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Pension Reform
in Croatia

Zoran Anusic, Philip O'Keefe,
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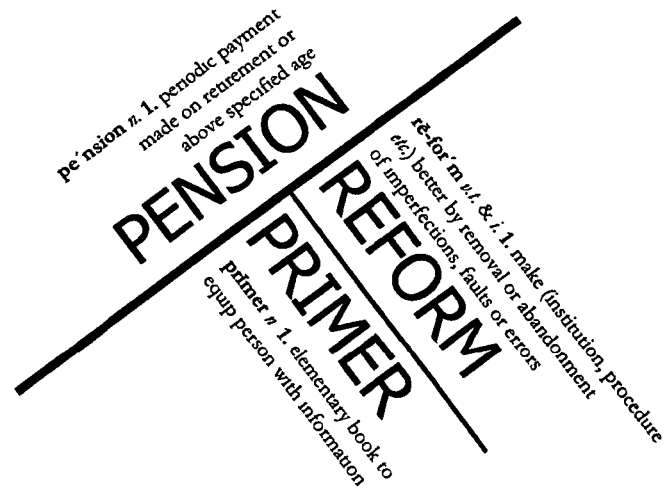
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PENSION REFORM IN CROATIA

by
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Abstract

Croatia's transition toward independence and the market economy in the 1990s exacerbated problems in the PAYG DB system and ultimately led to its financial collapse. Although a comprehensive three-pillar reform was initiated in late 1995, implementation of the reform only began in 1998 with an overhaul of PAYG parameters, including shifting to a German-style points system. Introduction of the mandatory and voluntary funded pillars was announced in 1998 and implemented in 2002. The new system includes a privately-managed individual account scheme with a contribution rate of 5 percent in addition to a downsized pay-as-you-go, defined benefit component. This paper describes the design of the new system and highlights areas where further refinements are needed.

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Introduction

Croatia's transition toward independence and the market economy in the 1990s exacerbated problems in the PAYG DB system and ultimately led to its financial collapse. Although a comprehensive three-pillar reform was initiated in late 1995, implementation of the reform only began in 1998 with an overhaul of PAYG parameters, including shifting to a German-style points system. Introduction of the mandatory and voluntary funded pillars was announced in 1998 and implemented in 2002. The mandatory second pillar is organized through individual accounts administered by private pension fund management companies. Individuals can select their pension fund and switch between funds as they choose. Procedures of affiliation, switching, contribution collection, enforcement, account administration, and reporting on individual accounts are organized centrally, by the Central Registry of Affiliates (REGOS), a second-pillar clearinghouse. Individual accounts in the second pillar will yield price-indexed lifetime annuities. While total pension expenditures in the next 40 years are expected to remain above 10 percent of GDP, gradually two mandatory pillars of similar size will emerge. Unless the second pillar contribution rate increases from the current 5 percent of gross wage, combined replacement rates are expected to remain low relative to earlier target levels. The estimated low burden of the transition cost suggests that it would be feasible to introduce an increase in the near future, along with measures to reduce the relatively high administrative costs of the second pillar. The legislated fees for funded pensions appear to be very high. At the same time, complex and rigid requirements could act as a barrier to entry for potential fund managers. This has led to high administrative costs during initial implementation relative to international comparators.

There are several lessons which can be drawn from the Croatian reform to date, which are important despite being preliminary. They include:

- *Combining PAYG and funded pension reforms* into a single reform “package” can be useful in building support for funded pension reform, particularly in countries where public faith in the first pillar has been undermined. It also suggests that multi-pillar reform can be accomplished in a fiscally challenging environment if there is sufficient adjustment in the PAYG system;
- use of a *central clearinghouse*, if well designed and executed, can assist in smooth and more uniform implementation of the second pillar. It may also facilitate broader consolidation in public revenue reporting and enforcement that is desirable in terms of efficiency and transparency in tax administration;
- the central clearinghouse and its protection of affiliate information does appear to have minimized abuses in pension fund management marketing seen in other funded pension reforms. At the same time, overall fee levels remain high due to the problems with fees levels and structures;
 - use of a central clearinghouse does not automatically result in administrative cost savings if the legislated fee structure is incorrectly and/or overly rigidly determined. The Croatian experience also suggests that closer coordination with fund managers on the system and individual fund manager data needs is required to ensure that central account management achieves the intended economies of scale and not merely duplication of account management functions within the system;

- those designing reforms need to think through carefully the implications of *fee schedule design* for portfolio concentration and unintended barriers to entry for potential fund managers. Concerns on possible portfolio concentration incentives may be particularly important for countries such as Croatia which have small and illiquid equity markets and still-developing local long term debt markets;
- a *contribution rate* of 5 percent of payroll as in Croatia should be considered very much a lower bound for a multi-pillar system to provide a minimum acceptable aggregate replacement rate from a second pillar; and
- the Croatian experience does not offer clear guidance on the *single or multiple regulator* question to date. However, broader assessment of financial market and contractual savings regulation in Croatia suggests that medium term consolidation of regulation for contractual savings at least may be desirable in a small country with limited regulatory capacity.

1. Introduction and Macroeconomic Background

1.1 Introduction

This paper describes and analyzes the multi-pillar pension reform implemented in Croatia in the late 1990s. It also includes long term forecasts of the new system. The structure of the paper is as follows: Section 1 describes macroeconomic developments in Croatia in the last decade, which form an important backdrop to the pension reform. Section 2 describes the evolution of the PAYG system in the years leading up to the first pillar reform. Section 3 summarizes the overall concept of the multi-pillar reform legislated in 1998 and 1999, and details the key elements of the 1998 PAYG reform. It also outlines the initial impact of the reform and external factors influencing the financial position of the first pillar in the late 1990s. Section 4 then describes in detail the main features of the funded pillars which came into force in 2002, and identifies key issues in system design which are likely to need further attention from policy makers. It also describes market developments in 2001 and 2002 leading up to the introduction of the funded pillar and the initial experience in implementation. Section 5 then gives forecasts of the impact of PAYG and funded pension reforms, and implications for the future structure of the pension system. Section 6 summarizes the main findings and outstanding issues in each pillar which are likely to require further adjustments in the system in coming years. It also outlines main lessons of the Croatian reform relevant for other would-be pension reformers.

1.2 Macroeconomic background

This section discusses macroeconomic and fiscal developments in Croatia in the 1990s which together with growing dependency rates, contributed significantly to the need for reform of the pension system. Following independence, Croatia experienced transition hampered by both conflict and a period of hyperinflation. Macroeconomic stability, initiated with the Stabilization 1993 Program, coupled with the resumption of peace in 1995, contributed to a strong revival of economic activity. Inflation remained on average around 4 percent thereafter. The recovery was driven by rising domestic demand - a surge in consumption and investment for reconstruction. In the period following the end of the war, this surge in domestic demand was financed by repatriation of capital, primarily from deposits held abroad by expatriates. Deposit repatriations through the banking system triggered a bank-lending boom, which led to growing external imbalances, as imports increased rapidly.¹ Lack of fresh investment capital contributed to sluggish exports, that, accompanied by an expansion of imports, produced a large current account deficit, reaching its peak in 1997. Initially, the current account deficit was financed by capital inflows. However, after 1997, these inflows declined significantly and were replaced by increasing external debt (further spurred by Croatia receiving an investment credit rating in 1997) and by privatization revenues. As a result, external debt more than doubled in only six years - rising from 25 percent in 1994 to almost 60 percent of GDP in 2000.²

¹ An additional factor that contributed to the surge in imports was the advancement of purchases to avoid the 22 percent VAT introduced in January 1998.

² The stock of end-1994 external debt to GDP ratio is corrected by the latter recognition of the Paris and London Club debts (1995-1996).

Table 1.1: Selected Macroeconomic Indicators, 1994-2001

	1994	1995	1996	1997	1998	1999	2000	2001
GDP per capita, current USD	3,137	4,029	4,422	4,398	4,805	4,371	4,153	4,402
Real GDP growth, % rate	5.9	6.8	5.9	6.8	2.5	-0.9	2.9	3.8
Real GDI growth, % rate	...	...	32.9	32.4	-7.4	-7.9	-10.3	14.7
Real private consumption growth, % rate	...	...	-0.2	13.6	-0.6	-2.9	4.2	4.6
Consumer price index, p.a., %	97.5	2.0	3.5	3.6	5.7	4.2	6.2	4.9
Labor productivity in industry, pa, % change	3.0	6.6	11.3	11.9	8.7	3.9	4.3	9.6
Average monthly gross wages, pa, % change	...	34.0	12.3	21.0	12.6	10.2	7.0	3.9
Unemployment rate (LFS), pa, %	...	...	10.0	9.9	11.4	13.6	16.1	15.8
Current account balance, % of GDP	4.9	-7.5	-4.8	-12.5	-6.7	-7.0	-2.4	-3.2
Expenditures & net lending of CGG, accrual, % of GDP	44.1	48.9	51.9	51.3	54.0	57.2	54.2	53.4
CGG balance (incl. Arrears) (% of GDP) ^{a/}	1.5	-1.4	-2.2	-3.1	-2.2	-8.4	-7.0	-6.8
Total public debt, % of GDP ^{b/}	22.2	19.3	31.6	35.8	42.6	54.0	61.2	64.5

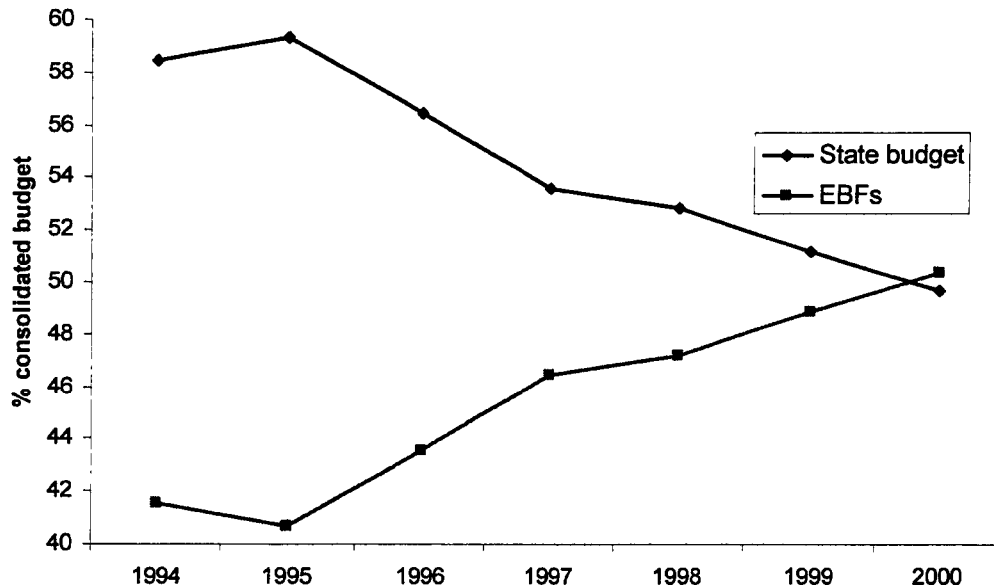
a/ Excluding privatization receipts. Includes central budget, extrabudgetary funds, road agencies and local govt. b/ Includes publicly guaranteed debt and arrears.

Source: Central Bureau of Statistics, Croatian National Bank, MoF, Institute for Payments and staff calculations.

Monetary tightening in 1998, combined with the unfavorable external environment, led to a surge in real interest rates and depressed economic activity. The banking crisis that followed and the outbreak of hostilities in Kosovo, all contributed to the 1999 recession. The expansion of fiscal revenues ended in late 1998, while expenditures continued to expand. The deficit of the Consolidated General Government rose to more than 8 percent of GDP in 1999, once payment arrears were taken into account as expenditure items. The deficit was in major part financed through privatization receipts coming from the sale of Croatian Telecom.

After elections in January 2000, the new Government realized that rising public debt ratios and twin deficits were likely to make access to external financing more costly and less abundant, while the use of privatization receipts to finance deficits was not a viable long-term strategy. During late 2000, the Government initiated a set of reforms aiming at reducing the deficit and the overall tax burden. The consolidated central government (CCG) expenditures were reduced by more than 5 percentage points of GDP. Nevertheless, the EBFs – pension and health funds in particular – still ran a significant deficit that was only partly offset by a higher surplus in the central government. In fact, during 2000 overall extrabudgetary spending (pensions, health, child, unemployment benefits and water management) surpassed the share of "core" state budget spending in overall CCG spending, a dramatic change from the position in the mid-1990s when core spending accounted for almost 60 percent of CCG (Figure 1.1).

Figure 1.1 Central budget spending versus extra-budgetary fund

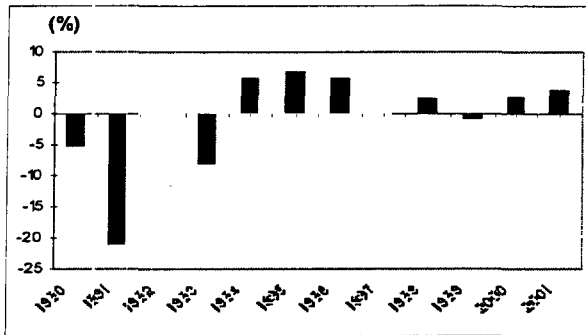


Driven by private consumption and some recovery in exports, the economy pulled out of recession in 2000. While consumption expansion benefited from a large public sector wage increase in 1999, exports also improved, helped by a recovery in Europe and real exchange rate depreciation. Tourism revenues surged as a result of improved political stability in the region. All this reduced the current account deficit to its lowest level in the last seven years. The Croatian economy expanded by 2.9 percent in 2000 and 3.8 percent in 2001, despite weaker external demand.

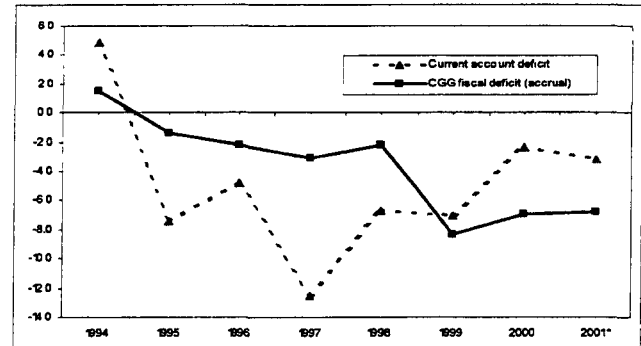
The banking sector recovered from its crisis and confidence in the banking system strengthened considerably. International reserves grew to record highs, partially due to euro conversion (approximately EUR 2 billion entered the banks as household deposits at the end of 2001) (Figure 1.2.). Moreover, the country took steps toward closer integration with the world economy, which included: (i) completion of WTO membership; (ii) trade concessions from the EU; (iii) signing some 30 free trade agreements which became effective in 2001 and 2002, including with CEFTA countries; and (iv) successfully negotiating a Stabilization and Association Agreement with the EU. Notwithstanding these positive developments, the official unemployment rate remained high at around 22 percent in 2001 (15.8 percent according to the ILO definition), due mainly to rigidities in the labor market and unsatisfactory progress in enterprise restructuring. While private consumption remained strong, imports of machinery, equipment and intermediate goods, together with increased lending activity to enterprises, also indicated growth of private sector investments.

Figure 1.2. Evolution of Selected Macroeconomic Variables

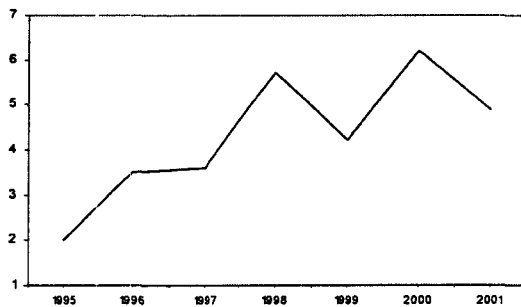
GDP Growth (%)



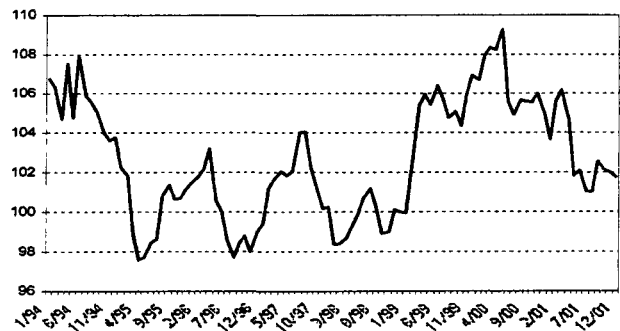
Twin Deficits in Croatia (% of GDP)



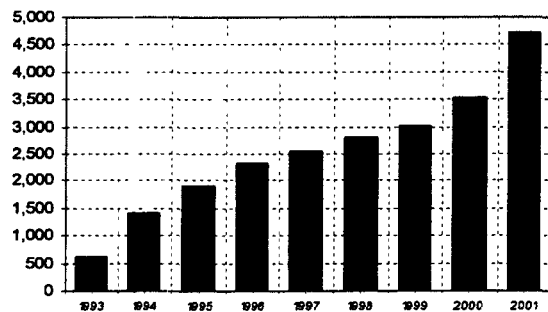
Inflation (annual average)



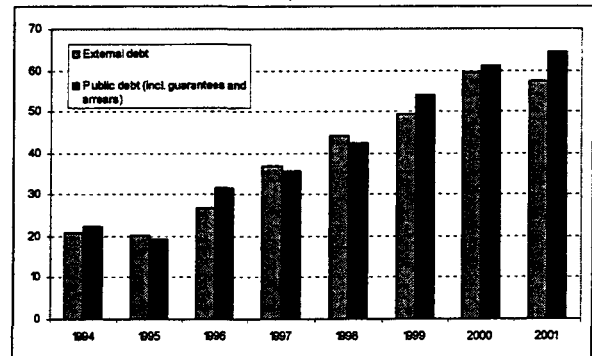
Real Effective Exchange Rate (CPI defl, 1995=100)



International Reserves (mill USD)



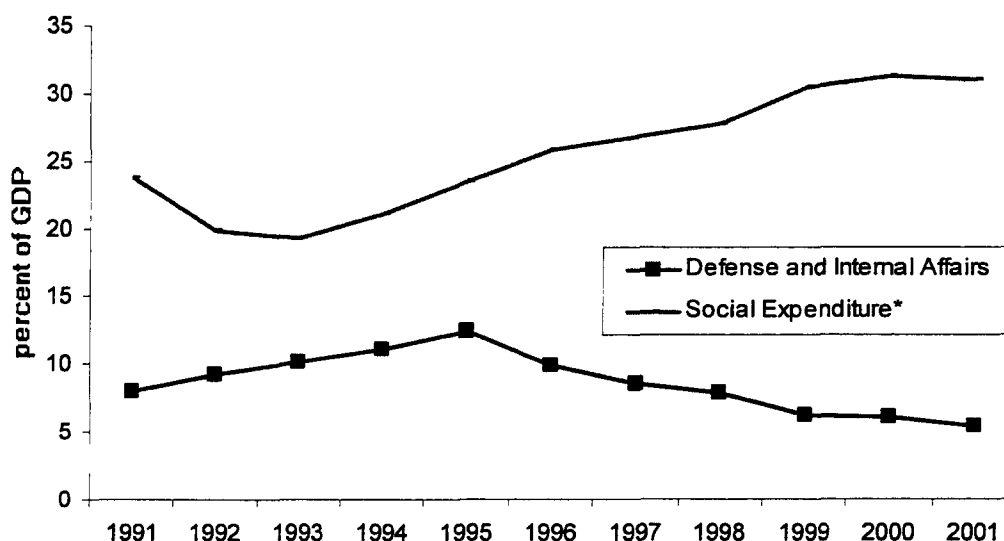
External and Public Debt (% of GDP)



Source: Central Bureau of Statistics, Croatian National Bank

Fiscal policy played an important role in the Government's stabilization efforts, as fiscal deficits were kept below three percent of GDP until a sharp deterioration at the end of the 1990s. Strong revenue performance in the period between 1994 to 1998 was the key factor behind the Government ability to keep the deficit low. While this was positive, economic growth combined with modernization of the tax system resulted in a CGG revenue/GDP ratio which was the highest level among European transition countries.³

Figure 1.3 Defense versus social expenditures as share of GDP



*includes education, health and social security

The strong expansion of public sector spending was partly due to the need to strengthen public administration and to allocate resources to the war and post-war reconstruction effort. Total CGG spending increased sharply from 39 percent of GDP in 1991 to 49 percent by the end of the war in 1995, and further to 57 percent in 1999. The first expansion occurred despite a steep reduction in the real value of pensions and public sector wages -- the two anchors of fiscal stabilization policy. Post-war fiscal expansion has created additional atypical types of spending not experienced by most transition countries - social spending linked to the war, reconstruction costs, and spending to meet other special interest group demands. As a result, the post-war expansion of social spending offset the reduction in military spending (Figure 1.3). The level was much above most developed transition countries, but also well above the majority of developed industrial countries' spending. The trend was also unfavorable, as Croatia was increasing instead of decreasing its overall

³ Tax reforms included broadening of tax bases, introduction of new taxes (VAT, road charges, share in public enterprises' profit, local surtax etc.), and simplification of tax administration.

spending, in contrast to its neighbors.⁴ Successive tax reforms, aligning Croatian tax system to international standards, have succeeded in improving tax administration and revenue mobilization, turning Croatia into one of the highest-taxed economies in the region. However, as mentioned above, the 1999 recession put an end to the revenue expansion, showing the fragility of the heavily taxed private sector.

**Table 1.2: Consolidated General Government finances by level
1994-2001 (Accrual Basis)**

	<i>As a percentage of GDP</i>							
	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>
Total revenue and grants ^{1/}	45.6	47.5	49.7	48.3	51.8	48.8	47.2	46.7
o/w Budgetary Central Gov.	26.1	27.8	28.5	27.2	30.8	28.4	27.4	29.7
o/w Extrabudgetary funds	15.6	15.3	15.5	15.4	15.2	14.7	14.3	11.0
- Pension Fund	8.1	8.6	8.7	8.6	7.5	7.4	7.3	3.5
- Health Insurance Fund	4.3	4.6	4.8	4.7	5.9	6.0	5.8	5.8
o/w Local Government	3.9	4.4	5.7	5.7	5.8	5.5	5.3	5.7
Total expenditure and net lending	44.1	48.9	51.9	51.3	54.0	57.2	54.2	53.4
o/w Budgetary Central Gov.	23.6	26.5	25.6	24.1	25.1	25.9	23.9	25.9
o/w Extrabudgetary funds	16.9	18.3	20.6	21.6	23.0	25.0	24.4	20.0
- Pension Fund	7.6	9.0	9.7	11.1	11.8	14.0	12.7	7.7
- Health Insurance Fund	6.0	7.2	8.6	8.0	8.8	8.6	9.3	7.9
o/w Local Government	3.7	4.2	5.7	5.7	5.8	5.9	5.1	6.6
Overall deficit/surplus	1.5	-1.4	-2.2	-3.0	-2.2	-8.4	-7.0	-6.8
o/w Budgetary Central Gov.	2.5	1.4	2.9	3.1	5.7	2.6	3.5	3.8
o/w Extrabudgetary funds	-1.2	-3.0	-5.1	-6.1	-7.9	-10.3	-10.1	-9.0
- Pension Fund	0.5	-0.4	-1.0	-2.5	-4.2	-6.5	-5.4	-4.2
- Health Insurance Fund	-1.7	-2.6	-3.9	-3.4	-2.9	-2.6	-3.5	-2.2
o/w Local Government	0.2	0.2	0.0	0.0	-0.1	-0.4	0.2	-0.9

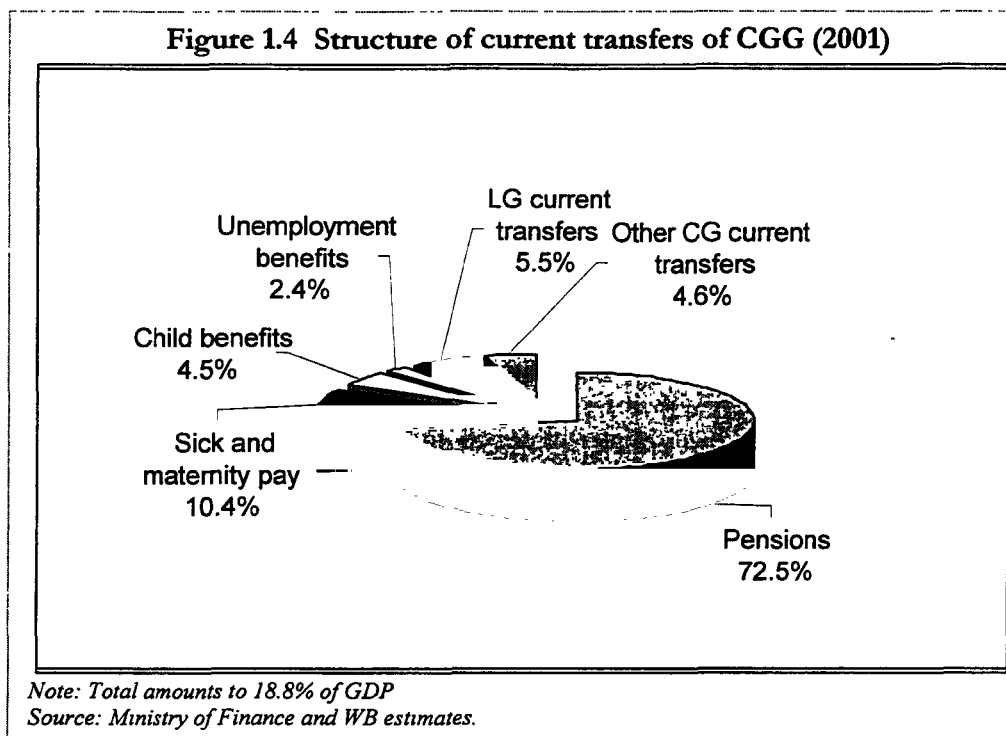
Source: World Bank estimates for general government (CG, EBFs and agencies, LG, Bank Rehabilitation Agency and Croatian Privatization Fund) based on cash data from the MoF, adjusted for net increases in arrears.

