5.9**	**(0.5)**	23.18	**5.18**	**(1.3)**	15.81	**7.1**	**0.6**	106.44
Oct-04	-3.91	3.39	**4.7**	**(2.2)**	31.62	**4.62**	**(2.3)**	15.01	**6.4**	**(0.5)**	106.90

Normally, rates of return on short-term treasuries are highly correlated with CPI and are largely determined by inflation expectations. According to the adaptive expectations theory, the inflation expectations of investors must have been be at the level of about 6-7%. It is therefore quite unusual for a government to sell short-term securities with below-expected-inflation nominal rates of return. However, as Moody (2005) discusses in detail, world real interest rates are currently extremely low, and Kazakhstan undoubtedly has excess liquidity at present.

From an economic standpoint, the events of recent years are readily explicable. Kazakhstan embarked on a forced saving plan just as its natural savings rate soared, with oil revenue shrinking government dissavings and adding to corporate retained earnings. Domestic investment demand has grown, but not nearly as rapidly. Increasing non-speculative investment demand therefore should be a policy priority.

The nation's pension funds also can be accused of managing their assets poorly, since assets and liabilities are mismatched. Confident that the tenge would continue to depreciate against the dollar, funds tended to hold dollar-denominated assets. Their liabilities, however, are denominated in tenge. As the dollar has declined, pension funds then find themselves exposed. This is not at present a critical problem, since payments are still low. However, it does point to an unanticipated risk, and hence to a need to more carefully hedge assets.

IV. KYRGYZSTAN: NOTIONAL DEFINED CONTRIBUTION REFORM AND RETREAT

As Kazakhstan prepared its Accumulative system reform, Kyrgyzstan also found itself dealing with similar social budgetary problems, but with a more limited set of solutions. The setting, the proposals of different international institutions, and their anticipated consequences are discussed in detail in Becker and Paltsev (2001 and 2004). The presentation here is more interpretative, since published details already exist.

Kyrgyzstan's economic decline abated in 1996, and 1997 was a year of significant recovery. This was a period of optimism, and the Kyrgyzstani Government, World Bank, and other international bodies began exploring structural problems. Chief among these was the large social transfer problem in a country that was extremely poor. **Tables 6** and **7** summarize the fiscal situation confronting the Government. Some 12% of the Kyrgyzstani population was receiving a pension, the system was running a large and growing deficit, and in any case was dependent on transfers from the Republican budget.

Table 6 Kyrgyzstan pensioner population prior to reform (thousands)

	1994	1995	1996	1997	% of all Pensioners, 1997
Old Age	448.7	443.9	439.3	437.8	80.7
Disabled	45.4	46.0	49.8	53.0	9.8
Survivors	44.8	46.0	48.6	50.2	9.3
Total	541.0	537.0	539.9	542.7	100.0
Population	4450.7	4512.4	4574.1	4634.9	
Old Age Pensioners as a % of Population	10.0	10.0	9.8	9.4	
Total Pensioners as a % of Population	12.2	11.9	11.8	11.7	

(Source: Paltsev, 1999)

Table 7. Kyrgyzstan Social Fund Revenues (million *som*)[9]

	1994	1995	1996	1997	1998	1999
Payroll Taxes	598.2	1111.5	1471.6	1770.1	2449.9	2481.9
State subventions and other revenues	114.3	201.7	397.3	564.0	540.3	502.0
Total Social Fund revenue	712.5	1313.2	1868.9	2369.3	2990.2	2983.9
Transfers from State Budget as a % of Total SF Revenue	16.0	15.4	21.3	23.8	18.1	16.8
					1998 (est)	1999 (plan)
Uncovered Deficit (Arrears)	18.4	23.7	79.4	8.0	194.0	262.6
State Subventions	-	-	-	446.2	344.0	300.0
Total Deficit				454.2	538.0	562.6

(Source: Paltsev, 1999)

