

# Working Paper

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**Pension Reform in the Baltics, Russia, and other Countries  
of the Former Soviet Union (BRO)**

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**Abstract**

Despite their increasing fiscal burden, the public pension systems of BRO countries are failing to provide adequate social protection. Although there is a broad consensus about the need for pension reforms, BRO countries are debating whether to embark on systemic reforms or whether to correct the distortions in their pay-as-you-go (PAYG) pension systems. The paper reviews the measures taken by BRO countries during the transition period to address their pension problems and examines the options for further reform. It makes a strong case for a gradual reform approach aimed at establishing a multi-pillar system over the long run, but initially focused on implementation of “high-quality” reforms of the PAYG system.

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## SUMMARY

The pension systems now in place in the BRO countries are run on a pay-as-you-go (PAYG) basis, with pension benefits of current pensioners financed by current payroll contributions. Despite their increasing fiscal burden, pension systems in most BRO countries have become crude social safety nets, providing small amounts of benefits to a large section of the population. Although some of the problems facing the BRO countries are common to all countries operating large-scale PAYG systems, they are aggravated by some circumstances specific to the transition process. On the revenue side, collections have been undermined by low tax compliance and shrinking contribution bases. On the benefit side, incentives for early retirement have led to a marked increase in the number of beneficiaries relative to contributors. The key long-run challenge is whether the BRO pension systems will be sustainable in the face of rapidly aging populations.

So far, the typical short-term responses of the BRO countries to the increasing financial stresses on pension funds have been to compress benefits, increase contribution rates, and accumulate pension arrears. Although there is consensus on the need for pension reform, widely different reform options are under consideration by BRO countries. One possible approach is to reduce expenditures and increase revenues without changing the basic structure of the PAYG system (the piecemeal reform option). Another broad approach is to replace the current systems with multi-pillar systems that include privately-managed funded pension plans (the systemic reform option).

While some BRO countries have begun to address the shortcomings of their PAYG pension systems through piecemeal reforms, efforts to embark on systemic reform are also gaining momentum. Two countries -- Kazakhstan and Latvia -- have decided to embrace systemic pension reforms, although they have opted for different routes and different timetables to establish multi-pillar systems. Latvia's reform route appears likely to lead eventually to a system similar to the Swiss pension model—by providing a balanced mix between PAYG and funded systems—while Kazakhstan aims to replicate the pure Chilean model—dominated by mandatory, privately-managed pension schemes.

As they embark on systemic reform, the key issues to be addressed by BRO countries are the relative size and functions of the public and private pillars that will evolve from the reform process, and the speed of the transition to the final pension system. A strong case can be made for the gradual (or Latvian) approach, aimed at establishing a multi-pillar system in the long run, but initially focused on implementing “high quality” piecemeal reforms that strengthen the contribution-benefit link and increase compliance and coverage within the PAYG system.

## I. INTRODUCTION

One of the most acute problems that the Baltics, Russia, and other former Soviet Union (BRO) Countries face in the transition to market economies is the reform of the public welfare systems inherited from the Soviet period. These systems were designed to provide “cradle-to-grave” protection to the population. Since the attempts to reform the existing systems have been modest so far, public welfare spending continues to absorb a large share of public financial resources in these countries. In light of the tight fiscal situation in most countries, which is often exacerbated by declining revenue, it has become clear that the provision of social benefits and various privileges at their current scale is no longer sustainable. Although systems of public welfare are under scrutiny worldwide, the decisions regarding the tradeoff between spending on social security and investing in economic growth are particularly difficult in transition economies because of the fragility of their financial and social situation and the pressures on expenditures resulting from the economic transformation.

The need for reform is most dramatic regarding public pension systems, which account for the bulk of total social security outlays in BRO countries. In a nutshell, the basic problem of BRO pension systems is that, despite the increasing fiscal burden they impose, their ability to provide adequate social protection without severely impairing economic efficiency has been eroded during the transition process. These systems, on the revenue side, stifle incentives to work and pay contributions. On the benefits side, they offer “too little, for too many, too early”.<sup>2</sup> In most BRO countries, public pension systems have evolved into crude social safety net programs, failing to provide social insurance and to encourage saving. In addition, the systems are not adequately targeted and are thus falling short of achieving their redistribution objective and of preventing absolute poverty. While in the short run the key challenges to BRO pension systems are low tax compliance and adverse incentives for early retirement, in the long run a major issue is whether they will be prepared to face the costs of aging populations.

With pension funds coming increasingly under financial stress, and with governments facing mounting pressure to raise benefits and growing resistance to expenditure-cutting measures, the debate has reached a critical stage. While a broad consensus has developed about the need for pension reform in BRO countries, there is much less agreement about the most adequate approach to be adopted. The basic decision is whether to attempt to simply correct the distortions in the public pension systems currently run on a pay-as-you-go (PAYG) basis, or to embark on a comprehensive, system-wide reform, largely based on privately-managed funded pension plans. Whatever the approach, reform is likely to be politically difficult.

The paper will review the pension systems currently in place in BRO countries, the various past attempts to deal with the financial pressures on them, and the possible approaches to

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<sup>2</sup>See Holzmann (1993).

reform. Section II describes the broad characteristics of pension systems dominated by large PAYG schemes, as background to the discussion of the current pension systems in BRO countries, which is presented in Section III. Section IV describes the various options for pension reform in BRO countries. Section V reviews the policy responses of BRO countries during the transition period and the various reform attempts. Section VI concludes with an assessment of the need for further reform in BRO countries.

## II. CHARACTERISTICS OF PENSION SYSTEMS DOMINATED BY LARGE PAYG SCHEMES

### The mechanics of PAYG systems

The pension systems now in place in BRO countries are essentially large PAYG systems of the type predominating in many industrial countries, in particular those of continental Europe, as well as in Central and Eastern Europe (CEE). However, they are not complemented by private pension schemes, as is often the case in industrial countries. In systems run on a PAYG basis, pension benefits of current pensioners are financed by current payroll contributions and budget transfers, so revenue and expenditure must always balance. With pension benefits financed entirely from payroll taxes and, for the moment, assuming no transfers to and from the budget, the basic PAYG equation can be written as:

$$(1) \quad \alpha WN = \beta WM$$

where:

N is the number of contributors

M is the number of pensioners

W is the average wage

$\alpha$  is the average pension contribution rate

and  $\beta$  is the average replacement rate, i.e., the ratio of the average pension benefit to the average wage.

The equilibrium PAYG contribution rate, derived from equation (1), is equal to the *average replacement rate* times the *system dependency ratio*, i.e., the number of pensioners divided by the number of contributors:

$$(2) \quad \alpha = \beta (M/N)$$

In case there are budget transfers, the PAYG contribution rate would be expressed as:

$$(3) \quad \alpha = \beta (M/N) (1-\tau)$$

where  $\tau$  is the ratio of budgetary transfers to pension expenditures.  $\tau > 0$  if there are transfers from the budget and  $\tau < 0$  if the pension fund runs a surplus that is transferred to the budget.

To establish a link between PAYG financing and population aging, the system dependency ratio, in turn, can be expressed as a factor  $\gamma$  of the *demographic dependency ratio* ( $M^*/N^*$ ), here defined as the ratio of people 60 years and older ( $M^*$ ) to people aged between 15 and 59 years ( $N^*$ ):

$$(4) \quad M/N = \gamma (M^*/N^*)$$

The value of  $\gamma$ , the *pension system coverage ratio*, depends on the maturity of the system, retirement policies, labor force participation rates, and other labor market conditions. Replacing (4) into (3) yields:

$$(5) \quad \alpha = \beta \gamma (1-\tau) (M^*/N^*)$$

Assuming ( $M^*/N^*$ ) as given, the basic policy parameters in a PAYG system are the contribution rate  $\alpha$ , the replacement rate  $\beta$ , the share of budgetary transfers  $\tau$ , and the policies that influence labor market conditions and the timing of retirement, which at least partly determine  $\gamma$ .<sup>3</sup> From (5), the finances of a PAYG system are also importantly affected by demographic trends, i.e., movements in ( $M^*/N^*$ ). As the population ages and ( $M^*/N^*$ ) increases, the system becomes imbalanced.<sup>4</sup> To restore the system's equilibrium, some combination of higher contribution rates and higher budgetary transfers, lower replacement rates and lower pension system coverage ratios is required.

Most PAYG systems are *defined-benefit plans*, as contributors receive an "entitlement" to pre-determined benefits, usually linked to workers' age, years of contribution or years of employment, and past earnings.<sup>5</sup> Nonetheless, it is possible to design a defined-contribution PAYG system by making the link between contributions and benefits more explicit, without effectively building up a fund. The public pension system currently in place in Latvia, based on notional defined-contribution accounts, is an example of a defined-contribution PAYG system (see Section V).

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<sup>3</sup>The parameter  $\gamma$  may also be influenced by factors that are not under full control of policy makers, such as women labor force participation rates.

<sup>4</sup>For a detailed discussion of the challenges posed by population aging to pension systems worldwide, see World Bank (1994). Chand and Jaeger (1996) focus on the fiscal effects of aging populations in industrial countries.

<sup>5</sup>*Defined-contribution* plans, by contrast, specify in advance the individuals' contribution to the plan, but not the benefit. In this case, future benefits will depend on the accumulated contributions and the rates of return on the fund investments. Defined-contribution plans are typically fully funded.

