

Slovak Republic: Pension Policy Reform Note

Main Report
December 2, 2004

Human Development Unit
Europe and Central Asia Region



Document of the World Bank

Table of Contents

Introduction.....	1
I. The Pre-2004 PAYG System.....	1
II. New PAYG Design.....	7
III. Introduction of Funded Pillar.....	12
IV. Comparison With Other Eastern European Multi-pillar Reforms	17
V. Fiscal Costs of the Move to a Funded System and the Switching Decision.....	20
VI. Adequacy of Pension, Equity, and Incentives	28
VI. Impact on Labor Markets and Affordability.....	34
IX. Conclusion and Recommendations.....	37
Technical Annex	39
Selected References	43

List of Tables

Table 1: Statistics Related to the Pre-Reform Pension System in Slovakia.....	2
Table 2: Pension Indexation in OECD Countries.....	8
Table 3: Tax Treatment of First Pillar Pensions in Select Countries.....	9
Table 4: Slovak Pension Parameters Pre-Reform, Under the 2003 Reform.....	13
Table 5: Portfolio Limits of Pension Companies, Both by Type of Fund and Overall.....	15
Table 6: Characteristic of Pension Reforms in Transition Economies	18
Table 7: Retirement Ages in Select Countries	27
Table 8: Characteristics of Individuals Modeled	30
Table 9: Limits on Foreign Investment in Central European Countries with Funded Pillars.....	35
Table 10: Supervision Staff Per Pension Fund	37

List of Figures

Figure 1: Pension Deficit Relative to GDP under the Pre-reform System	3
Figure 2: Comparison of Pension Contribution Rates in High-Income OECD Countries	4
Figure 3: Comparison of Pension Contribution Rates in Other Central European Countries	4
Figure 4: Comparison of Average Pension to Net Average Wage in Select Countries	5
Figure 5: Life Expectancy at Retirement in OECD Countries.....	6
Figure 6: Projected Deficits Under the 2003 Parametric Reform	12
Figure 7: Minimum Capital Requirements for Private Pension Funds in Central Europe	16
Figure 8: Administrative Charges as a Percentage of Contribution in	17
Figure 9: Comparison of Male Pensions for Switchers and Non-Switchers	22
Figure 10: Comparison of Female Pensions for Switchers and Non-Switchers	22
Figure 11: Comparison of Male Pensions for Switchers and Non-Switchers.....	23
Figure 12: Comparison of Female Pensions for Switchers and Non-Switchers	23
Figure 13: Comparison of Male Pensions for Switchers and Non-Switchers	24
Figure 14: Comparison of Female Pensions for Switchers and Non-Switchers	24
Figure 15: Projected Pension Deficits Under the Multi-pillar Reform	25
Figure 16: Life Expectancy at Retirement Age of 62 for Slovak Men and Women	26
Figure 17: Projected Deficits with Further Changes	28
Figure 18: Average Male Pension as a Percentage of the Economy-wide Average Wage	31
Figure 19: Male Pensions Relative to Own Pre-retirement Wage.....	32
Figure 20: Internal Rates of Return for Men of Different Income Levels	33
Figure 21: Composition of Multi-pillar Pensions by Source of Pension, Men and Women	33
Figure 22: Projected Pension Fund Reserves as a Percentage of GDP.....	36

Acronyms and Abbreviations

ECA	Europe and Central Asia
EMU	European Monetary Union
EU	European Union
FMA	Financial Markets Authority
GDP	Gross Domestic Product
OECD	Organization for Economic Co-operation and Development
PAYG	Pay as you go
SIA	Social Insurance Agency
SSK	Slovak Koruma

Vice President:	Shigeo Katsu
Country Director:	Roger Grawe
Sector Director:	Charles Griffin
Sector Manager:	Hermann von Gersdorff
Task Team Leader:	Anita Schwarz

Introduction

1. The Slovak Republic inherited a public pay as you go (PAYG) pension system from the old Czechoslovakia, which incorporated significant elements of redistribution within a social insurance system. However, the loose link between contributions and benefits and the increased informality in the labor market which came about from the easing of state-dominated labor markets, led to gradual declines in contribution revenues from 8 percent of Gross Domestic Product (GDP) in the mid-1990's to 7 percent of GDP in 2002. Since expenditures had held steady at around 7.5 percent of GDP, the late 1990's saw the first fiscal deficits emerge within the system, but these deficits were expected to worsen over time. Preliminary results show deficits in the range of 3 percent of GDP in the medium term, expanding to deficits of 11 percent in the longer term. Given the context of Slovakia's recent entry into the European Union (EU) with the intention of joining the European Monetary Union (EMU) in the medium-term, these long-term deficits would have been completely unfeasible.

2. Recognizing the problems inherent in their pension system, the Slovak government set a reform agenda, first reforming the public PAYG system, with reform implementation beginning in 2004, and then introducing a privately managed fully funded defined contribution system which will begin implementation in 2005, expected to be followed by provisions for a supplemental voluntary system expected to be introduced in Parliament in June 2004. This note will: (a) summarize the initial system; (b) review the parameters of the new PAYG system; (c) review the design of the new funded pillar; and (d) evaluate the new system with respect to improvements in sustainability, adequacy, and to a limited extent, affordability and robustness. While there are many additional dimensions on which a pension reform can be evaluated, the recent World Bank position paper on pension reform¹ lists four primary goals of a pensions system: adequacy, affordability, sustainability, and robustness. The analysis in this note will focus on adequacy and sustainability while briefly commenting on the other two.

I. The Pre-2004 PAYG System

3. The Slovak pension system, like most European systems, has been run on a PAYG basis, where contributions from current workers were immediately used to pay benefits to current retirees. The revenues in such a system are highly dependent on three factors: the number of workers, the wage level, and the contribution rate. Expenditures depend on the number of beneficiaries and the benefit rate.

4. Table 1 summarizes the evolution of the pension system prior to reform. The number of contributors was declining while the number of beneficiaries was slightly increasing, resulting in lower revenues than expenditures. The decline in contributors is larger explained by the 18 percent unemployment rates prevalent in Slovakia even in 2004. Labor productivity growth and wage growth have also been relatively stagnant or falling during this period, depressing wage levels. While the fiscal situation of the pension system pre-reform was not as drastic as it has been in other transition countries, where the pension systems were generating deficits of up to 6

¹ Holzmann et al., "Old Age Income Support in the 21st Century : The World Bank's Perspective on Pension Systems and Reform," May 2004.

percent of GDP, the Slovak authorities recognized that their current system held a time bomb, and moved rapidly toward reform.

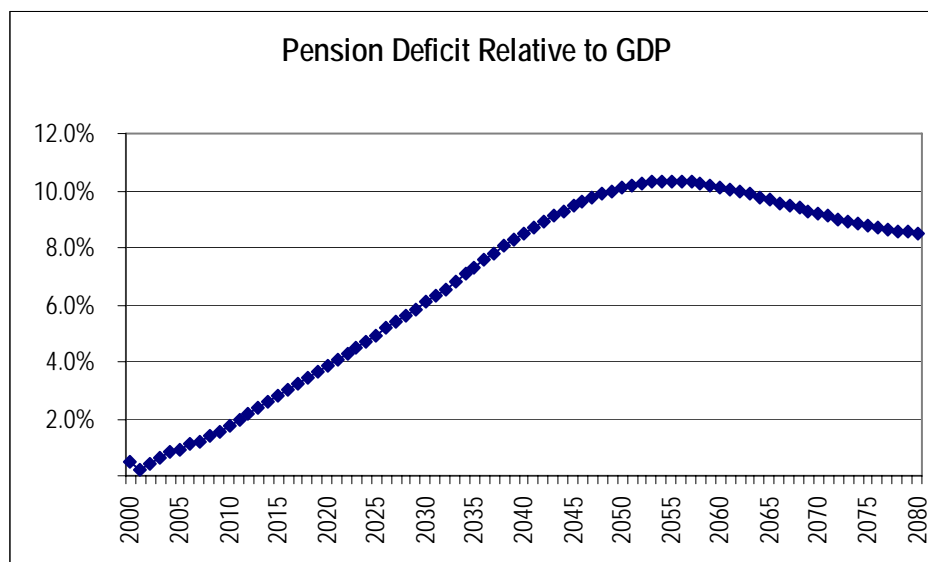
Table 1: Statistics Related to the Pre-Reform Pension System in Slovakia

Evolution of Pension System in Slovak Republic Prior to Reforms								
	1995	1996	1997	1998	1999	2000	2001	2002
Number of Contributors (in millions)	3.077	3.110	3.165	3.191	2.998	2.879	2.606	2.639
Number of Beneficiaries (in millions)	1.382	1.388	1.398	1.410	1.429	1.437	1.434	1.439
Revenues as % of GDP	7.8	8.1	7.3	7.3	6.8	7.3	6.9	6.9
Pension Expenditures as % of GDP	7.3	7.3	7.2	7.3	7.4	7.5	7.4	7.3

5. Figure 1 shows the pre-reform pension deficit. While the current deficit might have been affordable, the longer term deficit clearly would not have been, with or without the constraints imposed by membership in the European Union. The longer term scenario is largely driven by demographics with barely one potential worker per retiree in the long term. Since the ratio of the benefit rate to the contribution rate is about 2.4, the economy needs 2.4 workers per retiree for the system to be fiscally stable and after the next 10 years even with full employment of all individuals of working age, the working age population will be insufficient to have met that target. And of course, labor force participation rates are unlikely to be 100 percent for the whole working age population, and unemployment will still exist even if it is expected to fall.

6. Other fiscal indicators reveal the same outlook. Prior to the reform in 2003, the implicit pension debt was as much as 476 percent of GDP, and would gradually peak at 502 percent in 2055, the same year that the deficit peaks. Should contributors be required to eliminate the deficit by increasing their contributions, the required contribution would rise to as much as 75 percent in 2055. In addition, of course, workers and employers would have to pay contributions for health insurance, unemployment insurance, worker injury and income taxes. Alternatively, the Slovak government could have considered charging a high contribution rate now, investing the surplus revenue, and then using the accumulated reserves to help cover deficits when the aging of the population causes the most strain, but even in this case, the contribution rate required to generate balance throughout the period would have been around 60 percent of wage, still too high to maintain Slovakia's labor competitiveness.

Figure 1: Pension Deficit Relative to GDP under the Pre-reform System²



7. Within a PAYG system, policymakers have only three main options: (a) to raise contribution rates and/or the base on which contributions are paid; (b) to reduce benefits through direct benefit rate cuts, through changes in the base on which the pension is calculated or through changes in indexation; or (c) to raise the retirement age and/or strengthen other eligibility conditions.

8. The contribution rate prior to reform was already relatively high at 28 percent, with the bulk, 21.6 points, paid by employers, while the rest was paid by employees. This contribution covered old age, disability and survivors' insurance. The combined contribution rate of 28 percent was within the highest quarter compared to OECD contribution rates as shown in Figure 2, but not atypical among other Central European countries, as shown in Figure 3. The contribution ceiling was supposed to be set at eight times minimum wage, but sometimes was not fully adjusted, resulting in a ceiling a little more than twice average wage by 2004.

² The numbers presented here were produced using the World Bank's PROST model, a pension simulation model which has been used to evaluate pension reforms in over 60 countries.