Notes: 1/ Excludes privatization receipts considered as a financing item below the line.

Caveats: The CG has been absorbing the financing of some EBFs. In particular, since 1994, the Road Fund, and since 1998 the Child's and the Water Management fund have been financed from general revenues. Also, from July 2001 the CG has further absorbed pension spending. Had it not been for these changes, the total revenues of the EBFs as a share of GDP would have been relatively stable throughout the 1994-99 period –at around 15.5 percentage points of GDP.

⁴ See World Bank, PEIR (2002). Some differences in the data in the PEIR and this document arose from availability of updated information and inclusion of four additional government agencies into the CGG definition.

Figure 1.4 Structure of current transfers of CGG (2001)



Analyzing the economic classification of fiscal spending, current transfers were the major factor behind the expansion of public spending. Current transfers grew by as much as 135 percent in real terms between 1994 and 2001. In 2001, current transfers on an accrual basis stood at 18.8 percent of GDP. The expansion of current transfers has mostly been driven by the pension and health sectors. These two funds have combined for a total expansion equivalent to 8.8 percentage points of GDP between 1994 and 1999, of which more than 6.3 percentage points were due to the Pension fund and 2.5 to the Health fund.

Rising central government surpluses have only partially compensated for the increasing deficits of the EBFs, resulting in an increase in the total deficit. Pensions currently absorb 72.5 percent of total CGG current transfers. The share of state budget in current transfer payments has been increasing from 1.1 percent of GDP in 1994 to 9 percent in 1999 and 8.6 percent in 2000, meaning that the earmarked funds simply could not cover expenditures. However, most of the increase is a consequence of either changes in legislation or government decisions to “rehabilitate” selected sectors or enterprises through payroll contribution waivers.⁵ Since 2001, the situation has worsened further, with an additional CG annual transfer totaling 1.2 percent of GDP to the Pension Fund required by the law on pensioners’ debt restitution adopted by the Parliament in December 2000 as the reaction to the Constitutional Court decision on the need to compensate pensioners for freezing wage indexation during the Stabilization 1993 Program (see Section 3.4 for further discussion).⁶

⁵ The legislative changes include: the abolishment of the contributions to the child fund and the water management fund; as well as provisions contained in the so-called “small pension law” establishing the repayment of the merit pension transfers that have been retained by the CG during the war time (for further details see Section 3.4).

⁶ Law on eliminating differences in pension levels acquired in different periods, Official Gazette, 127/2000

The fiscal consolidation that started in 2000 has succeeded in lowering general government spending to some 53 percent of GDP in 2001 from 57 in 1999. However, this expenditure level and the high fiscal deficit are still threats to macroeconomic stability and further reform steps have to be taken to put fiscal policy on a sustainable path. A credible fiscal adjustment requires sustainable changes in fiscal policy, as opposed to unsustainable cuts in public investment and non-wage current expenditures as observed in the past. This implies sustainable reductions in transfers and the public sector wage bill. Since transfers to the Pension and Health funds constitute an important part of the total transfers, sustainable reductions in these areas cannot be realized without the implementation of structural reforms. Reform of the two sectors, therefore, has become critical element of expenditure reduction efforts. As Croatia moves closer to the EU, fiscal consolidation effort will be paralleled by the need to budget for the costs of EU accession. Therefore, the pension system cannot expect savings from other sectors to cover its deficits, but will need to realize its own savings coming from further 1st pillar adjustments. The early evidence of the reform of the pension system suggests some promising developments, visible in a strong revenue performance and slowing of the growth of new pensioners (see Section 3.3. for more details).

The following section describes in more detail the problems of the pension system in the 1990s which necessitated the comprehensive reforms introduced at the end of the decade.

2. The Croatian PAYG System in the 1990s

Prior to 1998, the pension system in Croatia was a pure PAYG system organized in three separate funds (workers, self-employed and farmers) which differed only in formulas applied with regard to the determination of benefits. Eligibility and benefits of privileged categories (WWII participants, active military and police personnel, academicians, Homeland war veterans, ex-political prisoners, former JNA personnel, etc.) were determined by specific laws.

Similar to other PAYG systems in the region, the Croatian system featured low retirement ages (60 for men, 55 for women), full old-age pension entitlement based on 40 and 35 years of service for men and women respectively, and various supplements to years of service irrespective of contributions actually paid (additional service for bodily injuries, hard work conditions, special privileged occupations, doubling the service period for veterans and political prisoners). During the 1990s, external conditions worsened with the war, recession, privatization and economic restructuring. Along with generous policies for accessing pensions, the pension system was unable to sustain this range of negative shocks.

After achieving independence in 1990, the pension/GDP ratio in Croatia declined rapidly from 10 to around 7 percent in 1992. War and economic decline in that period induced a large decline in real wages and, due to prevailing wage indexation of pensions, a corresponding decline in real pensions.

However, from 1994 onwards, there was a rapid increase in the pension/GDP ratio, which rose to more than 13 percent in 1999. For most of that period, total spending within the PAYG system was significantly higher than pensions-only spending due to health insurance contribution obligations of the Pension Fund. By the time those obligations were transferred to the general budget financing in 1998, core pension spending had stabilized

around 13 percent of GDP. Table 2.1 tracks the evolution of pensions spending in the 1990s, as well as other key data on the system.

Figure 2.1 Pension Fund versus pension expenditures

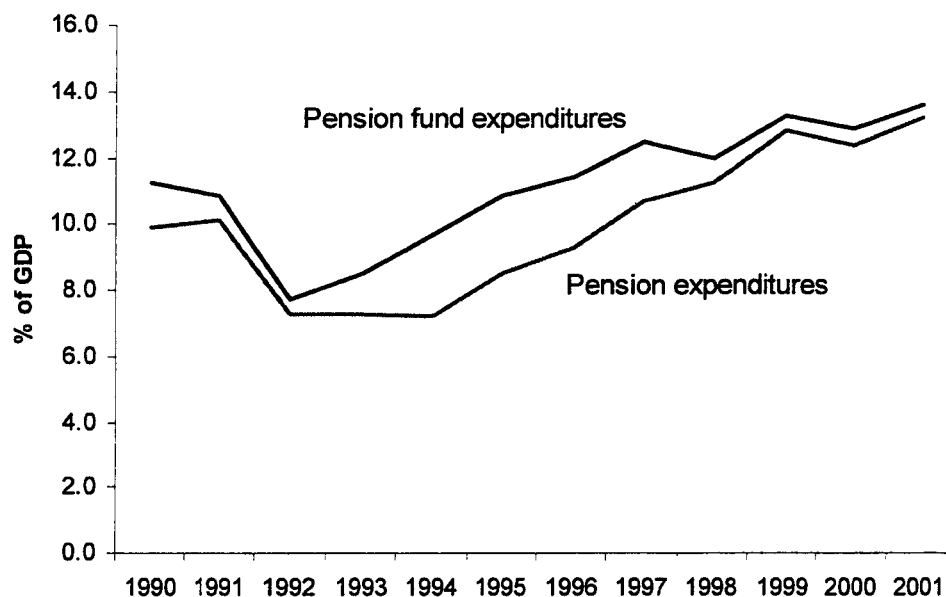


Table 2.1: Pension System Indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Expenditures for pensions as % of GDP	9.9	10.1	7.3	7.3	7.2	8.5	9.3	10.7	11.2	12.8	12.4	13.2
Total Pension Fund outlays as % of GDP*	11.3	10.8	7.7	8.5	9.7	10.8	11.4	12.5	12.0	13.3	12.8	13.6
- Insured to Pensioners	3.00	2.56	2.23	2.14	1.97	1.81	1.66	1.59	1.54	1.38	1.36	1.36
- Pensioners to Insured	0.33	0.39	0.45	0.47	0.51	0.55	0.60	0.63	0.65	0.72	0.74	0.74
Age dependency ratio**	2.97	2.89	2.83	2.77	2.71	2.66	2.82	2.99	2.98	2.97	2.94	2.94
Net replacement rate, %***	75.3	62.8	63.2	61.8	52.5	45.9	45.8	47.0	46.8	44.6	42.9	47.6
Contributors, 000	1,969	1,839	1,725	1,698	1,622	1,568	1,479	1,469	1,472	1,406	1,381	1,402
Beneficiaries, 000	656	720	775	795	825	866	889	926	955	1,018	1,019	1,032
- o/w old age****	321	353	400	419	440	443	458	478	495	518	532	540
- o/w disability****	166	183	183	182	186	190	191	198	201	235	237	238
- o/w survivors****	168	184	193	193	191	191	192	199	206	210	213	217
Pension benefit, HRK	3.6	5.1	21.1	325.1	655.2	834.	932	1117.4	1255.9	1363.1	1426.2	1685.7
Net wage, HRK	4.8	8.1	33.3	526.4	1247	1818	2033.	2377	2681	3055.	3324.4	3541

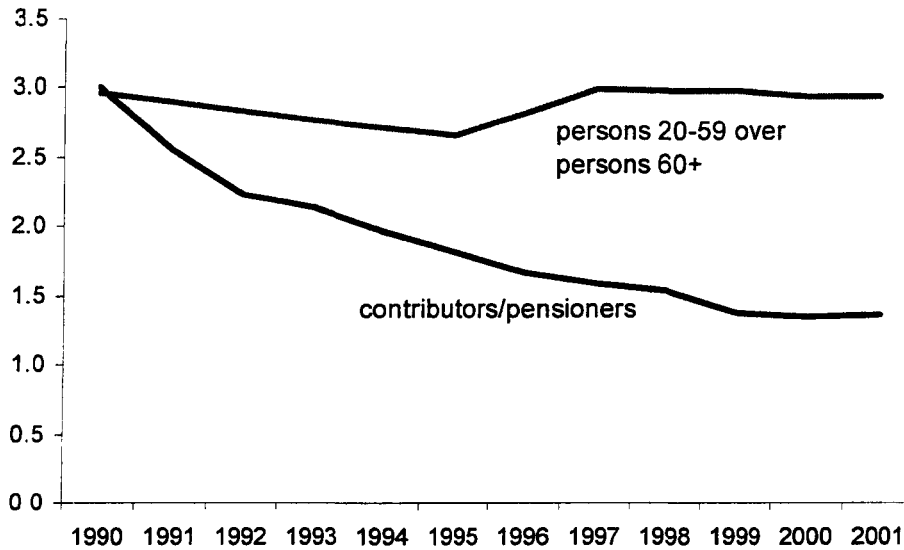
Source: Central Bureau of Statistics, Pension Insurance Fund

*including overall spending on pensions and administration cost of the Pension Fund

20-60 year-old, over more than 60 year-old; *average net old-age pension as a percentage of average net wages;

****Excluding military beneficiaries.

Figure 2.2 System versus old age support ratios



As noted in Section 1, the rapid expansion of pensions spending was not matched by an increase in contribution revenues, resulting in increasing deficits financed by general revenues. The deterioration in the financial position of the system was largely driven by a substantial shift in the system dependency ratio, which began in the 1980s and accelerated in the 1990s (see Figure 2.2). Between 1980 and 1990, the SDR deteriorated from 4 to 3, and experienced an even sharper decline from that point to reach 1.36 by 2001. As Table 2.1 and Figure 2.2 show, the deterioration was driven both by a large fall in contributors – of over 28 percent between 1990 and 2001 – and by a dramatic rise in pension beneficiaries – by almost 60 percent in the same period. What were the key factors driving these trends?

In many countries, demographic trends have been significant factors in increased pressure on the pension system. While the same is true for Croatia over the long term – with the share of population over 55 expected to increase from 25 to 40 percent between 1995 and 2035, and the age dependency ratio deteriorating from close to 3 to around 2 in 2035 – Figure 2.2 indicates that the deterioration in the SDR in the 1990s was not due to demographic factors in any significant measure.

The major factors leading to the declining SDR were general economic deterioration and the impact of the war, with both effects compounded by Government policy responses. Specifically, the main influences were:

- A rising unemployment rising from 11.1 percent in 1990 to around 22 percent in 2001, with an increase of around 60 percent between 1996 and 2000 alone.⁷ This trend was accompanied by increased informalization of the economy as a result of the war, exacerbating the decline of the contribution base;
- Use of the pension system to deal with surplus workers through use of pension history “buy-outs” for older workers in companies undertaking “restructuring” or where production ceased due to war activities, as well as easier access to civilian disability pensions. This practice has continued under the current Government, for example in dealing with the recent retrenchment of 13,000 employees in the Ministry of Defense;
- The effects of the war on the number of privileged (or merit) pensioners and military disability pensioners. While this was to some extent an unfortunate and unavoidable consequence of the conflict, less than stringent assessment procedures almost certainly made the inflow of these groups higher than was warranted (especially during 1995 – the end of the conflict). By end 1999, almost 20 percent of pensioners were receiving a privileged pension (see Table 2.2 for a breakdown by the 11 categories of privileged pensioners). Despite the overall fall in the number of merit pensioners, in expenditure terms the new pensioners (Croatian army and Croatian defenders) added more than the savings from the fall in the old types of privileged pensioners⁸;
- In 1999, a spike in new mostly early retirees and disability pensioners, as people “rushed to pension” to lock in their entitlements under the pre-reform system (see Section 3.3 for more details).

Table 2.2: Number of privileged pensions by category

	1998	1999	2000	2001
WW II veterans	76,636	73,466	72,382	70,712
Police	12,791	12,816	13,679	14,257
Executive Council of Sabor	144	126	125	100
Croatian Academy of Science and Arts	87	79	81	82
Croatian Homeland war veterans, 1941-45	35,614	34,090	33,932	32,788
Ex Yugo-army soldiers	16,667	16,217	15,784	15,467
Ex political prisoners	3,972	5,668	5,976	5,893
Parliamentarians	119	112	119	121
Croatian Army	2,237	2,364	2,769	3,783
Croatian defenders	22,612	26,110	28,551	29,300
Ex Yugoslav pensioners	26,959	25,325	5,126	4,871
TOTAL	197,838	196,373	178,524	177,374

⁷ Like most SFRY systems, registered unemployment was considerably higher than unemployment measured in labor force surveys following ILO definitions (see Table 1.1). However, LFS data show a similar rising trend in the second half of the 1990s.

⁸ In 1998, the share of merit pensioners was 21 percent of total beneficiaries, while their benefits amounted to 20 percent of total pension spending. In 2001, 17 percent of pensioners received 19 percent of total pension spending.

The combined impact of these policy measures can be seen in average years of service at retirement for both old age and disability pensioners in the 1990s. For old age pensioners, this fell from around 34 years on average in the early 1990s to 27 years in 1995, before a rebound to 31 years by 2001. For disability pensioners, average years of service at initial entitlement fell from around 25 years in the early 1990s to only 21 years in 1995, before a partial rebound to 23 years by the end of the decade.⁹ Furthermore, around 20 percent of all pensioners acquired the pension benefit with less than 19 years of service.

As government policy worsened the deterioration of the SDR, it further exacerbated the financial impact on the system of a rising net inflow of pensioners through complementary policy choices on financing, both on the revenue and expenditure sides. The most problematic policies – most of which the new Government which took office in 2000 has subsequently revised or eliminated - were:

- Extensive use of contributions exemptions not matched by any reduction in entitlements. Exemptions were used not only for the military and police, but also as a public subsidy for “rehabilitation” of selected industries such as shipyards. One of the largest groups to benefit from this was war veterans and survivor families¹⁰;
- High levels of privileged pensions, which increased the financial pressure of high inflow in this group. This was both a financial and an equity issue, given the disparities between privileged and regular pensions. Overall, privileged pensions, including pensions for disabled war veterans and survivors of war veterans from the Croatian Homeland War, cost around 2.2 percent of GDP annually. Average pensions among some privileged categories are over four times those of regular old age pensioners, and privileged disability pensions almost three times higher than for civilian disabled.¹¹
- Exemption of certain types of income from the taxable base for contributions, including honoraria, per diems etc.¹²; and
- Failure to adjust the minimum taxable income for farmers’ and the self-employed to reflect nominal wage growth, which has made those part of the system less sustainable.

Apart from these policy-induced financial problems, the Croatian system has been subject to problems of compliance for social contributions typical of many transition economies. This has been particularly pronounced among farmers and the self-employed, whose compliance

⁹ See Annual Statistical Reports of the Croatian Pension Fund.

¹⁰ The new Government has addressed such problems to a substantial degree. It has stopped contribution waivers on specific sectors such as shipyards, in part to honor WTO commitments against hidden subsidies. From October 2001, it also eliminated payroll tax exemptions for war veterans and survivor families. These measures are expected to increase pensions revenue alone by around 250 mln. kuna annually for rehabilitated companies alone, or around 2 percent of 2001 contribution revenue.

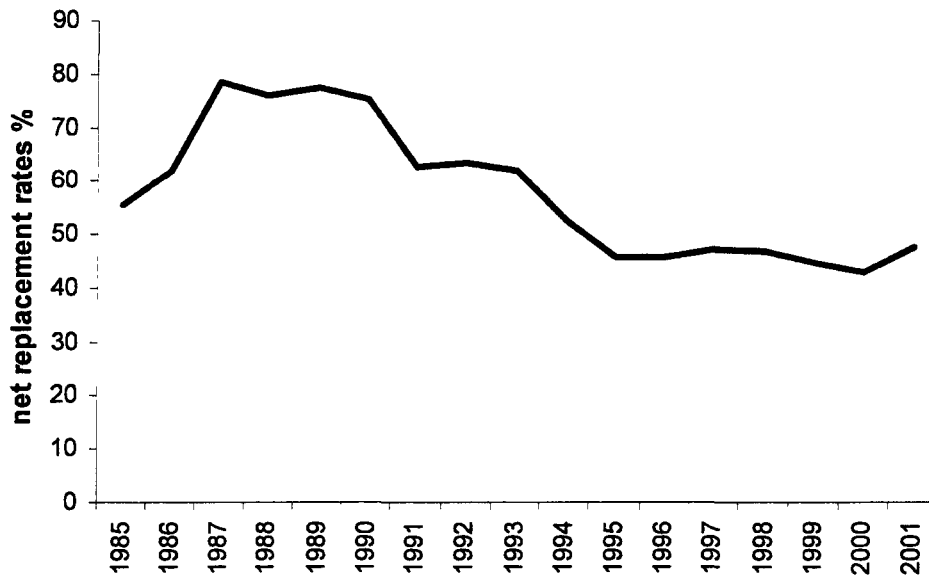
¹¹ Effective from 2002, the Government has reduced average privileged pensions under considerable public pressure by 8 to 20 percent (with higher percentage reductions for those on higher level pensions), while also capping them.

¹² Several attempts to address this issue were unsuccessful, in part because the groups most affected included journalists, academics and others with high public profile. The Government submitted amendments to include these income sources in the taxable base in July 2002.

rates have been very poor, despite the decline in the real value of their minimum taxable income.

One area of pensions policy that ran somewhat contrary to trends elsewhere in the system was net replacement rates (NRP) (see Figure 2.3). At the end of the 1980s, the NRP was almost 80 percent, driven by the generous accrual and indexing rules of the SFRY system. The combination of hyper-inflation in the early 1990s, indexation procedures which delayed pension adjustments by two months and within-month delays in pensions payments drove the NRP down to 60 percent at the end 1993 when the stabilization program was launched.

Figure 2.3 Net replacement rates, 1985-2001



The price indexation of pensions introduced at the time further drove down the average replacement rate to 46 percent in 1995-96. By 2000, it had declined slightly further to 43 percent, before rising to almost 48 percent in 2001 due to the impact of pension increases in response to Constitutional Court decisions (see Section 3.4 below for details on the decisions). Overall the trend in NPRs in the past decade has been downward. The use of combined price/wage indexing of pensions (see Section 3.1) should continue in the long run to drive NPRs down, provided that further legally-mandated compensatory adjustments in pensions do not offset the likely trend in “core” pension rates.

Table 2.3: Revenue structure of the Pension Fund

(000 HRK)	1994	Structure (%)	2001	Structure (%)
Payroll contributions	8,040,501	96.6	13,261,258	57.63
Nontax revenues	281,335	3.4	71,485	0.31
Transfers from the State Budget	3,152	0.04	9,602,313	41.73
Capital revenues	0	0.00	75,433	0.33
Total	8,324,988	100.00	23,010,489	100.00

The share of contributions in total revenues of the Pension Fund was around 97 percent in 1994, while there was almost no transfers from the budget. Although pension earmarked payroll taxes, currently at 19.5 percent on gross earnings, are relatively high by international standards, revenues from contributions covered only sixty percent of pensions spending in 2001.¹³ The financing gap is covered by the State Budget. State Budget transfers to the Pension Fund reached close to 6 percent of GDP in 2001, or about 42 percent of total Pension Fund's revenues. Although from July 1, 2001 most of the payments and revenue collection has been handled through the Treasury, the conclusions are the same.

¹³ Pension contribution of 19,5% of gross wage covers risks of old age, disability and death and is split between employees (10,75%) and employers (8,75%). From 2002, second pillar contribution (5%) is paid from the employee's part. Employers are responsible for calculating, transferring, administering and reporting for both parts of the pension contribution rate. Self-employed pay the same contribution rate on a prescribed contribution base. Although there is no ceiling on contributions, there are announcements that a ceiling could be introduced in 2003.

Table 2.4: Transfers from the State Budget

(000 HRK)	1994	1995	1996	1997	1998	1999	2000	2001*
Regular transfers as % of GDP	0.0%	0.3%	1.0%	2.2%	2.2%	2.1%	2.1%	2.5%
Transfers for insurance of independent artists	3,152	5,150	8,300	10,000	8,800	10,280	13,652	14,371
Transfers for insurance of farmers and priests according to the new Law on Pension Insurance	...	...	...	...	...	399,732	517,000	602,001
Transfers for disability and families' pensions	...	...	...	1,028,319	1,341,283	1,196,633	1,367,000	2,022,845
Transfers for merit pensions	...	280,000	1,100,000	1,619,130	1,617,413	1,368,270	1,466,400	1,626,941
Pensioners' Debt Restitution as % of GDP	0.0%	0.0%	0.0%	0.0%	0.4%	1.2%	1.1%	2.3%
Reconciliation of pensions (so called "Small Pension Law")	...	...	...	...	591,997	1,750,000	1,750,000	1,723,638
Law on Debt Restitution (eliminating differences in benefits acquired in different periods)	...	...	...	...	...	...	...	2,121,411
Additional transfers for covering PF deficit as % of GDP	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	1.3%	0.9%
Capital transfer - buying out PF portfolio	...	...	...	...	...	1,503,000	...	...
Compensation for a reduction of contribution rate	...	...	...	...	...	...	760,000	600,000
Payment of arrears	...	...	...	...	...	...	1,294,570	891,106
TOTAL	3,152	285,150	1,108,300	2,657,449	3,559,493	6,229,135	7,168,622	9,602,313
As % of GDP	0.00	0.29	1.03	2.15	2.59	4.37	4.55	5.68

* estimate based on Pension Insurance Fund and the Ministry of Finance data.

Source: Ministry of Finance

The State budget is liable to cover the costs of merit pensions, war veterans and their survivors' pensions, subsidized pensions for farmers and priests, as well as insurance of independent artists. New types of high benefits with relatively loose eligibility criteria were introduced for war veterans and their families in 1997 that resulted in approximately 1 percent of GDP of additional expenditures per annum. At the same time, the Constitutional Court ruled in favor of pensioners' associations that challenged government policies to compress replacement rates and price indexing benefits. As a result, since 1998, restitution payments have been introduced, which have contributed to expand pension expenditures by an additional one percent of GDP in 1999, and through the second Constitutional Ruling again by an additional 1.2 percent of GDP in 2001 (see Section 3.4 for more detailed discussion of the court decisions).

3. Pension Reform Concept and PAYG reforms 1999-2001

3.1 History of the three pillar reform

The history of multi-pillar pension reform in Croatia leading up to its full implementation in 2002 is one of false starts and delays driven by various fiscal and political considerations. The first mention of pension reform in Croatia dates back to the stabilization program of October 1993.¹⁴ The stabilization program was designed as a three-stage program, with the first stage involving a multiple shock-therapy of exchange rate adjustment, monetary policy action, and wage-pension restraint based on an anti-inflationary program. The second and the third stages, anticipated for implementation during 1994-95, involved a set of structural reforms, including the pension reform, aimed at eliminating inflationary pressures in the long-run.¹⁵ It was argued in the program that structural reforms were needed if long run economic stabilization was to be achieved. However, in practice successful elimination of hyperinflation in only one month was not followed by implementation of the reform program at the anticipated speed. In the pension field, the first stage of the stabilization program included a shift from wage to price indexation of pensions. Rapidly falling replacement rates in 1994 should have been justified with a comprehensive three-pillar pension reform program, but this did not occur. Instead, during 1995 the country directed large resources to military activities associated with the conflict which further delayed structural reforms.

A three-pillar pension reform concept was first announced at the end of 1995 at a conference where the government presented forecasts indicating the emerging PAYG crisis and the measures that needed to be taken to achieve long run sustainability of the pension system.¹⁶ The basic concept envisaged a change in PAYG parameters aimed at downscaling the first pillar and its gradual and partial substitution with a mandatory fully-funded pillar. The program also anticipated introduction of a voluntary, fully-funded pillar. The timetable for reform, as presented by the Government, included enactment of three-pillar legislation in 1996 and its implementation from 1997. During 1996, work began on pension system forecasting, and drafting of legislation, with the aim of enactment by the end of that year.¹⁷ First pillar reform was scheduled for the beginning of 1997, while second pillar contributions were expected to start flowing from mid-1997.¹⁸ The semi-annual estimated value of the

¹⁴ See Anusic, Rohatinski, and Sonje, eds., 1995.

¹⁵ Specifically, the second stage included a series of financial, market, legislative and public administration reforms, while the third stage comprised more complex social reforms, such as pension and health reforms and fiscal decentralization.