## **The drawbacks of PAYG systems**

The PAYG systems currently dominating pension provision in BRO and many industrial and developing countries face a number of problems, which will become particularly acute with aging populations. These problems are related to the implications of these systems for **efficiency, equity, and risk**.<sup>6</sup>

### **Problems related to efficiency**

- Large PAYG systems typically result in *labor market distortions*. The high level of contribution rates needed to support the systems, combined with a loose link between benefits and contributions, transform the contribution rate into a tax, reducing employment and encouraging evasion and the development of underground activities. Furthermore, often generous early retirement provisions lead to a decline in labor participation rates of cohorts younger than the statutory retirement age (and therefore in the contribution base), despite increased life expectancy.
- It is often argued that PAYG pension schemes *reduce incentives for private saving and capital accumulation*. The evidence on this, however, is not conclusive, and the impact of pension reform on private saving behavior remains controversial.<sup>7</sup>
- Large PAYG systems are often associated with relatively *narrow equity markets*.<sup>8</sup>

### **Problems related to equity**

- Although one of the main advantages of mandatory defined-benefit public pension schemes is their ability to redistribute income from high to low-wage workers, evidence from industrial countries suggests that in practice these systems tend to be regressive. This is due to design features that tend to benefit workers with a high-income profile and to the fact that high income people live longer, have rising age income profiles, and join the labor force later (and thus have shorter contributory periods).
- There is *no equitable distribution of benefits and costs across generations*; while the first generation of beneficiaries typically receives considerably more than they contributed, future retired generations typically face lower rates of return on their contributions, particularly in the case of aging populations. The system also promotes *intragenerational inequities*, since different rates of return may apply for contributors

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<sup>6</sup>For a detailed discussion of the typical problems of large-scale PAYG systems, see Estelle James (1997).

<sup>7</sup>See Mackenzie, Gerson and Cuevas (1997).

<sup>8</sup>See Jaeger (1997).



within a given cohort, owing, for example, to different life expectancies (e.g., women tend to live longer).

### **Problems related to risk**

Pension funds worldwide are showing signs of financial stress, making the future size of public pension benefits and/or contribution rates uncertain. As the systems mature and contributions start to fall short of what is needed to pay off the implicit pension debt, the budgetary costs of excessively generous benefits render unreformed systems financially unsustainable and this builds uncertainty into the systems. Both contributors and beneficiaries are placed under risk, since either increased contributions or reduced benefits are likely to be required in the long run to balance the accounts (the precise combination of adjustments could depend on the relative political weight of each group).

## **III. THE PENSION SYSTEMS OF BRO COUNTRIES**

### **The challenges**

Although some of the problems facing BRO pension systems are common to all countries adopting a PAYG method of financing, they are aggravated by the specific circumstances associated with the transition process, in particular the scope of the economic and institutional transformation these countries are going through, along with the need to establish cost-effective social safety nets in the context of severely eroded revenue bases. As these countries' inherited infrastructure and human capital were largely inappropriate for a market-based system, their productivity levels are low by industrial country standards. Moreover, their capacity to collect taxes is very limited. At the same time, the need for social protection is larger in BRO countries because of the increase in poverty in recent years and the high public expectations with respect to social welfare, a legacy of the Soviet period. Therefore, these countries are faced with the daunting task of scaling down their public welfare systems to reduce fiscal stress and to allow more room for other necessary expenditures, while keeping an adequate level of social security in order to mitigate the adverse effects of the transition process on the poor. These difficult political tradeoffs frame the debate on pension reform in BRO countries.

### **The inherited systems**

The public pension systems currently in place in BRO countries originate, *inter alia*, from the 1990 Soviet Union Law, which introduced a contributory pension scheme with universal coverage based on PAYG financing. This scheme was part of a public welfare system designed to provide "cradle-to-grave" protection to the population, including a myriad of social protection arrangements, ranging from the provision of health and education to the delivery of subsidies, cash benefits (including pensions and various allowances) and benefits

provided in kind (such as housing) as well as guaranteed employment.<sup>9</sup> Private retirement plans were absent, and private saving was mainly in the form of savings accounts at state banks. Under this system, pension benefits were only loosely linked to contributions, the same way wages were often unrelated to workers' productivity. Still, every citizen expected to have a guaranteed job and receive an adequate pension upon retirement. As the budgetary situation deteriorated in these countries, guaranteed employment and direct subsidies to the population were virtually eliminated, and the provision of the social benefits promised under the old system became increasingly burdensome, especially in light of competing demands from other expenditures necessary to carry forward the transition process.

### **Common features**

Although some variations exist, reflecting reform attempts by some countries, the current pension systems in BRO countries share the basic features of a PAYG system, augmented by certain Soviet-specific characteristics, such as the highly complex and differentiated structure of benefits and the related administrative problems, the high number of privileged pensions, overly generous eligibility policies, and shrinking contribution bases.

#### **(i) *Financing***

BRO pension systems are unfunded, financed mainly through social security contributions from the working population (taxes levied on total payroll), in some cases supplemented by budgetary transfers. Statutory pension contribution rates are high, ranging from 20 percent in Estonia and Latvia to 36 percent in Uzbekistan in 1996 (Table 1).<sup>10 11</sup> Contribution rates are differentiated by work categories and other criteria (e.g., lower or zero contribution rates for agriculture). As regards the split of contribution rates between employers and employees, workers' contributions are either absent or very low, typically 1 percent, although some countries have started to raise the employees' share. The high statutory contribution rates create a large wedge between the cost of labor and employees' take-home pay and, together with the tenuous link between contributions and benefits, encourage evasion and the growth of informal activities. As a result, effective contribution rates are often only a fraction of the standard statutory contribution rates (Table 1).

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<sup>9</sup>Unemployment benefits did not exist under the Soviet system; they were introduced in BRO countries during the transition period, contributing to the high burden of social spending.

<sup>10</sup>Some countries do not have a separately identified pension contribution rate; those were computed by taking into account the share of contributions assigned to the pension fund.

<sup>11</sup>For a rough comparison (not adjusted for the different tax treatment in BRO countries and western countries), the pension contribution rate in Germany is currently about 20 percent. Under the new pension system introduced in the USSR in 1990, the standard **total** payroll tax was 26 percent for the employer and 1 percent for employees.

Table 1. Finances of the Public Pension Systems in BRO Countries  
(In percent; as of end 1996)

	System Dependency Ratio I 1/	System Dependency Ratio II 2/	Average Replacement Rate	Statutory Contribution Rate		Effective Pension Rate 3/
				Total Payroll Tax	Pension Tax	
Armenia	...	44.1	24.3	35.6	33.7 4/	27.3
Azerbaijan	...	41.6	29.2	36.0	31.0 4/	7.1
Belarus	...	71.0	40.9	36.0	28.8 4/	33.5
Estonia	...	55.9	29.4	33.0	20.0	18.5
Georgia	82.1	54.9	36.4	33.0	28.0	3.6
Kazakhstan	...	57.1	34.0	32.0	25.5	19.8
Kyrgyz Republic	67.1	34.0	48.5	39.0	30.0	14.3
Latvia	65.9	54.9	38.6	38.0	20.0	19.2
Lithuania	69.2	53.8	30.8	31.0	22.5	18.2
Moldova	...	50.2	40.1	31.0	26.7	13.0
Russia	...	57.0	28.4	36.0	29.0	17.6
Tajikistan 5/	...	27.0	30.5	38.0	24.0	4.9
Turkmenistan	...	25.3	53.3	31.0	...	13.9
Ukraine	...	65.3	32.7	52.0	32.6	20.2
Uzbekistan	...	29.2	40.9	39.2	36.0	18.0
Major Industrial Countries 6/	31.2		37.5	4.6-26.2 7/		

Sources: Data provided by country authorities; and Chand and Jaeger (1996)

1/ System Dependency Ratio I defined as pensioners as a percentage of contributors.

2/ System Dependency Ratio II defined as pensioners as a percentage of number of people employed.

3/ Defined as pension contributions divided by the wage bill. In case of significant non-wage components the effective rate is likely to be lower.

4/ Approximated based on the ratio of pension expenditures to total social insurance expenditures.

5/ The average replacement rate data is based on a 1997 estimate due to a break in the time-series.

6/ Major industrial countries include United States, Japan, Germany, France, Italy, United Kingdom, and Canada.

7/ Data for 1993, from World Bank (1994).

The contribution base is narrow compared to industrial countries, partly on account of the low share of wages in total labor compensation (reflecting the exclusion of bonuses and other non-wage compensation from the tax base), and partly due to the tax exemptions granted for certain types of workers (such as the self-employed, agricultural workers and the handicapped). In an environment of declining measured employment, widespread underemployment (including part-time work and leave without pay) and growing informal sector activity, the tax base has been eroding rapidly. While the growing development of underground activities implies a reduction in the contribution base, it does not lead to a reduction in the number of future beneficiaries, since non-contributors may either receive pension benefits due to previous entitlements or be eligible for social pensions.

Payroll tax revenues have declined sharply in real terms during the transition period, reflecting a shrinking tax base and falling real wages in the formal sector.<sup>12</sup> Collection rates have also been low because of tax evasion, a pervasive phenomenon in former centrally-planned economies, although compliance has tended to be stronger compared to other taxes. Under-reporting of the number of workers and their earnings and the practice of granting non-wage compensation have become common ways for enterprises to avoid high payroll taxes. Across BRO countries, payroll contributions vary widely as a proportion of GDP (Figure 1), suggesting that some countries have been more successful in expanding their tax bases or in enforcing tax compliance.