Figure 2: Comparison of Pension Contribution Rates in High-Income OECD Countries

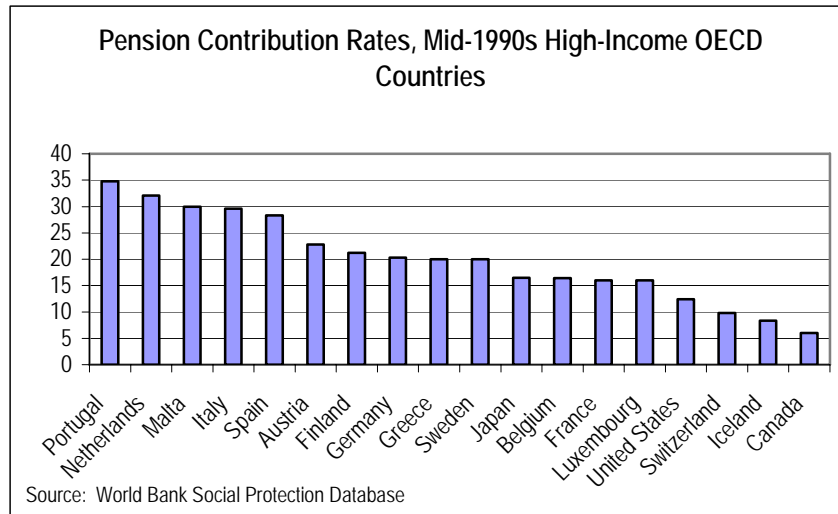
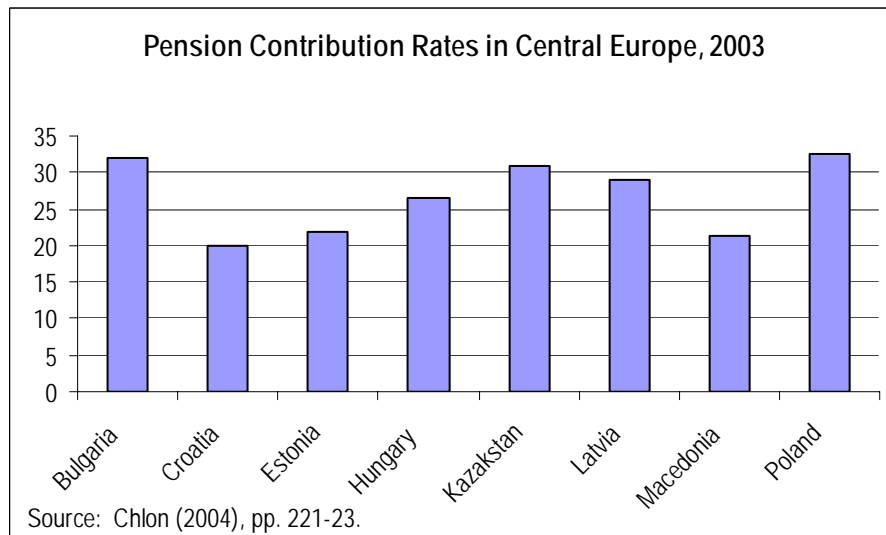


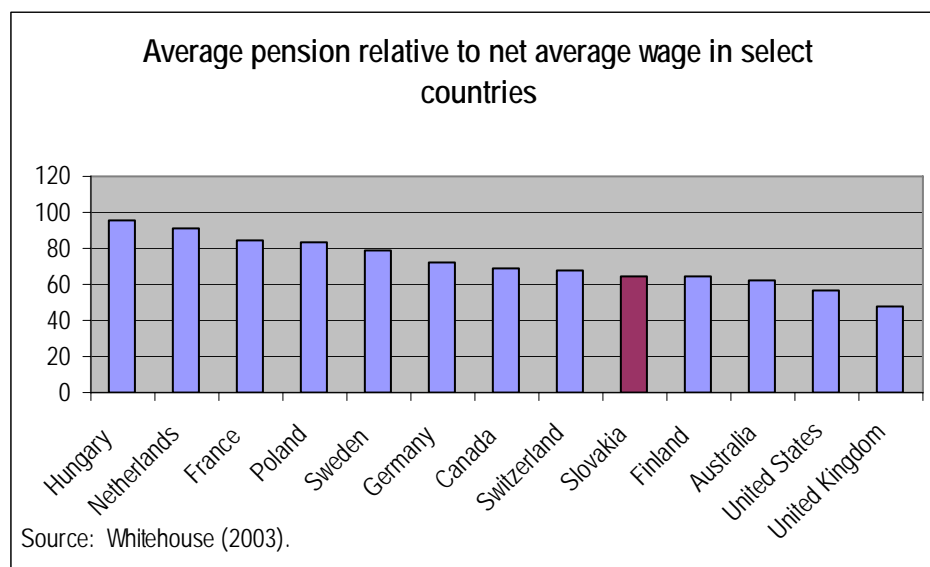
Figure 3: Comparison of Pension Contribution Rates in Other Central European Countries



9. The benefit formula was a fairly typical benefit formula, giving 50 percent of the average of the five highest of the last 10 years' salaries to individuals with 25 years of contributions, and 1 percent additional per additional year of service up to 17 additional years. However, the pension system contained a huge redistributive element. Only the first SK2500 per month were fully included in the pensionable earnings. On the segment between SK2501 and 5999, only 1/3 of earnings were added to the pensionable base. On the segment between SK6000 and 9999, only 10 percent of earnings were added to the pensionable base, with no increases for earnings beyond 9999, although contributions were assessed up to SK32,000. As a result, all contributions beyond SK10,000 were a pure tax. And already by 2002, the average wage was

above SK12,000. Parliament then announced each year pension increases which are factors to be multiplied by the unadjusted amount and to which a flat payment is then added. Thus, the average wage worker retiring in 2002 with a full 42 years of service would only receive a pension equal to about 53 percent of his average gross wage or 65 percent of his average net wage, instead of the 67 percent of gross wage that the formula without the redistribution would imply. As incomes rise, the replacement of net wage continues to fall. Figure 4 shows the average pension relative to net average wage in select countries. As can be seen, Slovak pensions are among the lowest quarter in Europe for average workers and even lower for high income workers. But this level depended very much on discretionary action by Parliament each year.

Figure 4: Comparison of Average Pension to Net Average Wage in Select Countries



10. While redistribution within a pension system is not necessarily a bad feature, the severe cap on benefit accumulation resulted in huge incentives for underreporting earnings, which might have led to some of the fiscal problems experienced pre-reform. Contributions were collected up to monthly incomes of SK32,000, but the pension was not increased for earnings above SK10,000.

11. Pensions were also based on the highest salaries of the last 10 years. Since individuals could underreport earnings in earlier years and pay smaller contributions without being penalized in their pensions, individuals had a great incentive to underreport their earnings. As the economy privatizes and more private sector and self-employment opportunities have become available, individuals have responded to the incentives in the pension system, which partly explains the fall in revenues.

12. The pension system design which awarded 2 percent in benefits for every year of service until 25 years and only 1 percent per year after that for a maximum of 17 subsequent years also tends to reward shorter careers and encourage individuals not to declare earnings beyond 25 years.

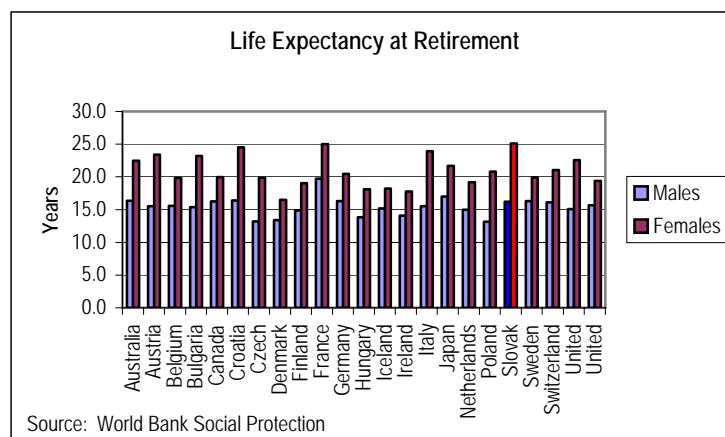
13. In addition, years of service credit were also given to large numbers of people without collecting contributions from them. The unemployed were given years of service credit until 2000. High school students, aged 14-18, were given years of service credit until 2001. University students received years of service credit right until the reform was implemented in January 2004. In addition, mothers caring for children, the disabled, and those in military service all received years of service credit without actually contributing.

14. Finally, a minimum pension equal to a little more than 1/3 of minimum wage was also provided. A social pension could also be granted by the Social Insurance Agency to anyone who was either over the age of 60 or disabled and had no entitlement to any other benefit. This pension was financed by the State and was not higher than the subsistence level, approximately 60 percent of minimum wage. Note that the noncontributory benefit was higher than the minimum contributory benefit, providing incentive to low earners not to contribute to the system.

15. Widows' pensions were provided at any age if the widow were disabled, were taking care of a child, or had raised three children. If she had raised two children, the widow's pension was available at age 45. Otherwise, the widow's pension was only available at age 50 unless the worker had died as a result of a work injury, in which case the eligible widow's age was 40.

16. Retirement ages, the last of the three parameters which can be changed within the PAYG system, were low in the pre-reform system, with men retiring at age 60 and women allowed to retire between the ages of 53 and 57. The retirement age for women was 57, but was reduced by 1 year for each child raised, down to a minimum of 53. Some form of early retirement was also permitted for select occupations. While the retirement ages are low relative to other countries, the life expectancy for men at retirement is only a little high relative to other countries, 16.8 years in Slovakia, relative to an average of 15.5 years in these other countries, but the life expectancy for women at retirement is definitely among the highest at 25.1 years relative to the average among these countries of 21 years, as shown in Figure 5.³

Figure 5: Life Expectancy at Retirement in OECD Countries



³ While no country intentionally plans that women receive pensions longer than men, women's life expectancy is generally higher than men's and no country has set a higher retirement age for women than men.

II. New PAYG Design

17. The combination of high future fiscal costs and incentives which were inappropriate to a dynamic economy prompted the Government to initiate reform. Under the new PAYG pillar, workers will pay a combined 28.75 percent, 7 percent from the employee and 21.75 percent from the employer. The distribution of this contribution is that a total of 18 percent, 4 percent from employee and 14 percent from the employer, will go to finance old age pensions, 4.75 percent from the employer will go to a reserve fund, and that a total of 6 percent, 3 percent each from employee and employer, will go to a disability fund. Contributions will be paid up to a wage of three times average wage, and benefits will be based on this same base. The reserve fund is designated to cover any shortfalls in the other funds. So while called a reserve fund, it is essentially an additional contribution meant to help cover the deficit. Other countries like Latvia have designated contributions to a social solidarity fund. In both cases, in the future, if the fiscal situation improves, this contribution could be withdrawn without affecting the design of the pension system.

18. The benefits will be based on a point system, which will be the equivalent of providing workers 1.19 percent of the average lifetime wage, wage-indexed, per year of service. Between 2004 and 2006, there are some complicated transition rules which provide some minimal transition from the previous redistributive system to the new system, but given the short duration of the transition relative to the average lifetime income, these provisions will have little impact except for those expected to retire in the next three years.