The World Bank was the first international organization to become involved in a major way. The Bank and Kyrgyz Government worked out an extensive set of reforms, including measures to reduce arrears, eliminate in-kind payments, improve compliance, and move toward a national PIN number system with individual accounts. More controversially, the reform also included a gradual increase in retirement age to 63 for men and 58 for women – a move that was profoundly unpopular (as the June 15, 1998 headline in the nation's largest newspaper, *Vecherni Bishkek*, termed it, "Stolen Old Age!"). The reforms also committed Kyrgyzstan to move to a NDC system, which attracted far less commentary than the rise in retirement age, perhaps in part because there was skepticism over the Social Fund's ability to create and operate the requisite underlying information system.

The skeptics proved correct with respect to the NDC system. While the Social Fund did initiate pilot projects in which they created individual accounts, the database requirements were not funded externally, at least initially, and the Kyrgyzstan Government did not have the capability to fund the necessary IT infrastructure itself. At the same time, the Government was leery of committing to a high rate of return, and so credited individual accounts with nominal earnings below inflation rates.

[9] Pension Fund arrears are defined as pensions that are supposed to be paid in a given year but are not paid. It should be noted that numbers for 1997 and 1998 provided by the SF, as its estimates are questionable. Numbers for 1999 are from the Law on the budget of SF for 1999. The total SF deficit (totally attributed to Pension Fund) is the sum of state subventions and uncovered deficit and, as such, for 1999 total deficit is planned at 562.6 million som.

TABLE 8. URBAN AND RURAL CURRENT BALANCES OF THE PENSION FUND
(numbers are in million *som*; figures in italics below show % of GDP

	Total	Identical fertility		Differential fertility	
	BASELINE	Urban	Rural	Urban	Rural
1997	-750 *-2.5*	99 *+0.3*	-849 *-2.8*	99 *+0.3*	-849 *-2.8*
2000	-923 *-2.1*	163 *+0.4*	-1,102 *-2.5*	164 *+0.4*	-1,103 *-2.5*
2010	-782 *-0.9*	1,078 *+1.2*	-1,900 *-2.1*	1,097 *+1.2*	-1,947 *-2.1*
2020	-3,856 *-2.3*	1,679 *+1.0*	-5,550 *-3.3*	1,637 *+1.0*	-5,586 *-3.4*
2030	-12,339 *-4.1*	2,087 *+0.7*	-14,415 *-4.8*	1,331 *+0.4*	-13,658 *-4.6*
2040	-41,601 *-7.8*	-2,412 *-0.4*	-39,239 *-7.3*	-5,681 *-1.1*	-36,555 *-6.8*
2050	-123,470 *-12.8*	-22,100 *-2.3*	-101,141 *-10.5*	-32,496 *-3.4*	-93,003 *-9.6*

(source: Becker and Paltsev, 2001; forecasts based on PROST 6 model using ADB parameters).

Becker and Paltsev (2001) argue that the Solidarity system in a country such as Kyrgyzstan should not be viewed as a single system. Rather, as **Table 8** demonstrates, both current and projected future Kyrgyzstan Pension Fund balances differ dramatically if one divides the country into urban and rural areas. Taken as a whole, the 1997 Pension Fund deficit was about 2.5% of GDP (including budgeted transfers from the Republican government). However, the PAYGO system in urban Kyrgyzstan was actually in surplus, and was projected to remain in surplus for the next 40 years, even at present rules (though increasing the retirement age as committed). The deficit in fact is driven entirely by the large transfer to rural areas, which even in 1997 was equal to nearly 3% of GDP (or about 6.5% of rural GDP).

Identifying the source of Kyrgyzstan's deficit is quite different from doing something about it. If Kyrgyzstan is poor, rural Kyrgyzstan is very poor, and pension payments are a vital component of rural incomes. Moreover, Kyrgyzstan is roughly two-thirds rural, and parliamentarians from rural areas would strenuously oppose removal of this transfer. In pluralistic Kyrgyzstan, this opposition is sufficient to block major reforms to the pension system. However, it seems likely that even in rather less democratic Uzbekistan and Tajikistan, the critical role played by the Solidarity pension system in transferring resources to poor rural areas will serve as a strong constraint to dismantling the current system.