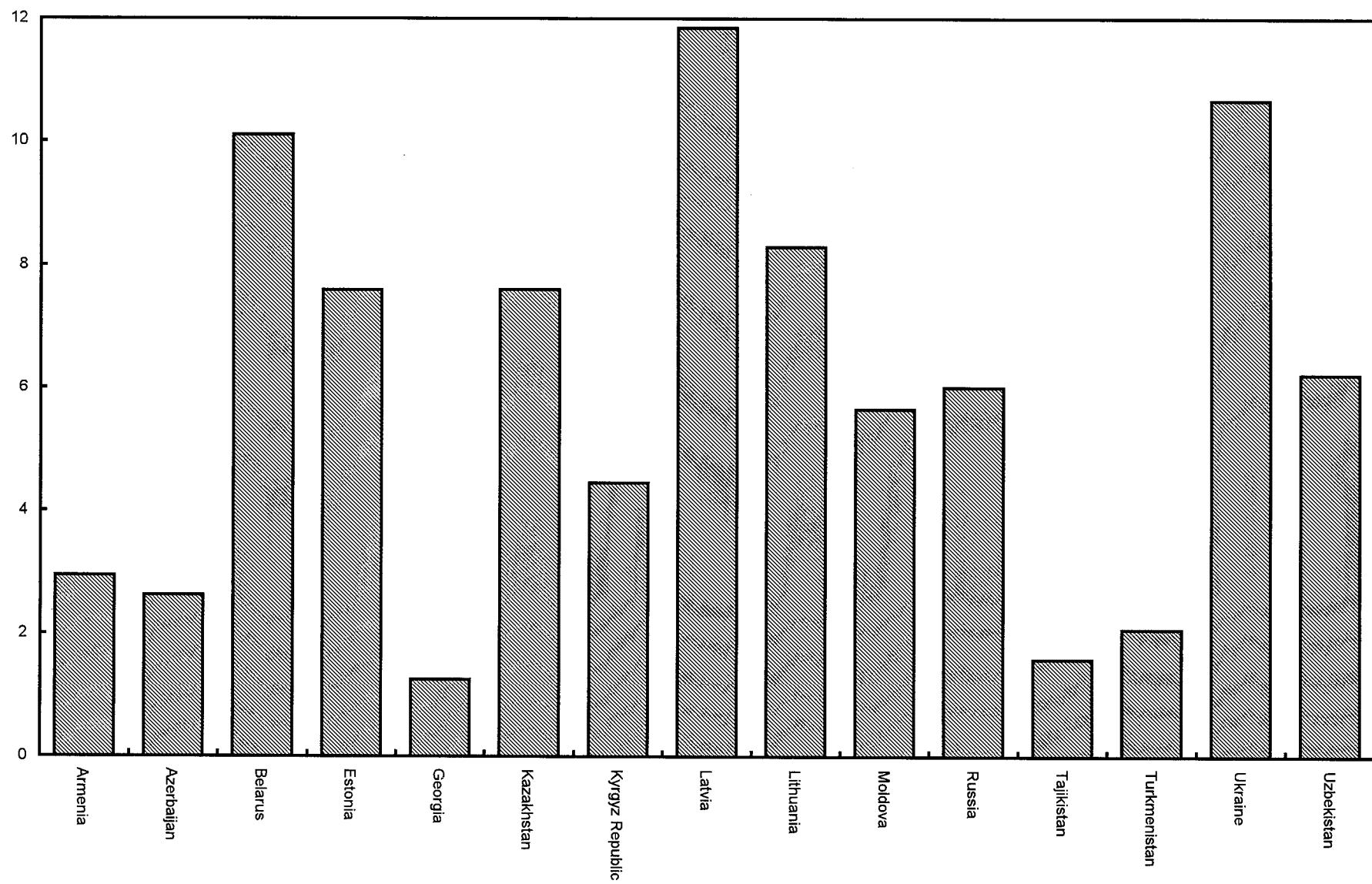
Despite the high contribution rates and, in a few cases, significant budget transfers (for example in Azerbaijan, Kyrgyz Republic, Kazakhstan, Georgia, and the Russian Federation), the financial situation of pension funds in BRO countries has deteriorated considerably since they were created in 1991/92. While the number of pensioners in relation to contributors keeps growing, dwindling revenues have proved insufficient to cover the generous benefits granted under the old system. As a result, the surpluses registered during the first years of the transition have virtually disappeared and turned into small deficits in a few countries, including those with young populations.<sup>13</sup> These deficits have been increasingly financed through pension arrears. In several cases (e.g., Azerbaijan, Belarus, Kazakhstan, Tajikistan, Ukraine, Uzbekistan), the financial situation of pension funds has been aggravated by the fact that they either carry the burden of providing non-contributory benefits/special privileges out of contributory amounts, or are reimbursed for these payments with delays by central and local governments.

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<sup>12</sup>During the high inflation period that characterized the beginning of the transition, the lags in collecting payroll taxes also contributed to lower real contributions.

<sup>13</sup>In the Kyrgyz Republic, for example, the deficit of the Pension Fund has been growing significantly since 1994, despite the low demographic dependency ratio and sizable transfers from the budget (1.4% of GDP in 1996).

Figure 1. BRO: Payroll Tax Revenue, 1996  
(In percent of GDP)



Sources: Country authorities; and IMF staff estimates.

(ii) *Benefit Structure*<sup>14</sup>

The system of benefits inherited from the Soviet period is highly complex, and includes several types of preferential pensions and complicated benefit formulae. The system guarantees near-universal coverage to Soviet-era workers, whether their employer have contributed or not. The link between contributions and pension benefits is weak, undermining compliance and work incentives. The initial pension benefit is typically based on previous earnings (on the basis of short assessment periods, due to limited earning records) and years of service, and is often indexed according to changes in the minimum wage. Years of service include credit for non-contributory periods (such as military service, university studies, child care). With a few exceptions (e.g., Armenia, Estonia, Latvia, Georgia, and Moldova), the minimum contribution period is 20 years for women and 25 years for men, which is low by international standards, but partial pensions are available for those who do not meet this requirement. Pension benefits are not taxed.

Eligibility rules are broad and differentiated, with special regimes for favored occupations and other groups, which in fact represent hidden subsidies to selected groups. The statutory retirement age is typically 60 years for men and 55 years for women, although a few countries have started to raise it gradually toward international standards (Table 2). The lack of actuarial provisions for early/late retirement provides few incentives to work past the minimum retirement age.<sup>15</sup> As a result of lax disability policies and various occupational privileges, there is a growing incidence of invalidity pensions and early retirement, often with higher benefits than average, drastically reducing the effective retirement age and the number of contributors. For example, the World Bank estimates that in the Russian Federation and in Kazakhstan about one-third and over one-half of pensioners, respectively, are on early retirement pensions. Since most BRO countries provide full pension benefits to working pensioners, these constitute a large share of total beneficiaries in several countries (between 13 and 17 percent in Armenia, Azerbaijan, Estonia, Lithuania, Ukraine, and Russia). In some cases working pensioners may have their pension recalculated on the basis of most recent earnings, so the value of their pensions is better protected compared to other pensioners.

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<sup>14</sup>Pension benefits include old-age, disability and survivors' pensions. There are also service (military) and social pensions, the latter for old people who have not met the minimum contribution requirement. Those are typically, but not always, paid out of the general budget.

<sup>15</sup>Actuarial provisions would make benefits dependent on the retirement age. In the case of early retirement this would imply that benefits would be reduced in order to offset the longer duration of retirement and the adverse effects of shorter contribution periods on the contribution base. Pension formulae based on actuarial criteria would ensure that the expected present discounted value of net retirement benefits would be the same for all retirement ages.

Table 2. BRO: Statutory Retirement Ages  
(as of end-1996)

	Retirement Age		Effective date
	Men	Women	
Armenia	65	63	2002
Azerbaijan	61	56	2000
Belarus	60	55	in place
Estonia	65	60	2003
Georgia	65	60	1995
Kazakhstan	63	58	2002
Kyrgyz Republic	60	55	in place
Latvia	60	55	1/
Lithuania	62.5	60	2009
Moldova	60	55	in place
Russia	60	55	in place
Tajikistan	60	55	in place
Turkmenistan	60	55	in place
Ukraine	60	55	in place
Uzbekistan	60	55	in place
<u>Memorandum items:</u>			
United States	65	65	in place
Germany	65	65	in place
United Kingdom	65	60	in place
France	60	60	in place

Source: Country authorities.

1/ There is no statutory retirement age under the current system.

Despite its objectives to redistribute income to the poor, owing to inadequate targeting and to scarce resources, in practice the system favors certain groups, such as women (who are entitled to earlier retirement than men but have higher life expectancy and, in addition, are more likely to receive survivor's pensions) and people with higher education (with higher life expectancy, higher income, and shorter contributory periods).

Replacement rates have declined during the transition due to incomplete indexation, although in a few countries they have recovered somewhat during the last couple of years. In 1996, average pensions in BRO countries ranged from 24 percent to 53 percent of average wages (Table 1). There appears to be a significant gap in benefit levels received by "new" and "old" retirees, since the pensions of the latter group were sharply eroded in real terms by high inflation. Although benefits are currently very low—in several cases not enough to cover minimum subsistence needs—and severely compressed, the system is generous because it allows beneficiaries to combine multiple pensions and to supplement benefits with earned income. So while the typical pensioner receives a low pension, privileged pensioners are entitled to much higher benefits.

### (iii) *Demographic trends*

Projected demographic trends differ markedly across BRO countries, but the increasing fiscal burden of pensioners does not necessarily reflect an immediate aging problem in all of them (Figure 2).<sup>16</sup> Despite the different demographic structures, however, all countries are aging rapidly, even more so than mature European countries. The populations of several countries (Azerbaijan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan) display a young demographic structure. In those cases, the financial strains faced by pension funds are caused by generous eligibility rules rather than by aging population profiles. Other countries, such as the Baltics, Belarus, Ukraine, and Russia, face unfavorable demographics and the share of pensioners in their population exceeds 20 percent (Figure 3). In most BRO countries, the number of pensioners has remained fairly stable in relation to the population during the transition. Several countries are facing declining populations as a result of lower birth rates and increased mortality. Some countries have also been confronted with the displacement of persons, as a result of emigration or large influx of refugees. These trends are partly related to the transition process itself and are not expected to continue into the next century.