19. It should be noted that there is little other grandfathering of acquired rights. The accrual rate falls under the reform from 2 percent for the first 25 years and 1 percent thereafter to a flat 1.19 percent per year of contribution. Workers even one year from retirement age will have their entire benefit calculated under the new formula. However, the complicated redistribution where only part of one's income was used for calculating pensions depending on the income level is gone. Now all income up to three times average wage will be used in the pension calculation. As a result, the pensions awarded in 2004 are expected to be only about 10 percent lower than those awarded in 2003 for the average worker, but this comes from a complicated mix of lowering accrual rates while raising the pensionable base. Those whose base rises significantly, those with higher than average earnings, will do better under the new system even from the beginning.

20. Pensions post-retirement are indexed 50 percent to inflation and 50 percent to nominal wage growth. Compared to other countries, this is relatively generous, as shown in Table 2. Pre-reform, the increases were decided by Parliament and expected to be around the same as wage growth, but often were not. The indexation of 50 percent to wages and 50 percent to prices will of course cost all pensioners relative to the wage indexation if it had occurred, but the indexation in the past always depended on Parliament's actions and often did not achieve full wage indexation. Relative to what might have happened in an ideal world, pensioners are receiving less, but relative to what would have actually occurred, it is not clear that they are receiving less. And the system is perceived to be fair.

Table 2: Pension Indexation in OECD Countries

Country	Indexation of Pensions in OECD Countries					Other
	Prices	Gross Earnings	Net Earnings	Prices	Mixed Earnings	
Australia		X				
Austria						Discretionary
Belgium	X					
Canada	X					
Czech Republic				30	70	
Denmark						Discretionary
Finland				20	80	
France	X					
Germany			X			
Hungary				50	50	
Iceland						Minimum of price or earnings
Ireland	X					
Italy						GDP growth
Japan	X					
Korea	X					
Luxembourg	X					
Mexico	X					
Netherlands		X				No legal requirement
Poland				80	20	
Spain				75	25	
Sweden						Wage minus 1.6%
Switzerland				50	50	
UK	X					
US	X					

Source: Whitehouse (2003)

21. As before, pensions are completely nontaxable. As Table 3 shows, this generous a tax treatment only exists in four of the countries shown, Turkey, Bulgaria, Lithuania, and Macedonia. In many of the rest, although taxed at the same rate, pensioners are given higher tax exemptions than workers. Only in Poland is a special exemption given to employees which is not available to pensioners.

Table 3: Tax Treatment of First Pillar Pensions in Select Countries

Tax Treatment of First Pillar Pensions		
Country	Contributions Taxable	Pensions Taxable
Australia		X
Canada		X
Finland		X
France		X
Germany		X
Hungary		X
Italy		X
Japan		X
Mexico		Only if above 9 min wages
Netherlands		X
Norway		X
Spain		X
Sweden		X
Switzerland		X
Turkey		
UK		X
US	Employee portion	Half taxable
Bulgaria		
Croatia		X
Estonia		X
Latvia		X
Lithuania		
Macedonia		
Poland		X
Source: Whitehouse (2003)		

22. Disability pensions will be calculated exactly as the new old age pensions. The disability pensioner is treated as a full career worker, being given credit for all the years between the time of disability and the legal retirement age, but with the average wage on which the pension is based being calculated as the average earnings up to the time of disability. For those who have less than 70 percent but more than 40 percent disability, the pension is further prorated by the extent of disability. An interesting feature is that when the worker reaches retirement age, the disability pension is discontinued and converted to an old age pension. In the case of a pure PAYG pension, since the disability pension is calculated as if a person had contributed for a full remaining career, the amount of the pension is not affected by the change from disability pension to old age if the worker had been on full disability and did not work during the disabled period.

23. While this would appear to provide individuals great incentive to declare disability since workers are given full credit for years they might not have worked anyway, the disability pension is only 50 percent indexed to inflation and 50 percent to wage growth, the same as the old age pension. Over time, the pension relative to average wage will fall, so younger workers may not have great incentives to declare themselves disabled. However, older workers may find an incentive to do so.

24. Widow and widower benefits are based on 60 percent of the pension that the worker would have been entitled to at date of death or 60 percent of the pension that the worker had already been receiving. For widows and widowers of pensioners, these benefits are fully in line with international practice. For widows of working age individuals, these benefits are less generous than typical in other countries where benefits are calculated as a percentage of the worker's earnings, not as a percentage of the pension entitlement. For example, countries might provide a pension equal to 60 percent of a worker's earnings. This is considerably more than 60 percent of the pension, which is already 50 percent of earnings. Furthermore, widow and widower benefits are awarded for only one year unless the survivor is taking care of a dependent child, is more than 70 percent disabled, or has reached retirement age. If the survivor reaches retirement age without remarrying, the pension is reinstated.

25. Orphan's pensions are given to children who have lost a parent and who are under the age of 26, and attending school or preparing for their profession. Orphan's benefits are 30 percent of the benefits which would have been awarded to the worker. The sum of widow and orphans' benefits cannot exceed 100 percent of the pension.

26. Individuals may receive concurrent benefits, particularly own pension and survivor's pension, but in this case, the survivor's pension is only awarded at a 50 percent rate. There are also rules for dealing with multiple survivor's pensions.

27. In line with the separation of social insurance from social assistance, there is no minimum pension in the reformed system. Since minimum insurable earnings are equal to minimum wage which is approximately 40 percent of average wage, an individual can generally earn no less than 0.4 point per year of contribution, so that after 40 years of contribution, the pension would then be half of minimum wage. If an individual makes fewer years of contribution, the pension will be significantly less than half of minimum wage and survivors' pensions will be substantially less than that. However, individuals earning pensions as well as those who do not qualify for pensions may apply for social assistance which is provided at the minimum subsistence level, which is about 2/3 of minimum wage.

28. The social pensions awarded earlier by the Social Insurance Agency will continue to be respected and will receive increases as well. These individuals will also be eligible to apply for the social assistance benefit should their old social pension not be sufficient to maintain the subsistence level.

29. However, years of service credit are still awarded without individuals making contributions for mothers with children under the age of six, for the disabled, and for those in military service. In the case of mothers and military, the State provides contributions. In the case of the disabled, the disability fund transfers contributions to the old age fund.

30. Retirement ages are gradually raised from 60 for men to 62 by 2006, with an increase of nine months per year beginning in 2004. Retirement ages for women are more complicated given their complicated pre-reform history. Essentially retirement ages are rising by nine months per year for every category of woman, bearing in mind that the pre-reform retirement ages

depended on the number of children raised. Eventually all women will have a retirement age of 62, but this will not be achieved for women with five or more children until 2015. In order to qualify for a pension, a worker must have at least 10 years of contributions and the minimum retirement age. However, if an individual has 10 years of contributions, but has not reached the minimum retirement age, the individual may retire with a penalty of 6 percent per year until reaching the minimum retirement age. The resulting pension must also be a minimum of 120 percent of the subsistence level. As a result, only higher income people will even be able to contemplate early retirement.

31. Figure 6 shows the fiscal improvement arising from the parametric reforms described above, the change in retirement age from 60 for men and 57 or less for women to 62 for all, the slight increase in the overall contribution rate from 28 percent to 28.75 percent, and the change in the redistributive benefit formula to one that directly links contributions and benefits and provides a flat accrual rate of 1.19 percent. Deficits steadily fall, and actually turn into surplus in 2008 and remain in surplus until 2020. The negative points on the graph indicate surplus years. However, beyond that point, the deficits accelerate and by 2055, the deficits are at 5.1 percent of GDP, still fiscally unsustainable. The sharp improvement in the deficit partly arises from the rapidly accelerating retirement age, rising 9 months per year, which allows few new retirees in the first years after reform. The benefit formula is also applied to all new retirees with little grandfathering of the old benefit formula.⁴ However, it should be noted that the pre-reform system contained a significant element of redistribution which has now been removed to be replaced by social assistance. Some of the savings in expenditure in pensions will need to be spent in social assistance for the elderly. Unfortunately, we do not have estimates of the degree to which poor households were receiving pensions and the extent to which pension expenditures will need to be replaced by social assistance spending. A poverty assessment already underway should provide some answers to those questions.

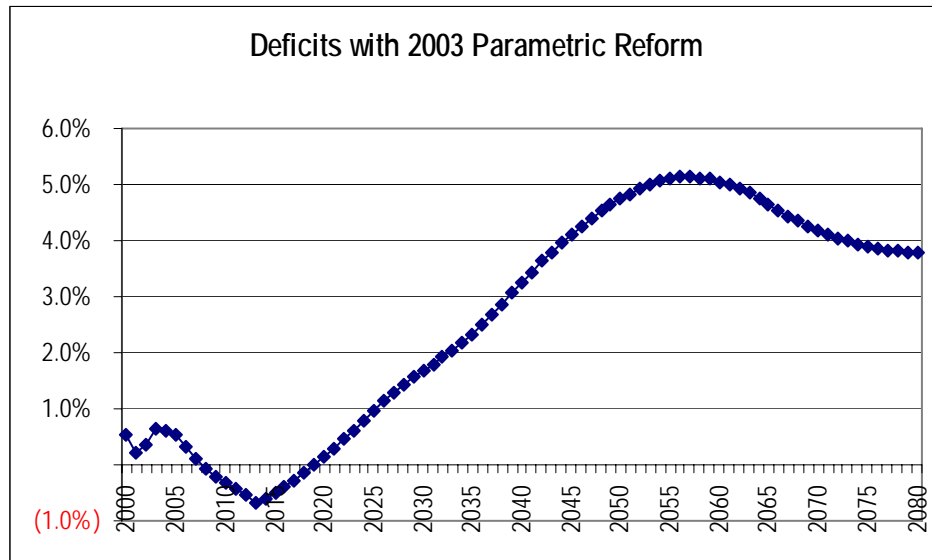
32. In terms of implicit pension debt, the reform immediately cuts the pension debt to 329 percent of GDP, from the starting point of 477 percent. It will still reach an unsustainable 335 percent in the long run, but these levels are substantially reduced relative to the unreformed case. Similarly, contribution rates in the future would now need to be around 50 percent, down from the previous 75 percent, and a flat contribution rate of 40 percent would keep the system solvent throughout the simulation period.

33. The 2003 Social Insurance Law clearly had substantial impact on reducing the projected deficits, but what was left was still unsustainable. As a result, the Government had to look for further reform measures. The intent was to improve the sustainability without substantially reducing benefits. Had the Government engaged in further parametric reform, either benefits would have to fall or labor competitiveness would have been threatened by further increases in contribution rates. The Government thus opted to add a second pillar and passed the necessary legislation in December 2003, with implementation of the funded pillar expected in January 2005.

⁴ The only extent to which there is grandfathering is that years of service credit which might have been granted for activities in the past which are no longer recognized as earning service credit today, such as secondary school attendance, continue to be honored.

34.

Figure 6: Projected Deficits Under the 2003 Parametric Reform



III. Introduction of Funded Pillar

35. The new funded pillar which will be implemented in early 2005 will split the contributions of employers to the old age fund from the current 14 percent which goes entirely to the public system into a portion which goes to the public system (five points) and a portion which goes to a private pension fund (the remaining 9 percentage points). Employee contributions of 4 percent will continue to be directed to the public fund. The portion of the contribution specifically designated for old age, 18 percent will thus be split 50-50 between the private and public components, while the public agency will retain all the funds allocated for disability and for the reserve fund. As noted before, the reserve fund is essentially additional contribution which may be used to cover deficits in any of the other funds and thus will be available to cover the transition. The Social Insurance Agency (SIA) will continue to collect all contributions as before, but will transfer the contributions of those who join the mixed system to the private pension company of their choice, within five days of receipt of the contributions. The private pension company will invest the contributions on behalf of the worker. Upon retirement, the worker will have access to the money in his own account.