¹⁶ The conference in Opatija was organized by the Government of Croatia, the World Bank and the East-West Institute. Proceedings are published in Ministry of Finance (1997).

¹⁷ Activities regarding pension forecasting (applying the PROST model framework to Croatia), initial legal work on funded pillars and annuities, conferences including Opatija, training and specialized consultancy were financed from the Japanese Grant to the Public Sector Adjustment Loan (PSAL) requested by the Government of Croatia from the World Bank to support health reform, pension reform, public finance reform, and social assistance reform. Although the loan was never realized, the funds from the grant played an important role in organizing the preliminary work on pension and other reforms in the period 1995-1997.

¹⁸ A second pillar contribution rate of 10 percent of wage (out of a then total of 25.5 percent pension contribution) was proposed. Such a relatively high second pillar contribution rate and the

transition cost was incorporated into the 1997 draft Budget. However, during budget preparation in autumn of 1996, other fiscal priorities were set and the pension reform was postponed for the first time. This led to suspension of technical preparations for the pension reform pending "better times".

Despite price indexation of pensions, the financial situation of the pension system further deteriorated in 1997 due to rapid decline of the contributor/beneficiary ratio, and it became clear that urgent measures were needed to prevent the collapse of the pension system (see Section 2 for details). In early 1998, a government Plenipotentiary for Pension Reform was established with two working groups, legal and economic, which restarted the technical preparations for systemic pension reform.¹⁹

In July 1998, the Parliament enacted the Pension Insurance Act, the first in a series of legislation aimed at setting the framework for the new pension system in Croatia.²⁰ The Pension Insurance Act stipulated that the pension system in Croatia would consist of three pillars - a downscaled PAYG, DB pillar; a mandatory fully-funded DC pension pillar; and a voluntary fully-funded DC pension pillar. Changes in the existing PAYG system were scheduled to commence in January 1999, with the introduction of the funded pillars to start in January 2000. The funded pillars were to be regulated in more detail by laws to be enacted during the remainder of 1998.²¹

The more detailed framework for funded pensions was outlined in the draft Law on Mandatory and Voluntary Pension Funds (hereafter "Funds Law"), which was submitted to the Parliament in September 1998. Based on expectations that the law would be passed by the end of 1998, the proposal was to launch the second pillar in January 2000. However, in the second reading the Parliament requested more details on the integrated vision of the new pension system, including the draft Law on Pension Insurance Based on Individual Capitalized Accounts (hereafter "Annuities Law"), and individual examples and calculations of future pensions. After reviewing the requested materials, the Parliament finally enacted the Funds Law in May 1999.²² However, it also delayed implementation until July 2001 to take account of delays in passage of the Law and the time required to build the infrastructure for the implementing and regulating the funded pillars.

The Funds Law obliged insured individuals below the age of 40 as of July 2000 to contribute at least 5 percent of their gross wage to an individual pension insurance account in an

accompanying transition cost were expected to be sustained by restrictive fiscal policy and privatization revenues (Ministry of Finance, 1997).

¹⁹ Decree of the Government on Establishment of the Plenipotentiary for Pension Reform, Official Gazette, 27, 1998.

²⁰ Pension Insurance Act, Official Gazette, 102, 1998.

²¹ It was interesting that at the same session, the Parliament passed a Law on Pension Restitution for the period 1993-97, which was a reaction to the Constitutional Court ruling against introduction of a price indexation of pensions in 1993 (see below). While the Pension Insurance Act tightened the PAYG parameters, the so-called "Small Law" worked in opposite direction. In the debate, the contradictory nature of the two laws was never discussed, which can be partly attributed to the exclusive focus on the 1998 World Cup in football and the success of the Croatian national team.

²² Law on Mandatory and Voluntary Pension Funds, Official Gazette, 49, 1999.

authorized and licensed private mandatory pension fund. The remaining pension contribution would continue to be paid to the Pension Institute, the PAYG benefit provider.²³ In addition, employees between age 40 and 50 as of July 2000 were given a choice to join the new multi-pillar system or remain only in the first pillar.

In October 1999, the Parliament completed the legislative package for pension reform with enactment of the Annuities Law.²⁴ This law regulates various elements of the funded pension pay-out phase, including establishment and other relevant issues for pension insurance companies; determination of eligible pension products from second and third pillar accounts, the structure of pension programs; supervision by the Agency for Supervision of Pension Funds and Insurance (HAGENA); investment limits for actuarial reserves; bankruptcy procedures; and guarantees in the payout stage. The law was scheduled to become effective in January 2000, in order to allow establishment of pension insurance companies before the establishment of voluntary pension fund management companies.²⁵

In terms of the institutional framework for funded pensions, the Agency for Supervision of Pension Funds and Pension Insurance (HAGENA) was established in 1999 as a new regulatory and supervisory institution for the accumulation and the payout phases of the funded pension system, subordinated to the Parliament and to a large extent independent from the Government. Likewise, REGOS (the Central Registry of Affiliates) was established in 1999 with the primary task of administering affiliation, switching, reporting, collection and account services for second pillar members. Introduction of required monthly reporting on second pillar contribution by REGOS was used to spread the synergy of monthly reporting onto other payroll taxes and surtaxes aiming at improvement in compliance rates and reducing the reporting burden for the employers. Further discussion of the roles of each institution is in Section 4.

With the appointment of the Director of the Central Register of Affiliates (REGOS) in October 1999 and the Director of HAGENA and other board members in November 1999, the institutional prerequisites for launching the funded pension pillars were established. However, political events at the end of 1999 and elections in January 2000 froze the administrative preparations for introduction of funded pensions and induced a second postponement of second pillar implementation. After an extended period of consolidating the new Government - which was also accompanied by appointment of new heads of HAGENA and REGOS, the legislation was amended in order to delay further implementation of the second pillar until January 2002.²⁶ The amendments allowed for 18 months to elaborate several aspects of the new system, including the supplementary legal

²³ The Law stipulated that the second pillar contribution should be "at least" 5 percent of gross wage, implying that the actual rate should be determined periodically in the annual budgetary process.

²⁴ Law on Pension Insurance Based on Individual Capitalized Accounts, Official Gazette, 106, 1999.

²⁵ The Funds Law stipulates that voluntary pension funds must indicate pension program which an individual will be eligible for after the accumulation phase. Pension program can only be prepared by pension insurance companies.

²⁶ Law on Changes of the Law on Mandatory and Voluntary Pension Funds (Official Gazette, 63, 2000) and Law on Changes of the Law on Annuities (Official Gazette, 63, 2000) were aimed primarily at postponing introduction of the second pillar (for the third time).

framework for establishment of fund management companies; investment and marketing regulations for private pension funds; the institutional framework for registration of individual memberships; efficient collection of contributions and their transfer into individual accounts with accompanying data on funds collected. From the second half of 2000, preparation for funded pension implementation began in earnest, as outlined in more detail below.

3.2. Reform of PAYG parameters

The changes introduced to the PAYG system in 1998 were far reaching and targeted several major sources of fiscal pressure, including normal and early retirement provisions, and benefit calculation and indexation. The changes introduced in the PAYG pillar with the Pension Insurance Act of 1998 included:

1. **Gradual (semi-annual) increase in retirement age for men from 60 to 65 years and from 55 to 60 for women.** Starting from 2000, the retirement age is being raised by 6 months each calendar year. Hence, the retirement age would reach the level of 65 (men) and 60 (women) in 2009.²⁷
2. **Reducing work-period entitlement and eliminating entitlement by length of career.** An insured person is entitled to old-age pension only upon reaching the retirement age and having completed at least 15 working years. Individuals with less than 15 years of work career are no longer covered.²⁸ In addition, the common ex-Yugoslav right to acquire an old-age pension with 40 years of service for men and 35 for women was cancelled.²⁹
3. **Revisions in early retirement entitlements, including a gradual increase in minimum early retirement age from 55 to 60 for men and from 50 to 55 for women, changing early retirement entitlements, and increasing the annual**

²⁷ Increasing retirement age raised a numerous debates and reactions at all levels. The first draft law submitted to the Parliament included a proposal to equalize the retirement age at 65 for both men and women. Despite the strong arguments behind it, including the large difference in life expectancy at retirement between men and women of close to 8 years and practice in most EU countries, the debate in the Parliament led to a swift replacement of that proposal with the current retirement age of 65 for men and 60 for women. Although the Government's development strategy document (Potocnjak et al., 2001) envisaged equalization of the retirement ages for men and women, such initiative was not launched until end-2002.

²⁸ The criterion is years worked rather than years for which pension contribution has been paid, which has recently been recommended under the proposed changes of the Pension Insurance Act. There are no indications on how many contributors would have to drop out of the system if the proposed changes would be introduced.

²⁹ As an exception in the transition period until 2009, an insured person can acquire entitlement to old-age pension after having completed 40 (35) working years and reaching age as defined by the early-retirement scheme. Also, during the transition, an insurance period of up to 5 years is added to an insured woman who has completed less than 40 working years when determining the amount of the old-age or early retirement pension, in such a way that the total of effectively completed and added working years may amount to a maximum of 40 years. These transitional provisions aim to equalize female and male pensions and adjust them in accordance with the old formula.

decrement for early retirement. An insured person is entitled to early retirement pension at the age of 60, after completing 35 years of service (men), or at the age of 55 following the completion of 30 years of service (women). The transition period assumes an increase of early-retirement age from 55 (men) and 50 (women) at the rate of 6 months per year until 2009. The early retirement annual decrement was also raised from 1.33 percent to 3.6 percent per year of early retirement.³⁰

4. **Gradual widening of the calculation period from 10 best consecutive years to full career.** Strengthening the link between contributions and benefits required widening of the calculation period. After an initial proposal to include the full career into the formula immediately, a more gradual widening was legislated.³¹ Starting from 2000, the calculation period has been raised by 3 years per calendar year, and will reach full career by 2008.
5. **Change in the PAYG benefit formula.** The old formula with generous accrual rates was effectively suspended by the benefit calculation procedures of the Pension Institute, and finally replaced by a "German point formula" from 1999.³² Personal points indicate the proportion of an individual's wage relative to the national average wage for the calculation period extrapolated to the whole working period.³³ The pension factor is a parameter determining the type of pension and the rate of reduction from the old-age pension,³⁴ while the actual pension value is a parameter that establishes a monetary value for one year of service of an average earner (Table 3.1).³⁵

For those insured in both mandatory pillars, a two part formula would apply. For years of service in the old system, a "German point formula" would be used in the same way as for those remaining only in the first pillar. First pillar benefits

³⁰ Initial actuarial analyses based on Croatian mortality tables and the experience of other countries indicated that the annual decrement should be set at 5 percent or more.

³¹ Initial calculations indicated that immediate widening would lead to a reduction in newly determined benefits of more than 20 percent in the first year.

³² Accrual rates were 2.2 percent per year of service for men and 2.5 percent for women like in other transition economies. Effective accrual rates were suppressed to below 2 percent for calculating initial benefits through less than wage valorization using "internal wage coefficients" calculated by the Pension Institute. In other countries, similar effective reductions were achieved by capping benefit levels.

³³ In 2002, the average personal point is determined for calculation period of 19 consecutive best years, and then multiplied by the total years of service. For an average earner, the effective accrual rate is hence set at 1 percent per year of service.

³⁴ The pension factor for the old-age pension, early old-age, and disability due to loss of work capability is 1.00; for disability due to loss of professional capability is 0.6667; for disability due to loss of professional capability caused by work injury is 0.5; for professional disability paid during employment is 0.3333; and for survivor pensions between 0.7 and 1.0, in proportion to the number of dependent survivors.

³⁵ The initial APV was set by the Government at 35.16 (Official Gazette, 31, 1999) which was a level that yielded a smooth transition from 1998 to 1999 pensions. Initial pensions in January 1999 were on average similar to initial pensions in December 1998.

in the new system – the so-called “basic pension” – consist of two tiers. The first is earnings-related years of service based on a “German formula”, while the second tier is a flat-benefit – years of service related:

$$\text{Basic pension} = 0.25 * \text{APV} * \text{PP} * \text{PF} + 0.0025 * \text{WAGE}(98) * \text{YRS} \quad (1)$$

where APV is actual pension value, PP personal points, PF pension factor, WAGE(98) is average wage in Croatia in 1998 indexed at the same rate as the APV, and YRS is years of service in the new system. For the average earner participating in both mandatory pillars, the total accrual rate from the first pillar in the new system would stand at 0.5 percent, i.e. about 50 percent lower than the accrual rate for those participating in the first pillar only. However, the combination of the second pillar annuity and the basic pension from the reduced first pillar is expected to yield higher aggregate pensions in the long run, as shown in Section 3.3.

- 6. Introduction of the Croatian version of "Swiss indexation" for both initial benefit valorization and post-retirement benefit adjustment.** During the period of designing the PAYG reform, there was a strong sensitivity to the issue of indexation. This was partially due to the emerging issue of the "pensioners' debt", but also to the view that current pensioners should have stable replacement rates based on their "accrued rights" within the system. After suspension of wage indexation in 1993, a period of price indexation in 1993-1997, and the Constitutional Court ruling in 1998, the pressure to restore wage indexation collided with an initial proposal in the Pension Insurance Act to have initial benefits valorized to wages and benefits paid indexed to prices.³⁶ This proposal was labeled as unfair since it implied declining replacement rates at the speed of real wage growth and absolute differences among pension cohorts.³⁷

³⁶ For a more detailed discussion on Constitutional Court externalities see Section 3.4.

³⁷ The debate was known as the "debate of three retired school-teachers" who retired in three consecutive years with same work and earnings history. The three of them meet, start discussing pensions and identify that the one who retired most recently has nominally higher pension than the other two (due to wage growth incorporated in determination of initial benefit and price indexation afterwards). The Croatian public viewed this as unfair and a widespread popular opinion that they should all have the same nominal pensions prevailed. Accordingly, establishing and maintaining such "equity" in nominal pensions required policy makers to set an identical indexation rule for valorization and indexation. Since both valorization and indexation at wages would fix the replacement rates and yield fiscal expansion of PAYG, while on prices it would cause rapid and unsustainable decline in replacement rates, the mid-solution was to have both valorization and indexation at 50 percent prices and 50 percent wages. A wide consensus was reached over this formula, commonly labeled in Croatia as a "Swiss-formula" referring to the practice in the Swiss PAYG. However, the actual Swiss practice is to valorize at wages and index 50 percent at prices and 50 percent at wages, which implies that given wage growth, replacement rates would fall faster than in Switzerland. It would thus be more appropriate to label a practice of both valorizing and indexing benefits at 50 percent wages and 50 percent prices as a "Croatian formula".

Table 3.1. Summary of pension contribution, determination and indexation rules in multi-pillar pension system from 2002.

	Older than 50 and 40-50 in 1st pillar only	Below 40 and 40-50 in 2nd pillar
Contributions	19.5% to 1st pillar ³⁸	14.5% to 1st pillar 5.0% to 2nd pillar ³⁹
Determination/valorization	Actual pension value (APV) * personal points * pension factor	Actual pension value (APV) * personal points * pension factor (for service in the old system) + basic pension (service in the new system) + second pillar annuity
Minimum/maximum benefit	Minimum pension: 0,825% of average gross 1998 wage for each year of service. Maximum pension: 3,8 average personal points per year of service	no minimum and maximum benefits
Indexation	APV = (50%W+50%P) Pension = (50%W+50%P)	APV = (50%W+50%P) Pensions from the 1st pillar= (50%W + 50%P) Annuity = CPI

The nominal equality of pensions appeared to be the most important factor in the indexation debate in the Parliament which requested that the Government propose a more equitable indexation pattern. Finally, a consensus was reached to valorize the initial benefits at arithmetic mean of growth rate of wages and prices, and as to introduce the same pattern for pension indexation.⁴⁰ Such a decision will result in lower initial replacement rates which will decline slower than under the initial proposal, but for the average life expectancy it would also yield a lower benefit.⁴¹

7. *Minimum and maximum pension.* A service-based minimum pension was introduced instead of the former means-tested minimum pension. It is calculated at 0.825 percent of the average 1998 gross salary of all employees for each working year.⁴² This high accrual rate for the minimum pension was

³⁸ Pension contribution is split between employees (10.75%) and employers (8.75%).

³⁹ Second pillar contribution is entirely paid from the employee's share of contribution rate.

⁴⁰ It is interesting that in the indexation debate in Croatia the outcome of "receiving most when you die" was far less relevant than the "equality factor".

⁴¹ The simulations showed that the impact of such an indexation pattern would be stronger decline in pension/GDP ratio, which indicates that those remaining only in the first pillar would have been better off with the initially proposed indexation pattern.

⁴² Minimum pension for a beneficiary of a disability pension, whose disability is the consequence of an occupational injury or disease, as well as of a beneficiary of a survivors' pension after the death of

increased from the initially proposed 0.5 percent per year of service between the two readings in the Parliament. The effect of such a generous minimum pension was observed in 1999 and 2000, when 45 percent of new beneficiaries (57,000 beneficiaries) became eligible for a minimum pension.⁴³ By 2008, which is the end of the transition period, the share of new pensioners on minimum pension could grow to more than 60 percent, which would be fiscally unsustainable in the long run in the absence of further reforms.⁴⁴ As a result, the Government has been considering alternatives for dealing with the overly generous formula for minimum pension, both within the pensions system and with reference to the social assistance system.⁴⁵ Similarly, a service-based maximum pension was introduced instead of a maximum pension set in nominal terms and determined in relation to average pension. Maximum pension applies only for insured individuals who remain in the first pillar only and is administered by capping the average personal points at 3,8 for each year of service.⁴⁶ Individuals insured in new two-pillar system are not subject to maximum pension.

8. *Disability and survivors pensions.* The Pension Insurance Act introduced several changes and restrictions to the system of disability and survivors pensions. Pension disability benefits based on remaining work capability (e.g. right for a compensation during a waiting period to be retrenched to an adequate work by the PI), wage compensation during temporary disability, and shorter work period right) which imposed serious administrative and organizational burdens on the Pension Institute were abolished.⁴⁷ In the new multipillar system, disability and survivors pensions remain purely under the PAYG regime. For individuals that participate in both mandatory pillars, the law envisages

the insured person, which was the consequence of occupational injury or disease, is calculated at 0.825 percent per year of the average 1998 gross salary for 40 years of insurance periods, adjusted according to the same formula as the actual pension value.

⁴³ Introduction of the service-based minimum pension has been particularly beneficial for farmers and the self-employed whose benefits almost doubled. The average minimum pension in 2001 increased by close to 50 percent.

⁴⁴ Since the minimum pension has been entirely financed from the pension system budget, such a high level of redistribution adds to deficit in the future. Although the minimum pension does not apply to new two-pillar participants, it will continue to be in effect in the next 50 years. Simulations show that the percentage of new entrants eligible for the minimum pension approaches 50% in the 15-year period.

⁴⁵ After abandoning the idea to re-establish an annual accrual of 0.5 percent for the entire work history, the approved revision in 2002 was substantially diluted and applied only for service above 30 years.

⁴⁶ On the other hand, contribution base has not been limited which lead to a significant actuarial imbalance for high-income earners. The new legislation on contribution collection in 2003 is expected to introduce maximum contribution base.

⁴⁷ For example, the retrenchment right put the Pension Institute in the position of trying to find employment for the individual, while requiring a significant network to evaluate the remaining work capacity and determine adequate job for each individual. Not surprisingly, a right to receive a compensation during the retrenchment period, under responsibility of the PI, made the individuals passive and led to abuse of the system.

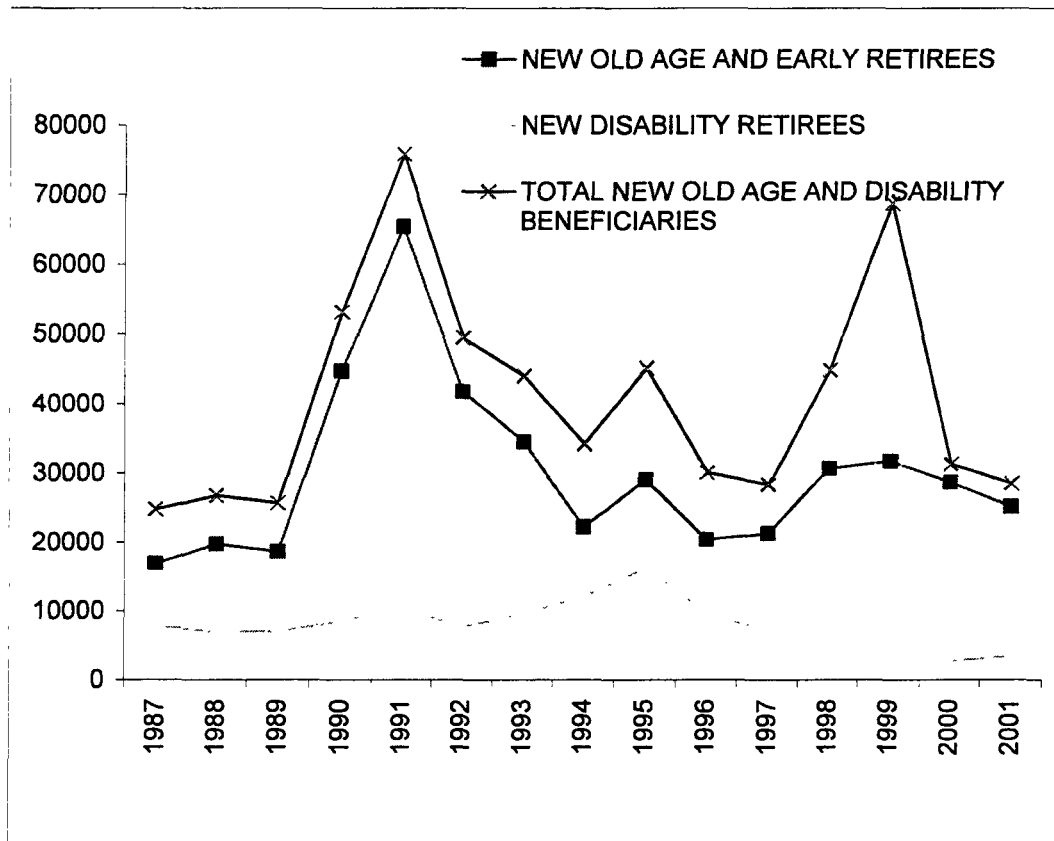
application of the better of PAYG disability or survivors pension or a regular two pillar benefit, i.e. the sum of basic pension and a lifetime annuity. In cases where a PAYG benefit is applied, total accumulation on the second pillar account would be transferred to the institution managing the PAYG scheme.

3.3 The impact of PAYG reforms, 1999 – 2001

The 1998 reform of PAYG parameters is expected to result in a gradual decline in the first pillar: spending as a share of GDP from the current 13.6 percent (including administrative costs) to 10 percent (11 percent with the basic pension) in 2020 and 6 percent (8 percent with the basic pension) in 2040, creating space for introduction of the second pillar, as shown in Section 5. The main short to medium term savings in the PAYG system come from a slower inflow of pensioners and the reformed indexation pattern. In the longer run, reduced PAYG benefits (basic pension) would also be a significant source of savings.

As discussed in Section 2, the initial fiscal outcome of the 1998 reforms was quite the opposite of what was expected, with the pension/GDP ratio rising to well above 13 percent of GDP. Such an outcome, however, emerged from raising replacement rates due to policies exogenous to the pension reform package, namely the "Restitution Law" of 1998 (known as the "Small Law") and the "Debt Repayment Law" of 2000. Since the bulk of PAYG savings will not commence for around 10 years, the main immediate outcome of the PAYG restructuring was stabilizing the total number of pensioners at around 1 million in the period 1999-2001. The main driving force behind this result was a reduction in the number of new beneficiaries after the spike in 1999. Figure 3.1. demonstrates that 1998 and 1999 were the years of the "rush to pension" in which a large number of new entrants were registered. In 1999, the total of 82,604 new entrants was dominated by new disability entrants (37,112), mainly due to elimination of pension benefits based on the remaining work capability and their translation into regular disability pensions.

Figure 3.1 New pensioners between 1987 and 2001



While the inflow of old-age and early retirement beneficiaries started gradually declining in 2000 and 2001, the inflow of new disability beneficiaries declined sharply to a historical low, partly due to the spike in 1999, but mainly due to restrictive conditions for disability eligibility set in the 1998 Pension Insurance Act.

The 1998 reforms are also expected to have significant equity impacts through reduction in the number of old age pensioners with official incomes below the poverty line. Whether the measures related to the minimum pension that drive the equity improvement are sustainable within the pension system remains an open question, but the immediate impact on old age poverty is quite significant, as outlined in Box 3.1.

Box 3.1: Equity dimension of the pension system in Croatia

Despite the current high levels of spending on pensions and budgetary transfers to the system, the Croatian pension system prior to the 1998 reform was not effective in reducing poverty among elderly. This was partly due to its basic social insurance nature and partly to specific design features of the entitlement structure. On one hand, more than one third of the population age 60 and older did not receive any benefits from the system in 1998. For half of those who did receive a pension, their monthly benefits were below HRK 1000, i.e., below the absolute poverty level. This situation was less severe in practice, as only 20 percent of those receiving pensions in 2001 were below the absolute poverty line, the result in turn of increase in benefits arising from the aforementioned Constitutional Court ruling (see Section 3.4).

Although the 1998 PAYG reform will not eliminate the inequities generated by the existence of privileged pension groups; it will improve the situation of those at the bottom of the pension distribution. The combination of new indexing rules (50 percent wages and 50 percent prices) and the setting of a new minimum benefit per year of service, will combine to eliminate poverty almost completely among those covered by the system. Projections indicate that only about 2 percent of the workers who will retire in 1999-2008 and only 1 percent of those retiring during 2009-2018, will be below the poverty line. However, the new eligibility criteria will only slightly reduce the share of those who do not receive benefits. Simulations that combine this small expansion in the number of eligible beneficiaries with expected increases in minimum pensions show that the share of the elderly that either do not receive a pension, or receive a pension below the poverty line will drop from almost two thirds in 1998, to about 30 percent by the year 2008. This share will further shrink to 20 percent by 2018. In summary, the implementation of the pension reform will be a major step towards reducing poverty among the elderly.