The Solidarity system deficit forecasts in Table 8 point to another key feature, namely that of shrinking pension budget deficits during the period from 1997 to roughly 2008. This

period corresponds to retirement of small wartime birth cohorts. One way to look at this is that the large deficits of the mid-1990s were temporary, driven by large retirement populations and economic implosion, so that there is little need to panic and introduce rushed reforms. Alternatively, one could view the period 1997-2008 as a window of opportunity during which any transition costs or dislocations of moving to a new pension system would be relatively modest.

As noted, Kyrgyzstan also chose to introduce a major pension reform. In 1996-1997, Kyrgyzstan adopted two major laws to reform the pension system: ON STATE PENSION SOCIAL INSURANCE, and ON NON-GOVERNMENT PENSION FUNDS IN KYRGYZ REPUBLIC. The state pension law regulates old age, disability and survivorship benefits. The major changes to the old social security system are as follows:

- Every January 1 of each year, from 1999 to 2006, the retirement age is increased by 4 months from 60/55 to 63/58 years for males/females.
- The individual pension is divided into two parts: base and insured. The **base pension** is a part of the individual pension guaranteed and set by the Government. The same amount is paid as a base pension to all retirees with complete contribution years (25/20 years for males/females) in the state social insurance system. The **insured pension** requires individual record-keeping of participation in the system and is calculated as the amount accumulated at the individual "notional" account multiplied by an actuarial coefficient.[10] The coefficient is to be set annually based on the age of retirement and life expectancy at that age according to the population statistics provided by the National Statistical Agency of the Kyrgyz Republic. The Government adjusts the amount accumulated at an individual account annually. The adjustment shall not exceed 75% of the nominal wage growth in the respective year.
- Disability benefits are set at either 100% or 50% of the old-age benefit depending on the severity of disability. The eligibility to receive a disability benefit depends on a specified number of insured years that varies from 1 to 5 years for different age groups.
- Survivorship benefits are set at the levels from 50% to 150% of the full disability benefit (depending on the number of dependents) that a deceased breadwinner would receive if he/she were to become disabled instead of dying.

[10] Prior to the establishment of individual record-keeping systems the insured part is calculated as 1% times the number of service years, times monthly wage. At that stage, a cap of 15 minimum statutory wages applies for pension calculation.

- The state pension law declares the right of each individual for a voluntarily state pension social insurance introduced in addition to the mandatory system.

This design amounts to a three-pillar system, with the second pillar (the insured part) being a notional defined contribution accumulative account (NDC) system. Such a system is run by the state, and can be seen either as a Solidarity system that credits individuals primarily or exclusively for their recorded contributions, or equivalently as a publicly run Accumulative system that only buys government debt. In fact, the system has remained a 100% PAYGO system, since neither the base pension nor the insured parts are funded. Regarding the third (voluntary) pillar, in the Central Asian context, voluntary, private, funded, DC arrangements are virtually meaningless, since there is little demand for them. These anticipated private funds were regulated by the second law, which regulates the establishment, capital requirements, state registration and licensing, as well as operational and investment activities of non-government pension funds.

Despite having one of the worst tax compliance records in Central Asia, the Kyrgyzstan Government chose to maintain all major favorable terms of retirement that existed in the Soviet social security system (*i.e.*, early retirement for a number of occupations). The Government also maintained the liberal notion of service years including, for example, years spent in university study and maternal leave.

In 2004, the contribution rate to the State Pension Insurance Fund was 29%, with 21% paid by employer (of which 3% went to the Solidarity base part and 18% to individual insured part) and 8% paid by employee (with 3% going to the Solidarity part and 5% to the individual insured part). From 1997 to 2004, the total (base + individual parts) employer contribution rate decreased from 29% to 21%, and employee contribution increased from 2% to 8%. Indeed, Kyrgyzstan provides an excellent example of the tendency in former Soviet republics for social tax rates to be constantly adjusted (**Table 9**). These ongoing shifts obviously do little to instill faith in the public pension system, and their high levels provide strong incentives to evade obligations.