36. The private pension funds are offered by private pension companies who will be specially licensed by the Financial Markets Authority to offer pension funds to the public. The pension companies are open to all Slovaks who wish to join aside from those in the Police Corps, Slovak Information Service, National Security Authority, Prison and Justice Guard Corps, Railway police, customs officers, and members of the armed forces, regardless of occupation or place of employment and organized like the individualized private pension funds typical of Latin America. Individuals may choose only one pension fund at a given point in time.

37. Table 4 provides a comparison of the parameters under each of the three systems, pre-reform, PAYG only, and the multi-pillar reform, showing the relevant changes.

38. Any current worker may choose to join the mixed system, but all those who have not signed a contract with the Social Insurance Agency prior to January 1, 2005 will automatically be put into the mixed system. Once a person has chosen to join the mixed system, he cannot return to the pure PAYG system ever. There is a limited period of time, between January 1, 2005 and June 30, 2006 for current contributors to make their choice of whether or not to join the multi-pillar system. After June 2006, only new entrants will be allowed to join the multi-pillar system.

39. The PAYG pension benefits for those who choose the mixed system will be derived from their pension points as before, with years of payment only to the PAYG regarded as generating full years of contributions while years under the mixed system will generate only half years of contribution. As shown in Table 4, while a year of contribution to the PAYG alone will generate a 1.19 percent accrual rate, a year of contribution to the mixed system will generate only 0.6 percent accrual rate per year of contribution. The PAYG benefit is cut in half in line with the 50-50 split in the contribution rate for old age. Additional benefits will come from the money in the individual pension fund accounts.

Table 4: Slovak Pension Parameters Pre-Reform, Under the 2003 Reform and Under the Multi-pillar Reform

Comparison of Parameters Pre-Reform with Reforms Implemented in 2004 and 2005			
	Pre-Reform	2004 Parametric Reform	2005 Multi-pillar Reform
Contribution Rates	28% <ul style="list-style-type: none"> • 21.6 paid by employers • 6.4 paid by employees 	28.75% <ul style="list-style-type: none"> • 21.75 from employer • 7 from employee 	28.75% <ul style="list-style-type: none"> • 12.75 from employer to public system • 7 from employee to public system • 9 from employer to private system
Benefit Rates	2 % accrual for first 25 years, 1% for next 17	1.19% accrual rate	0.595% accrual rate from public system; pension from capital accumulation in the funded system
Wage Base on Which Pension is Calculated	Highest 5 of last 10 years' average	Lifetime average, indexed to nominal wage growth	Lifetime average, indexed to nominal wage growth
Indexation of Pension Post-Retirement	Meant to be by nominal wage growth, but decided by Parliament each year	50% to nominal wages – 50% to inflation	PAYG portion – 50% to nominal wages – 50% to inflation Funded portion – depends on options chosen
Retirement Age	60 for men, 53-57 for women, depending on number of children	62 for all	62 for all

40. Disability provisions are more complicated, with the disabled worker below the retirement age receiving a full PAYG pension as if he had never contributed to the funded system. However, upon reaching retirement age, the PAYG pension is reduced to reflect the years under the mixed system, but additional benefits from the funded system become available. During the period of disability, the disability fund in the PAYG system will pay contributions on behalf of the worker to the pension company of his choice, allowing the worker to retire with virtually full benefits despite the disability. This provision somewhat increases the incentive to claim disability early since the funded account continues to grow and accumulate assets whether working or disabled, and only the PAYG component, which is less than half the total pension, has the indexation differential of 50-50 applied to it, compared to the full wage indexation of the pensionable base given to those who continue to work.

41. Survivors of working age individuals receive a reduced PAYG pension, 60 percent of what the person had accumulated toward the old age pension plus the value of the private pension account. Unlike in the case of disability, survivors' pensions for those who contribute to the mixed system will be less than for those who contribute only to the public system, although mixed system survivors will inherit the balance of the private pension account at whatever age. The same rules as noted above apply for the PAYG part, with public pensions only paid for one year unless the widow or widower has reached retirement age, is disabled, or is caring for a child. Survivors of retirees get 60 percent of the retirees' annuities, both in the PAYG and funded systems and whatever balance may be left in the funded account.

42. SIA will transfer contributions from the state to the private pension funds chosen for mothers taking care of young children and for those in military service who opt to join the mixed system.

43. An odd feature of this particular mixed system is that should an employer delay making contributions for more than 60 days, the reserve fund in SIA will make the contributions to the private pension accounts, and then SIA will be responsible for continuing to collect the debt from the employer. SIA will eventually be collecting not just the payment amount from the employer, but a fine for the delay. It is not yet clear whether some of the fine might be used to compensate the employee for the lost interest on the contribution. As a result, workers will suffer fewer losses from employers who do not remit the contributions promptly, but may also be less inclined to police their employers since they themselves are not suffering from the employer's lack of payment.

44. The funded system requires that individuals take out a minimum life annuity equal to 60 percent of the subsistence minimum. The rest of the account may be withdrawn either as a lump sum or in the form of a programmed withdrawal, but the programmed withdrawal can take place over whatever time frame the saver chooses, one year, five years, 10 years, or whatever. A programmed withdrawal results in the pension company maintaining the individual's account in retirement and continuing to invest the funds. Each year based on investment returns and the term of the contract, a monthly withdrawal is calculated such that the account will be completely exhausted when the term of the contract ends. Once the individual is receiving a pension from

the funded system, survivors then get 60 percent of the annuity received by the pensioner and the balance of the account.

45. Each private pension company will offer three pension funds, a growth fund, a balanced fund, and a conservative fund. The portfolio limits for each of the funds are shown in Table 5. The law currently restricts contributors from choosing the growth fund if they are 15 years short of retirement and from choosing the balanced fund if they are seven years short of retirement, in an effort to minimize risks for contributors close to retirement age.

Table 5: Portfolio Limits of Pension Companies, Both by Type of Fund and Overall

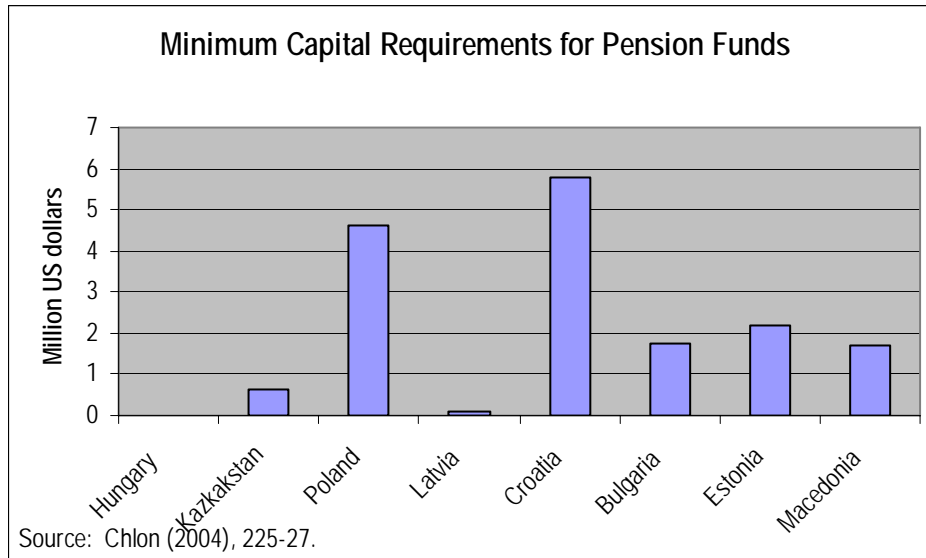
Portfolio Limits Overall	
Type of Asset	Limits
Slovak Government securities	≤ 80%
Government securities of other single EU member country	≤ 20%
Mortgage bonds	≤ 50%, with no more than 10% issued by a single bank
Other securities by a single issuer	≤ 3%
Instruments issued in the Slovak Republic	≥ 30%
Specific Limits by Type of Fund	
Conservative Fund	100% in bond and monetary instruments
Balanced Fund	≥ 50% in bond and monetary instruments ≤ 50% in equity based instruments
Growth Fund	≤ 80% in equity based instruments
Rate of Return Limits by Type of Fund	
Conservative Fund	≥ 90% of the market average for conservative fund or ± 1 percentage point of the average
Balanced Fund	≥ 70% of the market average for the balanced fund or ± 2 percentage points of the average
Growth Fund	≥ 50% of the market average for the growth fund or ± 3 percentage points of the average

46. Pension companies are required to maintain rates of return within relative thresholds by injecting funds from their own capital if they violate the limits, as shown in Table 5. The limits vary by pension fund, with the requirement that the conservative pension fund maintain rates of return at least 90 percent of the market average for the conservative fund or within 1 percentage point of the average, the balanced fund at least 70 percent of average or within at least 2 percentage points of average, and the growth fund at least 50 percent of average or within at least 3 percentage points of average. If the pension company does not have sufficient capital to make up for any violation, the Financial Markets Authority (FMA) will withdraw the license from the pension company and put the funds into receivership.

47. The overall diversification rules allow a significant degree of external investment of the pension assets which is clearly needed in an economy as small as that of Slovakia. An amendment to the law was presented to Parliament in June which lowered the minimum investment in Slovak assets to 30 percent. This amendment will substantially improve the investment opportunities available to the pension funds.

48. The pension companies will be licensed by the Financial Markets Authority who will regulate and supervise their functioning. The minimum capital required to set up a pension company is SKK300 million or about US\$9.4 million. The capital requirements are high relative to other Central European countries which have adopted funded systems, as shown in Figure 7.

Figure 7: Minimum Capital Requirements for Private Pension Funds in Central Europe



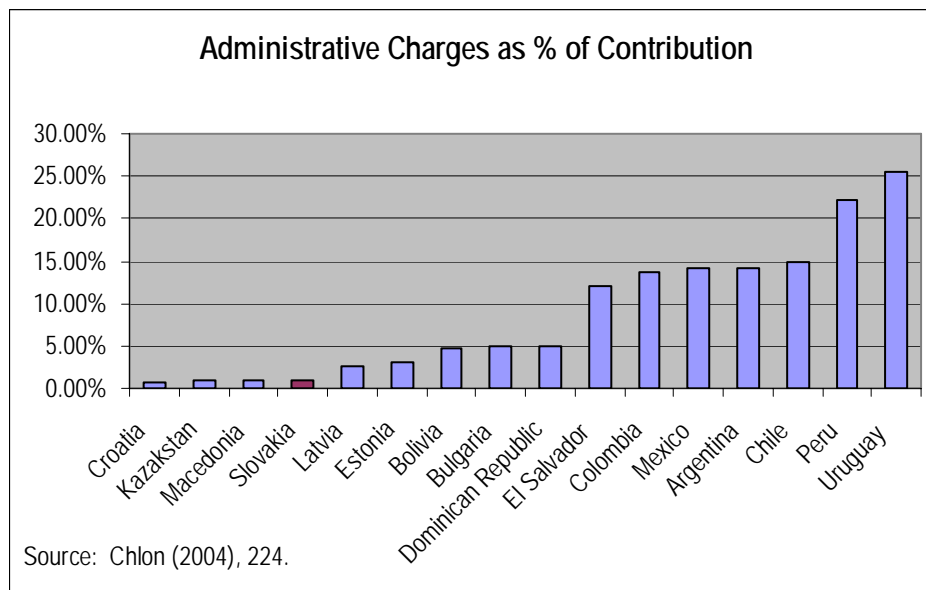
49. There are no additional guarantees for the contributor. However, if the courts rule that a pension company has acted in such a way as to injure a contributor, the Social Insurance Agency is authorized to use up to 50 percent of its reserve fund to make up the extent of the injury, although the pension company is required to repay SIA. These additional responsibilities required of the reserve fund may make it difficult to eliminate the reserve fund contribution in the future, although it could be reduced once the transition burden is eliminated.