3.4 External factors affecting PAYG finance during 1998-2001

There were additional factors which impacted on the PAYG system between 1998 and 2001 and which had important implications for the financial position of the PI. These increased incentives to delay the introduction of the second and third pillars by exacerbating the financing gap in the first pillar. The first was additional financing obligations imposed as a result of Constitutional Court decisions related to the operation of the pension system in the mid-1990s. The second was a cut in payroll contribution rates for both health and pensions which took effect from June 2000. The first issue created significant and long term obligations for additional compensatory spending on pensions. The second resulted in an additional financing gap for the PI which was not resolved in the anticipated manner.

The Constitutional Court decisions were based on two sets of claims. The first was that for some years after the 1993 stabilization program, the Budget did not transfer the amounts due to the pension system for “merit” pensions.⁴⁸ The second was that both valorization and indexing should have been done on the basis of changes in wage levels throughout the

⁴⁸ Merit pensions are benefits attributable to periods of covered service (in some cases, at higher than normal accrual rates) for which contributions were not paid – for example, time spent in WW II military service.

1990s, rather than the ad hoc price level changes in effect from October 1993 through 1998.⁴⁹

With respect to non-payment of merit pensions from the budget, revenues to the PI were 15-20 percent less than would otherwise have been available throughout the mid-1990s, and benefits were held down to fit within the reduced tighter fiscal envelope. For some of the period, the Government paid eligible pensioners Budget-financed supplements. Eventually, these were converted into proportional benefit increases and transferred to the contribution base for financing. By 1997, the Budget resumed transferring resources for merit pensions. The Constitutional Court held that the compression of merit pensions was not adequately addressed through the special supplements and that compensation payments were due to merit pensioners.

The Government at the time dealt with the Constitutional Court decisions on merit pensions by enacting limited retroactive payments for eligible pensioners during the period 1993-1998 when the Budget failed to transfer the due money to cover merit pensions. This was the so-called “Small Law” restitution.⁵⁰ It entitled eligible pensioners to an additional 100 kuna plus 6 percent of their benefits from July 1998 through end 2002. The cost of the Law was around 1 percent of GDP annually in the period. As of mid-2002, preparatory work had begun on a new law which would extend the payment of the Small Law restitution beyond the original end-2002 date, though at this point it remains unclear for how long or at what level.

With respect to the valorization and indexing issue, the Constitutional Court held that price indexing introduced in 1993 was invalid on both procedural and equity grounds. In the Court’s view, all benefits in payment status or awarded before January 1999 should be adjusted for changes in wage levels since October 1993.⁵¹ As a result, the Government that took office in 2000 committed itself to payment of restitution on this second set of claims, with payments initiated in January 2001.⁵² Total payments amount to around HRK 23 bln cumulatively between 2001 and 2010, or around 1.2 percent of GDP in 2001 to around 0.7 percent of GDP in 2010. The demographic profile of the entitled group suggests that such payments will need to be continued well after 2010

The second major negative impact on pension system finances – which had a more direct effect on the core finances and operations of the PI – was the cut in contribution rate for pensions effective from June 2000. The rate was cut from 21.5 to 19.5 percent at the same

⁴⁹ Such legal challenges are also a feature of other countries in the region, e.g. Constitutional Court decisions in the Federal Republic of Yugoslavia relating to adjustment of pensions during the Abramovic Government program. In Poland and Macedonia the Constitutional Courts have also intervened in the practice of providing PAYG pensions.

⁵⁰ Law on Transfer of Funds from the Budget to the pension funds, Official Gazette , 1997 or 1998?

⁵¹ In 1997 and 1998, by legislation, the indexing of benefits was done using price level changes only. Valorization, on the other hand, resumed at the margin using changes in wage levels in accordance with the prior law (effective before January 1, 1999).

⁵² Law on increase of pensions in order to eliminate differences in benefits acquired in different periods , Official Gazette, 127/ 2000.

time as a similar two percentage point cut in health contributions (from 19 to 17 percent).⁵³ This continued a trend throughout the 1990s of periodic adjustments in pension contribution rates.⁵⁴ Although there was widespread acknowledgement of the need to reduce taxes on labor in an environment of high and rising unemployment (with registered unemployment rising from 14.5 percent in 1995 to 22.8 percent by end 2001), there does not appear to have been any modeling done of the likely impact on PI revenues. The understanding was that central budget financing would be made available to cover the shortfall resulting from the cut.

The impact on PI contributions revenue was immediate. In nominal terms, PI contribution revenue fell between May and June 2000 by around 5 percent, and did not match nominal May 2000 levels again until June 2001. Given the positive seasonal impact on revenues from tourism, the seasonally-adjusted fall in revenues was even higher. By year's end, the central budget had transferred 760 mln HRK to the PI as compensation for the revenue shortfall, which was broadly in line with the revenue fall. However, in addition, the PI was forced to borrow from commercial banks at market rates to finance the increased gap between revenues and expenditures. This practice continued, with short term loans rolled over during much of 2000 and 2001.

4. Funded Pension Pillars

4.1. Funded pillars – accumulation stage

Starting from January 2002, second pillar participation is mandatory for insured individuals below 40 years of age. In addition, insured between 40 and 50 years of age have a choice to join the second pillar or permanently stay only in the first pillar. The decision of the 40-50 year cohort can be made by June 2002 and is irrevocable. For those who decide to join the second pillar, contributions will commence with the next monthly wage. All the insured who enter or join the second pillar will continue to pay a mandatory contribution rate of 19.5 percent of gross wage, identical to those insured only in the first pillar. The contribution for participants in both pillars is split between first pillar (14.5 percent) and the second pillar (5 percent). For service in the new system, first pillar contribution will yield a basic pension, and the lifetime annuity from the second pillar accumulation.⁵⁵

Expected affiliation/ coverage

In January 2002, the flow of contributions to individual accounts in the second pillar began. By April 2002, approximately 56 percent of all insured persons were registered for the second pillar, including 720,000 mandatory participants below 40 years of age, and 80,000

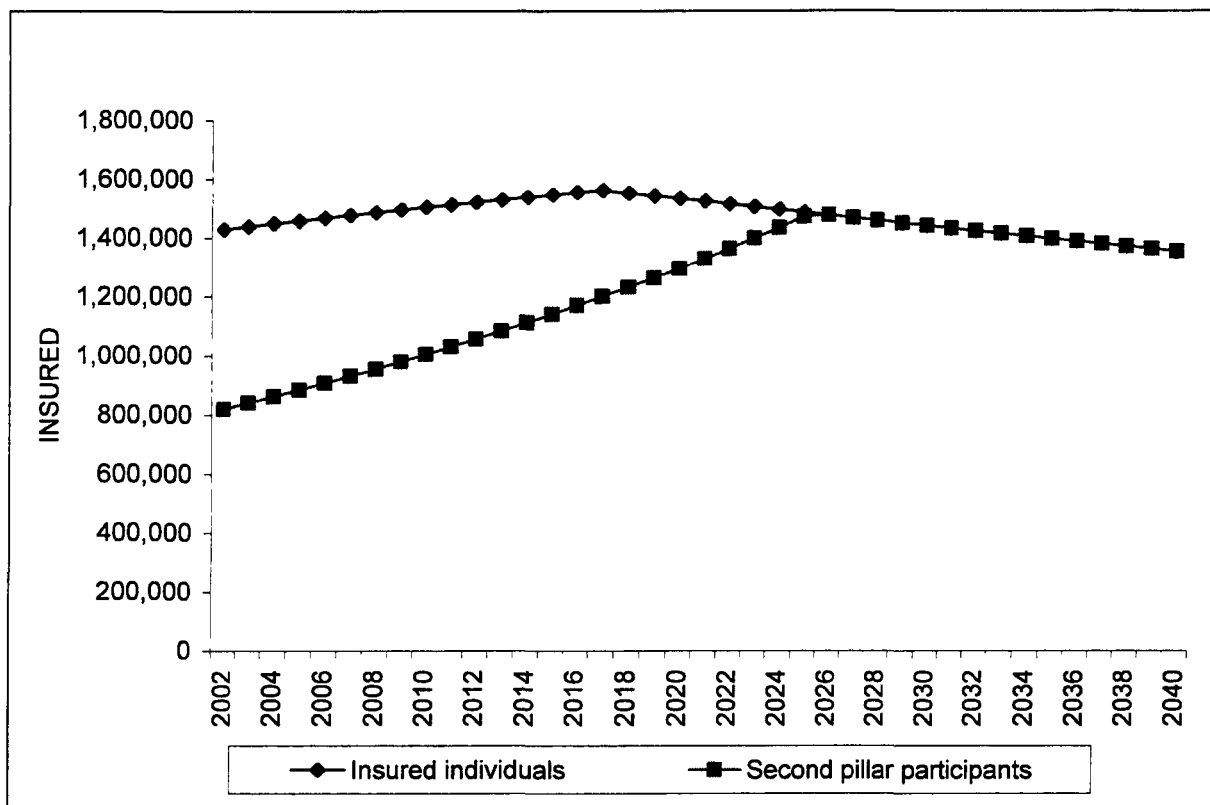
⁵³ Employer's contribution was lowered for the full amount of reduction in contribution, i.e. from 10.75% to 8.75%, while the employee's contribution remained at 10.75%.

⁵⁴ Contribution rates for pensions from mid-1991 to 1994 were 22 percent of payroll. In 1994, this increased to 27 percent, before falling to 25.5 percent in 1995-1997. From 1998-June 2000, the rate was 21.5 percent.

⁵⁵ As explained earlier, a basic pension is a reduced first pillar benefit for those with second pillar accounts.

between 40 and 50 years who decided to join. Registration was facilitated by an effective public information campaign by Government, complemented by intensive marketing by private fund managers (see Box 4.1. and discussion below on public information campaign and marketing costs). Based on these figures, it is estimated that by the end of the application period, June 2002, around 23 percent of insured between age 40 and 50 would have decided to join the second pillar, or a total of around 100,000 optionally insured persons in the mandatory system.⁵⁶ In the long run, second pillar coverage is expected to reach 100 percent by the year 2025, as shown in the following figure.

Figure 4.1 Coverage in the second pillar, 2002-2040

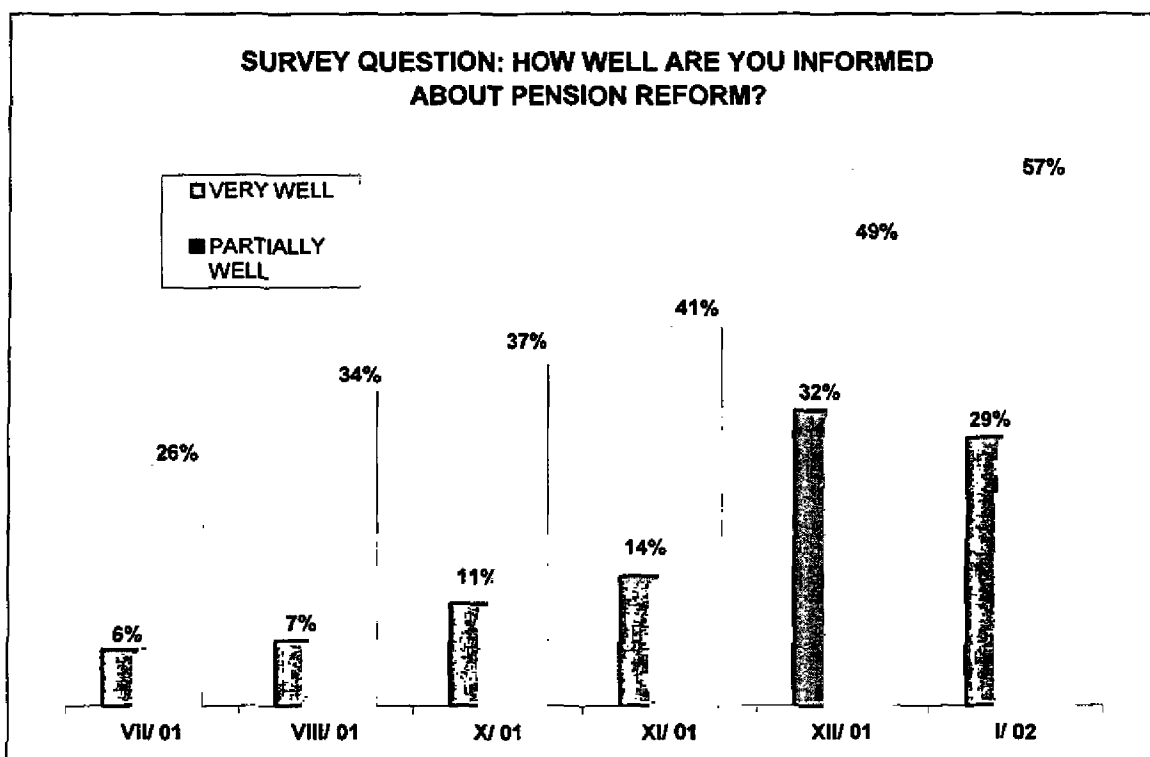


⁵⁶ Participation of 23 percent of the 40-50 cohort is significantly below initial expectations that 50 percent of individuals would join, particularly when compared to the Hungarian experience of 80 percent participation rate. Such a low participation resulted mainly from a broad public campaign and dissemination of computer programs indicating that most individuals would not be better off in the new system if the contribution rate for the second pillar remained at 5 percent. More details on calculations and the assumptions of the programs are presented on www.mirovinskareforma.hr, www.mirovinskareforma.com, www.REGOS.hr, and www.hagena.hr.

BOX 4.1. PUBLIC INFORMATION AND PENSION REFORM SUPPORT

An intensive and broad public education and information campaign was an important element of the pension reform in Croatia. Due to the high sensitivity of pension issues and general distrust of broad public towards the pension system itself, initial PR efforts during the legislation building process in 1998 was aimed at educating on basic concepts of a three-pillar system, explaining the necessity to revise the parameters and downscale the PAYGO pillar, and presenting expectations of introduction of the mandatory second pillar. During the initial period, for example, the polls indicated that more than 70 percent supported the pension reform, while the approximately the same percentage had no knowledge of the reform concept. Furthermore, both poll results were evenly distributed across generations and regions indicating that most of support actually emerged from a widespread dissatisfaction with the existing pension system.

After the public support for the reform slightly deteriorated after the Constitutional Court ruling in 1998 and second pillar postponements in the 1999-2001 period, the second stage of the PR campaign intensified with creation of a regulatory institutions and the emergence of the pension fund management industry. Public knowledge on public reform rapidly improved from 32 percent in mid-2001 to 55 percent at the beginning of the registration period, and further to 86 percent at the beginning of 2002. In the first period, the public campaign was oriented towards education about the second pillar and promotion of a funded pension system. From November 2001, the focus was on information about individual account registration process for mandatory participants and particularly population between 40 and 50 years of age who could had an option of joining the second pillar. In order to provide them a tool to make a qualified choice, Hageda made available and publicized a computer program for calculating expected pension levels in the new system versus the levels in the old system (www.hageda.hr). In the period between November 2001 and June 2002 there were almost 90,000 visits to the web site, most of which in order to use the pension calculator. Finally, the pension fund managers made a significant contribution to public education on pension reform besides the widespread marketing activity for acquiring membership.



Source: PULS (Zagreb, 2002)

Disability and survivors in the second pillar

Disability and survivors pensions are not provided in the second pillar. In case of activation of a disability or a survivors pension, an individual or his successors are entitled to draw the higher of two benefits: the regular first pillar or a combined basic pension and annuity. If the regular PAYG disability and survivors benefit exceeds the combined pillars benefit, the total accumulation in the second pillar is transferred to the Pension Institute in exchange for a pension that would be received by an individual that participated only in the first pillar. However, if the regular two-pillar benefit, i.e. a sum of basic pension and a lifetime annuity would exceed the standard disability or survivors pension from the first pillar, an individual or his successors would receive a combined benefit. Since the annuity is determined by dividing the total accumulation by the life expectancy of a beneficiary, it is not expected that a combined benefit would be paid often during the next 15 years.

Pension fund management, administration and capital requirements

According to Croatian pension legislation, private pension funds are not legal entities but property with a special status owned by the participants, a status similar to a bank deposit. Every pension fund must be managed by a pension fund management company. A mandatory pension fund is established by a mandatory pension fund management company, while a voluntary pension fund can be established by a voluntary pension fund company, pension insurance company or a sponsor.⁵⁷ A pension fund manager is authorized and granted the license for establishing a pension fund by HAGENA after a two-stage procedure of analyzing and assessing the company's suitability to manage a mandatory pension fund. Each mandatory fund manager can be authorized to manage only one mandatory pension fund, while the voluntary pension fund manager is entitled to manage more funds. Supervision of fund management companies will be done by the Agency for Supervision of Pension Funds and Insurance, HAGENA.⁵⁸

The minimum share capital that a mandatory pension fund manager must pay in cash is 40 million Kuna (around USD 5 million), while the minimum number of members should be 80,000 by the third year of fund operations. In case of a voluntary pension fund, minimum capital required is 15 million Kuna (around USD 1.8 million), while the minimum number of affiliates should be 2,000 by the third year of operations.

REGOS – the Central Registry of Affiliates

REGOS was established in 1999 with the primary task to collect, enforce, register and transfer mandatory second pillar contributions and for registration of affiliation, switching and account management. It is a key feature of the Croatian reform, acting as a central clearinghouse. To perform this function, REGOS had to establish a central database of second pillar affiliates, and develop and administer a new monthly personified reporting form that provides the personal data needed for the second pillar.

⁵⁷ A pension fund sponsor can be a trade union, employer, occupational or other organization.

⁵⁸ HAGENA was established as a separate regulator for pension funds and pension insurance after consideration of a unified contractual savings regulator. Discussion on separate pension regulator can be found in Demarco and Rofman (1998) and Vittas (1998).

The lack of monthly individualized reporting has been recognized as an important source of non-compliance in paying payroll taxes. Second pillar introduction was used as an opportunity to expand monthly reporting to all contributions, personal income tax and local income surtaxes. While the inefficiency of fragmented employer reporting had been acknowledged for some time, second pillar introduction was an ideal vehicle for overcoming the resistance of EBFs in particular (see Box 4.2. below). The monthly report, known as the RS form, was introduced in January 2002 to collect monthly documentation from employers.⁵⁹ Parallel with data collection, employers have to submit the payments for all payroll taxes associated with the RS form to FINA, the public financial agency which was formerly the central payments agency. REGOS and FINA reconcile the payments with money transfers, and transfer the collections to responsible agencies.⁶⁰

The most important motives for establishment of REGOS were cost control and privacy of individual choice. In principle, centralization of registration, collection and account management and its provision to mandatory second pillar funds was expected to keep administrative costs at low levels and enable transparent market competition (though see discussion below for initial outcomes).⁶¹ Individuals choose the desired fund at remote offices, without intermediation of pension fund agents or knowledge of the employees of the chosen fund. When employers transfer second pillar funds for their employees, the aggregate amount is divided by REGOS in accordance with amounts stated in the RS form, and transferred to the private pension fund of an individual in line with the affiliation data registered at a central database. Similarly, when an individual desires to change funds, she does so by an individual request to REGOS without revealing the decision to either the employer, the fund she is leaving or the new fund she is joining, thus ensuring privacy.

Switching procedures

If a member is for any reason unsatisfied with the pension company managing the fund where the member has her account opened, she will be allowed to withdraw all of her funds and to transfer them to another mandatory fund at any time. Every insured person will be allowed to join another mandatory fund free of charge after her five years of membership of a particular fund have expired, whereas a fee of 5 percent of total accumulation is determined for switching in the first year of affiliation to a specific fund; 2.5 percent in the second; 1.25 percent in third; 0.625 percent in fourth; and 0.31 percent in the fifth year and activities related to transfer of members will be supervised by REGOS. Such a switching fee has been established in order to discourage excessive switching in the first years of second pillar operations, and consequently avoid the related acquisition costs. In 2002, second pillar participants were eligible for one free switch.⁶² Besides keeping track of individual accounts of fund members, REGOS also keeps records on member transfers so as to minimize abuse.

⁵⁹ Details on monthly RS report can be retrieved from www.regos.hr.

⁶⁰ Personal income tax, health, PAYG pension and unemployment contributions are transferred to the central budget - Treasury, local surtaxes to local banks, and second pillar contributions to REGOS which transfers the funds to custodian banks according to the affiliate database.

⁶¹ See Demarco and Rofman (1999) for a discussion of collection alternatives.

⁶² Despite low frequency of switching in 2002 (see Section 4.3. for details), switching fees have been identified as prohibitively high. Hagna has announced reduction of switching fees during 2003 to 0,8% of total individual accumulation in first, 0,4% in second and 0,2% in third year.

Box 4.2. The broader impact of second pillar reform on payroll and tax reporting and enforcement

An important feature of the Croatian pension reform has been its catalytic effect on the broader reform of the public revenue system with respect to mandatory social contributions and personal income taxes. The development of the RS form and associated reporting system has been the end product of wider efforts since 2000 to consolidate several aspects of the revenue system for contributions and personal income taxes, including reporting, enforcement and control.

In terms of reporting on contributions, the inherited system imposed a heavy reporting burden on employers, who have been required to submit information on contributions and taxes due to different institutions, all of which demand their own format for reporting. In total, the system prior to 2002 required the employer to report and submit some 20 different forms on either a monthly or annual basis. Apart from the excessive demands on employers, the system was inefficient in terms of public administration, with parallel networks of staff for data and contribution collection and processing in the Health Insurance Institute, Pension Institute and Tax Department interacting with the same set of employers. For example, in the PI alone, the estimated number of staff dedicated to these functions at end 2001 was around 1,000 out of a total staff of 3,300. Enforcement was also done until 2000 on a fragmented basis, imposing additional inspection and other demands on employers. Final control on contributions was also done separately by each institution to whom payments were made.

From 2000, the Government began taking steps to lessen the burden on employers, and improve the efficiency and transparency of the system. The Government is implementing the new strategy in stages. Apart from the introduction of the RS form for unified reporting, the main measures to consolidate enforcement and control have been the following:

- in July 2000, the Tax Department - through the single Treasury account - assumed enforcement of pension contributions for all contributors except the self-employed;
- in July 2001, the Tax Department also assumed responsibility for contribution collection for the PI, and from January 2002 also for the HII¹;
- Effective in 2002, the Tax Department is responsible for all auditing of enterprises, with support by the PI for control functions on employer reporting on employee status; and
- Effective in mid-2002, the Tax Department will assume responsibility for unified control and enforcement of all payroll taxes. Inspectors currently working in HII and the PI have already or will join the Tax Department. The actual withholding of contributions from employers continues to be done by the Financial Agency (FINA), the successor agency of the central payments system.

These reforms should go a considerable way towards a more efficient system of enforcement and control of contributions which will complement the RS form introduction. While there remain concerns in the extra-budgetary funds about the capacity and incentives for the Tax Department to do effective control on contributions, these should be reduced in practice by the assumption of staff and expertise into the Tax Department.

While the new system of reporting, enforcement and control is still being fully put in place, data from the first quarter of 2002 suggest that the new system as a whole is beginning to induce improvements in collections even at an early stage. The year-on-year increase in total pension contribution collection in the first quarter of 2002 was 5.8 percent; for health contributions, collection improved by 7.5 percent, and unemployment contributions improved by 9 percent, which is significantly higher than a modest increase in the corresponding contribution base - nominal gross wage bill of 2.4 percent,¹ or the 1.16 percent rise in total tax revenue. If the positive trend in compliance persists, the fiscal pressure of financing the transition cost would diminish rapidly, which would make room for faster pillar substitution through a higher second pillar contribution rate and/or further reductions in the pension contribution rate.

Guarantees in the second pillar

The return on second pillar individual accounts in Croatia is subject to a relative rate guarantee, shown on Figure 4.2. below. The guaranteed rate of return is specified in relation to the reference rate of guarantee, which under supplementary acts of HAGENA, is set as the market-share-weighted average of actual rate of return lowered by two percentage points.⁶³

Reference rate of Return = actual market-share-weighted rate of return minus 2 percentage points,
(2)

where market shares are based on assets.⁶⁴ The reference rate of return is calculated once a year for the period of a calendar year. The rule of deducting two percentage points from the actual rate of return was introduced in order to eliminate asymmetry in the range around zero, and thus to reduce the likelihood of guarantee activation. With a guaranteed rate of return defined as:

Guaranteed rate of return = Reference rate of Return / 3, if greater than zero; (3)
= Reference rate of Return * 3, if lower than zero;
- subject to maximum discount rate of the NBC.

a deduction of two percentage points in the reference rate led to an effective reduction in the level of the already-low relative rate guarantee in the second pillar in Croatia. Comparison with countries with relative rate guarantees in Table 4.1. indicates that the Croatian formula provides a lower guarantee level than found in most other systems⁶⁵:

⁶³ There was an extensive debate among policymakers and fund managers in Croatia on how the reference rate of return should be determined. Alternatives included market-share-weighted average of funds' RoRs; market-share-and-asset-class-weighted average RoR of pension funds; or some reference RoR exogenously determined by HAGENA. Assessing that an exogenous RoR would carry a high risk of guarantee activation, and that double-weighted RoR would be too complicated, HAGENA opted for a market-share-weighted average RoR of pension funds lowered by two percentage points.

⁶⁴ Individual fund's weight is capped at 25%.

⁶⁵ See WB Pension Reform Primer, for which materials are available at www.worldbank.org/pensions.