TABLE 9. Allocation of Social Fund contributions to Government Social Insurance programs, 1994-2004 (All numbers expressed as percentage of net wage)

		total	including to:							
			Pension Fund	including to:		Social Insurance Fund	Employment Fund	Medical Insurance Fund	including to Medical Insurance of	
				Solidarity part	individual part				Employees	Pensioners
1994	Total	35.5								
	Employer's contributions	33	28.05			4.95	1.5			
	Employee's contribution	2.5					0.5			
	including working disabled									
1995	Total	35.5								
	Employer's contributions	33					1.5			
	Employee's contribution	2.5					0.5			
	including working disabled									
1996	Total									
	Employer's contributions	33					1.5			
	Employee's contribution	2.5					0.5			
	including working disabled									
1997	Total	39								
	Employer's contributions	36.5	29.04			3.96	1.5	2	36.5	
	Employee's contribution	2.5	2				0.5			
	including working disabled									
1998	Total	39								
	Employer's contributions	34	27.5			3	1.5	2	34	
	Employee's contribution	5	4.5				0.5			
	including working disabled	2	1.5				0.5			
1999	Total	39								
	Employer's contributions	33	26.5			3	1.5	2	33	
	Employee's contribution	6	5.5				0.5			
	including working disabled	2.5	2				0.5			
2000	Total	38								
	Employer's contributions	31	25.5			2	1.5	2		
	Employee's contribution	7	6.5				0.5			
	including working disabled	2	2							
2002	Total	33								
	Employer's contributions	25	21.5	subject to supervisory board decision		1	0.5	2		
	Employee's contribution	8	7.5				0.5			
	including working disabled	2	2							
2003	Total	33								
	Employer's contributions	25	21.5			1	0.5	2	1.5	0.5
	Employee's contribution	8	7.5				0.5			
	including working disabled									
2004	Total	34								
	Employer's contributions	24	21	3	18	1		2		
	Employee's contribution	8	8	3	5					
	including working disabled	2	2							

Seven years after its initial reform, Kyrgyzstan has not effectively dealt with its pension problems. Private, voluntary pension funds have an insignificant impact, though the Zhogorku Kenesh as of 2004 was devoting effort to rewrite its bill on on-government pension funds (Alymbekov, 2004). One would expect this to have little impact – though there might be a very modest effect if Kazakhstani private pension funds were allowed to operate in Kyrgyzstan.

It is difficult to imagine substantial achievement in providing larger Solidarity pensions, much less adding an effective NDC second pillar, and certainly before developing a third private

voluntary pillar, without greater economic recovery. As we have noted above, Kyrgyzstan's real GDP lies far below its Soviet-era peak. Although real GDP at factor cost was 38% larger in 2002 than in the 1995 nadir (ADB, 2003), this level was still 30% below the 1990 figure. In terms of per capita GDP at official exchange rates, Kyrgyzstan's level was only one-fifth that of neighboring Kazakhstan in 2001 (World Bank, 2003), and the gap has to a factor of roughly 1:8. While at PPP exchange rates the gap is much narrower, with per capita income in Kyrgyzstan roughly 2/5 that of Kazakhstan's level by this measure in 2001, the gap continues to widen. The PPP development measure suggests that Kyrgyzstan is slightly better off than India or Bolivia, but below Indonesia or Ecuador – none of which have comprehensive welfare systems.

Yet Kyrgyzstan has taken only modest efforts to reduce its pension burden. Data from www.cisstat.com indicate that, while the numbers receiving state pensions declined 12.0% in Kazakhstan between 1998, at the outset of reforms, and 2003, the decline was only 4.2% in Kyrgyzstan, and that number would be due mainly to the wartime cohort retirement effect and retirement age increases. Average monthly pension in dollar terms was about the same in 2003 as in 1998 in both countries (about $54 in Kazakhstan, and just under $13 in Kyrgyzstan); since Kazakhstan has had faster growth, this implies a far larger replacement rate decline there than in Kyrgyzstan.