50. Permissible administrative charges are quite limited. They are limited to 1 percent of contributions and no more than 0.07 percent of monthly asset balances, but set at 0.08 percent for the first three years. Pension companies are also allowed to charge contributors for transfers to other pension companies which occur more frequently than once a year.⁵ However, transfers among pension funds managed by the same pension company will occur free of charge. While the charges on contributions are low relative to charges in other countries, the charges on assets should be sufficient to cover costs in the long run as assets build up. Moreover, in the case of the Slovak reform, the pension funds do not have the responsibility of contribution collection and are not responsible for purchasing disability and survivors' insurance. Administrative charges, purely as a percentage of contributions, are shown in Figure 8 for a number of countries with second pillars. The Latin American countries, with the exception of Nicaragua and Mexico, do not allow charges based on assets, therefore, require relatively high charges relative to contributions. Of the other low charging Central European countries, Croatia and Kazakhstan

⁵ There would be no transfer charge if the contributor is forced to move to another pension fund as a result of mergers or bankruptcy.

allow fairly substantial charges on investment returns, which are disallowed in Slovakia. Only Macedonia has a structure similar to that in Slovakia.

Figure 8: Administrative Charges as a Percentage of Contribution in Latin American and Central European Countries Which Adopted a Funded Pillar



51. Nevertheless, a number of financial institutions have already expressed interest in obtaining licenses. The current cost structure would require that a company take a long term view and consider long term, rather than short term, profits a reasonable goal. The risk that the Government takes in setting out an administrative cost structure like this is that the companies enter the market and then request higher administrative costs which would guarantee quicker returns on their investment. With the small market size and limited number of companies expected to enter, the threat of exit by one or more companies could severely reduce workers' choices and would thus leave the government with the option of higher legislated administrative costs or higher administrative costs through less competition among companies.

IV. Comparison With Other Eastern European Multi-pillar Reforms

52. Nine other Eastern European countries have undertaken multi-pillar reforms to their pension systems, Bulgaria, Croatia, Estonia, Hungary, Kazakstan, Kosovo, Latvia, Poland, and Russia. The design of each of the systems is different. Table 6 summarizes the design features of the other countries which can be compared to the Slovak design. Slovakia has one of the largest second pillars among the Central European countries. Like many of the other countries, Slovakia has chosen to retain a first pillar which closely links its contributions and benefits. In the case of Slovakia, this is through the point system. In the case of Latvia, Poland, and Russia, it is through a system of notional accounts. In the remaining countries, with the exception of Kazakhstan and Kosovo who eliminated their first pillars, the link occurs within a traditional defined benefit PAYG system.

**Table 6: Characteristic of Pension Reforms in Transition Economies
in Europe and Central Asia (ECA) Moving to a Multi-pillar System as of April 2004**

Country	Starting Date	First Pillar	Target Retirement Age	Benefit Indexation	Size of second pillar as percent of payroll	Providers of Funded Pillar	Switching strategy to new system
Hungary Operating	January 1998	PAYG DB	62/62	50% prices-50% wages	6 percent	Private	Mandatory new entrants Voluntary others
Kazakhstan Operating	January 1998		58/63	None	10 percent	Private and Public	Mandatory
Poland Operating	January 1999	NDC1/	60/65	80% prices-20% wages	7.2 percent	Private	Mandatory <30, Voluntary 30-50
Latvia Operating	July 2001 (NDC January 1996)	NDC	62/62	Mixed price/wage indexation	2 percent growing to 9 percent	Private and Public	Mandatory <30, Voluntary 30-50
Croatia Operating	January 2002	PAYG DB	60/65	50% prices-50% wages	5 percent	Private	Mandatory <40, Voluntary 40-50
Bulgaria Operating	January 2002	PAYG DB	60/63 65/65 for minimum pension provision	Mixed price/wage indexation	2 percent growing to 5 percent	Private	Mandatory <42
Estonia Operating	July 2002	PAYG DB	63/63	50% prices-50% wages	6 percent	Private	Voluntary (opt-out +2 percent)
Macedonia Legislated	January 2005	PAYG DB	62/64	80% prices-20% wages	7 percent	Private	Mandatory New entrants
Russia Partially legislated and operating	January 2002	NDC	55/60	100% prices, but can supplement with wage increases	2 percent (<35) to 6 percent (36-50)	Public	Mandatory <50
Ukraine Partially legislated	January 2003	PAYG DB			2 percent growing to 7 percent		Mandatory new entrants
Kosovo Partially legislated and operating	January 2002	Minimum			10 percent	Public, but private asset management	Mandatory

Source: Diverse World Bank documents and Pension Reform Data Base.

1/ NDC is notional defined contribution, a system that has the same features as DC but is not funded.

53. Slovakia is almost unique in having eliminated a minimum pension. Kazakhstan also does not provide a minimum pension to new entrants. The Slovak approach has been to use social assistance to cover all redistributive requirements while the pension becomes a contribution based instrument only.

54. In every case, but Hungary, the contribution collections are centralized as opposed to decentralized. The same is true in Slovakia. However, the centralized collection has not been sufficient to lower costs in countries like Croatia.⁶

55. Reforms have run into a range of implementation problems. In Poland, the administrative apparatus of the social security institution was unable to deal with the timely transfer of contributions to private pension fund, and a debt (now being cleared) to the funds was accumulated. In Hungary, the government reversed the decision to increase the size of the funded pillar and allowed the participants to move back to the PAYG system, creating uncertainty as to the fiscal liability of government and undermining the credibility of the new system. Also, dividing contributions among several pension funds proved difficult and costly to small employers in Hungary (where, in contrast to Poland, the social security institution is not involved). Regulatory institutions are often inexperienced and introduce unnecessarily onerous burdens on the funds. Most of the countries are increasingly concerned about the administrative costs of the second pillar and are analyzing measures that could increase competition in the fees of the system to reduce these costs. Some countries (e.g. Latvia) are concerned about the impact of the minimum pension guarantee that reduces the incentives of the NDC and funded pillars and could result in a substantial fiscal burden. Old-pension systems (still operating, as reforms have a long phase-in period) continue to constitute a serious fiscal burden, especially with PAYG reform policy reversals, like in Croatia (where indexation was moved back from prices to wages and additional pension “supplements” were introduced), although these clearly constitute an even greater burden in countries such as Slovenia and the Czech Republic, that have not adopted the multi-pillar approach.

56. In light of the above, there is some increase in the skepticism towards the new systems. Administrative costs are high, current pensions have gone down as a part of the fiscal adjustment, and the full benefits of the new system are yet to be experienced by the public. Although rates of return are high compared to other types of investment funds, or other reasonable benchmarks, it is doubtful whether these high returns can be sustained, as fiscal adjustment lowers the spreads on government debt, and foreign investments are heavily limited. A greater diversification of domestic private and foreign assets is needed. Falling returns and high administrative costs risk becoming a serious concern in terms of the level of future pensions. In addition, Maastricht criteria include increases in the explicit debt, but not the reduction in implicit pension debt involved in pension reforms, potentially worsening the countries’ position vis a vis the criteria.

57. Many of the issues which have presented problems in the other countries do not apply in Slovakia. For example, the ceiling on administrative costs will prevent costs from being a burden on workers assuming that they are not subsequently changed. The elimination of the minimum pension in Slovakia also eliminates the fiscal concerns with minimum pensions. Slovakia has also been aggressive about allowing external investment of the pension funds which should promote higher returns. However, the experience of the other countries with regard to the administrative apparatus and the regulatory institutions are well worth taking into account in

⁶ Anton Dobronogov and Mamta Murthi, “Administrative Charges and Costs in Second Pillar Pensions in Transition Economies of Europe and Central Asia,” World Bank, August 2004.

Slovakia as well, especially noting that poor preparation on the part of either have led to public skepticism in some of the other countries.⁷

V. Fiscal Costs of the Move to a Funded System and the Switching Decision

58. In the short and even medium run, the move to a funded pillar is expected to cost the government resources. Individuals are now diverting part of their contributions to their individual funded accounts, reducing the flow of revenues to the public system. At the same time, in the very short run, there is no reduction in expenditures since all the current pensioners still need to be paid, resulting in a higher deficit with the transition to the funded pillar. In the longer run, since the pensions paid out from the public system to those who switch are lower than to those who remain only with the public system, expenditures will fall and the deficit will improve. In the Slovak case, only 9 percentage points of the 28.5 point contribution is being diverted to the funded pillar, less than 32 percent of the total contribution. But the old age pension benefits paid to those who choose the funded system from the public agency will be half that of those who remain in the PAYG system, which helps to reduce the deficit in the longer term. While some of the higher PAYG contributions are used to pay disability benefits which are paid to all those who become disabled, whether or not they belong to the funded system or purely PAYG system, the reserve fund in particular represents resources that can be used to help offset these transition costs.

59. But the change in the deficit depends acutely on the choices of current contributors. In the extreme, if no current contributors choose the funded pillar, only the contributions from the new entrants will be split between the two systems, resulting in little loss of revenue. On the other hand, if all current contributors switched, the public system would see an immediate loss in revenue of almost a third. The duration of the transition deficit will also depend on the choices made. If only new entrants switch to the new system, over time revenues will gradually fall as the share of post-reform entrants in the labor force grows. But the pension expenditures will fall equally gradually and with a significant lag since the first reductions will not be felt for at least 40 years, when the new entrants in 2005 begin to retire. The cuts will gradually accelerate over the next 20-30 years as the proportion of retirees with reduced benefits begins to increase. On the other hand, if all contributors switch immediately, the cuts in expenditures for new pensioners will begin almost immediately, helping to mitigate a little the sharp drop in revenues.

60. How do workers decide whether to switch or not? Both the Ministry of Finance and the Ministry of Labor are preparing calculators that will be available to the public to help in making that decision. Nevertheless, the factors which ex post will determine whether individuals made good choices or not include the interest rate in the funded system, the actual administrative costs charged by the new system, the cost of an annuity, wage growth, and subsequent changes to the PAYG system. None of these can be known with certainty beforehand. Since there is a high degree of uncertainty regarding the future, the ex ante decisions made by people may not correspond ex-post to the best outcomes for these same individuals. In addition, individuals may

⁷ More detailed analysis of the experience of other countries may be found in Chlon (2003), Palacios and Rocha (1998), Chlon, Gora, and Rutkowski (1999), Andrews (2001), Anusic, O'Keefe, and Madzarevic-Sujster (2003), and Fultz (2002).

not make the best use of the information they do have, they may not have full information when they are making choices, their own subjective assessment of future political risks or financial risks may be higher or lower than the actual, or they may have preferences for one system over the other aside from the pure economic benefits.