Table 4.1. Relative Rate of Return Guarantee, various countries

Country	Guarantee
Argentina	smaller of: 70% of funds' average nominal return, and average nominal return minus 2%.
Chile	smaller of: 50% of funds' average real return, and funds' average real return minus 2%.
Colombia	minimum based on both average of funds' performance, and return on benchmark portfolio.
Hungary	15% less than the yield on a government bond index;
Peru	smaller of: 50% of funds' average real return, and funds' average real return minus 2%.
Poland	smaller of: 50% of funds' average nominal return, and average nominal return minus 4%.
Uruguay	smaller of: 2% real, and funds' average nominal return minus 2%.

Source: Guarantees. Counting the Cost of Guaranteeing DC Pensions. World Bank Pension Primer Notes (2000).

The use of lower-than-usual guarantee was a deliberate policy choice during the funded system design in 1998. It was argued that high rate-of-return guarantee, particularly if set in absolute terms, might have several adverse effects, depending on the source of its finance. If the guarantee was to be high and financed by fund members, it would lead to lower effective rates of return for all members and to aggressive investment strategies by fund managers. If financed by the fund managers, it could lead to a “bandwagon effect” in investment among pension fund managers. Alternatively, financing the guarantee from the central budget might lead to imprudent investment policy and create a large contingent liability for the central budget. In order to minimize potential reduction of the rate of return for fund members and distortions in the pension fund market, policymakers opted for a mild relative rate of return guarantee which would protect members of the pension fund whose fund manager performed significantly worse than the others, i.e. only in extreme cases. To further minimize the probability that the guarantee would be triggered, policymakers decided to split the costs of a guarantee among the fund managers and the central budget.⁶⁶ The most interesting feature of the guarantee formula in Croatia is that it is symmetrically defined in the negative rate-of-return ranges, as well as in the positive. Consequently, the entire investment risk is placed on the individual with the argument that payment of the absolute guarantee would again introduce principles of the solidarity system. It was further argued that the change in value of the pension portfolio should resemble the change in its financing base, while the solidarity should be effectuated in the payout stage. Consequently, policymakers in Croatia decided to introduce a full guarantee in the payout (annuity) stage rather than in the accumulation stage, which is explained further in the text.

With the current portfolio limit of minimum 50 percent of assets to be invested in long term government debt instruments, the likelihood of guarantee activation has been reduced to a minimum. Guarantees could be triggered only by extreme plunge in prices in the capital

⁶⁶ Passing a share of the costs onto the fund managers would probably lead to some bandwagon effect in the pension fund management industry.

markets.⁶⁷ In case of guarantee activation, individual accounts have to be reimbursed up to the level of the guaranteed rate of return from the following sources and in the following order:

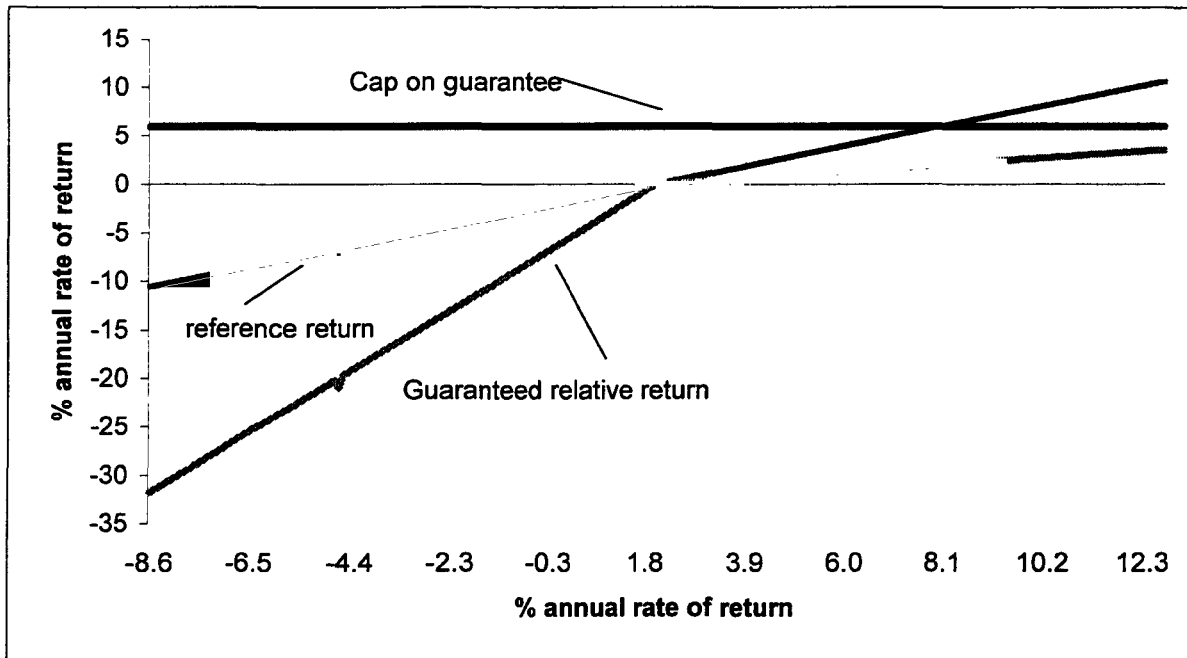
1. Guarantee deposit (unlimited);
2. Base capital of the fund management company (up to 20 percent of the stock);
and
3. State budget (unlimited).

The guarantee deposit is a designated part of the charter capital of the pension fund management company kept at separate account at the custodian bank. The management company is required to deposit one million Kuna (around USD120,000) for each 10,000 members in excess of a minimum affiliation level of 80,000, and to deposit 75 percent of the success fee for each successive 3 year period. Since the resources to finance the guarantee deposits are limited and the deposit is part of the base capital of the company, it can be said that the prime responsibility to cover the guarantee rests with the fund management company. In time, with a growing second pillar, the contingent liability on the state budget will increase, particularly if and when the investment limits are relaxed.

Despite a relatively low level of guarantee in Croatia, the primary responsibility of the fund manager to cover it might result in some portfolio concentration, thus reducing the positive impacts on capital market development. This risk could reduce needed portfolio diversification, particularly after the initial years when portfolio concentration is expected in any event.

⁶⁷ Simulations indicate that with such a limit on investment in government bonds, guarantee would be activated only for a fund with maximum exposure to equities and a decline in equity prices of 40%, assuming that all other funds are not investing in equities.

Figure 4.2 Guaranteed relative rate of return



On the other hand, the low level of the relative rate of return guarantee in Croatia implies minimal contingent liabilities for the both fund managers and the budget, and correspondingly assures fiscal sustainability and low cost of guarantees in the accumulation stage of the second pillar.⁶⁸

Investment limits

Following the framework set out by Vittas, pension fund investment regulation in Croatia would fit into the draconian category.⁶⁹ Legislation distinguishes between acceptable and prohibited asset classes, and introduces quantitative limits by asset class and issuer. Assets of both mandatory and voluntary pension funds can be invested in:

- Short term bills and other short term papers issued by Republic of Croatia and NBC, and short term bank deposits;
- long term bonds issued by Republic of Croatia and NBC;
- long term bonds issued by local governments;
- long term corporate bonds;
- Stocks listed in first quotation of the Zagreb Stock Exchange;
- long term bonds issued by OECD countries;
- long term corporate bonds issued in OECD countries (rated A or above);and

⁶⁸ See Lachance and Mitchell, forthcoming.

⁶⁹ Vittas (1998).

- stocks of OECD country companies listed in highest quotations of OECD markets; and
- stocks and shares in domestic and foreign investment funds investing predominantly in sovereign bonds of OECD countries.

In contrast, pension funds are prohibited from investing in securities not listed and not traded at organized stock exchanges; futures, options and other derivatives; real estate; assets with indeterminable value (arts, antiquities, vehicles); and securities issued by persons affiliated to fund management company and the custodian bank. Investment limits are determined by asset classes in the following manner:

Type	Limit	Percentage
Foreign investment total	max	15
Short term T and NBC bills and cash	max	5
State and NBC bonds	min	50
Local government and municipal bonds	max	30
Local corporate bonds	max	30
Domestic equity and investment funds	max	30

Additional investment limits that apply to international investment are:

Type	Limit	Percentage
Foreign state bonds	max	15
Foreign corporate stocks and bonds	max	10
Shares in investment funds	Max	5

Investment limits aimed to ensure adequate diversification per issuer allow for a maximum of 5 percent of a pension fund's assets to be invested in one issuer, including the issuer's affiliated companies. This limit does not apply to investment in state bonds.

Although the investment limits for Croatian pension funds are quite tight, they are comparable with limits in other transition countries which are launching three-pillar pension reforms. An exception is a requirement that at least 50 percent of assets have to be invested in long term government bonds. There is a concern that such limits could lead to less diversification and more uniform portfolio structures.⁷⁰ On the other hand, they should promote lower risk portfolios, reduce the probability of triggering the guarantee, and among other effects, provide an additional source of financing the transition.

⁷⁰ Setting a minimum required asset share of 50% to be invested in government bonds was driven by unfavorable general government fiscal balance and declining economic activity in 1999 and early 2000. This limit is expected to be reconsidered in the first years of second pillar operations and ultimately lifted.

Current investment regulations are identical for mandatory and voluntary pension funds. In most three-pillar systems the investment limits for voluntary pension funds are more relaxed than for the mandatory pension funds.⁷¹ Since the timetable for establishment of the funded pillars was tight at the time when the legislation was drafted, it seemed pragmatic to apply the same rules for both pillars. In addition, using identical limits was expected to be easier from the supervision standpoint. Nonetheless, HAGENA is expected to relax the investment limits for voluntary funds in amendments to the Funds Law expected towards the end of 2002.

Second Pillar Costs - Pension Fund Management Fees and Other Administrative Costs

Pension fund management companies can earn income by charging four different fees:

- maximum 0.8 percent front-end fee on paid-in contributions;
- maximum 0.8 percent of net asset value (NAV) per annum;⁷²
- switching fee/exit fee; and
- success fee of 25 percent of real annual return (25 percent of which collected as current revenue and 75 percent of which is paid into the guarantee deposit for each successive three year period and collected after this period).⁷³

The front loaded fee of max 0.8 percent is deducted automatically with every monthly contribution by REGOS and paid to fund management companies, while the net contribution is transferred to the individual account at the respective custodian bank.

The NAV fee is calculated daily and collected once a month.⁷⁴ The law stipulates that HAGENA will revisit the NAV fee cap in coming years and reduce it accordingly. The costs deducted to obtain the net asset value include only the custody fee, while the brokerage fees are to be covered by the fund management company.⁷⁵

⁷¹ Vittas, 1998.

⁷² Applies to 2002; maximum NAV fee for subsequent years could be set below 0,8% by HAGENA.

⁷³ The main rationale for introducing the success fee was to give an opportunity to more successful and efficient funds to earn a relatively larger fee, be relatively better rewarded for higher efficiency and thus more capable for market competition with the large funds. The rationale for introduction of a three-year claw-back period was primarily to finance the guarantee deposit in case one needs to be activated and secondly to smooth the income stream for the fund management companies; in the high-return periods the companies would not realize all the success fee, while in the low-return periods fund management companies would still be realizing some success fees with a lag of three years.

⁷⁴ Valuation of the pension fund assets is carried on a daily basis by respective custodian banks, which would imply that the NAV fee could be calculated accordingly. However, the supplementary acts of HAGENA do not specify the details of daily NAV fee calculation and monthly fee collection. The same technical obstacle is found with regulated daily calculation of custodian fee calculation and its monthly collection.

⁷⁵ It is common that the brokerage and trading fees get paid from the pension fund, not the fund management company. It is argued that imposing the liability for paying brokerage and trading fees onto fund management companies in Croatia could induce a "buy-and-hold" investment strategy in order to minimize cost, thus lowering liquidity in the market. However, it is also a fact that the main

The success fee is to be calculated on the first business day of the calendar year for the previous year as 25 percent of real rate of change of NAV, computed using the previous year's CPI. The total amount is registered as a liability of the fund.⁷⁶ Upon calculation and subtraction of the success fee, a pension fund management company is eligible to register as income 25 percent of the success fee, and deposit remaining 75 percent for a period of three years.⁷⁷ Such a calculation method could lead to an "asset-value-boosting" strategy at the end of calendar year. To reduce that behavior, it was argued that the success fee should be calculated and collected quarterly with a final annual reconciliation.

International experience with fees charged by fund management companies for account administration and asset management shows that in most countries with mandatory second pillars, fund management companies are not entitled to such a wide spectrum of fees.⁷⁸ Having in mind that collection, account administration and reporting will be the responsibility of REGOS, this raises a question whether in Croatia the variety of fees could induce high operating costs in the second pillar. If fund managers maintain fees at the capped levels, the average annual reduction in annual yield would be as high as 1.4 percent in the next 40 years, as shown on Figure 4.3. When expressed in term of annual contribution, total fees are more than 15 percent in 2015 and reach almost 20 percent in 2033.⁷⁹ A reduction in yield (rate of return) in Croatia of 1.4 percent would be accompanied by a reduction in premium/charge ratio of close to 25 percent if fees would be imposed at their cap values.⁸⁰

shareholders of fund management companies in Croatia are commercial and investment banks which could generate substantial fees for their brokerage and trading branches by engaging in extensive trading. Furthermore, trading costs in Croatia are still relatively high, while the main shareholders of fund management companies are at the same time the main shareholders of the two stock exchanges (Zagreb and Varazdin Stock Exchanges).

⁷⁶ Final adjustment of the success fee is expected by the end of January of the following year, when the final CPI for the previous year would be known. Similar to the NAV fee, the calculation procedure is not precise regarding the stage when costs would have to be subtracted and the CPI rate applied.

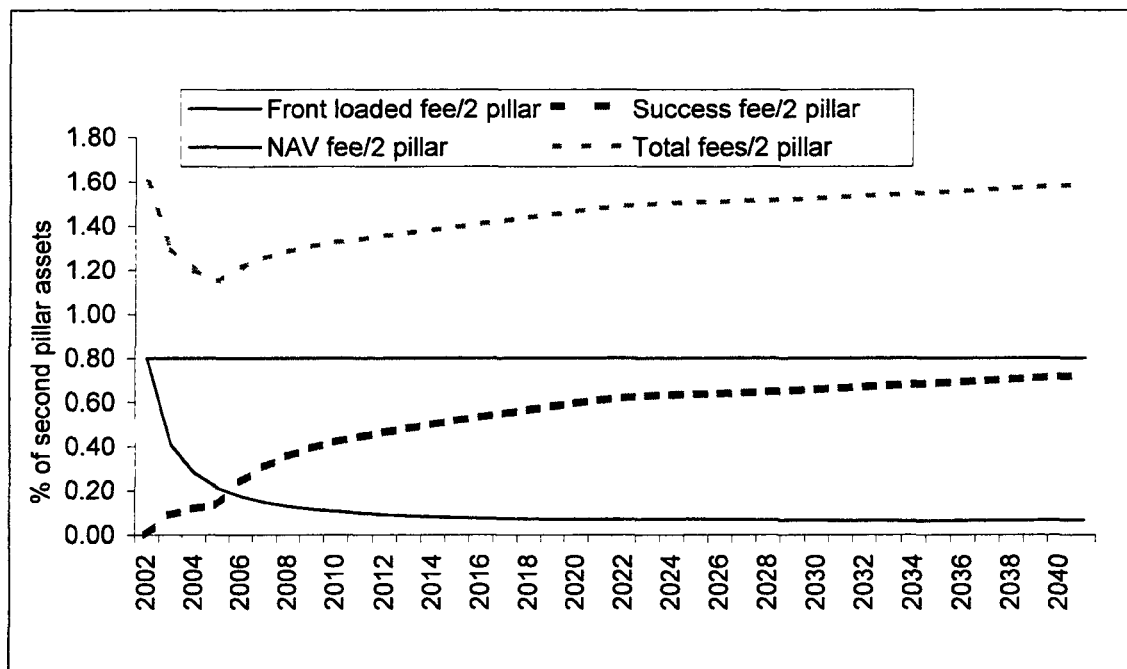
⁷⁷ Upon expiration of a three-year claw-back period a fund management company is eligible to register as income the full remaining amount of 75% of the success fee.

⁷⁸ See Whitehouse, 2000; James, Smalhout, and Vittas, 2000; World Bank Pension Reform Primer Notes, 2000.

⁷⁹ In absolute terms the fee per account is expected to reach \$4.5 in 2002, \$10.5 in 2004, \$20 in 2006, \$84 in 2015 and almost \$225 in 2033.

⁸⁰ It is assumed that real net rate of return would stand at 2.5 percent per annum. In the long run, the NAV fee and the success fee would contribute to manager's income in equal proportions.

Figure 4.3 Projected commissions/fees as share of assets in second pillar



In comparison with other mandatory funded systems such a cost can be considered very high.⁸¹ If the operating costs of REGOS devoted to second pillar contribution collection and individual account management are added, the administrative costs in 2002 would increase by additional 1.5 percent of second pillar accumulation, or close to \$4 per account in 2002, if no cost recovery from pension funds is envisaged.⁸² Assuming low cost recovery for REGOS operations, the long run second pillar costs could reach two percentage points of annual yield. In the initial period of second pillar operation, the operating costs would be even higher – approaching 2.5 percentage points of annual yield in the first several years – due to the relatively large startup costs of REGOS in comparison with the second pillar size.⁸³ Since such high costs could jeopardize the expected higher returns of the second pillar

⁸¹ See World Bank Pension Reform Primer Notes, 2000.

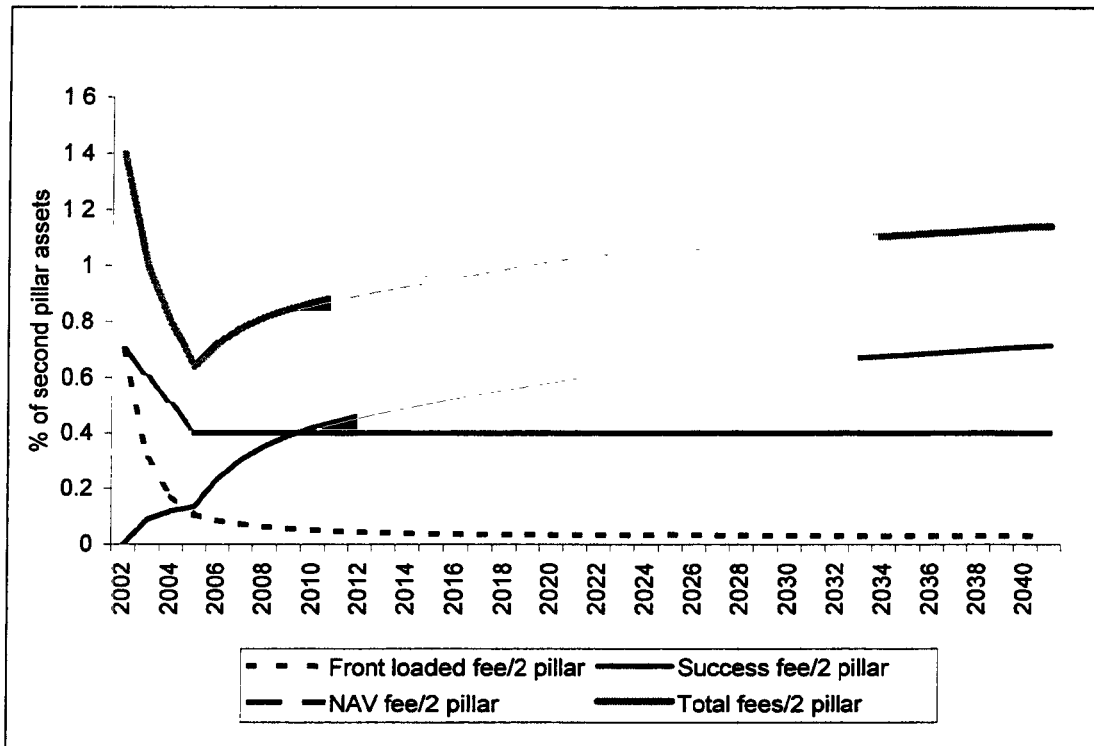
⁸² Total operating costs and investment of REGOS in 2002 are budgeted at kuna 30 million, which includes services to second pillar and other data user in the public finance system, exhausting 1.5 percent of second pillar inflow in 2002. In the following years the REGOS budget is expected to decline in terms of annual second pillar inflow to 1 percentage point. Initial investment and startup costs of REGOS are to be partly financed by a loan from the World Bank, while in the long run the bulk of REGOS costs are expected to be recovered from pension fund management companies for the service provided within the current management fee envelope. In that case the impact of REGOS costs on reduction in net contribution or yield would be smaller.

⁸³ Since REGOS simultaneously performs services for Tax Department, Pension Institute, Health Institute and Employment Bureau, it is difficult to extract costs exclusive to the second pillar. If we assume that REGOS uses 75 percent of its capacity for servicing the second pillar, adding this share of its budget to the management fees would yield a total cost level of 2.5 percent of second pillar accumulation in the first three years, but would fall afterwards.

in comparison to the PAYG system, steps for cost control, cost recovery and reduction should be considered immediately.

Figure 4.3 also shows that the relative importance of the front-loaded fee is expected to decline rapidly, while the relative importance of the success fee should reach the level of the NAV fee. Furthermore, while the front-loaded fee and NAV fee are specified in terms of maximum percentage levels, in order to allow for price competition, the success fee is determined in fixed percentage terms, without an opportunity for the fund management company to set it at a lower level. The driving idea in fixing the success fee in the legislation was the role it plays in financing the safety mechanism of the guarantee deposits.⁸⁴ It was believed that fund management companies should not be given the opportunity to compete over the success fee, and thus minimize the build-up of the company's guarantee deposit.

Figure 4.4 Projected estimates for fees/assets in funded scheme, 2002-2040 (based on 2002 actual fees)



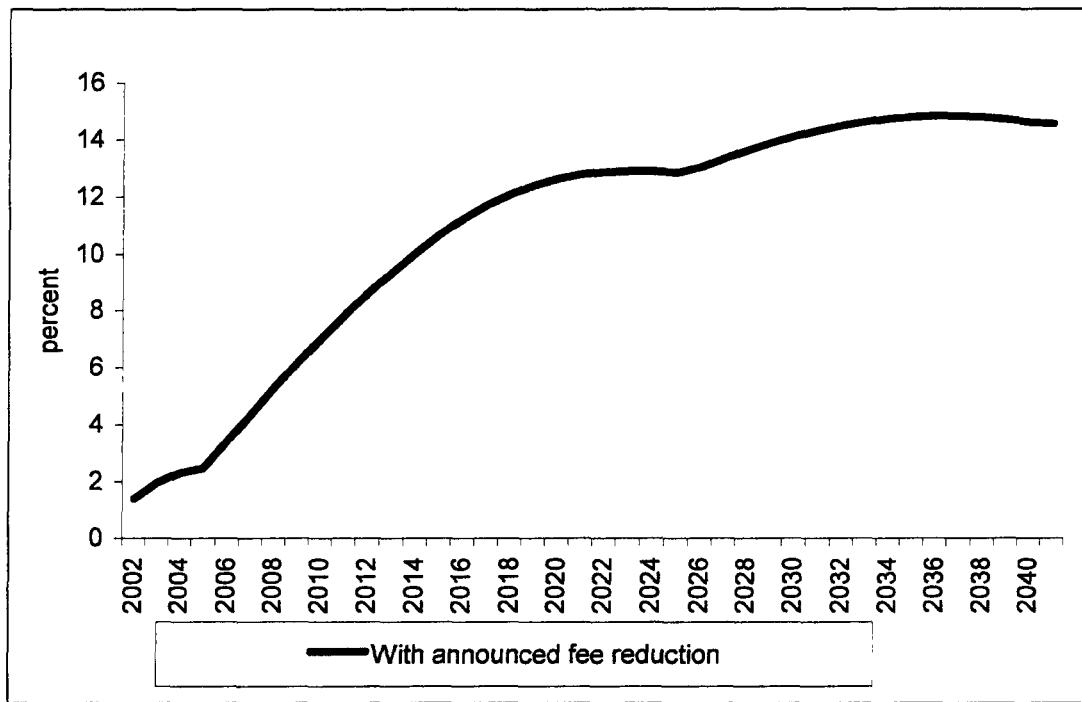
However, a rolling claw-back of 75 percent of the success fee does not appear to be a very effective tool to protect against shortfalls in the rate of return. After a strong increase in guarantee deposits during the initial claw-back period, the available guarantee deposits will peak at 1.5 percent of second pillar contributions due to withdrawals. Such a level of

⁸⁴ As indicated earlier, 75 percent of the success fee has to be deposited in the guarantee deposit for each successive 3 year period, after which a fund management company can claim it back as its revenue.

guarantee deposit would be sufficient to absorb minor rate-of-return shocks, but certainly does not provide adequate cushion against larger shocks, which would ultimately have to be covered by the base capital of fund management companies and the state budget.