In all BRO countries the system dependency ratios (defined here as the number of pensioners divided by total employment) are high and in some cases rising. In several countries, for each pensioner there are less than two employed persons (Table 3). If computed on the basis of actual contributors, as required by the PAYG formula, dependency ratios would be much higher, since only a fraction of the employed population effectively contributes to the pension

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<sup>16</sup>The share of elderly (60 years and older) in the population ranged from 6.2 percent (Tajikistan) to 18.7 percent (Ukraine) in 1990.



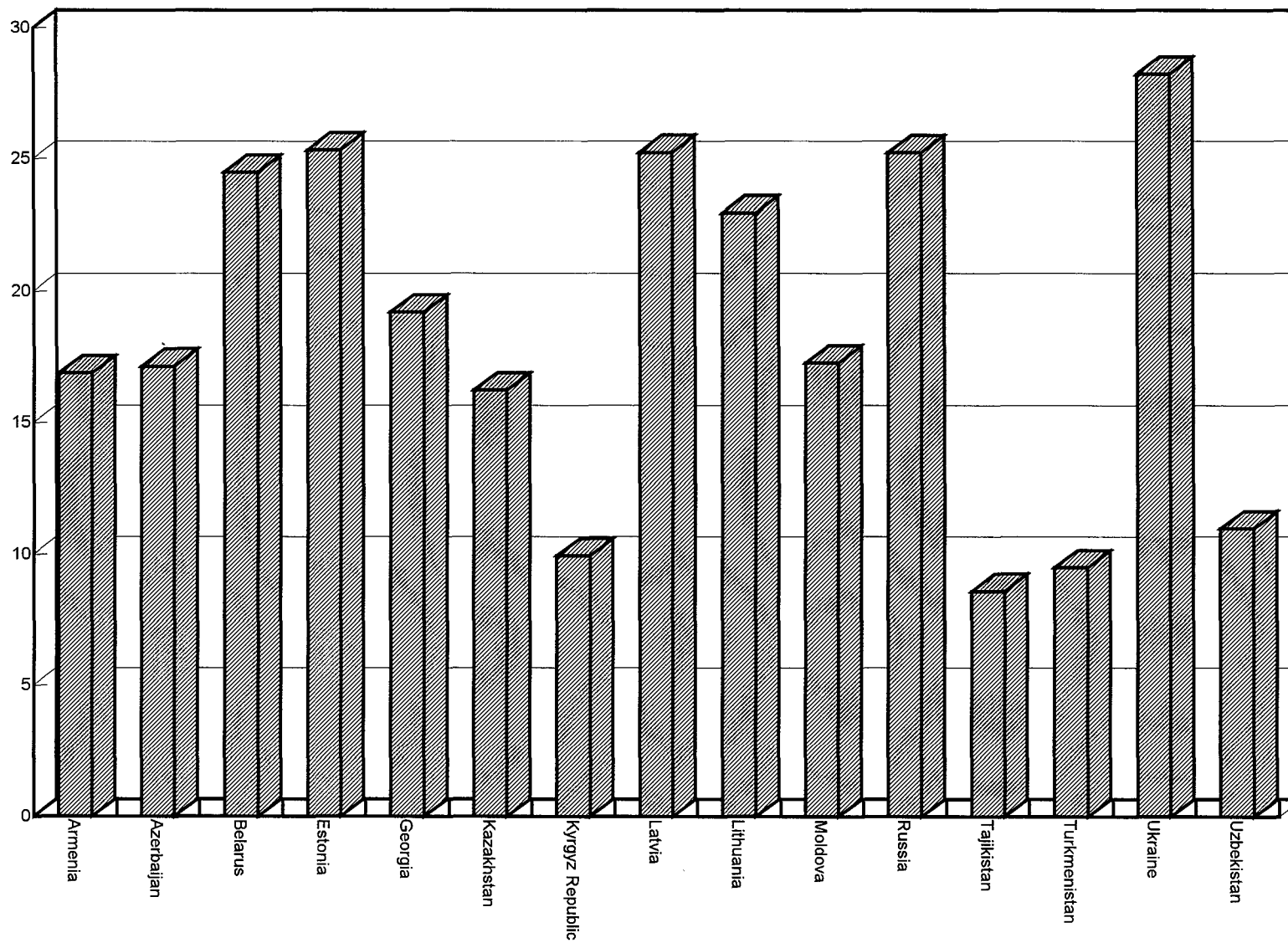
Figure 2. BRO: Percentage of Population over 60 years old in 1990 and 2030  
(In percent of total population)



Sources: World Population Projections, 1994-95; World Bank.

1/ High income countries include Australia, Austria, Canada, Denmark, Finland, Ireland, Israel, Italy, Japan, Luxembourg, Norway, Portugal, Singapore, Spain, Sweden, United Kingdom, and United States.

Figure 3. BRO: Number of Pensioners, 1995  
(In percent of total population)



Sources: Country authorities.

Table 3. BRO: Dependency Ratios, 1995  
(In percent)

	System Dependency Ratio 1/ (M/N)	Demographic Dependency Ratio 2/ (M*/N*)	$\Upsilon = \frac{M/N}{M^*/N^*}$
Armenia	45	26	1.8
Azerbaijan	46	20	2.2
Belarus	65	38	1.7
Estonia	57	37	1.6
Georgia	60	31	1.9
Kazakhstan	54	22	2.4
Kyrgyz Republic	40	20	2.1
Latvia	54	40	1.3
Lithuania	52	35	1.5
Moldova	51	28	1.8
Russia	55	36	1.5
Tajikistan	25	13	1.9
Turkmenistan	26	13	2.0
Ukraine	66	34	1.9
Uzbekistan	30	16	1.9
<u>Memorandum items:</u>			
Major Industrial Countries 3/	31	30	1.0
Hungary 4/	59	36	1.6
Poland 4/	49	28	1.8
Czech Rep. 4/	49	32	1.5

Sources: Vittas and Michelitsch (1994); Chand and Jaeger (1996); and data provided by country authorities.

1/ Number of pensioners divided by total number of employed.

2/ Number of persons over 60 years divided by number of persons between 15 and 59 years.

3/ Major industrial countries are United States, Germany, France, Italy, Japan, United Kingdom and Canada.

4/ 1992 data.

funds.<sup>17</sup> While aging populations may be already a factor in a few countries, the high system dependency ratios prevailing in BRO countries are mainly the result of generous early retirement and disability provisions, as well as declining employment in the formal sector. In some countries, emigration of workers has also played a role in reducing the number of working age individuals contributing to the pension system. While the number of old-age pensioners is expected to decline in the countries that have started to raise the retirement age, the financial benefits for the pension funds will be realized only over time, since the retirement ages will be raised gradually. On the other hand, the fiscal problems facing pension funds will be severely aggravated when the “baby boom” generation born after World War II reaches retirement.

In all BRO countries, including those with young populations, there is a large gap between the old-age system dependency ratio and the old-age demographic dependency ratio; in other words, the pension system coverage ratio ( $\gamma$ ) is very large compared to industrial countries (Table 3).  $\gamma$  is especially large if the system dependency ratio is computed on the basis of contributors, rather than employment. In the Kyrgyz Republic, for example, in 1996  $\gamma$  was 1.7 when the system dependency ratio was based on employment, but was as high as 3.4 when the ratio was computed on the basis of actual contributors.

### **The fiscal burden**

From a macroeconomic perspective, the growing burden imposed by pension expenditures implies that the unreformed systems are not fiscally sustainable, in particular considering the need for increased expenditure on health and education, capital accumulation and investment in infrastructure, following several years of severe compression. However, despite the efforts to control the growth of pension expenditures, pension spending has been rising as a percentage of total government expenditure in most BRO countries (Table 4a).

There is significant variation in pension expenditure shares across BRO countries, both in terms of GDP and of total expenditures (Tables 4a and 4b). In 1996, the share of pensions in total expenditures was over 20 percent in Kazakhstan, Kyrgyz Republic, and Ukraine, reaching 28 percent in Latvia. This compares with around 14 percent in major industrial countries, with income per capita levels several times higher. In several BRO countries the share of pension expenditure is as high as in some CEE countries.<sup>18</sup> Several countries exhibit pension/GDP ratios higher than the average in the major industrial countries, suggesting that BRO countries are trying to run OECD-style pension systems that they can ill-afford. Since the share of labor income in GDP in BRO countries is low by OECD standards, high contribution rates are needed to support the existing benefit structure.

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<sup>17</sup>Information about the number of contributors is only available for a few countries.

<sup>18</sup>Data for CEE and industrial countries are for 1995.

Table 4a. BRO: Public Pension Expenditure, 1992-96  
(In percent of total expenditure of the general government)

	1992	1993	1994	1995	1996
Armenia	4.2	2.9	3.8	9.4	12.1
Azerbaijan	9.0	13.9	8.5	8.1	13.2
Belarus	11.8	13.4	11.2	16.8	19.3
Estonia	15.8	16.5	16.0	17.1	18.6
Georgia	...	...	3.4	9.4	12.2
Kazakhstan	...	13.8	17.1	17.7	20.9
Kyrgyz Republic	...	...	15.8	21.0	26.0
Latvia	21.4	26.6	24.1	26.2	28.3
Lithuania	18.2	13.4	17.0	16.8	17.8
Moldova	...	...	20.1	17.6	18.7
Russia	14.8	14.0	13.6	14.0	14.6
Tajikistan	10.7	11.4	6.4	8.5	12.2
Turkmenistan	...	...	14.3	12.1	14.7
Ukraine	...	11.7	14.9	17.7	21.6
Uzbekistan	16.7	19.2	14.8	13.8	16.0
Average	13.6	14.3	13.4	15.1	17.7
<u>Memorandum items: (1995)</u>					
Major industrial countries 1/				14.3	
Hungary				17.7	
Poland				28.9	
Czech Rep.				18.0	

Sources: Chand and Jaeger (1996), World Economic Outlook; and data provided by country authorities.