This continued commitment to maintaining social spending means that in 2002, some 15.0% of government expenditures went to social security and welfare (ADB, 2003), a *rise* from 13.0% in 1998, though below the utterly unsustainable 20.4% recorded in 1995. Another 9.8% of 2002 public expenditures went to public health. It should be emphasized that these are large amounts for a country at Kyrgyzstan's level of economic development, and together they imply that expenditures on other areas such as education (22.1%) and economic services (12.5%) must be constrained. To get a sense of how these numbers look, let us compare them to public expenditure shares in Malaysia, a wealthier but comparably pluralistic nation. There, social security and welfare accounts for only 4.6% of government expenditures; health spending is 6.4%. However, education (28.1%) and economic services (17.6%) receive much larger shares.

These figures point to Kyrgyzstan's dilemma. There is enormous pressure from the electorate to maintain social spending. As a poor nation, the intended target population is needy by any reasonable standard; as most have few viable alternative income sources, or means of purchasing healthcare, their claims are socially legitimate. Yet the opportunity cost of these

expenditures is high, and likely not well appreciated. Educational standards have greatly deteriorated in Kyrgyzstan since independence, and, obviously, future productivity depends on the quality of today's schooling. At the same time, economic growth requires infrastructure development and maintenance: joining the WTO is not enough.

IV. UZBEKISTAN'S NEW ACCUMULATIVE SYSTEM

Uzbekistan has long resisted pension system reforms of the sort that occurred in Kazakhstan and Kyrgyzstan, and, for that matter, has resisted a wide range of liberalizing reforms. A very tentative step was taken this past January, however, when one percentage point of individual payroll taxes were to be directed to individual accumulation accounts.[11] These accounts are to be on top of the standard Solidarity system.

How this system progresses of course remains to be seen, but there is unquestionably an air of unreality about it. Accumulations equal to one percent of one's net income will not grow into a large amount in any country. This is especially true in Uzbekistan, where wages are low, and where fluctuating laws and still imperfect property rights encourage employers and employees to hide incomes. As this 1% tax is an obligation placed on employers, it adds further incentive for employers to understate employment and wages (Asrorov, 2005).

The question of interest concerns why Uzbekistan's policymakers have opted for such a tentative approach. A possible answer is that the problem is one that is looming, but not yet severe. As the figures in Section 1 indicate, Uzbekistan has a young population by the standards of its northern neighbors, and hence a low dependency rate. This will eventually change, but not for some time. On the contrary, in comparison with 1989, Uzbekistan's old age dependency rate has been stable at 7% (Table 1), while its child dependency rate has fallen from 75% to 60%. This latter decline is driven by a precipitous fall in TFRs (Figure 2), which, however, still remain well above replacement levels.

On the other hand, effective dependency ratios (Table 3) have risen, as the size of the formal sector labor force declines. Furthermore, Uzbekistan has been more determined than its other Central Asian neighbors to maintain replacement rates, which are far higher than in other

[11] The new law itself is available online (Republic of Uzbekistan, 2005). An English language summary appears in UzReport.com (2004). For an analysis of the new system, see Mukhitdinov (2005). For a far more negative interpretation, see Asrorov (2005). Zabikhodzhaev *et al.* (2002) provide underlying analysis.

republics (Figure 5; also see Zabikhodzhaev *et al.*, 2002, from whom all uncited figures in this section are drawn). This requires high payroll taxes (37.3 payroll tax from employers, and 2.5% from employees); as roughly 11% of the population receives a pension, pension expenditures must comprise an important share of the government budget – though at present this figure appears to have increased to 13%.[12] The system is further complicated by agricultural reforms in Uzbekistan: as private farming emerges, most individual farmers prefer not to participate in the social welfare system, and engaging the private farming sector is an important task.