Initial market behavior in 2002 also provides indications that both the fee levels and their structure might not be optimal. Fund management companies with the largest market share announced gradual reductions in their NAV fees to 0.4 percent and in front loaded fees to 0.5 percent over several years. At the same time, competition over the success fee did not take place due to the rigidities in the law noted above. Consequently, once the front loaded and NAV fees are reduced to these levels, the fee structure and relative to second pillar contributions would change to a pattern shown on Figure 4.4, representing a total fee burden around 27 percent lower than would be produced if firms charged at the fee cap rates:

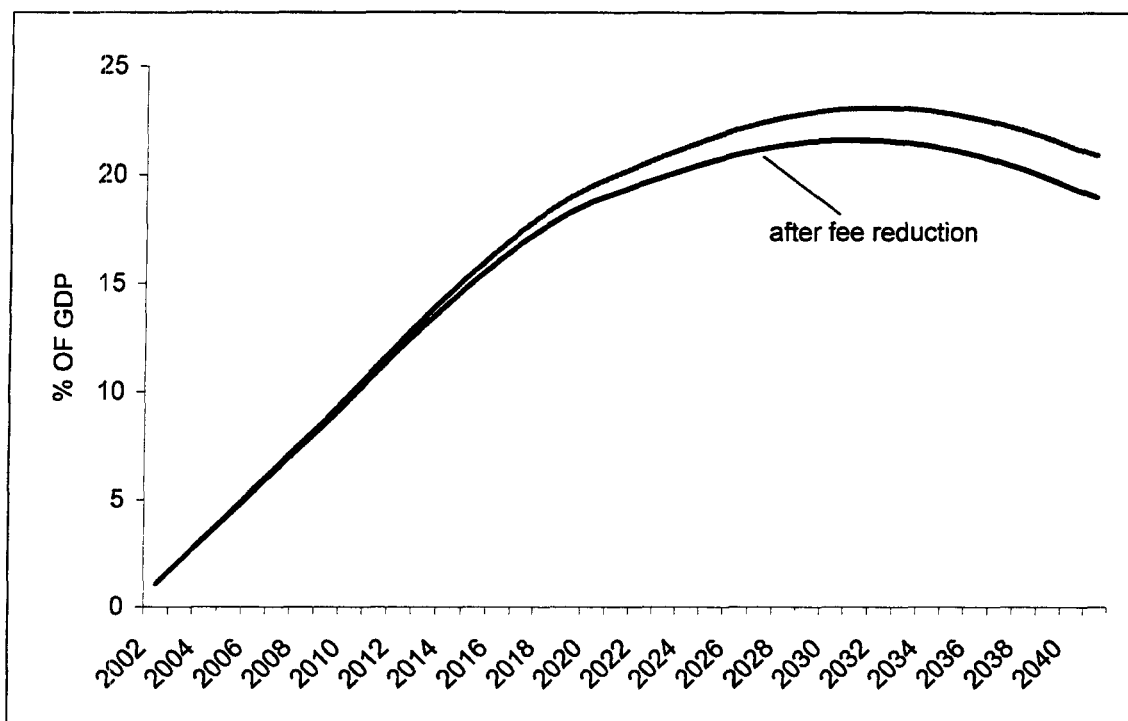
**Figure 4.5 Total fees relative to gross contribution flows
with fee reduction, 2002-2040**



Assuming that the reduction of NAV fee to 0.4 percent is implemented by fund managers, the relative contribution to income of the success fee could in several years outstrip that of NAV fee. With such a fee structure, the pension fund management business in Croatia may engage in excessive risk taking in order to maximize the rate of return in the short run. An interesting question is why the pension fund management companies decided to price-compete in the earliest stage of second pillar existence. Besides a simple battle for membership, which has undoubtedly taken place, it seems that the companies announced reduction in fees after realizing that caps had been set at very high levels. Nevertheless, Figure 4.5 indicates that even with the announced fee reductions, management costs would

in the long run reduce the second pillar rate of return by around 1 percentage point without the fund administration services provided by REGOS.

Figure 4.6 Impact of fee reduction on ratio of fees/GDP, 2002-2040



Hence, total costs would remain in the upper range of international practice.⁸⁵ On the other hand, the announced reduction in fees would mean lower costs and higher accumulation in the individual accounts.

If additional front-loaded and NAV fee reductions occurs, the share of success fees in total cost structure would increase further. Having fund managers rely primarily on success fees could create a serious barrier to entry for potential pension fund managers. A new entrant to the market would face very high startup costs and an extended break-even point due to a revenue structure heavily based on success fees.

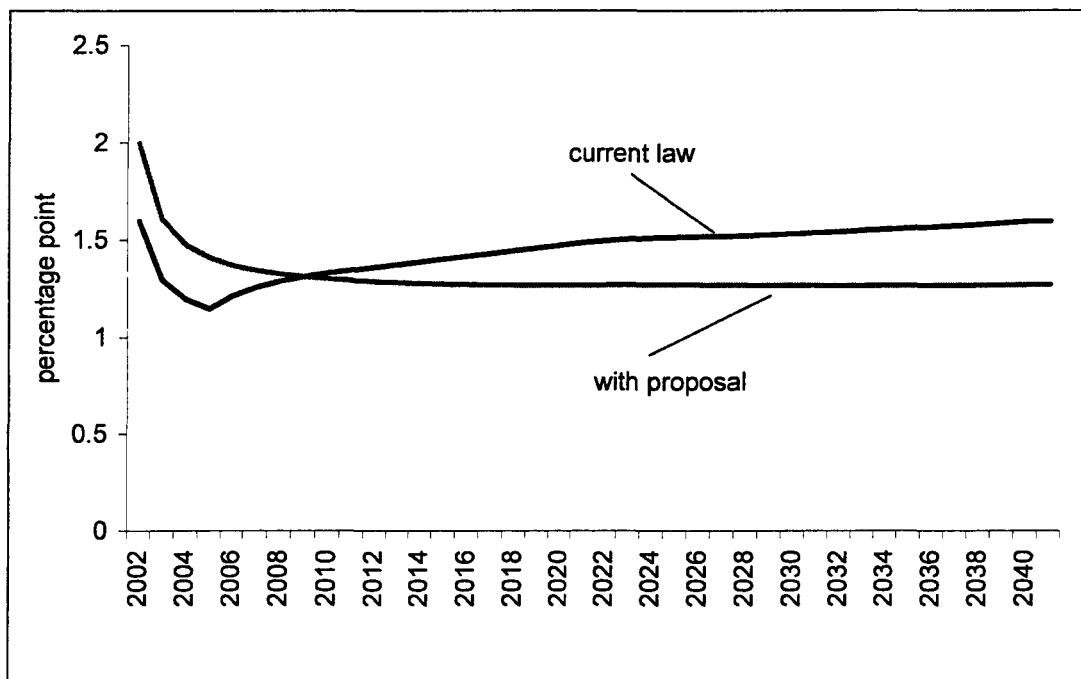
It is clear that policymakers in Croatia will have to address the issue of the current sub-optimal structure of fees and their levels in the near future. Allowing for price competition over the success fee would add options to both existing fund management companies and new entrants to structure fees according to their market strategy.⁸⁶ HAGENA has been considering elimination of the success fee in order to reduce complexity of the fee structure

⁸⁵ According to Murthi et al., reduction in yield due to administrative charges stands at 1.39 percent in Mexico, 1.2-1.3 percent in the UK; 1.2 percent in Argentina; 0.85 percent in Poland; 0.88 percent in Chile; 0.85 percent in El Salvador; 0.55 percent in Kazakhstan; and 0.46 percent in Bolivia.

⁸⁶ The Funds Law could instead of current provisions determine the success fee as the maximum of 25 percent of real annual return, and/or reduce the cap to 10 percent, i.e. a level similar to Kazakhstan.

and eliminate potential barriers to entry.⁸⁷ Parallel to elimination of the success fee, a higher cap on NAV fee is proposed to be set at 1.2 percent instead of 0.8 percent. Possible impact of proposed fee restructuring, shown on the following figure, would in the first 8 years lead to even higher charges.

Figure 4.7 Management fees for funded scheme, current versus proposed, 2002-2040



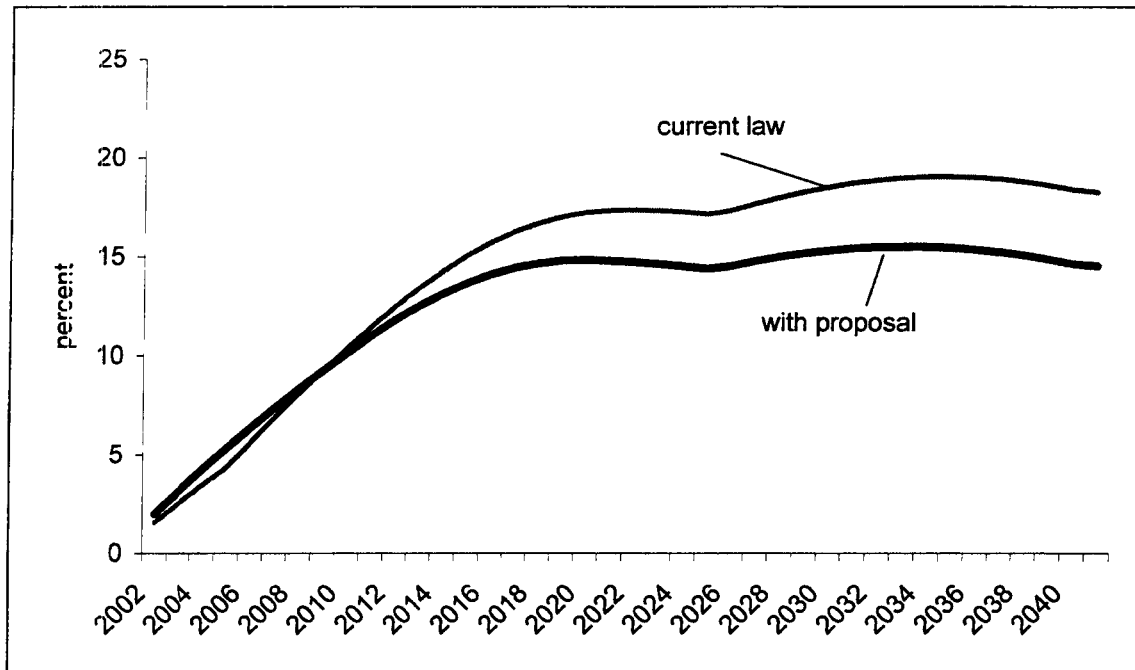
In the long run the charges would be lower, yet still in the high range of 15 percent of annual contribution to the second pillar as shown in Figure 4.7.

It would also be needed to assess whether such a radical change at the initial stage of second pillar implementation would seriously affect business plans and the already-conducted marketing and development strategies of fund management companies.

Finally, serious consideration should be given to realization of pension funds' participation in the costs of account management and fund administration incurred by REGOS in order to promote full transparency in the cost structure. This option is allowed under the Funds Law, and has precedents in countries such as Mexico.

⁸⁷ The proposed change in fee structure has been forwarded as a draft to the Parliament, and expected to be discussed there in early 2003.

Figure 4.8 Current versus proposed fee structure, 2002-2040



Voluntary pension funds and voluntary pension programs

Voluntary pension funds have been established as voluntary individual capitalized savings, with the purpose of collecting and investing contributions paid by any adult citizen in Croatia. Insured persons or their employers are able to contribute to individual accounts in a voluntary pension fund regularly or occasionally. Each voluntary pension fund will be obliged to offer a pension insurance program which members would accept by their membership. In addition, each pension insurance company will have to inform members in advance of the possibility of leaving the underlying program and the cost of exit.

In any case, the assets accumulated in individual accounts in a voluntary pension fund must be managed by a voluntary pension company, licensed by HAGENA. Just as for mandatory pension fund management companies, a voluntary management company will be supervised by HAGENA, will be remunerated for management, and will have the opportunity to participate in sharing of the fund's profit, following the same level and structure of fees as mandatory pension companies.

Upon acquiring the right upon retirement or 50 years of age, every member of a voluntary pension fund will have the right to transfer the total amount of their personal capitalized savings to the corresponding insurance company which will, based on this amount, determine his/her life pension annuity and scheduled withdrawals, or withdraw funds through other eligible pension products in the voluntary pension insurance market.⁸⁸ Each fund member will also have an opportunity to switch to another fund and join another pension scheme after compensating the pension insurer whose scheme a person is leaving.

⁸⁸ Lump-sum payments are allowed but cannot exceed 30 percent of the total accumulated amount.

Voluntary pension system will operate in the EET framework. Individual contributions to voluntary pension fund accounts can be deducted from personal income tax base up to 12,000 kuna (\$1,700) annually. In addition to contribution exemption, the state tops-up the contribution to an individual account with 25% up to annual contribution cap of 5,000 kuna per individual.⁸⁹ Pension benefits received from the voluntary system will be taxed in accordance with the personal income tax rules.

4.2. Funded pillars – the payout stage

The pay-out of annuities from the second pillar accumulation

When an individual member of a mandatory pension fund becomes eligible for retirement under the Pension Insurance Act,⁹⁰ REGOS will transfer the total amount of her personal capitalized savings to a licensed pension insurance company chosen by the individual.⁹¹ A pension insurance company will, based on this amount and the individual selection of a type of pension, determine the individual's lifetime benefit. The payout stage of funded pension insurance is regulated by the Annuities Law).⁹²

The mandatory funded system (second pillar) allows only price-indexed life annuities. Such a restriction is commonly found in most second pillars around the world.⁹³ This feature is driven by the mandatory nature of the second pillar, which should provide lifetime income replacement. In Croatia, voluntary pension insurance can, in addition to lifetime annuities, offer other pension products, such as programmed withdrawals, variable annuities, and annuity-withdrawal combinations, with a variety of indexation options. In the voluntary system, lump-sum payouts are capped at 30 percent of the accumulated amount.

The mandatory funded pillar offers four types of annuities: single; single with guarantee period; joint-and-survivor; and joint-and survivor with guarantee period. The single annuity is to be paid to an individual for the rest of her life, and single with guarantee period to an individual for the rest of her life, but, if death occurs within the guarantee period, to the

⁸⁹ Contribution top-up was originally legislated in 1999 when the personal income tax system was exemption-free. Exemption was introduced in 2000 but the contribution top-up was never revoked.

⁹⁰ Old-age, disability, survivors pension or an early retirement. Retirement date for the both mandatory pillars are the same.

⁹¹ Each pension insurance company is required to quote annuity units under supervision and approval of HAGENA. Three months before retirement an individual can obtain all relevant information from REGOS, in addition to information provided by the pension insurance companies directly. Upon studying the options and choosing a pension insurance company, an individual issues a request to REGOS to transfer the total accumulated funds from a pension fund to a pension insurance company chosen by the individual. REGOS would then issue a request to the pension fund to transfer the funds to its transient account, from where it is directed to a pension insurance company. The role of REGOS in this process is to provide adequate information to an individual, limit direct contact with a pension insurance company to a minimum in order to eliminate cases of adverse selection and finally, to ensure that a fee to a pension insurance company is calculated, deducted and paid properly. A pension insurance company must accept every second pillar participant.

⁹² Law on Pension Insurance Based on Individual Capitalized Accounts, Official Gazette, 106, 1999.

⁹³ See Walliser, 1998; James and Vittas, 1999.

designated beneficiary until the end of guarantee period. The joint-and-survivor annuity is paid jointly to both spouses, and when one spouse dies, 50 percent of the amount to the other for the rest of her life. The joint-and-survivor annuity with guarantee period in addition covers the case where both spouses die within the guarantee period. In this case, 60 percent of the joint amount is paid to the designated beneficiary until the end of guarantee period. The guarantee period in both single and joint annuities cannot be shorter than 5 years.⁹⁴

In order to maximize coverage of dependents and insure them against loss of income due to the death of a breadwinner, the law mandates a selection of annuity or restricts individual choice in several cases. If an insured individual is married, a single annuity is not allowed unless the spouse is also entitled to a second pillar annuity. If both spouses are entitled, they can choose a single annuity, but both must approve that choice. If the spouse is younger than 50, the insured individual can not chose a joint annuity.⁹⁵ In that case an individual can only have single annuity with guarantee, with a spouse being designated as an beneficiary. Insured person with an adolescent children must designate the adolescent as a beneficiary until he/she reaches 18 years, or in the period of minimum 5 years.

Mandatory lifetime annuities from the second pillar must be calculated based on unisex tables, i.e. female life expectancy equalized with male.⁹⁶ The implication of using of unisex tables in Croatia would be a 10 percentage points redistribution of annuity from men to women.⁹⁷ On the contrary, pension products drawn from the voluntary system can be based on the gender-specific tables.

Annuities and other pension products have to be provided by pension insurance companies, separate legal entities prohibited to offer other insurance or financial products. Such a strict requirement was introduced in order to prevent cross-subsidization between insurance and financial products which was expected if existing insurance companies and banks had been allowed to offer pension insurance. Furthermore, the Government separated pension insurance from other types of insurance with the intention of supervising it separately. In contrast to other insurance products, second pillar annuities are fully guaranteed by the state, and investment limits are more strict.

⁹⁴ The purpose of the guarantee period is to provide certain income to the designated beneficiary, survivors in most cases, in case of the insured's death. Since probability of death is low in the first several years, allowing for a guarantee period shorter than 5 years would serve its purpose only limited cases.

⁹⁵ In that case, a reduction in the level of joint annuity would be significant, since the life expectancy of the survivor would be high.

⁹⁶ Use of unisex tables is the practice in the majority of EU countries and the relevant directive of the EU. Candidate countries for EU accession have adopted this as a standard.

⁹⁷ Prior to forwarding the Annuities Law to the Parliament, the Croatian Government had several discussions on how to reduce longevity risk. Specifically, the working groups focused on two options, variable mortality tables accompanied by survivor or life-indexed bonds (Blake, Burrows and Orszag, 1999) and group annuities, as a method of reducing the longevity risk and the common practice of pension insurers that tend to ex-ante reduce the risk by pricing annuities lower than implied under current mortality tables. However, it was assessed that the concepts were too complicated to be introduced in the law at the initial stage of the second pillar. Consequently, longevity risk for pension insurance companies in Croatia remains high.

The literature advocates merging pension and life insurance to ensure adequate risk pooling and overall risk reduction.⁹⁸ In Croatia, however, the legislation on life insurance anticipates separate life insurance companies, but only for companies incorporated after enactment of the law. Although existing insurance companies that offer life insurance are required legally to separate life insurance from other insurance products, few insurance companies have done so.⁹⁹ Establishment of pension insurance companies may be a catalyst to speed up the process of resolving controversies in the insurance market and, ultimately, possible consolidation of the life and pension insurance markets.

There were many complaints from the commercial sector against creation of separate pension insurance companies, as the base capital invested would not yield returns for a long period of time before the annuity payments kick off. In order to address this concern, the Law on Annuities regulated that the pension insurance companies would be annuity providers for the second pillar and that pension program providers for the voluntary pillar in which the potential clients can be served in the first calendar year. The law also envisaged low base capital for pension insurance companies of 5 million Kuna (around USD 600,000), which increases by 1 million Kuna with each 1,000 contracts issued by the company. Each company thus has an opportunity to pay-in the base capital in proportion to its business activity in the industry.

As indicated earlier, annuities drawn from the second pillar will be indexed by CPI, while in the voluntary system the indexation rule is established in the contract. The choice includes no indexation, price indexation, or exchange rate indexation, with possible combinations between price and exchange rate indices.¹⁰⁰

Actuarial reserves of a pension insurance company can be invested in the following assets and up to following limits:

- short term T-bills issued by Republic of Croatia and NBC (no limit);
- government bonds (no limit);
- other securities issued or guaranteed by Republic of Croatia (maximum 10 percent);
- bonds issued by local governments and municipalities (no limit);
- corporate bonds traded at organized markets (maximum 5 percent per issuer and affiliates);
- mortgage bonds (maximum 50 percent of value of real estate backing up the bond issue);

⁹⁸ Davis, 2000; Laboul, 1998.

⁹⁹ Law on Insurance, Official Gazette, 46, 1997. In addition, insurance companies offer life insurance products which resemble pension products, such as fixed-period life insurance which upon expiration (survival) can be converted to lifetime annuities, which is neither regulated nor supervised through the insurance laws.

¹⁰⁰ Discussion in the Government and Parliament on indexation of annuities resembled that in the literature (Lindeman, Rutkowski and Sluchynskyy, 2000). The issues under consideration were real pension at retirement and death (declining pattern in the fixed annuity system, or flat in price-indexed), and economic stability (inflation). It was concluded that the risk of inflation exceeded the benefit of declining real wage pattern ("one dies poorer than when she retires") and price indexation was introduced in the law.

- real estate (maximum 5 percent);
- stocks traded at organized markets (maximum 5 percent per issuer and affiliates);
- bank deposits (maximum 5 percent);
- stakes in open and shares in closed investment funds (maximum 20 percent , and 5 percent per fund);
- price-indexed government bonds (minimum 50 percent);
- price-indexed local government and municipal bonds (maximum 20 percent); and
- price-indexed corporate, price-indexed mortgage and other price-indexed bonds traded at organized markets (maximum 20 percent).

Investment limits aimed to ensure adequate diversification of actuarial reserves require that a maximum of 5 percent of pension fund assets can be invested in one issuer, including the issuer's affiliated companies. This limit does not apply to investment in government and local government bonds. Pension insurance companies are also prohibited from investing in securities of an insurance company as well as in any affiliated person to the insurance company.

A pension insurance company can charge only an up-front fee of no more than 5% of total accumulation transferred from the pension fund to the pension insurance company. If a surplus in the technical reserves occurs exceeding 15% of future liabilities, the excess surplus has to be distributed to annuitants in proportion to their annuity levels.

Unlike the low level of guarantees in the accumulation stage, in the payout stage a full guarantee by the state is ensured for annuities in the mandatory system. Voluntary pension products are not guaranteed by the state. Instead, pension insurance companies are required to maintain adequate guarantee funds and statutory reserves.

4.3. Market developments in 2002

Formation of the pension market in Croatia commenced in October 2001 with the first temporary authorizations of mandatory fund management companies by HAGENA.¹⁰¹ Mandatory pension fund companies started intensive marketing campaigns attempting to attract as many members as possible. HAGENA and REGOS initiated the process of registration of individual affiliation in November 2001, one-and-a-half months ahead of the start of second pillar contributions in order to minimize queues and reduce peaks during the affiliation process.¹⁰² By January 2002, when the legal requirement to choose a mandatory pension fund commenced, HAGENA had authorized seven mandatory pension fund companies and licensed seven corresponding mandatory pension funds, listed in the table below. In addition, it had licensed three custodian banks, respecting the legal requirement

¹⁰¹ Temporary authorizations were issued due to delays in licensing the custodian banks. Permanent authorizations were issued in December 2001 (Official Gazette, 115, 2001, and also www.hagena.hr).

¹⁰² Initiating early registration of affiliation was also significant for earning public confidence in the privacy and the regularity of the process which REGOS outsourced to the Financial Agency which had all the necessary IT resources and a widespread national network of counters. By January 2002, some 300,000 members chose their pension fund without any queues or delays and no reported irregularities at counters.

that the custodian bank must not be affiliated to any of the pension fund management companies.¹⁰³ The selection period for affiliates younger than 40 ended on March 31, 2002 with 620,000 mandatory affiliates (or 87 percent of total) having exercised individual choice of a second pillar fund. The remaining 90,000 affiliates below 40 years of age that did not make a selection were randomly distributed to existing funds by REGOS in proportion to the market share of each fund. By end May 2002, about 150,000 insured people between 40 and 50 years of age - i.e. some 34 percent of insured in that age group - chose the new system, resulting in a total of 870,000 second pillar participants at the end of choice period, June 2002. Due to very strong growth in employment in the second half of 2002, the number of second pillar participants increased to 938,310 at the end of December 2002 raising thus the second pillar participation rate to 64 percent.¹⁰⁴ Market shares for mandatory funds as of December 2002 were as follows:

Table 4.2.: Market share by fund management company in second pillar, May and November 2002.

Mandatory pension fund	Major shareholders	Net assets – mil. kuna December 2002*	Market share – assets December 2002*	Members – December 2002*	Market share – members December 2002*	Market share – members mid-May 2002
A-Z	Allianz, Zagrebačka Banka	859	42.1%	371,859	39.6%	39.78%
Raiffeisen	Raiffeisen Bank	617	30.3%	303,757	32.3%	31.80%
PBZ-Croatia	Privredna Banka Zagreb, Croatia Osiguranje	350	17.3%	155,520	16.6%	16.65%
Plavi fond	Riječka Banka, Splitska Banka, Zavarovalnica Triglav	109	5.3%	56,975	6.1%	6.29%
Helios	TBI Holding, Helios Osiguranje, Croatian Association of Employers, Trade Union of Railways	47	2.3%	23,214	2.5%	2.56%
Erste	Erste Bank, Steiermarkische Bank, EBRD	49	2.4%	23,554	2.5%	2.52%
HA-jedan	KD Holding, Fima, Aurum Osiguranje, Trade Union of Public Employees	7	0.3%	3,431	0.4%	0.40%

Sources: www.mirovinskareforma.com; *Hagenin Monitor, 12, 2002; www.hagena.hr.

¹⁰³ Despite strong opposition against such a strong affiliation condition for custodian banks by financial institutions, the process ended up without problems. Licenses were issued to HVB Croatia, Hypo Alpe Adria Bank and Hrvatska Poštanska Banka.

¹⁰⁴ According to Croatian Employment Bureau, in the period May-November more than 90,000 individuals assumed some form of employment. See at www.hzz.hr.

Comparison of the December 2002 market shares with the corresponding market shares as of the end-May 2002 indicates that the market structure has remained unchanged. According to Regos, only 30,000 individuals exercised the legal opportunity for a free switch in 2002. In the second half of 2002 the intensity of marketing activities dropped significantly. Apart from similar portfolios in the pension funds, the low frequency of switches can partly be explained by heavy spending on marketing in the initial affiliation period which discouraged further spending to win over the members.¹⁰⁵ Market shares indicate a very high industry concentration with first three funds absorbing 89 percent of second pillar participants. Such a market structure is an indication that the industry is likely to undergo a phase of concentration and integration in the near future with the number of funds falling from seven to either three or four.

In the period February – April 2002, second pillar contributions were regularly transferred to HAGENA's temporary account in the National Bank of Croatia, earning the NBC discount rate of 5.9 percent. This so called "parking period" was endorsed by the Government in January 2002 in order to provide additional time to ensure well-functioning technical support to the second pillar, and to avoid problems in the transition period caused by the parallel reform of the payments system in Croatia. In addition, the Government decided that transfer of money to individual accounts during the period of initial fund selection would not be considered fair to those individuals that had not selected a fund on their own, nor to pension fund managers that were at lower stages of technical preparation due to late authorizations. The decision was well accepted by second pillar participants, who earned the same rate of return independent of their affiliation and selection dates. At the end of April 2002, 71 percent of total accumulated funds were transferred from the temporary account to individual accounts, along with the list of individuals that selected a particular fund. While the regular monthly contributions in the period May-December have been transferred in time, the backlog of still unresolved fund transfer from the "parking period" was reduced to less than 2 percent. At the end of December 2002, total funds accumulated in the second pillar stood at 1.86 billion kuna, while the total net asset value reached 2.04 billion.¹⁰⁶

Prior to and during the initial affiliation period, marketing activities were intensive.¹⁰⁷ Although most marketing strategies were based on a combination of direct and indirect marketing, indirect marketing was dominant. No strong correlation between direct marketing and market share was observed, even for funds managed by companies with trade

¹⁰⁵ In addition, mandatory funds should reach required 80,000 members for the first time by end 2003, which gives the management companies time to recuperate and prepare a strategy for 2003.