1/ Major industrial countries are United States, Germany, France, Italy, Japan, United Kingdom, and Canada.

Table 4b. BRO: Public Pension Expenditure, 1992-96  
(In percent of GDP)

	1992	1993	1994	1995	1996
Armenia	2.8	2.5	1.7	2.8	3.1
Azerbaijan	5.2	6.7	2.7	1.6	2.5
Belarus	5.4	7.6	5.6	7.5	8.4
Estonia	5.5	6.4	6.5	7.0	7.6
Georgia	...	...	0.8	1.3	1.7
Kazakhstan	...	4.4	3.8	4.7	5.3
Kyrgyz Republic	...	...	5.2	7.5	7.7
Latvia	6.2	9.5	9.8	10.2	10.8
Lithuania	5.4	4.8	6.4	6.3	6.2
Moldova	...	...	8.5	7.2	8.1
Russia	6.9	6.1	6.1	4.6	4.5
Tajikistan	7.0	6.9	3.9	2.5	3.0
Turkmenistan	...	...	1.7	1.7	2.3
Ukraine	...	8.3	7.4	7.6	8.7
Uzbekistan	8.4	10.0	5.7	5.3	6.4
Average	5.9	6.7	5.1	5.2	5.8
<u>Memorandum items: (1995)</u>					
Major industrial countries 1/				6.7	
Hungary				9.7	
Poland				14.4	
Czech Rep.				8.3	

Sources: Chand and Jaeger (1996), World Economic Outlook; and data provided by country authorities.

1/ Major industrial countries are United States, Germany, France, Italy, Japan, United Kingdom, and Canada.

Under a PAYG system, it can be shown that, given the contribution rate, the share of pensions in GDP depends on three variables: (1) the system dependency ratio; (2) the replacement rate; and (3) the labor share (the wage bill in terms of GDP). In the case of BRO countries, most of the variation in the share of pensions in GDP can be explained by the labor shares, which vary widely across the countries (Figure 4). The low labor shares observed in several BRO countries reflect significant measurement problems. For example, household surveys and anecdotal evidence suggest that labor income is higher than indicated by the wage bill, as a result of income earned in the informal sector and transfers from extended family networks. It is also possible that, in some countries where enterprises' transfers to households—typical of the command system—have not been completely phased out, these transfers are recorded as part of enterprises' operating surpluses, and thus are not reflected in the wage share.

The cross-country evidence suggests that spending on pensions is highly elastic with respect to the size of the contribution base. Therefore, countries that have made more progress in expanding the contribution base (e.g., Latvia) are more likely to display high pension expenditure shares. On the other hand, a slow reformer such as Belarus also would show high ratios of contributions and pension expenditure to GDP because the old system of tax collection is still largely in place.

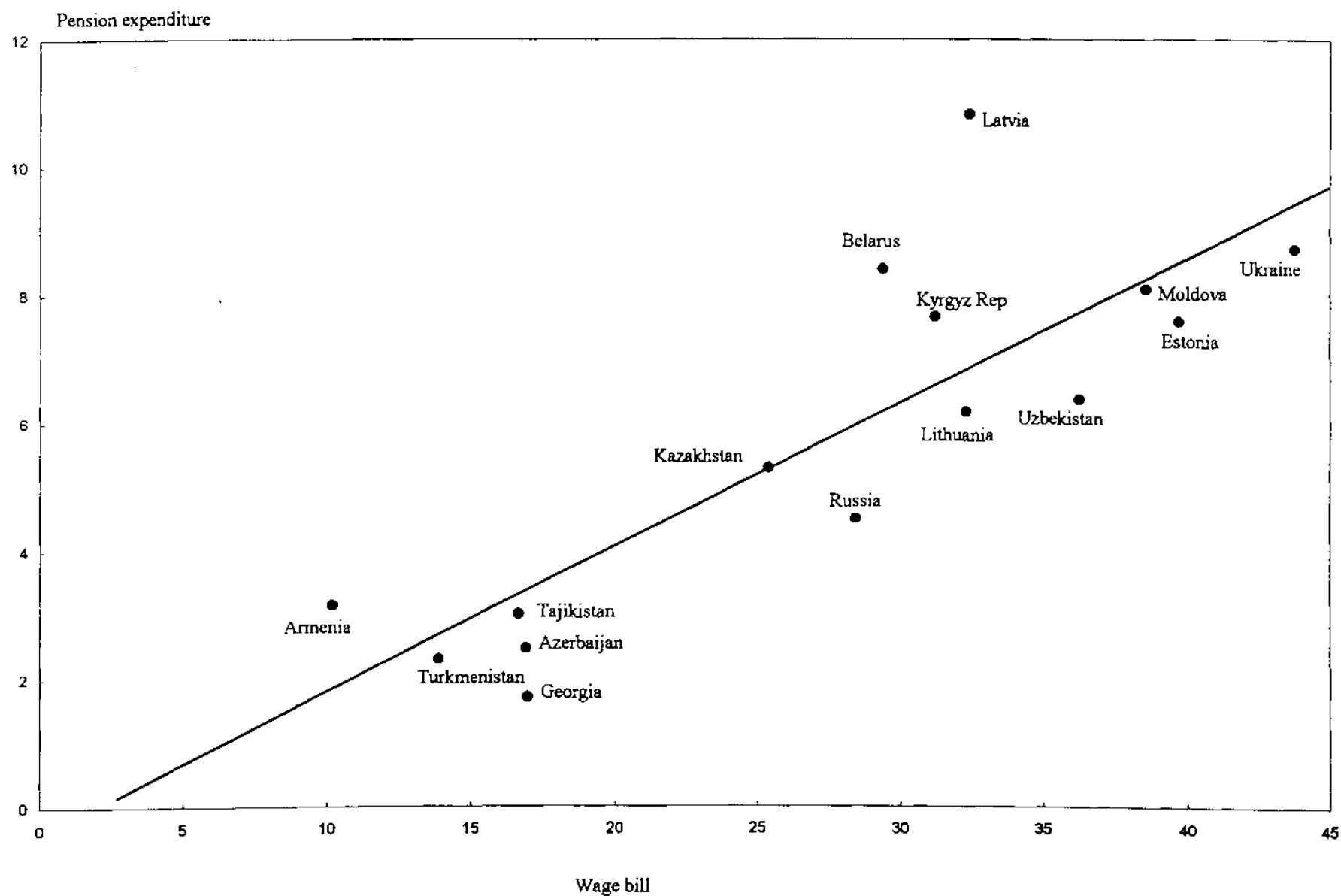
#### IV. APPROACHES TO REFORM

The previous discussion indicates that the existing public pension systems are too large to be afforded by BRO countries under current circumstances. Therefore, reform should involve some restructuring and downsizing of these systems, with a view to establishing sustainable and efficient schemes, capable of withstanding economic and demographic fluctuations. The sustainability of pension systems in BRO countries is threatened in the short-run by narrow contribution bases and low compliance, which is a common problem for all BRO countries, and in the long run by demographic change, which is likely to affect individual countries at varying speeds, according to their aging profile. While shrinking contribution bases and poor tax collection point to the need for scaling down benefits and renewing efforts to increase contributions, the challenges imposed by aging populations suggest that systemic reform should be on the agenda sooner or later.

At this stage, various reform options are under consideration by several BRO countries. One possible approach is to reduce expenditures and increase revenues without fundamentally changing the structure of the existing pension systems, basically through adjustments in the various parameters of the PAYG equation. These *piecemeal reforms* include measures to reform the benefit structure, reduce the system dependency ratio and increase tax collection.

It can be argued, however, that in view of the drawbacks of large-scale PAYG systems, pension reform should go beyond merely fixing existing systems and should promote systemic changes. This view is behind the *multipillar approach*, advocated by the World

Figure 4. BRO: Wage Bill and Pension Expenditure, 1996  
(In percent of GDP)



Sources: Country authorities.



Bank, which combines a defined-benefit plan targeted to the poor with fully-funded defined-contribution schemes available to everyone.<sup>19</sup>

This section will delineate the main elements of pension reform under the *piecemeal approach* and the *multipillar approach*. It can be argued that restructuring of existing systems should be seen as a pre-condition for advancing systemic reform and gradually building up fully funded pillars, so in that sense the two approaches would complement rather than substitute each other. Regardless of the approach adopted, it is important to have a clear blueprint for reform, including the appropriate mix between private and public pension provision in the long run.

### 1. Piecemeal reforms of the PAYG system

As illustrated in Table 5, in principle there are several options to cut costs in a PAYG system, involving a reduction in the replacement rate ( $\beta$ ) and/or in the pension system coverage ratio ( $\gamma$ ) in the basic PAYG equation (5). Several of these measures work also through the revenue side, since they affect the contribution base. Given the already high level of current contribution rates, raising the average pension contribution rate ( $\alpha$ ) further may not lead to increased revenue collection, but encourage more tax evasion instead. On the other hand, cuts in contribution rates are unlikely to affect compliance in the short run. A unification of contribution rates would tend to increase  $\alpha$ , while increasing the share of employees in the payroll tax (leaving the take-home pay unchanged) would reinforce the insurance nature of pension contributions and—if coupled with a stronger link between benefits and contributions—would encourage compliance.

The benefit structure would become more transparent if all pensions payments that were not insurance-related (special pensions and non-contributory benefits, such as social pensions) were transferred to the budget, or if budget transfers to the pension fund (the size of  $\tau$ ) were tailored to take care of these transfers.<sup>20</sup> The elimination of the cross-subsidization involved in such transfers would make the cost of redistributive policies/subsidies explicit and thus contribute to strengthen the benefit-contribution link.