61. The analysis in Figures 9-14 makes assumptions on all these parameters, namely that the PAYG system remains as it is currently structured under the 2004 reform, that the administrative charges are at their highest permissible level, and that the interest rate will exceed the rate of wage growth by 1 percent, 1.5 percent, and 2 percent. Unisex annuities are assumed to be provided to the workers when they retire as is typical in European countries and required by Slovak law. The interest rate during the annuitization period is assumed to be one point below the market interest rate. The annuities from the funded pillar are also assumed to be inflation indexed, while the payments from the PAYG pillar continue to be 50 percent indexed to inflation and 50 percent indexed to wage growth. What is shown in the figures is the initial pension relative to the average wage in the economy for the average worker of that age.

62. The risk for the Government is that individuals may find that ex-post their decisions to join or not join the funded pillar turn out wrong particularly given the huge uncertainties. Given the small window of choice with irreversible decisions, a large percentage of wrong decisions could lead to general unhappiness with the reforms. The Latin American countries have generally allowed complete freedom in choosing the funded option, but not allowed people to return to PAYG only. The short window in Slovakia was meant to assure the pension companies a critical mass of clients. However, there is a risk that in the future there will be pressure to re-open the window which could lead to an undoing of the reform.

63. The figures clearly show that the interest rate-wage growth differential makes a huge difference in whether the switch is a good idea for workers. At a 1.5 point differential, which is relatively conservative, men aged 34 and below should switch, while women aged 32 and below should switch, as shown in Figures 9 and 10. If the differential is only a single percentage point, as shown in Figures 11 and 12, no one of either gender should switch. If the differential rises to 2 percentage points, as shown in Figures 13 and 14, all men younger than 50 should switch, while all women younger than 53 should switch. If the Government opts to offer gender-specific annuities, the switching age rises for men and falls for women in all the options.

Figure 9: Comparison of Male Pensions for Switchers and Non-Switchers with a 1.5 percent Differential Between Interest Rates and Wage Growth

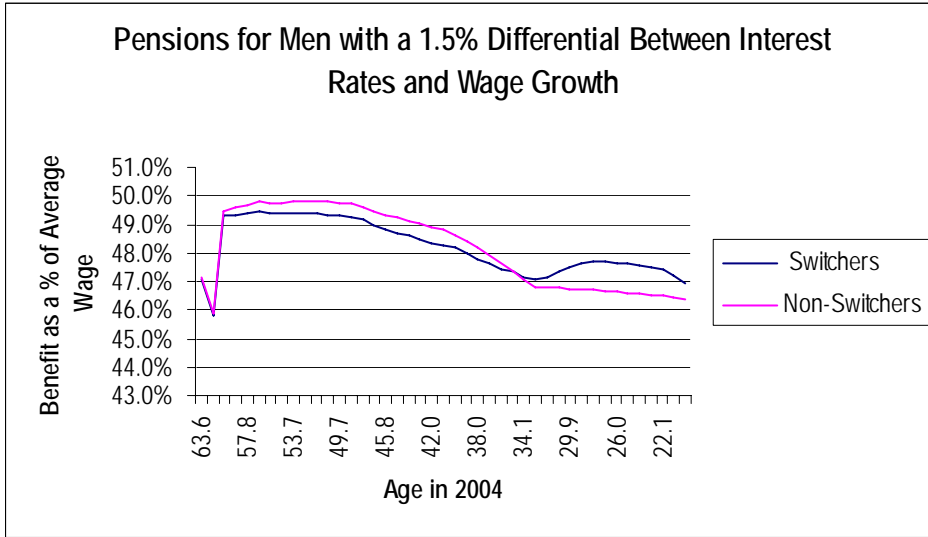


Figure 10: Comparison of Female Pensions for Switchers and Non-Switchers with a 1.5 percent Differential Between Interest Rates and Wage Growth

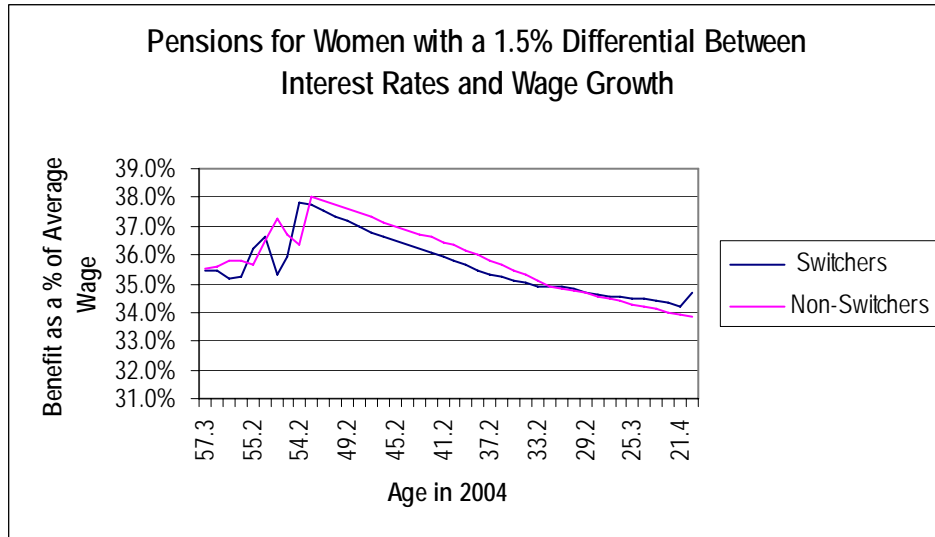


Figure 11: Comparison of Male Pensions for Switchers and Non-Switchers with a 1 percent Differential Between Interest Rates and Wage Growth

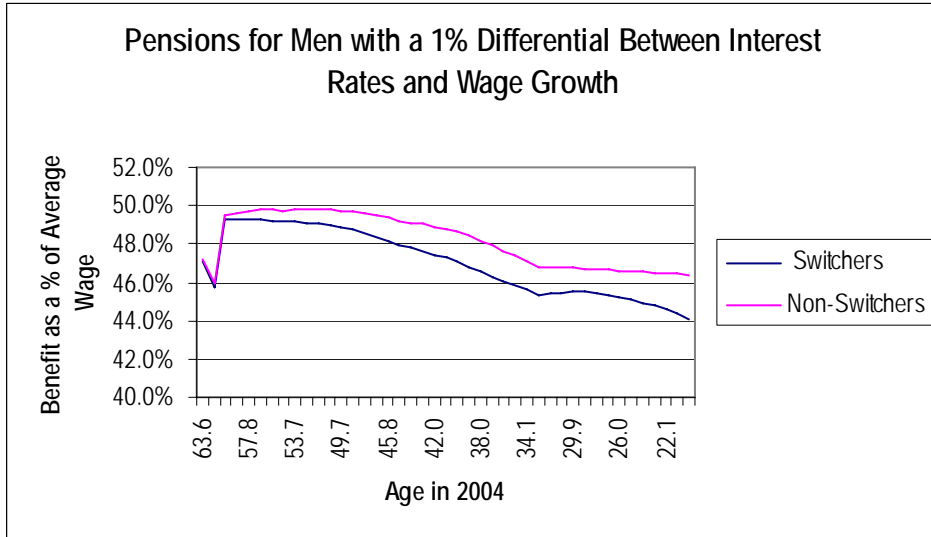


Figure 12: Comparison of Female Pensions for Switchers and Non-Switchers with a 1 percent Differential Between Interest Rates and Wage Growth

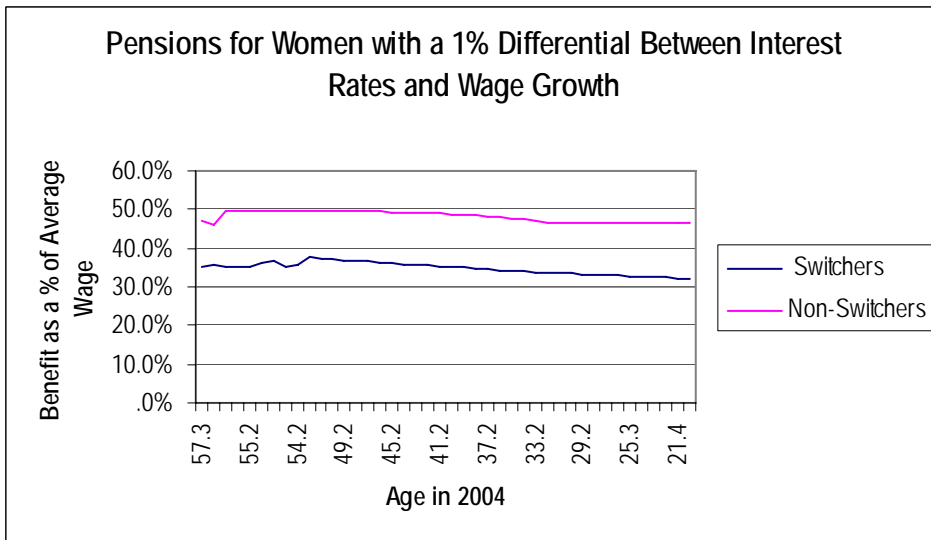


Figure 13: Comparison of Male Pensions for Switchers and Non-Switchers with a 2 percent Differential Between Interest Rates and Wage Growth

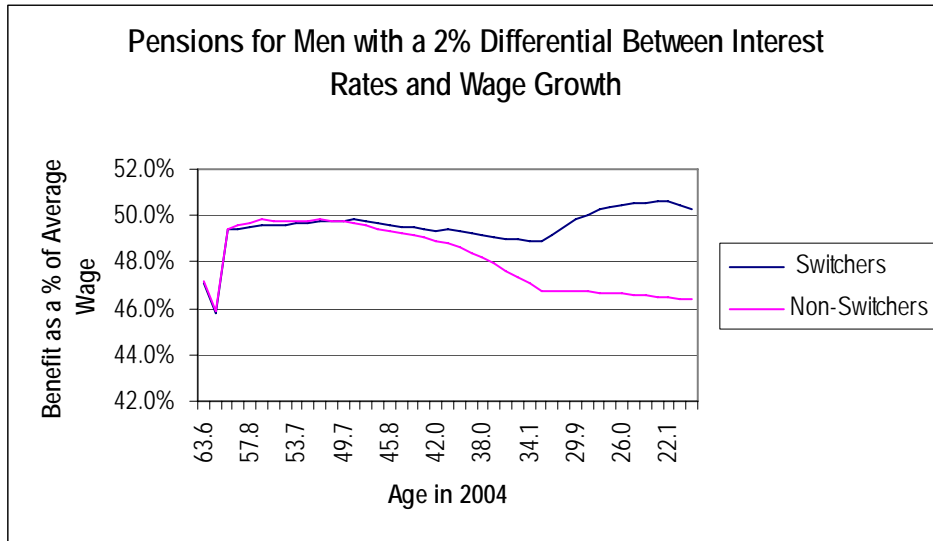
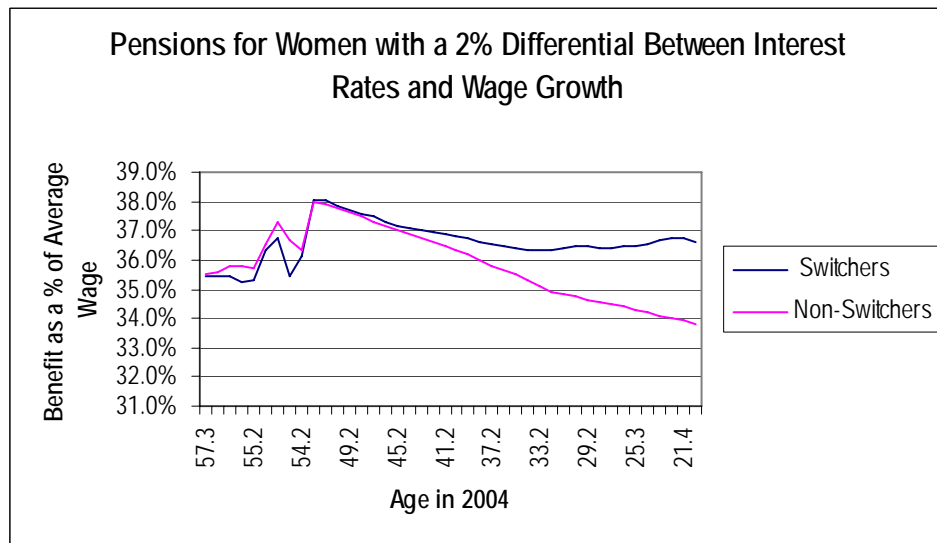