The Government's response, as outlined in a law (Republic of Uzbekistan, 2005) and supporting resolution, both enacted in December 2004, is to open individual accumulation pension accounts for all employed persons at the state owned Halk (Narodnyi) Bank. In principle, the safety of these accumulated funds will be guaranteed by the state through Ministry of Finance and Central Bank. The Halk Bank is required to accurately manage these accounts, to pay an interest rate not less than 75% of the National Bank's refinance rate, to make payments of accumulated pensions to citizens at their places of residence, and to regularly provide information to asset holders about the status (and presumably, value) of their individual accounts. The Government is considering "recommending" that Halk Bank provide all these services free of charge in exchange for extension of its current tax privileges for an additional three years.

The law and resolution envision the development of a three-pillar system, ostensibly along the lines of the original James Report, with full operation by 2007. The new pension system contains a minimum pension, guaranteed by the state and fixed by the government, paid in the same amount to all pensioners who are entitled to a full pension, irrespective of their Solidarity contributions. This corresponds to the "demogrant" concept now popular at the World Bank. In principle, the state-guaranteed minimum pension will be funded by employers' contributions. This in turn will be supplemented by the Accumulative component held at the Halk Bank, which is directed to maintain individual accumulation accounts for each contributing worker.

It is difficult to imagine that this reform was undertaken with the support of the World Bank, Asian Development Bank, or any of the bilateral aid agencies, and we are unable to find any record suggesting otherwise. In part, the international finance and bilateral aid agencies presumably are more concerned with more fundamental issues in Uzbekistan, including

[12] We are grateful to Eshrev Trushin for this assessment, as well as for the content of the following two paragraphs.

economic liberalization, currency convertability, increasing transparency, agricultural development, and private business development. More fundamentally, international advocates of Accumulative system reforms would expect something more than an almost nominal 1% contribution, and likely would be unenthusiastic about having a single fund holder. Finally, the Uzbekistan Government has long followed self-designed economic policies, and is wary of wholesale adaptation of new policies from the outside.

While the Uzbekistani Government is illiberal and not terribly receptive to foreign advice, this story is not a simple matter of an obstinate government of a remote country rejecting competent international advice. On the contrary, the enacted law has several "best practice" measures not commonly adopted elsewhere, starting with the demogrant. In addition, the law allows for voluntary private contributions (the third pillar). It also makes all contributions exempt from taxation (Article 9), and in so doing does not distinguish between mandatory and voluntary contributions. It further establishes a simple payment mechanism (Article 19): retirees are entitled to receive either a lump sum withdrawal at retirement, or they may opt for scheduled withdrawals of varying duration, arranged by them in agreement with Halk Bank. Unexhausted funds are passed on to survivors as a bequest in the event that that the holder of an account dies.

One can see the Uzbekistan Government's strategy as one that forces each worker to make a nominal contribution, which in turn means that Halk Bank will create an individual account. The second pillar in effect sets up the infrastructure: more substantial contributions are then up to the individual. Given tax exemption, it is possible that more prosperous Uzbekistanis will find these individual accounts to be highly attractive (and, conceivably, a mechanism for cleansing ill-gotten money). In a flight of fancy, one could almost describe this as a libertarian pension welfare system, with a small demogrant, a minimum mandatory contribution, and incentives to build individual accounts.

This, of course, would be an overstatement. There is only one bank authorized to receive and manage these contributions (though it is not impossible that Halk Bank could offer a range of funds). Exactly what assets are permitted investments by Halk Bank remains unclear: Article 28 states simply that diversification requirements, the maximum percentage held as shares, and the list of acceptable instruments "will be determined by the Ministry of Finance and the Central Bank." In the current economic environment, it seems likely that firms, workers, and those with

large, undeclared savings will be cautious about placing their assets in any bank, much less a state-owned one: the rules are always subject to change.