Of all possible measures to reduce costs, increasing the retirement age, albeit very effective, is perhaps politically the most difficult one. In principle the same results could be achieved at a lower political cost through the incentives to work longer provided by the use of actuarially fair benefits formulae. Reducing benefits of working pensioners is a more controversial

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<sup>19</sup>For a detailed description of the multipillar approach, see World Bank (1994).

<sup>20</sup>Another possibility would be to transfer the cost of occupation-based special pensions to enterprises. This measure would be justified on the grounds of equity, since occupation-based pensions represent a subsidy to certain industries and are not a component of social insurance.

measure, since the potential savings could be offset by a reduction in the contribution base if working pensioners decide to stop working to collect their pension benefits. Indexing pensions to prices instead of wages would lead to an erosion of replacement rates, despite constant real benefits, because pensioners would not enjoy the effects of increases in labor productivity. In general, it would be desirable to establish clear indexation rules for adjusting benefits instead of *ad-hoc* indexation.

**Table 5. Piecemeal Reforms of the PAYG System**

Measures	Effect on $\beta$	Effect on $\gamma$
Raise statutory retirement age		reduce
Use actuarially fair pension formulae	reduce	reduce
Eliminate pension credit for non-contributory periods	reduce	reduce
Tighten eligibility criteria for early retirement and disability pensions		reduce
Eliminate/reduce special pensions	reduce	reduce
Eliminate/reduce pensions of working pensioners	reduce	could increase $\gamma$
Eliminate exemptions		reduce
Extend payroll tax to all types of cash compensation		reduce
Make business licensing mandatory		reduce
Increase assessment period for the calculation of the initial pensions/use indexed lifetime career earnings	reduce	
Index pensions to prices	reduce	
Build demographic factors into the benefit formula	depends on demographic trends	

## 2. Systemic reform: the multipillar approach

The adoption of multipillar pension systems is based on the notion that pension funds should fulfill different functions, i.e., provide mechanisms for redistribution, insurance and compulsory saving. Therefore, multiple financing and managerial arrangements (*pillars*) are required, each with different degrees of government intervention. Each pillar/instrument would focus on a single objective. The first two pillars would be *mandatory*, to reflect the redistribution and forced saving functions of old-age systems and discourage moral hazard and free-riding behavior.<sup>21</sup>

According to this approach, the *first pillar* would be a scaled-down version of existing PAYG public pension systems. It would be a publicly-managed, defined-benefit, tax-financed scheme, focused exclusively on redistribution, or the provision of a social safety net for the old. To avoid redistributing income to high-wage earners, benefits would not be earnings-related, but could be means-tested, flat, or in the form of a minimum government guarantee. Given its limited scope, this scheme would require lower contribution rates than current systems. The *second pillar* would be a privately-managed, defined-contribution, fully-funded scheme, aimed at providing saving for old age. The *third pillar* would essentially replicate the second pillar on a *voluntary basis*, and would be targeted at high earners or those who wish to obtain higher replacement rates than those provided by the compulsory pillars.

Private management of the second pillar is usually recommended because it would promote an efficient allocation of resources, maximize the rates of return on investments and encourage the development of financial markets.<sup>22</sup> In addition, private pension funds are often credited with raising the savings rate, although the evidence is far from convincing. Privately-managed plans could be either personal savings plans (the worker chooses the investment manager) or occupational plans (the employer or union choose the investment manager).

### *Advantages and disadvantages of funded systems*

The adoption of multipillar systems with a mandatory funded pillar is typically justified by their expected economic and political advantages vis-à-vis PAYG systems. It is often argued that the shift to funded pension schemes would establish a close link between contributions and benefits and thus reduce labor markets distortions, accelerate financial market development and promote saving and capital accumulation. Funded systems are also more

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<sup>21</sup>The usual argument behind the forced saving function is individuals' myopia with respect to retirement needs.

<sup>22</sup>The alternative would be publicly-managed mandatory saving schemes. Although in some countries public management has been adopted successfully (e.g., in Singapore and Malaysia), provident funds typically yield lower rates of return, partly because they tend to invest in government securities.

robust to demographic changes. From a political point of view, moving to a funded system is believed to represent a time-consistent policy and therefore to be more credible than continuing to operate PAYG systems.

On the other hand, the successful implementation of funded systems requires a number of economic, institutional and political pre-conditions that are lacking in many countries. Particularly important are some institutional bottlenecks, such as the lack of adequate legal and regulatory framework, as well as the lack of active financial markets. The development of privately managed pillars would require at least rudimentary capital markets and an adequate regulatory framework to limit investment risk. The move to a funded system also can impose a heavy fiscal burden on the transition generation(s), which would have to save for their own retirement and contribute to the old system. In addition, contributors face considerable risk, as pension benefits can fluctuate markedly and an adequate replacement rate is not guaranteed, since funded systems do not have a redistributive component.

In principle, several options (or combinations) for financing the transition to a funded system could be considered, although some may not be feasible for BRO countries:

- gradually reduce the size of the PAYG debt through piecemeal reforms, to spread the costs over time and ease the double burden on the current generation;
- issue “recognition” bonds for existing pensioners (transform implicit pension debt into explicit debt);
- use privatization revenues;
- use existing surpluses in the budget or social security system;
- increase explicit government debt;
- increase contribution rates;
- retain a substantial PAYG pillar; i.e., convert only part of the implicit pension debt into explicit debt;
- use the new system only for young workers;
- improve revenue collection/ reduce tax evasion.

### ***Pension systems at a glance***

In practice, most pension systems deviate substantially from the stylized multipillar structure described above. To shed light on the initial position and options for pension reform available to BRO countries, it is useful to group existing pension systems under three broad headings:

- the **German model**, a pension system dominated by a large mandatory publicly-managed PAYG pension scheme (first pillar). Under the present German PAYG scheme, which has only a small redistributive component, an average wage earner with a full contribution record of 45 years is promised a pension benefit equivalent to about 70 percent of average net wage earnings. Reflecting the wide coverage and high income replacement rates of the first pillar, retirement income provision through private (occupational) pension schemes (second pillar) has traditionally played a relatively minor role.

- the **Swiss model**, a pension system based on a sizeable mandatory publicly-managed PAYG pension scheme (first pillar), which is supplemented by an about equally large mandatory private pension scheme (second pillar).<sup>23</sup> The first pillar has a wide coverage, a significant redistributive component, and promises an average wage earner a pension benefit equivalent to around 40 percent of average wages. The fully-funded second (occupational) pension pillar is designed to provide (under “normal” rates of return) a pension benefit equivalent to about 30-40 percent of a contributor’s wage.
- the **Australian-Chilean model**, a pension system dominated by large mandatory privately-managed pension schemes (a mandatory occupational pension scheme in the case of Australia and mandatory private savings schemes in the case of Chile), supplemented by relatively small public first pillar systems essentially designed to provide poverty relief.

## V. POLICY RESPONSES: FROM MUDDLING THROUGH TO SYSTEMIC REFORM

This section describes the efforts of BRO governments to cope with growing pension-related fiscal stresses in the context of deteriorating revenue performances. As explained above, the transition period witnessed a significant increase in the pension system coverage ratio ( $\gamma$ ), as a result of the existing incentives for early retirement and of shrinking contribution bases. The typical short-term responses to the financial troubles of BRO pension funds have been to: (i) compress benefits (but not the number of beneficiaries); (ii) increase contribution rates; and (iii) accumulate pension arrears. In some countries budgetary transfers were also increased to bridge the gap between contributions and benefits. Some countries have started to implement piecemeal reforms in their PAYG systems, but on the whole, only modest steps have been taken so far to reverse the increasing trend in  $\gamma$ , the major disturbance to the finances of their pension funds. However, efforts to embark on systemic reform are gaining momentum as it becomes more obvious that the fiscal sustainability of the pension funds is at best precarious.

### 1. Muddling-through approach

#### (i) Compression of benefit structures

Most BRO countries have dealt with the pension problem by severely compressing benefits during the transition process. During the initial, high inflation, phase of the transition period, the lack of formal indexation mechanisms resulted in a significant erosion of the real value of pensions. Subsequently, the use of sporadic indexation and modifications in the benefit formulae, in particular changing the way the initial pension was determined, narrowed the gap between the average and the minimum pension, flattening the pension benefit structure in

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<sup>23</sup>The design of the Swiss pension system, which was largely set up during the period 1946-64, was explicitly guided by the multipillar terminology that has recently been popularized in World Bank publications. See Charles (1993) for a historical sketch of the Swiss system.

most countries. In the case of Georgia, the traditional system of differentiated pensions was completely eliminated and flat pensions were introduced for all except war veterans.<sup>24</sup> In view of the tight financial constraints and the political opposition against a reduction in the number of beneficiaries, the compression of the benefit structure was the only viable option for BRO governments to protect the poor during the transition. However, in some cases, pensions have fallen below the minimum subsistence level and represent only a small fraction of household incomes. These pensioners seem to survive through transfers provided through extended family arrangements (the most traditional form of social insurance), income from informal activities, and sales of personal assets.

Pension systems in most BRO countries thus have become crude social safety nets, providing small amounts of benefits to a large section of the population. The implicit use of categorical targeting has helped reduce administrative costs, but has not guaranteed provision of benefits to the most needy. In fact, in some of the poorest countries, such as Armenia and Georgia, the official social safety net has become largely irrelevant for household incomes. This might explain why a radical reform measure implemented in Georgia in early 1996 (a one-step increase in the retirement age by five years) did not meet with much public opposition.