Figure 14: Comparison of Female Pensions for Switchers and Non-Switchers with a 2 percent Differential Between Interest Rates and Wage Growth



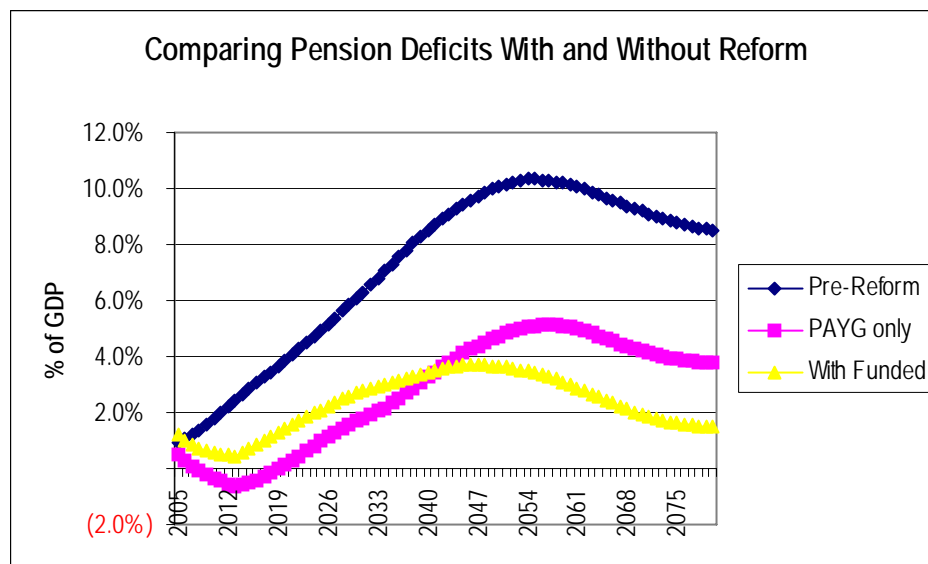
64. One might argue that these comparisons are not fair. They look only at the initial pension values and not at the full value of the annuity. Given the potential differences in indexation between the funded system pensions and the PAYG pensions, the present value of the PAYG pension could be considerably higher than that of the funded system, assuming that the funded system will offer only inflation-indexed annuities, which would be the reasonable option. But individuals in Slovakia are only required to annuitize a portion of their funded pensions. The rest may be taken in other forms, such as programmed withdrawals. Under programmed

withdrawals, the pensions will earn a market rate of interest which has been assumed to be above wage growth, and of course more than 50 percent of wage growth. Thus, the programmed withdrawal portion of the pension will earn even better rates of return than the PAYG pension, although it will not guarantee longevity risk for the individual. As a result, the switching patterns estimated here can be considered conservative because they compare the initial value of the pension under the assumption that the entire amount is annuitized and thus subject to the annuity premium in the form of lower interest earnings.

65. Furthermore, as the following fiscal analysis shows, the PAYG system will not achieve fiscal balance even in the long term when the 2005 reforms are fully implemented. As life expectancy continues to increase, the pension system will still face deficits. If further PAYG reforms are implemented, as the Government is already contemplating, these will necessarily reduce future PAYG benefits, making the mixed system even more attractive to workers.

66. The following fiscal analysis takes the 1.5 differential as the main starting point for the analysis, assuming that up to the optimal switching point, age 34 for men and age 32 for women, 80 percent of participants switch. Some 20 percent are assumed to be risk averse and are assumed to remain with the PAYG, although below the age of 20, all are assumed to switch even those few who are already in the labor market and of course all new entrants. Between the ages of 34 and 50, the opposite assumption is used for men, that 20 percent of the group thinks that interest rates will be higher in the funded system and chooses to switch. Similarly, for women, 20 percent of the women between the ages of 32 and 52 are assumed to switch.

Figure 15: Projected Pension Deficits Under the Multi-pillar Reform Compared with Previous Deficits



67. Figure 15 shows the resulting deficits with the transition to the funded system. While in the early years, the funded system results in greater costs than the pure parametric reform, in the long run beginning in 2040, introducing the funded system results in much lower costs, although the system is still in deficit. As early as 2006, one year after the reform begins, the deficit with

the funded pillar is lower than the deficit would have been without reform. The costs in Figure 15 are dependent on the switching behavior. If fewer individuals switch, the costs will be smaller initially, although the transition will take longer. If more individuals switch, the initial costs will be higher, but the transition period will be shorter. The results show that in the long run, the deficit will be about 1.6 percent of GDP, compared to the pre-reform values of 8.5 percent and the 3.8 percent achievable through the PAYG reform only.

68. **Further Reform.** Despite the huge improvement in fiscal sustainability achieved by the combination of the PAYG reform and the move to a funded system, the system still is saddled with deficits which may not be feasible in the long run, especially under the EU. What can the Government do?

69. Retirement ages are still, even after the reform, relatively low in Slovakia. Table 7 shows retirement ages in a variety of OECD countries and with the exception of Croatia, France, the Czech Republic, and Hungary, the retirement ages are uniformly higher than in Slovakia. One issue that prevents a more aggressive rise in retirement age right away is the low life expectancy for males in Slovakia. Figure 16 shows the life expectancy at age 62 in Slovakia and how it is expected to change over time. Since the international norm is to spend 15 years in retirement, 62 appears to be the right age for retirement now, but life expectancy even for men will rise well above 15 years right after the reform is implemented. A move to 65 by 2019 and a further rise to 66 by 2030 followed by a rise of one year in age every subsequent 20 years would keep pace with the expected longevity changes. Alternatively, the law could be changed such that the retirement age is automatically adjusted every five years in line with life expectancy changes, maintaining 15 years in retirement for all cohorts.

Figure 16: Life Expectancy at Retirement Age of 62 for Slovak Men and Women

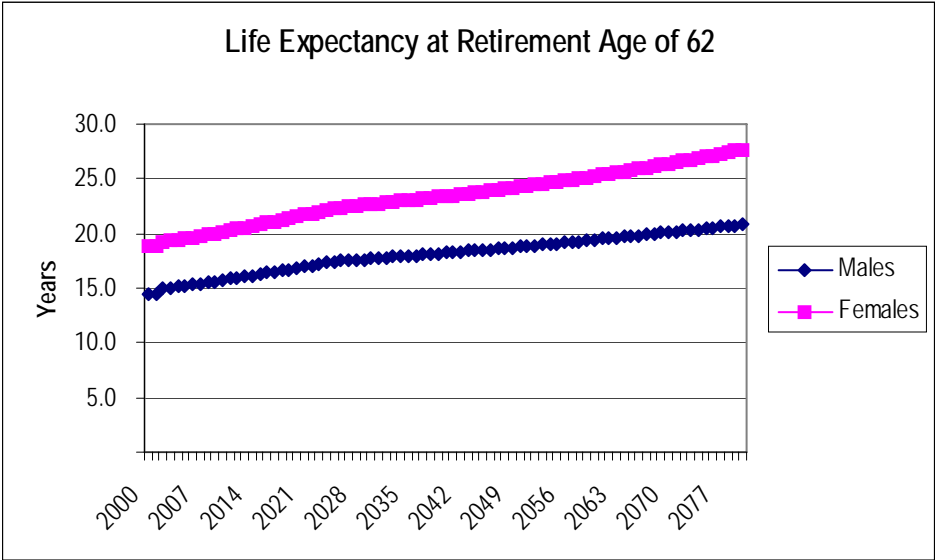


Table 7: Retirement Ages in Select Countries

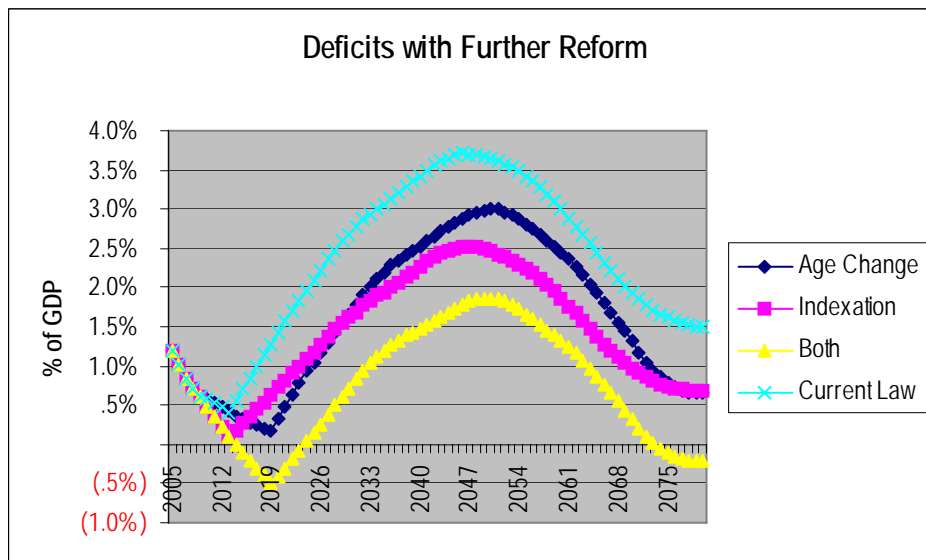
Retirement Ages in Select Countries		
Country	Retirement Age for Men	Retirement Age For Women
Australia	65	65
Austria	65	60
Belgium	65	65
Bulgaria	60	55
Canada	65	65
Croatia	60	55
Czech Republic	62	61
Denmark	67	67
Finland	65	65
France	60	60
Germany	65	65
Hungary	62	62
Iceland	67	67
Ireland	65	65
Italy	65	60
Japan	65	65
Netherlands	65	65
Poland	65	60
Slovak Republic ⁸	60	55
Sweden	65	65
Switzerland	65	64
United Kingdom	65	65
United States of America	65	65
Source: World Bank Social Protection Database		

70. Another measure is the indexation of pensions. Table 2 showed that indexation to a mix of wages and prices is generous by international standards. Moving to indexation by prices would save a substantial amount of resources. Indexation to a mix of inflation and wage growth may have made sense when the pensions were severely constrained by the capping mechanism, but now that the pension levels will be much higher, a move to inflation indexation would be highly cost-effective, both during the transition and beyond. From the pensioner's standpoint, the pensioner wants to protect his consumption level at the age of retirement throughout his retirement period. While it clearly is not desirable for the consumption basket to fall during the retirement period, neither does it make sense that the consumption basket should rise during retirement. Why should a 90-year old want to consume more than a 65-year old? And even if an individual should choose such an allocation of consumption, it is not the obligation of society to provide it. The Government is providing through the voluntary pension provisions a mechanism whereby individuals who wish to consume more in retirement than is provided by the public system may do so and are providing tax privileges to those who choose to do so already.