¹⁰⁶ HAGENA, 2002. Simulations in this paper forecasted total accumulation in the second pillar in 2002 of 1,8 billion. The actual figure was higher due to unexpectedly higher employment figures in 2002.

¹⁰⁷ Marketing activities of most pension funds significantly dropped in April 2002 when the selection period for mandatory participants ended, and until June 2002 focused on marketing targeted to insured people between 40 and 50 years of age. Targeted marketing was successful and had resulted in an increase of participation of the 40-50 cohort from 23% to 32%, i.e. some 50,000 more members, mainly those closer to 40 years of age, with higher incomes and longer service.

unions in the shareholding structure.¹⁰⁸ In comparison with pension reforms which emphasized direct marketing, there have been two factors in Croatia that prevented the problems with fund agent and employer pressure on workers found in a number of other countries. The first one is privacy of fund selection, with exclusion of agents enforced by REGOS. The second is dominance of commercial banks in the financial system in Croatia and their dominance in the shareholding structure of fund management companies. The brand name of the bank involved in the fund management company appeared to be the most important factor for fund selection. Nevertheless, total expenditures on marketing, sales and advertising were impressive, estimated at around 120 mil Kuna (\$15 million) or around 32 percent of the total charter capital of the industry, as shown in Table 4.3:

Table 4.3. Marketing expenditures during initial affiliation process

Mandatory pension fund	Marketing expenditures per affiliate, kn*	Marketing expenditures per affiliate, % of annual inflow per average affiliate**	Marketing expenditures, % of charter capital**
A-Z	63	2.3%	22.1%
Raiffeisen	92	3.3%	30.6%
PBZ-Croatia	72	2.6%	23.8%
Plavi fond	389	13.9%	48.6%
Helios	905	32.3%	45.9%
Erste	1000	35.7%	50.0%
HA-jedan	3000	107.1%	19.2%
Industry average	151	5.4%	31.9%

* Source: www.mirovinskareforma.com; www.hagena.hr. **Estimate of the authors, average annual inflow per affiliate estimated at 2,800 kn.

The numbers indicate that the industry spent an average of 151 Kuna per affiliate, or 5.4 percent of the total annual inflow to an average second pillar account. In the funds with the highest market shares, marketing expenditures per affiliate ranged between 2.3 percent and 3.3 percent of annual inflow, while in those with low market shares, these costs even rose above 100 percent of annual inflow. As a result of spending so heavily on marketing, some fund management companies reached the limit of 50 percent of charter capital, which might require a subsequent capital increase if the revenue from fees proves to be insufficient to cover the operating costs of the companies.¹⁰⁹

After having received the accumulated second pillar funds for their members in April 2002, pension fund management companies have been faced with lack of adequate capital market instruments eligible for pension funds investment. Investment in domestic equity is limited to first quotation, while corporate and municipal fixed income instruments are virtually non-existent.¹¹⁰ Although the supply of government debt instruments on the market was sufficient for pension fund operations (with a maximum maturity of 7 years), the

¹⁰⁸ Precise data on sales agent by pension fund have not been available.

¹⁰⁹ A mandatory pension fund management company must always maintain base capital of at least 20 million Kuna.

¹¹⁰ Currently, there are only four companies listed in the first quotation, Pliva, Podravka, Dom Fond and Viktor Lenac, with only the first three on the list with active trading. For details visit www.zse.hr.

Government decided to increase the supply with a 12-year, Euro-denominated issue of €500 million in three bi-annual tranches and a coupon of 6.875 percent, designated for pension funds and other institutional investors. Furthermore, the Ministry of Finance, with the issue of the first tranche, offered an initial discount of 30 bps, which produced exceptionally high yields on these bonds. As a result of this bond issue and the decline in first-quotation equity prices in May, June and September 2002, the pension funds placed a majority of their assets in domestic government bonds while avoiding investment in domestic and foreign equity as well in foreign fixed income instruments.¹¹¹

**Table 4.4. Portfolio structure of Mandatory Pension Funds in Croatia
end November 2002***

Asset structure	Amount (mil. kuna)	%
Domestic assets	1,802.3	96.95
Equity + GDR	82.6	4.44
Government bonds	1,537.9	82.74
Short term govt. and NBC fixed income instruments	20.6	1.11
Deposits	3.0	0.16
Corporate bonds	0	0
Municipal bonds	0	0
Open investment funds	0	0
Closed investment funds	6.9	0.37
Cash	129.1	6.94
Other	22.2	1.19
Foreign assets	56.7	3.05
Equity	3.5	0.19
Government bonds	30.3	1.63
Closed investment funds	22.9	1.23
Deposits	0.0	0.0
TOTAL ASSETS	1,859.0	100.0

Source: Hagenin Monitor 2, 2002.

*Total net asset value of accumulated funds in the second pillar in December stood at 2,037 million, but the detailed portfolio structure has not been published at the time of completion of this paper.

Favorable initial pricing of the 12-year government bonds and the development at the fixed income markets in 2002 lead to realization of high nominal rates of return in all pension funds:

¹¹¹ For more details on the issue see www.mfin.hr; www.bankamagazine.hr and www.hagena.hr.

Table 4.5 Gross Rates of Return of Pension Funds in 2002*

Pension fund/average	Gross RoR 2002 (%)
PBZ Croatia	12.1
Helios	11.6
AZ	11.1
Raiffeisen	10.9
Plavi	10.7
Erste	9.5
HA jedan	5.9
MIREX**	11.1

* Gross rates of return computed from accounting units of the funds

** MIREX is an industry average index compiled and maintained by HAGENA¹¹²

Having in mind that the second pillar contributions were earning the discount rate of 5.9% in the first four months of 2002, the exceptional result was achieved through an annual return on government bonds of about 15%.¹¹³ In the same period consumer prices increased by 2.2%, leaving thus the real rate of return on 8.9%. Consequently, the success fee for entire 2002 would, according to Hagen's regulation, stand at 2.2% of NAV, which is more than double the regular NAV fee. Total deduction from NAV for NAV-related fees would thus reach as high as 3% of NAV, which confirms the findings of high fee levels in Croatian pension system. Since the funds were not active in the first five months of 2002, the success fee is likely be period-scaled to seven months. Even with this scaling, the total deduction would be as high as 2.1% of assets.

Despite dynamic development in the second pillar, the voluntary funded system did not start operations in early 2002 as anticipated. One reason was a delay in designing and publishing the supplementary acts for the payout stage, namely for the pension programs. As indicated, pension programs - prepared and offered by pension insurance companies - must be known in advance for participation in any voluntary pension fund. By December 2002, there was only one authorized voluntary pension fund management company, one pension fund insurance company, one licensed voluntary pension fund, and one authorized voluntary pension program.¹¹⁴

¹¹² Detailed methodology on MIREX can be found at www.hagena.hr.

¹¹³ Sending a positive signal at the beginning of second pillar operations was probably intentional. However, it is unlikely that such a level of generosity on the expense of taxpayers was equally desired.

¹¹⁴ Raiffeisen voluntary pension fund is an open pension fund with a pension program offering only single life annuities. However, two licenses for establishing open voluntary pension funds, and one

Transparency is an important consideration for every funded pension system. Six months after transferring the second pillar funds to individual accounts, the Croatian second pillar remains insufficiently transparent, with only the basic data such as total accumulation in the second pillar and the unit fund values being publicly available. This concern relates to several aspects of the system, including the total number of second pillar affiliates and total accumulation on the temporary account; breakdown of affiliates by funds; asset structure by funds; and other features that commonly have a strong influence on individual decisions. Improvements in this segment are needed for further promotion of the multi-pillar pension system and strengthening of public confidence.

license for establishing a pension insurance company have been pending in Hagen. Interest in establishing corporate and occupational pension funds has also been very high.

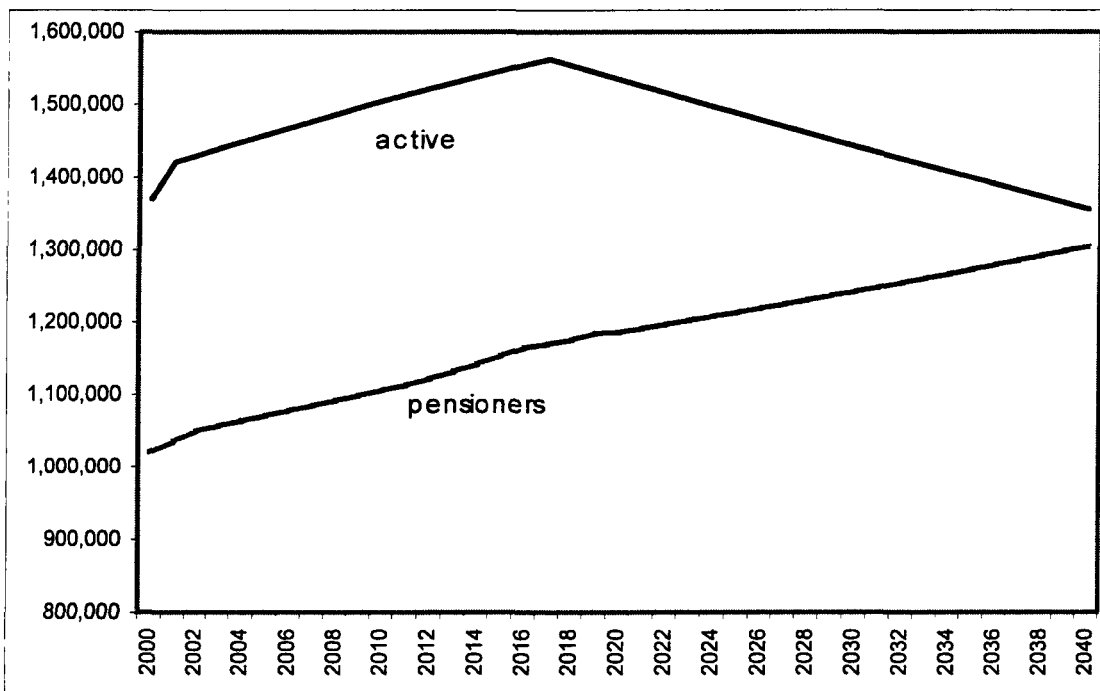
5. Forecasts for the Future

5.1. Long term forecasts of the new system

Current estimates indicate that almost 16 percent of total population in 2002 is older than 65. Correspondingly, one of standard indicators of pension system dependency, the share of older than 65 relative to those of working age (15-64) in 2002 stands at internationally high 24 percent, and is expected to deteriorate over time to 36 percent in 2040

Deteriorating demographics will have a double negative impact on pension parameters. Even with assumed long-run improvement in the participation rate of 15-64 cohorts from 50 percent in 2002 to 60 percent in 2040, total national employment and insured persons is expected to peak in 2016-2018 and decline afterwards (Figure 5.1.). On the other hand, the trend of beneficiaries will become flatter due to parametric changes in the first pillar. The ratio of contributors to beneficiaries is expected to gradually decline from 1.38 to 1.3 in period 2016-2018 and somewhat faster afterwards to a level close to 1 by around 2040.¹¹⁵

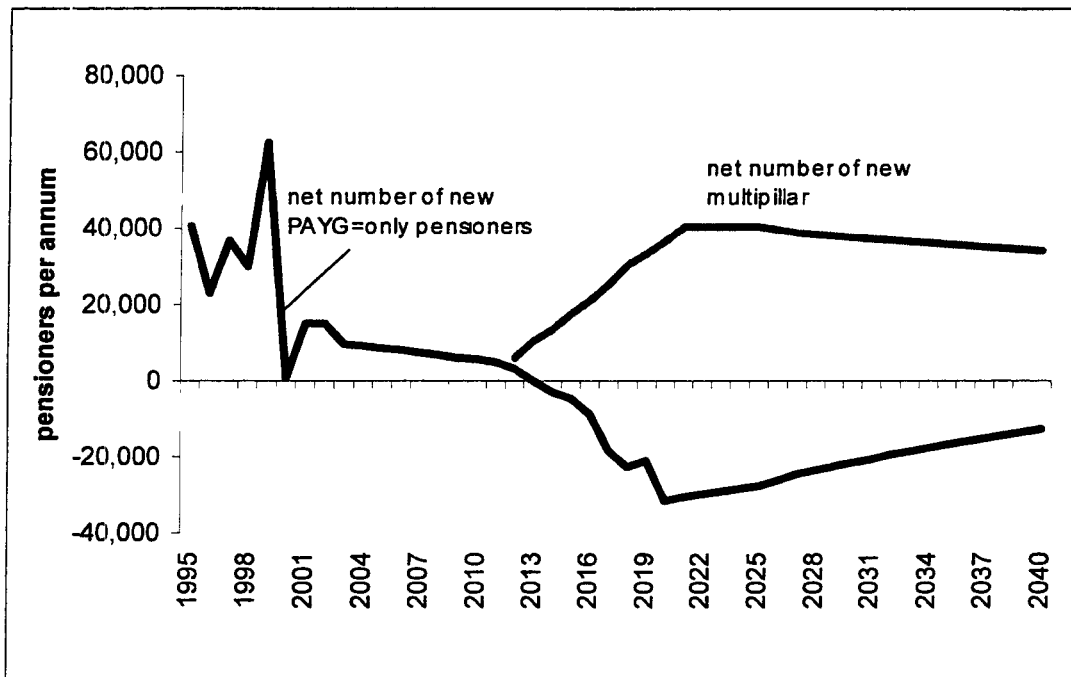
Figure 5.1 Insured working persons versus pensioners, 2000-2040



¹¹⁵ The underlying demographic assumptions include an annual decline in population of 0.22 percent gradually lowering to 0.32 percent per year and a gradually raising participation rate from 50 percent in 2002 to 60 percent in 2017, constant afterwards.

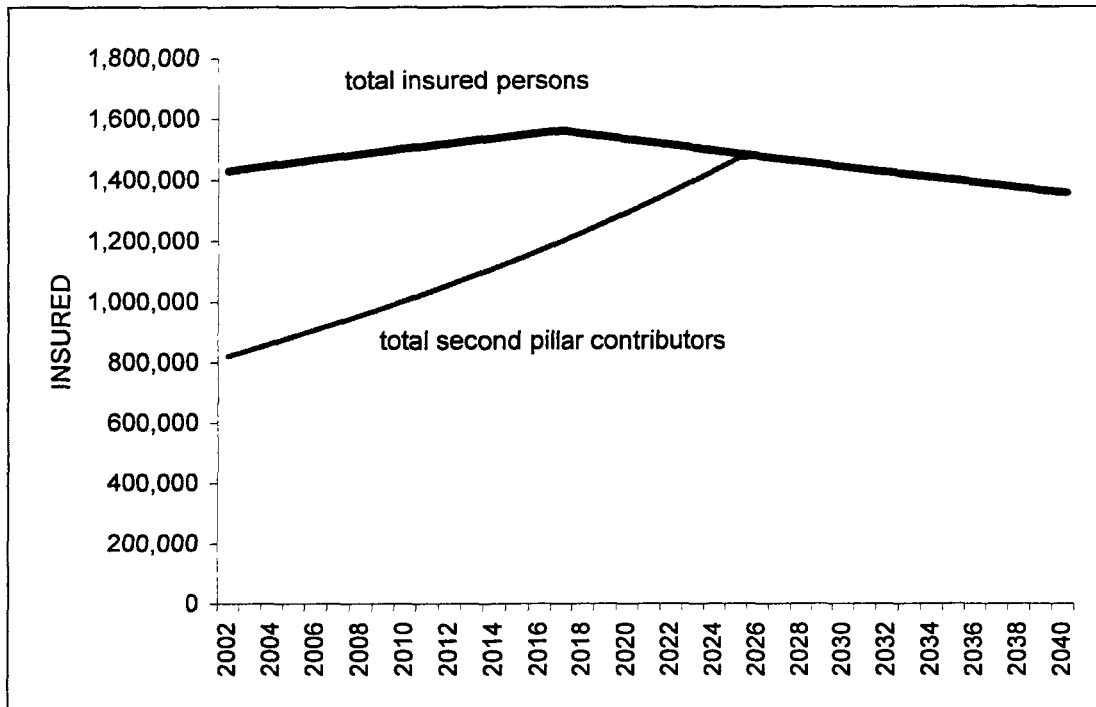
The effects of the change in PAYG parameters in the period 1999-2001 and the forecasted developments by the year 2040 are presented in Figure 5.2. A major slowdown in net increase of pensioners from an average of 32,000 per year in the period 1995-98 to around 15,000 in 2001 and 2002 was interrupted by a "rush to pension" in 1999, when the number of pensioners increased by 62,500. This was primarily due to early retirement under the old law which was allowed in 1999. The reduction in the net inflow of pensioners in 2000 was a result of extended requirements for early retirement and cancellation of certain temporary disability categories.

Figure 5.2 New pensioners in PAYG and multipillar schemes, 1995-2040



The structure of pensioners in the next 40 years will change gradually in favor of the mixed system participants (Figure 5.3). By 2012, the net inflow of pensioners to the PAYG system is expected to approach zero due to gradual changes in the PAYG parameters. In 2012, the first cohort of combined pensioners should start receiving pensions from two pillars. Unless the PAYG parameters change in the meantime, most of the two-pillar 2012 new pensioners would consist of women who chose to enter into the two-pillar system. From 2012, net entry to the second pillar should rapidly increase, as well as the net exit from the PAYG system. Those in both pillars would outnumber PAYG-only participants by around 2036. The net effect would be a moderate growth in total system beneficiaries by around 20 percent between 2010 and 2040, as shown in the previous figure.

Figure 5.3 Structure of pensioners by source of pension, 2000-2040



The gradual shift in the structure of pensioners will be reflected in pension pillars substitution, as shown on Figure 5.4. With moderately optimistic macroeconomic assumptions, i.e. growth rate in GDP of 4 percent (2003-2009), 3.5 percent (2010-2012), 3 percent thereafter; inflation rate of 3 percent, growth rate in real wages of 3 percent, gross real rate of return to second pillar accounts in the accumulation stage of 4 percent and the gross real rate of return in the payout stage of 3 percent, total PAYG expenditures will decline to around 8.2 percent of GDP in 2040, with 5 percent allocated for PAYG-only pensions and 3.2 percent for basic pensions for two-pillar participants. Assuming the relatively modest contribution rate to the second pillar of 5 percent does not change, total payout of annuities by 2040 will rise to 3.6 percent of GDP.

With indexation rules established by the Pension Insurance Act, the PAYG average net replacement rate would continue declining from the current 47.6 percent to about 38 percent until 2012 when the second pillar starts paying annuities (Figure 5.5). Afterwards, a gradual increase of the initial net combined replacement rate would be achieved. Since the simulation assumes a high 3 percent real rate of return in the payout stage, the result for the two-pillar participants is far from spectacular and indicates that the second pillar contribution and/or the retirement age should be further raised if a higher pensions are wanted.¹¹⁶

¹¹⁶ Under a more optimistic scenario, with real wage growth of 4 percent, rate of return of 5 percent in the accumulation period and 4 percent in the payout period, combined replacement rate rises to only 43 percent by 2040. On the contrary, less optimistic macroeconomic conditions (real wage growth 2 percent, 3 percent return in accumulation period and 1 percent in payout) would yield a combined replacement rate of less than 35 percent.

Figure 5.4 Pension spending for different components of system, 2002-2040

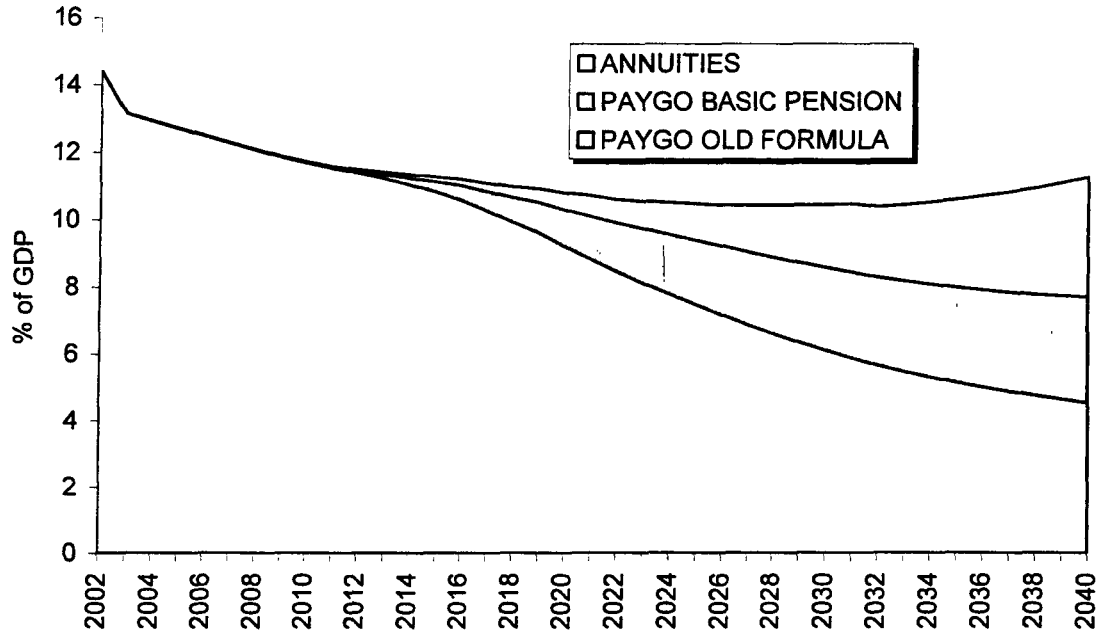
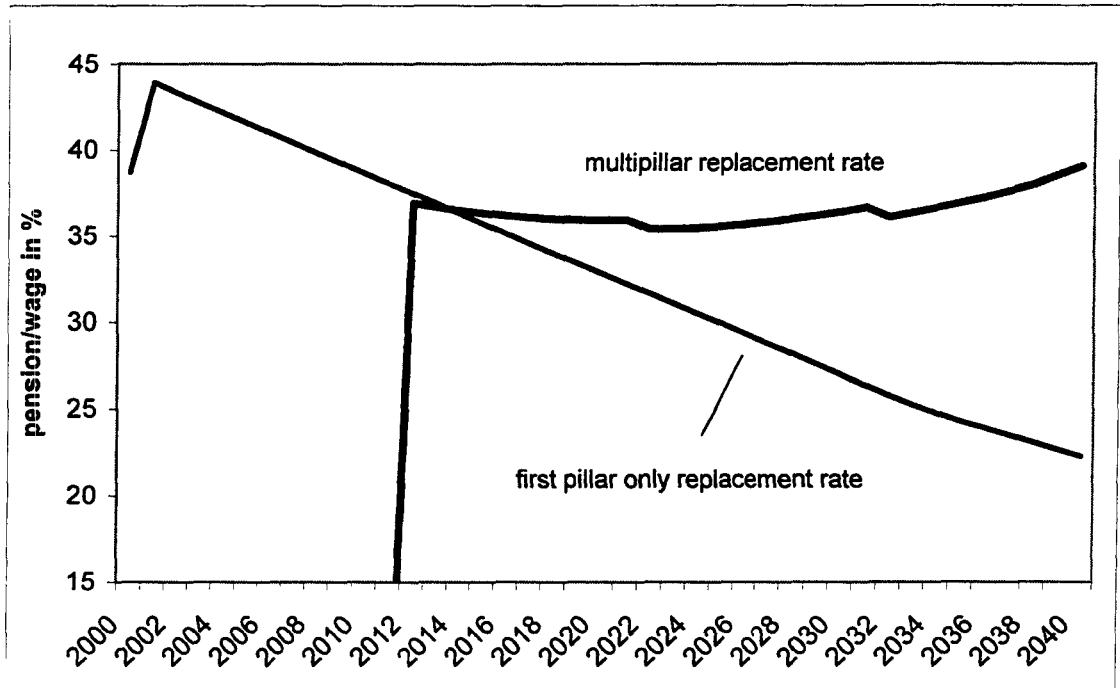
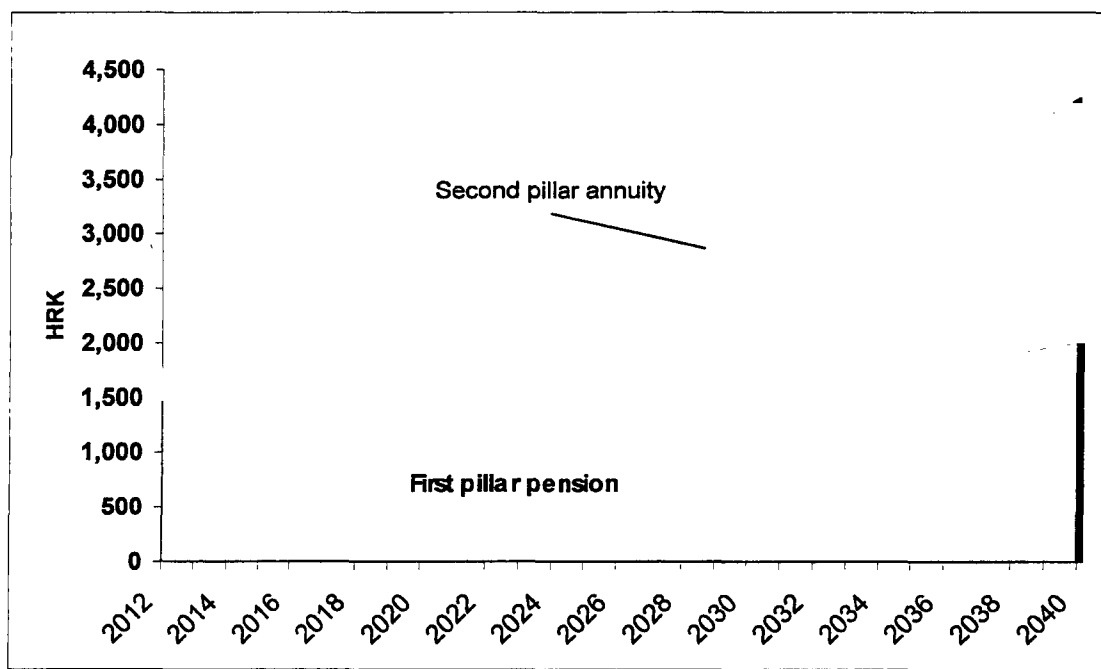