With the macroeconomic situation and the overall policy framework stabilized in most BRO countries, further compression of already low benefits has become a less viable option. Indeed, some BRO governments have come under increasing pressure to raise pension ceilings and increase the differentiation of pensions. After the initial squeeze, pension levels have started to recover in some countries during the last couple of years. In a few countries, however, attempts to increase replacement rates have met with the obstacle of insufficient funding.

#### **(ii) Contribution rate increases**

Total social security contribution rates (including pension rates) were increased in all countries from the 27 percent prevailing in the USSR in 1990 to over (well over in some cases) 30 percent. Indeed, in the case of Ukraine the total payroll tax reached 52 percent by the end of 1996 (Table 1). This increase in contribution rates has discouraged compliance significantly.

#### **(iii) Accumulation of arrears**

During the transition period, arrears have accumulated both in contributions and in payments of pension benefits. In some cases there have been, also, arrears in budget transfers. Workers do not put pressure on employers to make social contributions on their behalf because they are uncertain about future benefits, i.e. whether the intergenerational contract implicit in the

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<sup>24</sup>Flat pensions also prevailed in Estonia from January 1992 until April 1993, when a new law re-introduced pensions based on length of service.

PAYG scheme will be honored. At the same time, employers, often financially troubled, feel burdened by the high level of payroll taxes and increasingly try to escape the tax net. As enterprises delay their contribution payments, most BRO countries have resorted to the accumulation of pension arrears as a way to resolve the operational imbalances in pension funds. In Moldova and Tajikistan, for example, pension arrears reached almost 3 percent of GDP in 1996. Significant arrears have also been reported in Georgia, Kazakhstan, Kyrgyz Republic, the Russian Federation, Ukraine, and Uzbekistan. The accumulation of pension-related arrears, however, is only one manifestation of the non-payment culture that has developed in BRO countries.

## **2. Piecemeal reform approach**

Following the path taken by many CEE countries, several BRO countries have taken measures to correct some of the distortions in their PAYG system, notably by introducing amendments to the existing legislation to change the benefit structure and eligibility criteria. There have been also increasing efforts to improve targeting of benefits and strengthen tax collection.

Among the stronger reformers, Kazakhstan, Latvia, and Lithuania have made the most progress in reforming their PAYG system. The reforms implemented with the adoption of a new pension legislation in 1994 in Lithuania and in mid-1996 in Kazakhstan have paved the ground for the introduction of a multi-pillar system, already decided in Kazakhstan, and under consideration in Lithuania. In the case of Latvia, changes in the PAYG system took place as part of a systematic overhaul of the whole public welfare system, launched with the adoption of a new pension law in November 1995.

### **(i) *Measures to reform the benefit structure and reduce the system dependency ratio***

Most countries have been reluctant to increase the retirement age, although various country simulations have shown that this measure would be the most effective way to improve the financial position of pension funds. The typical argument against raising the pension age has been that life expectancy is so low in BRO countries that a low pension age is needed. However, this argument is based on life expectancy at birth and not on life expectancy at the time of retirement, which is the relevant concept for pensioners. A few countries (Armenia, Azerbaijan, Estonia, Kazakhstan, and Lithuania) have actually initiated the process of gradually increasing retirement ages, while in Georgia the retirement age was raised by five years in one go in February 1996. Estonia was the first country to raise the pension age, in the context of its 1993 reform.<sup>25</sup> Under the new Latvian system, the emphasis was not on raising

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<sup>25</sup>In Estonia, the April 1993 law introduced a gradual increase (6 months per year) in the retirement age starting from January 1, 1994 (to 65 years for men and 60 for women). In

(continued...)

the statutory retirement age but rather on introducing actuarial provisions in the calculation of pension benefits, with a view to reducing incentives for early retirement. A flexible retirement age was thus introduced with the new system.

Some countries have reduced (Azerbaijan, Kazakhstan, Kyrgyz Republic, Lithuania) or eliminated (Georgia) benefits for working pensioners. In Uzbekistan, the pension law adopted in September 1993 ruled out the recalculation of pension benefits to include additional years of work, with a view to discouraging working pensioners and early retirement. The pension law also shifted to enterprises the responsibility for paying preferential pensions (a measure also implemented in Ukraine), until beneficiaries reached the standard retirement age. In Azerbaijan, the new Pension Law added an extra 1 percent increase on the initial pension benefit for each year above the minimum contribution period. Eligibility for privileged early retirement was reduced in Azerbaijan and Kazakhstan, phased out for most categories in Latvia, and abolished in Lithuania. In Estonia, Latvia, and Kazakhstan, the responsibility for paying non-insurance benefits has been shifted to the budget. A few countries (Kyrgyz Republic, Lithuania, and the Russian Federation) have decided to gradually raise the minimum contribution period to 30 years. In Latvia, pension credit for non-contributory periods was eliminated under the new system; these subsidies are now explicit.

**(ii) *Measures to improve collection/compliance***

In recognition that lack of compliance is a major factor behind disappointing revenue performance, BRO countries are generally striving to improve the collection of social taxes. Compliance rates have improved in the Baltics, but remain low in most countries. At the same time, coverage remains limited, especially regarding rural areas and the emerging private sector. Some countries (Armenia, Georgia, and Ukraine) have decided to gradually cut contribution rates in an attempt to increase compliance over time. Kazakhstan, the Kyrgyz Republic, and Ukraine have taken steps to harmonize contribution rates by raising rates for some privileged categories. Azerbaijan, Russia, and Ukraine have attempted to broaden the tax base by including some previously untaxed non-wage incomes. In Ukraine, banks have been required to pay the appropriate social insurance contributions at the same time they release the cash to pay wages, with a view to improving compliance levels.

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<sup>25</sup>(...continued)

Lithuania the pension age is being raised annually by 4 months (for women) and 2 months (for men) until it reaches 60 years for women and 62 1/2 years for men by 2009. In Kazakhstan the pension age is scheduled to increase by 6 months each year until it reaches 63 years for men and 58 years for women. The Pension Law adopted by Azerbaijan in July 1997 included an increase in the retirement age by 6 months per year between August 1997 and August 2000. In Armenia, the pension age will be raised by one year per year to 65 years for men and 63 years for women by 2002.



### **3. Systemic reform approach**

Although the growing financial pressures on pension funds—in several cases aggravated by aging populations—are forcing governments to consider options to avert a future crisis, a systemic reform of pensions systems is not an easy task. Even in the stronger CEE reformers, pension reform has stalled because of political opposition. Although several CEE countries are contemplating systemic reforms in their pension systems, so far only Hungary and Poland have submitted draft pension bills to their parliaments to shift to a multi-pillar pension system.<sup>26</sup> Pension reform is more advanced in Hungary; a pension law was passed in July 1997 and the new system is expected to be in place in early 1998. However, political compromises have weakened the original reform concept.<sup>27</sup>

Among BRO countries, Kazakhstan and Latvia are the front runners regarding systemic pension reform, although they have opted for different approaches to overhaul their Soviet-style pension system. It seems that, when fully implemented, the Latvian system will resemble the Swiss model, while Kazakhstan aims to replicate the pure Chilean model (Boxes 1 and 2). Both Kazakhstan and Latvia have already passed legislation for the establishment and regulation of private pension funds. A number of other BRO countries are contemplating systemic pension reform, including Azerbaijan, Estonia, Georgia, Lithuania, and the Russian Federation. Some of those (Georgia, Lithuania, and the Russian Federation) are in the process of preparing draft legislation for the introduction of private pensions funds.

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<sup>26</sup>The pension systems of CEE countries suffer from the same shortcomings observed in BRO countries, but the ratios of public expenditure to GDP tend to be higher, complicating reform efforts. Most CEE countries have already introduced piecemeal reforms in their PAYG systems and several countries have established private pension funds. Pressure for reform is greater in the countries that expect to join the European Monetary Union sooner.

<sup>27</sup>See Palacios and Rocha (1997).

### Box 1. The Latvian approach

The new pension law adopted in Latvia in November 1995 envisages the introduction of a multi-pillar pension system in a gradual fashion, following the successful implementation of the ongoing reform in the PAYG system. The centerpiece of the reform was the establishment of a stronger link between benefits and contributions, which is expected to result over time in increased compliance and coverage. Although there is no mandatory retirement age under the new system, the use of actuarial provisions in the pension formula provides the incentive for working past the minimum retirement age (to be gradually unified at 60). The reform also entails a 1 percent reduction in payroll taxes every year until 2001 and a gradual increase in employees' contribution until 2002, when payroll taxes will be split equally between employer and employee. However, in view of the large number of beneficiaries and the difficulties in reducing benefits further, the system will still require relatively high payroll taxes over the medium term.

The reform model adopted in Latvia followed the Swedish reform guidelines adopted in mid-1995 and includes three pension pillars, the first two being mandatory schemes. The first pillar, introduced in January 1996, is a modified PAYG system that combines a benefit structure based on *notional* defined-contribution accounts with a minimum guaranteed pension to protect the lifetime poor, set at the level of the social pension. Under this system, a record is made of contributions paid by employee/employer into the individual notional accounts, but in contrast to funded schemes, no *real* funds are accumulated into the accounts. The existing generation of pensioners continues to be supported by payroll contributions. The "rate of return" on contributed amounts is given by the rate of growth of the contribution wage base, with a view to capturing trends in labor productivity and in the labor force, the latter arising from demographic change and labor force participation. Until 2000, benefits will be indexed according to changes in consumer prices. Since the pension benefit is calculated by dividing the total funds "accumulated" in each individual account by the post-retirement average life expectancy of the individual's cohort, the system is responsive to changing demographics and penalizes early retirees. However, since the average life expectancy for *men* and *women* is applied for pension calculations, some redistribution in favor of women is implicit in the system. A pensioner retiring at age 60 with a contribution record of 36 years (the average in the country) is expected to get a replacement rate of 40 percent.