It is perhaps best to regard the current reform as potentially positive, but secondary in importance to other events in the Uzbek economy and polity. Accumulative system growth, whether mandatory or voluntary, will require further economic liberalization, private sector development, and overall economic growth (ignoring the remote chance that Halk Bank is allowed to hold international index funds). The basic PAYGO system is not in serious trouble, but it is destined to be a greater social burden in the future. This is ensured by population aging, coupled with the same rise in premature retirement seen elsewhere in Central Asia (Zabirhodzhaev *et al.*, 2002) and continued Soviet-era early retirement dates.

V. IMPENDING REFORM IN TAJIKISTAN – THE DISTANT HORIZON

We have seen in the preceding sections that Tajikistan might have suffered most of all from the collapse of the USSR. Clearly, its capacity to operate a national social security system is extremely limited, as one would expect from a country with a 2001 GDP of USD 1.1 billion, implying per capita GDP of $170, or $1150 at PPP exchange rates (World Bank, WDR 2003), which places Tajikistan in the global rankings between Kenya ($1020) and Uganda ($1250). While the economy grew by more than 62% in real terms from 1999-2004 (www.cisstat.com), this mainly reflects the extent to which the economy had declined: even in PPP terms, per capita income in Tajikistan is at best one-sixth that of Kazakhstan.

What distinguishes Tajikistan from other very low-income economies is that it retains the core of a comprehensive welfare state. As can be seen from **Table 10**, more than one half million people – some 9% of Tajikistan's population – theoretically receives a state pension. These payments are not large, averaging only $2.54/month in 2001 and $4.27/month in 2003. However, in an economy of very high unemployment and in which many have no cash income, these payments almost certainly are important to many.

Table 10. Pensions and Pensioner Population, Tajikistan 2001-2003					
		Numbers (thousand)		Average monthly pension (somoni)	
		2001	2003	2001	2003
Pensioner population (thousand)		556.1	534.4	6.01	13.07
Of which:	Old age pensioners	353.6	334.3	6.05	12.02
	Disabled	76.1	78.2	9.49/7.35	18.72/19.75
	Loss of breadwinner	60.0	58.3		
	Years of service	4.1	2.8		
	Social allowances	62.3	60.8	1.90	5.34
National population (thousand)		6,200.0			
Somoni/dollar				2.37	3.06
Notes: We are grateful to Ilhom Bobiev of the National Bank of Tajikistan for providing these data. Disability pension payments are for workplace injuries/general illnesses.					

It is difficult to imagine running a comprehensive welfare state in a country as poor as Tajikistan, even given its high rate of economic growth. We do not have information about payment arrears, payment in kind, and complete failure to pay (which could occur if responsibility takes place at the regional level), but it seems likely that such problems do exist. Given that the Tajikistani Government is focusing primarily on economic development, it almost certainly is interested in reducing its social commitments, though this should be taken as speculative rather than informed comment. Toward that end, the Government is now committed to a gradual introduction, in stages, of a pension guarantee system, based on (a) a guaranteed state pension to members of the older generation, and (b) an accumulative pension system for current workers.[13]

To our knowledge, this commitment is largely notional. Virtually no published news reports are available, in contrast to the widespread publicity surrounding the new policies in Uzbekistan, or even the limited changes in Kyrgyzstan. The only published document we found that mentions pension reform is a World Bank (2004) document in English, which notes tersely (p.32) "Decision of reforming the social insurance pension systems was adopted by the Government in 1999. Implementation of this measure is delayed for lack of funds." It goes on to mention that the Government has requested Bank support in its 2004-2006 public investment program for a personalized registration system and supporting information system infrastructure. The World Bank as of June 2004 did not make such a commitment, and it would appear that

[13] We are grateful to Ilhom Bobiev of the National Bank of Tajikistan for this information.

such support is not imminent. Rather, the Bank's social policy focus is on developing capacity to meet the needs of the most destitute, building public sector delivery capability, dealing with health and education crises, and designing targeted assistance programs to reach the most vulnerable (World Bank, 2003a). By definition, pension and other social welfare payments mechanisms hit a broad spectrum of the population: being realistic, the international agencies expect to emphasize narrower targets for some time. Neither of the core World Bank strategy reports on Tajikistan expect to further pension reform as an element of the anti-poverty strategy. Gleason (2001) provides a detailed discussion of the various international agencies' development projects and policy objectives in Tajikistan. These are wide ranging, from drug control, to improved governance, to privatization, agricultural reform, and health measures – but pension reform is not among the many items analyzed.