Figure 5.5 New replacement rates 2000-2040



In terms of the structure of the individual multipillar pension, PAYG substitution with the second fully funded pillar is expected to be gradual (Figure 5.6). Based on the same macroeconomic assumptions, with current contribution rate, the second pillar would grow to the size of the PAYG pillar by 2040. If faster pillar substitution and more favorable replacement rates are desired, the contribution rate to the second pillar would need to be raised above the current 5 percent.¹¹⁷

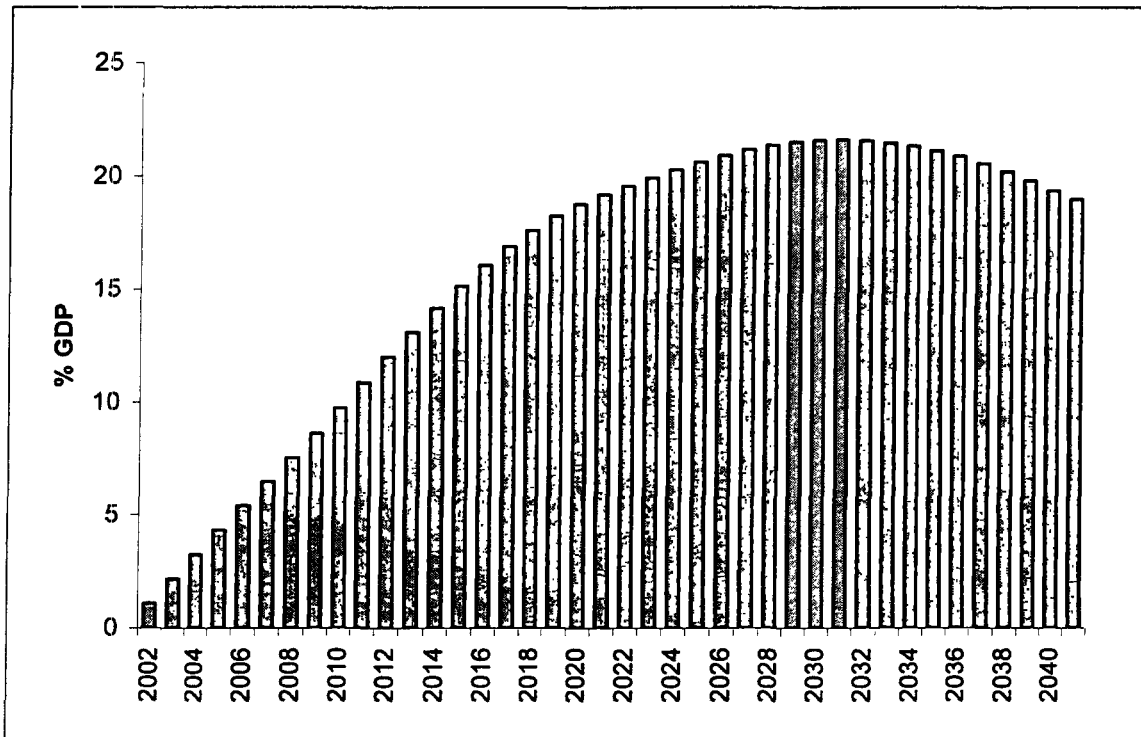
Figure 5.6 Composition of pension income, 2012-2040



Given the demographic and macroeconomic assumptions described above, a constant contribution rate to the second pillar of 5 percent of gross wage and the fees set at maximum levels, the size of the second pillar would grow steadily to 15 percent of GDP by 2015 during the period of dominance of accumulation over the payout (Figure 5.7). The start of payouts would cause the second pillar growth rates to diminish until 2030 when it is expected to peak at 21.6 percent of GDP. From that point, payouts from the second pillar would be greater than inflows and the second pillar would start to shrink gradually as a share of GDP.

¹¹⁷ For example, a second pillar contribution rate of 7 percent and the same macroeconomic assumptions would yield a replacement rate that would reach 47 percent by 2040.

Figure 5.7 Accumulated assets in second pillar, 2002-2040



5.2. Transition cost and its financing

Diverting 5 percentage points of the contribution payments for the second pillar participants will result in a financing gap for the first pillar. Furthermore, Croatia is burdened by a relatively high budget deficit of 7 percent of GDP (general government, excluding privatization revenues) and foreign debt/GDP ratio of 55 percent of GDP, with total public debt standing at 39 percent of GDP. The fiscal implications of introducing the second pillar is thus of critical importance. The shortfall in first pillar revenues would have to be financed by additional financing of the first pillar. The size and path of additional transfers depend on how much of the additional deficit is to be financed by PAYG savings, current budget (including privatization revenues) or debt.¹¹⁸ The underlying financing principle promoted by the Government was to achieve a high level of intergenerational equity by spreading the transition costs similarly across generations, suggesting a mixed strategy on filling the financing gap for the first pillar.¹¹⁹ A key element of this is expected to be expenditure compression in the first pillar from the impact of the 1998 reforms.

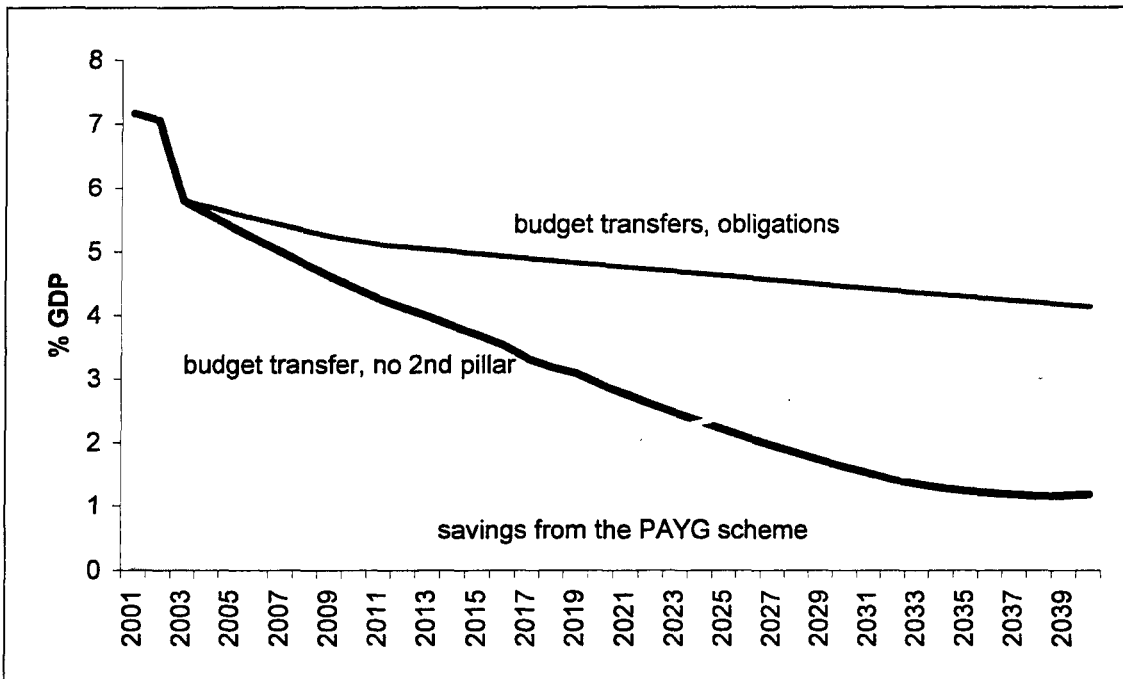
¹¹⁸ Holzmann (1998) and Lindeman, Rutkowski and Sluchynskiyy, (2000).

¹¹⁹ The public information campaign was carried out with a strong generational equality argument.

The expected fiscal saving in the PAYG system, shown in Figure 5.9, is determined as a difference between the required transfer from the budget to cover budgetary obligations for privileged categories and the required transfers from the budget taking into account the effects of the 1998 Pension Insurance Act. Legally required transfers continue to decline from 6 percent to 4 percent of GDP due to Swiss indexation of all benefits. Offsetting this continued financing cost is a decline in the required transfers to the PAYG system excluding the second pillar, which would decline at a faster pace due to tightening the PAYG parameters in addition to the indexation pattern. The net impact should be savings from the PAYG pension reform, which are estimated to increase to 1 percent of GDP by 2012 and peak at 3 percent of GDP around 2035.

Fiscal saving in the PAYGO system emerges from direct (or explicit) reduction in future benefits through introduction of the basic pension for future participants in both mandatory pillars and indirect (or implicit) benefit reduction that result from changes in all other PAYGO parameters. Explicit PAYGO savings would kick off in 2012 with the first payment in basic pensions and would gradually increase reaching the level of 20 percent of total PAYGO savings (Figure 5.9).

Figure 5.8 Savings in the PAYG scheme, 2000-2040

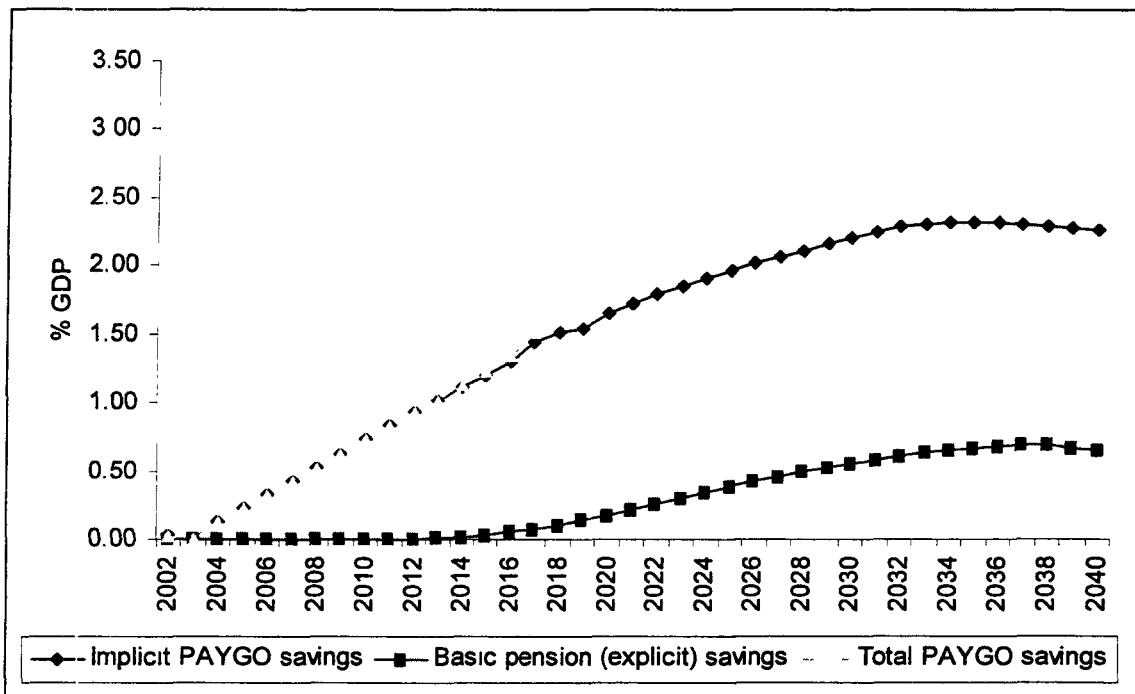


Transition cost is defined as a difference between the total contribution to the second pillar and the total savings in the PAYG pillar (Figure 5.10). In other words it is assumed that the total pension contribution rate will remain unchanged and the savings in the PAYG pillar from the 1998 reform would be fully used to finance the shortfall in the PAYG pillar.¹²⁰ Expected

¹²⁰ If the savings in the PAYG pillar would only partially be used to finance the second pillar or if the contribution rate would be reduced, the transition cost would increase by the same amount.

PAYG savings would outgrow the second pillar contributions by 2016. Total cumulative transition cost in the first decade of second pillar operation would thus amount to 7.85 percent of GDP, while in the second decade it would fade away. For the entire period of positive transition cost 2002-2016, the transition cost would amount to 9 percent of GDP.¹²¹ If the projections for the 2002-2040 period are calibrated for the reduction in privileged pensions that were legislated in October 2001 and enacted in early 2002, PAYG savings would outgrow the second pillar costs in 2012.¹²² In that case the total transition cost would amount to only 3.6 percent of GDP (realized in the first decade) with net savings of 3.9 percent of GDP in the second decade.

Figure 5.9 Composition of PAYGO savings



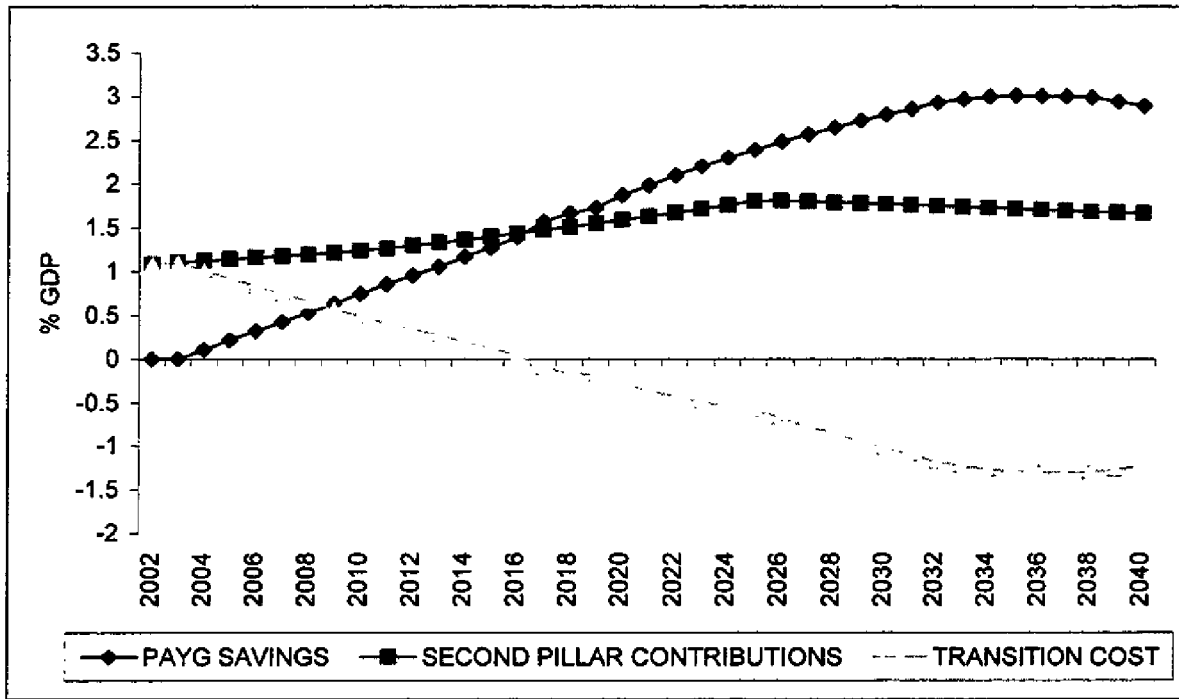
According to the Pension Insurance Act, funds to cover the transition deficit have to be transferred from the central budget to the PAYG system. Since funds would originate from general revenues, their sources would depend on current economic policy. Investment regulation for the pension funds requires that at least 50 percent of assets have to be placed in long term government bonds, which consequently implies that at least 50 percent of the transition cost may be debt-financed. Financing the transition cost might also be linked with

¹²¹ If the assumption of gradually improving compliance from 83 percent to 95 percent is applied, the range of positive transition cost shrinks to 4.2 percent and the total cumulative cost in the first decade drops to only 3 percent.

¹²² Law on Changes in the Law on Maximum Pension (Official Gazette 82, 2001) and Law on Changes in the Law on Budget Execution for 2001 (Official Gazette 82, 2001) is expected to yield net savings between 3 percent and 4 percent of total PAYG expenditures, or around 0.4 percent of GDP equivalent.

further privatization. Sources for funding the pension system costs may be found in the portfolios of the Privatization Fund and the Pension Fund, assets of public companies to be privatized in the following period.

Figure 5.10 Financing the second pillar



Transition cost estimated here is significantly lower than the transition cost estimates in 1999 which ranged between 20 percent and 30 percent of GDP in the first two decades of second pillar operations. Such differences in estimates are due to: (i) lower than expected participation in the second pillar of generation 40-50,¹²³ (ii) overestimated effective gross wage that would serve as a base for second pillar contribution, and (iii) stagnating nominal wages in early 2002; and (iv) the low participation rate resulted from a nationwide detailed and targeted dissemination of pension calculations to generation 40-50 which rationally based their choice on these indicative figures.¹²⁴

Finally, the favorable path and low level of the transition cost, along with low expected replacement rate for two-pillar participants indicates that the contribution rate to the second pillar would have to be revisited and eventually increased in the near future. The path of the transition cost, particularly in combination with higher compliance and savings in the privileged pensions system, suggests that further increase in the rate could be sustained by fiscal policy.

¹²³ Estimates relied on an expected 50 percent participation rate, while the actual participation by June 2002 was 23 percent.

¹²⁴ The computer program to calculate individual benefit from the mandatory system is available at www.HAGENA.hr.

6. Conclusions, Outstanding Issues, and Lessons

6.1. Conclusions and outstanding issues

The multi-pillar reform introduced in Croatia in recent years represents a thorough overhaul of a system which had become unsustainable and a source of such great fiscal pressure that it threatened overall macroeconomic stability. The PAYG reforms of 1998 – supplemented by further improvements in the system in recent years – should contribute to a more sustainable public pillar, and has also made multi-pillar reform possible even in a fiscally constrained environment. The funded pillar reform can also be judged a success on the limited experience to date, and has clearly benefited from lessons of earlier reforms in neighboring countries. It has also proved an important catalyst for broader reforms in the system for reporting and enforcing social contributions and individual income taxes which on early experience have had a significant impact on revenue performance. Overall, experience to date suggests that the Croatian multi-pillar reform is proving as one of the more successful in the region, in part because of the caution of policymakers in ensuring an adequate design period. However, more time is needed to assess the operations of the funded pillars and the impact on capital market development in the country.

Despite the generally positive assessment of the reform to date, there remain a number of outstanding issues in the Croatian pension system which are likely to require further attention from policy makers in the short to medium term. These relate to all three pillars of the new system, and include the following:

For the PAYG system, the 1998 reform left several important issues unaddressed or not adequately addressed, so that the link between contributions and benefits was still in need of strengthening. While there has been partial progress on some of the issues outlined below, further adjustments in the public pillar will be necessary for the following:

- *Minimum pensions* still remain too generous and in actuarial imbalance with the minimum required contribution base. This imbalance stimulates contributions at minimum bases. There has been preliminary discussion of future adjustment in this area that deals with the issue more coherently, through increasing the minimum contribution base or reducing the minimum pension decrement, and adjusting to the point where the pension and social assistance systems interface. This would need to be done in a manner than does not undermine the positive old age poverty impact of the 1998 reforms;
- While the 1998 reform substantially improved the situation with *early retirement*, the annual decrements for each year of early retirement still remain well below what actuarial analysis would suggest are reasonable. The Pension Institute has commissioned more detailed actuarial work on the subject to determine the appropriate adjustment, but preliminary analysis of the authors suggests that an annual decrement of 5-6 percent may be appropriate, against the current adjustment of 3.6 percent;
- The system will continue to be subject to pressure from *privileged pensions and use of the pension system to deal with labor adjustment*. While recent revisions in privileged pensions are welcome, further adjustments would be desirable in fiscal and equity terms; and

- Achieving passage and effective implementation of *the broadening of the contribution base* will be an important effort, and also help to reduce perverse labor market behavior which was an outcome of previous incentives to maximize non-wage compensation.

For the funded pillars, experience is obviously more limited to date and conclusions more tentative, but already there are several elements of the reform which appear to need further revision and/or close monitoring to evaluate initial experience. They include:

- The *contribution rate to the second pillar*, which from the forecasts in Section 5 appears to be too low to ensure broadly consistent total replacement rates on pensions in the medium term. Given the apparent fiscal space for absorbing a somewhat higher transition deficit, this paper recommends that the Government consider raising the second pillar contribution rate in coming years to at least 7 percent of payroll, the level that would be consistent with current replacement rates on pensions;
- The *legislated fees* for funded pensions appear to be very high, complex, and overly rigid in a way that could act as a barrier to entry for potential fund managers. This has led to high administrative costs during initial implementation relative to international comparators. The authors would recommend downward adjustment in fee levels (which is happening in practice to some extent already in the market), allowing competition over the success fee to minimize perverse incentives for fund managers, possible reduction in the total number of fees to a more simple and flexible fee structure, and consideration of fund manager participation in the costs of REGOS (see below);
- Close monitoring by HAGENA of *portfolio concentration* will be required, in part to assess the impact of placing primary responsibility for guarantees on fund managers;
- Accessibility and transparency of *data on second pillar operations* needs to be increased, with respect to affiliates, total accumulations, unit values funds, and other information;
- *Portfolio restrictions on voluntary pension funds* should be relaxed. This is already under consideration, and should be carried out as soon as feasible;
- The evolution of *voluntary pension fund programs* needs to be reviewed and an assessment made of the major reasons for the slower-than-expected development of the sub-sector;
- The existence of a *separate regulator for the pensions industry* should be evaluated as part of the overall Government policy review of financial market regulation. While the trend internationally presently is towards some consolidation of financial market or at least contractual savings regulation, it may be desirable in the short term in Croatia to allow HAGENA to carry out its initial operations without the additional institutional demands of negotiating a merger with other regulators;
- The Government will need to decide the *future role and structure of REGOS*, particularly as FINA is restructured and overall consolidation of the revenue collection system matures. There are a number of options, including a “big REGOS” which is merged with one part of the restructured FINA, or different models of a “small REGOS” which could either remain as a public institution with basic central account management functions (possibly financed in whole or part by fund managers in the medium term), or evolve into a private institution owned and financed by fund managers, along the lines of Mexico. Presently, there seems no agreed vision in Government on these questions, though the direction should become clearer as decisions are taken by 2003 on the restructuring and future functions of FINA; and

- The institution of *separate pension insurance companies* should also be evaluated as experience deepens to assess the desirability of separation, and whether or not it contributes to undesirable unregulated behavior in parallel markets such as life insurance.

6.2. Lessons of the Croatian reform

There are several lessons which can be drawn from the Croatian reform to date, which are important despite being preliminary only at this point. They include:

- *Combining PAYG and funded pension reforms* into a single reform “package” can be useful in building support for funded pension reform, particularly in countries where public faith in the first pillar has been undermined. It also suggests that multi-pillar reform can be accomplished in a fiscally challenging environment if there is sufficient adjustment in the PAYG system;
- use of a *central clearinghouse*, if well designed and executed, can assist in smooth and more uniform implementation of the second pillar. It may also facilitate broader consolidation in public revenue reporting and enforcement;
- the central clearinghouse and its protection of affiliate information does appear to have minimized abuses in pension fund management marketing seen in other funded pension reforms. At the same time, overall fee levels remain high due to the problems with fees levels and structures identified above;
 - use of a central clearinghouse does not automatically result in administrative cost savings if the legislated fee structure is incorrectly and/or overly rigidly determined. The Croatian experience also suggests that closer coordination with fund managers on the system and individual fund manager data needs is required to ensure that central account management achieves the intended economies of scale and not merely duplication of account management functions within the system;
 - those designing reforms need to think through carefully the implications of *fee schedule design* for portfolio concentration and unintended barriers to entry for potential fund managers. Concerns on possible portfolio concentration incentives may be particularly important for countries such as Croatia which have small and illiquid equity markets and still-developing local long term debt markets;
 - a *contribution rate* of 5 percent of payroll as in Croatia should be considered very much a lower bound for a multi-pillar system to provide a minimum acceptable aggregate replacement rate. While others in the region have started with lower rates (e.g. Bulgaria with only 2 percent), forecasts for Croatia suggest that this needs to be increased as rapidly as possible to a level closer to 7-8 percent of payroll, subject to financing for the transition cost being available from fiscal compression or debt; and
- the Croatian experience does not offer clear guidance on the *single or multiple regulator* question. However, broader assessment of financial market and contractual savings regulation in Croatia suggests that medium term consolidation of regulation for contractual savings at least may be desirable in a small country with limited regulatory capacity.

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Summary Findings

Croatia's transition toward independence and the market economy in the 1990s exacerbated problems in the PAYG DB system and ultimately led to its financial collapse. Although a comprehensive three-pillar reform was initiated in late 1995, implementation of the reform only began in 1998 with an overhaul of PAYG parameters, including shifting to a German-style points system. Introduction of the mandatory and voluntary funded pillars was announced in 1998 and implemented in 2002. The new system includes a privately-managed individual account scheme with a contribution rate of 5 percent in addition to a downsized pay-as-you-go, defined benefit component. This paper describes the design of the new system and highlights areas where further refinements are needed.

HUMAN DEVELOPMENT NETWORK

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The World Bank Pension Reform Primer aims to provide a timely and comprehensive resource for those engaged in the design and implementation of pension reforms around the world. Policymakers and those who advise them will find useful information on other reform experiences, the current thinking of pension specialists and a vast array of cross-country evidence. A flexible and dynamic format ensure that key developments are updated as they occur.

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