The introduction of privately-managed pillars will take place in two stages. The first comprises the development of a legal framework to regulate the operation of private pension funds; legislation was passed in July 1997. The second involves the introduction of the mandatory defined-contribution pillar based on privately-managed savings accounts, now envisaged for 1999-2001 (originally 1998). Although the pension law provides for voluntary participation by individuals aged 50 or less, the details of initial coverage of the second pillar were left vague. The requisite legislation is to be drafted in 1998. Implementation has been delayed to allow time for the establishment of an appropriate regulatory framework and the development of capital markets, as well as for the accumulation of savings from the reforms implemented in the first pillar. The third pillar will be a voluntary, funded system intended for those wishing to save for higher retirement income. The same regulatory agency would supervise both pillars.

The reform in the state-run system is expected to lead to a decline in pension expenditures in relation to GDP and an improvement in revenue collection, as well as the accumulation of sizable reserves to allow for the buildup of a funded second pillar and further cuts in the payroll tax. The decline in expenditures would result from the move from wage to price indexation, reduced benefits to early retirees (most categories have been phased out and the benefits of the remaining ones are adjusted according to actuarial criteria) and the expected increase in the effective retirement age. The improvement in revenues should follow from increased incentives to report income, participate in the formal sector and postpone retirement; the shift of non-contributory benefits to the budget; and the expected decline in arrears.

### **Box 2. The Kazakh approach**

An initial attempt to restore financial viability to the pension system was made through the implementation of piecemeal reforms in the PAYG system in mid-1996. However, since these measures were accompanied by a 50 percent increase in the pension ceiling, they did not alleviate the financial pressures on the pension fund. Therefore, the authorities decided for a more drastic approach. In June 1997, a new pension system was introduced in Kazakhstan, including a mandatory private savings pillar (a fully funded defined-contribution scheme) combined with a minimum pension guarantee from the state, which tops up the contributions-related pension. The mandatory scheme is expected to be supplemented by voluntary savings. The new system is expected to be effective by January 1, 1998, about 15 months after the initial decision to implement a radical pension reform was taken.

Contributors will not have the option of choosing between the old and new system, but will be able to invest their savings with a government-run pension scheme instead of private pension funds. This "state accumulation fund", similar to the arrangement adopted in Argentina, will be allowed to invest solely in securities issued by governments and international financial institutions. The regulatory framework for the operation of private pension funds is already in place. The authorities expect that a group of 4-5 private pension funds should be operational during the early stages of the reform; initially they are likely to invest mostly in government securities.

The government will be responsible for honoring all pension rights accrued under the PAYG before the January 1998 cut-off date. Out of the current 25.5 percent contribution rate, 15.5 percentage points (gradually declining to zero) will be earmarked to finance pensions granted under the old system and 10 percentage points will be diverted to the new funded pillar (the contribution rate in Chile, paid by the employee only, is 10 percent for pensions plus about 3 percent for disability and survivor benefits and administrative expenses). As part of the reform package, the authorities plan to pay all the arrears of the pension fund by the end of 1997. Indeed, the assumption of all overdue liabilities of the pension fund by the government was conditional on the adoption of a fundamental pension reform.

Notwithstanding recent piecemeal measures to reduce the cost of transition, the fiscal impact of the replacement of the PAYG system has been estimated at about 2 percent of GDP for the first year of the reform. The evolution of the fiscal burden over time will depend on how long it will take to eliminate old pension entitlements and how fast the payroll contribution earmarked to finance the old system will be phased out. The new system's success in reducing evasion, mainly through a closer benefit-contribution link, will also be key to ensure that the bulk of the adjustment comes from the revenue side. The aggregate cost of the transition, in present value terms, has been estimated at about 40 of GDP. Although part of these costs could be covered by privatization proceeds and increased tax revenues from the expected economic recovery, the rest would have to be financed through debt issuance.

Most experts agree that the Kazakh reform plan is very ambitious, especially in view of the time frame for implementation and the considerable amount of preparatory work before January 1998. However, significant progress appears to have been made so far in introducing the necessary institutions and regulations. The success in implementing pension reform in Kazakhstan will be crucial not only to establishing a sustainable pension system in the country in the long run, but also in view of its role as a model for pension reform in the region.

## **VI. PENSION REFORM IN BRO COUNTRIES: GOING THE LATVIAN OR KAZAKH WAY?**

Reforming pension systems in transition economies is in many ways a more difficult task than in industrial and developing countries. There are serious economic and political constraints to reform, including the fragile situation of the public finances, the large competing expenditure needs, the lack of developed financial markets and regulatory frameworks, and the need to provide a minimum protection to pensioners who may not live to enjoy the eventual benefits from the transition but expect the governments to honor their inherited "social contract".

The original BRO pension systems were clearly designed to resemble the German pension model, i.e., pension systems largely dominated by PAYG retirement income provision. However, as the transition to market economies got underway, it became increasingly clear that the macroeconomic environment could not support a pension system along these lines. Moreover, in the medium run a pension system dominated by a PAYG pillar is unlikely to be sustainable (even under optimistic growth scenarios) or indeed desirable in view of the aging population problem. The conclusions that follow immediately are that: (i) the PAYG pillar of BRO pension systems needs to be substantially reformed; and (ii) the build up of a second (private) pension pillar to supplement the public system is imperative, as it is unlikely that the public system alone will be able to provide adequate replacement rates.

Several BRO countries have already started to address the shortcomings of their PAYG pension systems through piecemeal reforms. Two countries, Kazakhstan and Latvia, have decided to move a step further toward long-run fiscal sustainability and have embraced systemic pension reform. However, they have chosen very different routes and, in particular, different timetables, to establish multi-pillar pension systems. It appears that Latvia's reform route would lead eventually to the adoption of the basic features of the Swiss pension model, while the Kazakh design is more oriented towards the Australian-Chilean pension model. The natural question that arises as a number of other BRO countries contemplate systemic reform is whether they should follow the Latvian approach or the Kazakh approach.

### ***Reforming the PAYG pillar***

Under any reform approach, restructuring the existing public pension system is a necessary first step, so a number of piecemeal reforms should be undertaken without delay to render the present PAYG systems more efficient and less costly. Among many possible measures to reduce expenditure, increase revenue, and make the systems more transparent, priority should be given to those that contribute to strengthening the current weak link between contributions and benefits. In particular, consideration should be given to:

- using actuarially fair pension formulae to raise the effective retirement age
- tightening eligibility criteria for early retirement and disability
- transferring the cost of all non-contributory benefits and special pensions to the budget

- eliminating exemptions and extending the payroll tax to non-wage compensation

Indexing existing pension benefits to the consumer price index instead of wages could yield important savings in the short run, while the use of demographic factors in the benefit formulae would help to counter the challenge posed by aging populations.

### ***Privatizing pension provision***

Under current circumstances, it is also unavoidable to start developing private pension provision in BRO countries. Therefore, steps should be taken to introduce legislation for the effective regulation of private pension funds, to develop the human capital and the institutional capability needed for their operation, and to encourage the development of domestic financial instruments. Full liberalization of interest rates is of course a pre-condition for the development of financial markets.

As they embark on systemic reform, the key reform issues to be addressed by BRO countries are: (i) the relative sizes and functions of the public and private pillars that will evolve from the reform process; and (ii) the speed of the transition to the final pension system.

In view of the deterioration in income distribution during the transition period and the lack of an efficient and sound financial infrastructure, a relatively large redistributive public pillar may be necessary, at least for the time being, in most BRO countries.<sup>28</sup> The expectation of “cradle-to-grave” social protection, still prevailing in BRO countries, also suggests that a “cold turkey” privatization approach of pension provision may not be a realistic option in most countries.

The decision about how quickly to implement systemic reforms will need to take into account the costs involved in moving to funded pensions systems. During the transition from PAYG systems to funded schemes, governments would have to provide benefits to existing and future pensioners but would have to give up (partially or totally) the payroll taxes that support these benefits. Although the implicit PAYG pension debts may be relatively low in BRO countries because of the severe compression of benefits, the transition to funded schemes may still prove to be costly under current budget constraints. Furthermore, if pension expenditures were allowed to rise at a fast pace, additional pension debt would accumulate quickly.

The pace of reform would also depend, to a large extent, on the country's growth performance and on its ability to stem the rapid growth of the informal sector. Strong and sustained growth that boosts wages, together with a widening of the contribution base, could improve the finances of pension funds for some time and delay the introduction of more

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<sup>28</sup>For a comprehensive analysis of income distribution issues in transition economies, see Milanovic (1997).

radical reforms, especially if price indexation of benefits is used to contain expenditures. On the other hand, if robust growth is not forthcoming and the informalization of the economy continues at a fast pace, the current financial situation of pension funds will tend to get worse, increasing the need for radical reform. Under this scenario, the fiscal burden of pension expenditure could be exacerbated by the need to allocate an increasing share of public resources to provide unemployment compensation.

A strong case could be made for the gradual (or Latvian) reform approach, aimed at establishing a multipillar system over the long run, but initially focused on the implementation of “high quality” piecemeal reforms that would strengthen the contribution-benefit link and increase compliance and coverage within the PAYG system. The speed at which a funded pillar could be added on to the reformed PAYG pillar, as well as the relative size of each pillar, would depend on the specific circumstances of each country, including demographic considerations, the degree of financial market development, the adequacy of the tax system and the regulatory framework, and—most importantly—its redistribution objectives. The stronger reformers have already made considerable strides in establishing the pre-conditions for the privatization of pension provision and could be expected to allocate a relatively large share of pension provision to the private sector in the medium term. Although slow reformers could not be expected to build funded pillars in the immediate future, efforts should be made to develop the enabling environment necessary for the future introduction of privately-managed pension funds.

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