The surprising feature of Tajikistan's pension system is not that reform is notional rather than imminent, but rather that the Government continues to make payments of any sort. Presumably, the practice of making small but widespread payments cannot be abandoned for political reasons: not only would it be highly unpopular, but it might signal further weakness and possible collapse of the Rakhmonov administration. Given that the Tajikistani state is "not fully consolidated" (in the diplomatic words of Luong, 2003), any demonstrated further loss of capacity could be politically disastrous. Conversely, the rise in average pensions – tiny in dollar value, but large in percentage increase terms – may signal the gradual reestablishment of central state capacity, and do so more effectively than any alternative expenditure.

VI. IS THE RUSH TO REFORM NECESSARY?

Three of Central Asia's nations have now embarked on substantial pension reforms. The diversity of the approaches is striking. However, while the new Uzbekistan model contains many excellent design features, it does not address the underlying issue of long run Solidarity system solvency under the current rules. This criticism may turn out to merely reflect a short-term problem – though it is one that has been recognized for some time. The reforms in Kyrgyzstan have been bolder, if only because they came earlier, and involved an increase in retirement age. Nonetheless, one cannot but conclude that these reforms do not come close to addressing the problem of unsustainable obligations.

Kazakhstan's reform, in contrast, does appear to have dealt with the pension burden in a sustainable manner. While coherent design has played a role in this, the combination of high oil and minerals' prices, highly competent execution of the reforms, and transparent, efficient regulation and management of the funds all were critical. These features, however, do not make Kazakhstan a role model: other countries cannot count on an export boom, and few can expect adroit implementation of a radically new system. Moreover, the successes to date have engendered a new set of problems which, while not fatal, also cannot be ignored.

Many of the pension system reform decisions were made by Central Asia's governments in moments of great pressure, if not crisis, and it is easy to note flaws in these systems' designs. However, this is cheap criticism, and in any event, the past cannot be undone. We do believe that many decisions were taken in excessive haste, and that the remedy for this is ongoing, deliberate analysis and debate in each country. In Kyrgyzstan and Uzbekistan, and in other low-income countries with substantial welfare states but without immediate prospect for substantial financial sector development (including Tajikistan and Turkmenistan), the challenge is to continue to improve the Solidarity system. The essence of this will be to shrink total costs while minimizing harm to needy individuals, and this means improved targeting. It also means clearly delineating beneficiaries of various programs, and explicitly rather than covertly directing resources toward some groups at the expense of others. Put differently, the choice among expenditures on education, public health, and pension payments – and showcase investments – should be made openly.

In Kazakhstan the challenge is quite different. Kazakhstan is a middle-income country likely to become and upper-middle country before long, and at present on track to reach developed country status by its target date, 2030. As Korea, Taiwan, and Singapore have found already, though, progress becomes increasingly difficult, and apparent shortcuts often are simply dead-ends. The rapid growth of recent years has been extremely uneven, giving Kazakhstan many features in common with Latin American countries. To continue to enjoy rapid growth, quality education, skills, and infrastructure must reach virtually the entire population, while economic diversification is needed to reduce dependency on a few sectors, and poverty pockets must be combated. There are many elements to this; from the perspective of pension reform, the challenge is to ensure that the Accumulative system does not create a large number of elderly poor alongside a moderate number of prosperous retirees, and also to generate investment demand to absorb the new domestic savings pools.

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