⁸ The retirement ages for Slovak Republic are currently being raised gradually to 62 for both men and women beginning in January 2004.

71. Figure 17 summarizes the impact of these changes. The figure shows the impact of the retirement change alone, the impact of the indexation change beginning in 2010, and the two combined. Both reform proposals by themselves will result in deficits about 0.7 percent of GDP in the long run. Combined, however, the system is projected to go into surplus about 2016 and remain there for about seven years and then return to surplus in 2070 and remain in surplus thereafter.

Figure 17: Projected Deficits with Further Changes in the Retirement Age and Pension Indexation



72. A final change that the Government could consider is the imposition of taxes on pensions. In the past, due to the use of partial incomes for calculating pensions, the pensions were relatively modest. But with the rise in benefits, it seems reasonable that pensioners with relatively high income should pay taxes as well. As with other countries, Slovakia could increase the personal exemption for pensioners, although the existing personal exemption is already quite reasonable. While the benefits of this measure would not accrue directly to the pension system, they could be used to mitigate some of the fiscal pressure.

VI. Adequacy of Pension, Equity, and Incentives

73. The current reforms in the Slovak pension system and proposed future reforms affect not only the fiscal sustainability, but also the adequacy of the pensions. While fiscal sustainability is important, pensions are primarily a social program which should serve to benefit workers. As such, the adequacy of pensions to prevent poverty in old age is important. Since individuals are asked to contribute a proportion of their income to the pension system, one measure of equity is that the pension system provide higher pensions to those who have contributed more and provide relatively similar rates of returns to all workers. If the pension system is not perceived as fair, individuals will be unwilling to make contributions and will choose to evade when possible by underreporting earnings, by underreporting hours worked, or by avoiding the system altogether.

74. The average pension prior to the reform was about 46 percent of average wage. This would have risen to about 50 percent of average wage in the long run had the pension been fully wage-indexed, as it was supposed to be. But we know that this level of pension is not sustainable. After the pure parametric reform, the average pension relative to average wage in the long run would have fallen to 35 percent. This reflects not just new pensions, but all pensions in payment. Since the indexation is to 50 percent of wage rather than fully wage-indexed, pensions in payment fall relative to average wage even though the pensions themselves are rising over time. The average pension relative to average wage falls to roughly 30 percent as the multi-pillar is introduced because of the inflation-only indexation assumed in the funded component. However, the beginning value of the pension relative to average wage under the multi-pillar is higher than under the pure parametric since the analysis assumes that the funded pensions will only be indexed to inflation.

75. It is hard to get much more depth from the aggregate numbers. Disaggregating the population into various individual types provides more information on who gains from the reform and what effect the reform might have on incentives. The following analysis looks at six types of individuals: (a) high income male; (b) high income female; (c) average income male; (d) average income female; (e) low income male; and (f) low income female. Table 8 summarizes the characteristics of each of these individuals. While the particular characteristics were somewhat arbitrarily chosen, the analysis serves as illustrative of the impact of the reforms on different types of individuals.

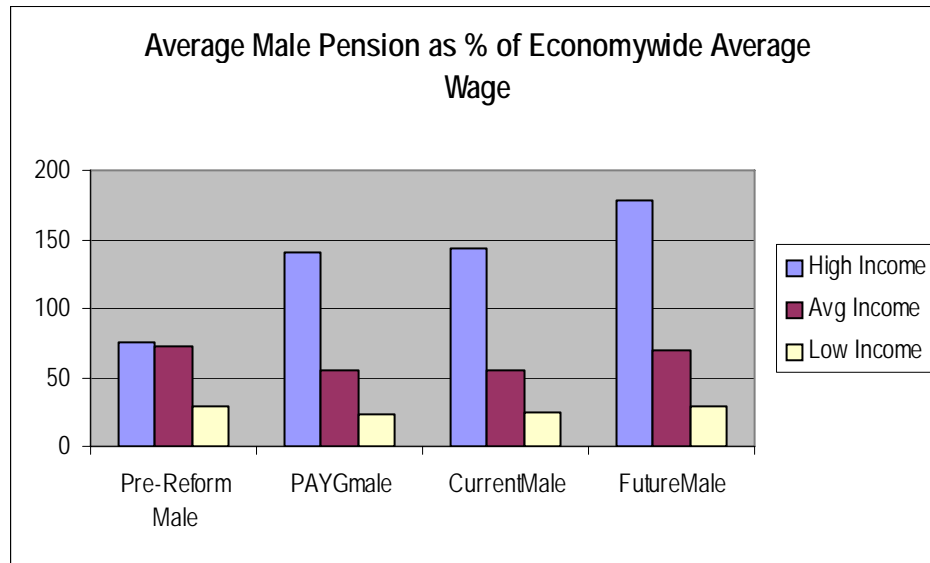
76. Higher income individuals are expected to begin work later given that their usual higher educational achievements. All groups are expected to retire at the minimum legal retirement age which applies to them. Higher income people, having better access to health care, are assumed to have lower mortality rates than low income individuals. Higher income individuals start their careers at higher salaries than the average applying to individuals of that gender and income level. The annual growth rate of salaries is also expected to be higher for higher income individuals. All men are assumed to have two years of non-contribution during their working age period, which could include military service or other periods. High and average income women are assumed to spend 9 years caring for young children, for which they are given years of service credit. Lower income women are assumed to spend only eight years caring for children.

Table 8: Characteristics of Individuals Modeled

Individual	Starting Age	Retirement Age	Mortality	Starting Wage	Annual Wage Growth	Number of exempt years
High income male	21	Legal minimum	90% of avg	200% of cohort avg	150% of average	2
High income female	21	Legal minimum	90% of avg	150% of cohort avg	150% of average	9
Average male	20	Legal minimum	100% of avg	100% of cohort avg	100% of average	2
Average female	20	Legal minimum	100% of avg	100% of cohort avg	100% of average	9
Low income male	18	Legal minimum	110% of avg	50% of cohort avg	90% of average	2
Low income female	18	Legal minimum	110% of avg	50% of cohort avg	90% of average	8

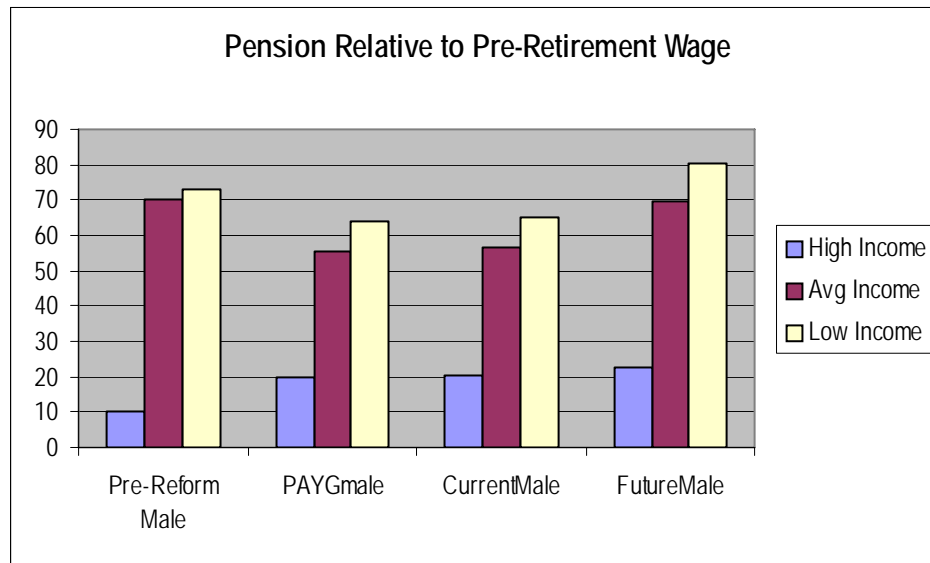
77. Based on these individual types, Figure 18 shows the initial situation for men retiring as a percentage of the gross economy-wide average wage, the situation with only the parametric reform, the situation under the multi-pillar scheme, and the situation if further reform were to take place. In the initial situation, given the strong limits on pensions arising from the maximum pension, there is little difference in pension between the higher income individual and the average individual. The parametric reform by loosening the maximum pension sharply raises the pension for the high income individual. Both the average and lower income individuals end up with lower pensions, primarily because the benefit accrual rate per year of service falls from 1.625 percent to 1.19 percent per year of service, but less for the lower income individual since their initial average accrual rate with more years of service was below that for middle income individuals. With the addition of the funded component, all pensions rise, with the high income individual getting almost twice the pre-reform pension, the middle income individual getting 24 percent less and the lower income individual getting 15 percent less. If the proposed reform discussed in Section V were to go through, all individuals would receive even higher pensions, as shown in the last set of bars, with all individuals receiving more than the pre-reform case. The increase arises primarily from greater years of contribution. On adequacy under the current law, even low income males would be receiving pensions equal to 30 percent of gross average wage. Since minimum wage is roughly 40 percent of average wage, the pension is close to 100 percent of net minimum wage. Assuming minimum wage is adequate for workers and their families to live on, the same salary should be adequate for pensioners, given the reduced family size in pensioner households.

Figure 18: Average Male Pension as a Percentage of the Economy-wide Average Wage



78. Before jumping to the conclusion that a reform which raises pensions for high income individuals relative to low income individuals is a bad reform, it is worth looking at the pensions of each individual type relative to their own pre-retirement salary, as shown in Figure 19. Figure 19 shows that pre-reform, high income men were getting as little as 10 percent of their pre-retirement salary, given the limits on pensionable wage; average individuals were getting 70 percent of their final salary and low income individuals about 73 percent of their final salary. As can be clearly seen, there were strong incentives in the system for high income individuals to underreport their earnings or to evade the system. Why pay 28 percent of salary for a pension of only 10 percent? The reforms almost double the pension percentage for high income workers and reduce them slightly for low and middle income workers. The proposed second phase of reforms, however, remedies this and after these additional reforms, all workers benefit. And remember that these are ratios relative to gross salary, not net salary, so for middle and low income individuals, the pensions are quite high relative to net salary. They are still relatively low for high income individuals, but this is explained by the cap on both contributions and benefits, so that high income individuals do not pay contributions on a substantial part of their salary. This low level of income replacement provides the room for high income people to enroll in the voluntary pension system should they want to increase their pension income.

Figure 19: Male Pensions Relative to Own Pre-retirement Wage



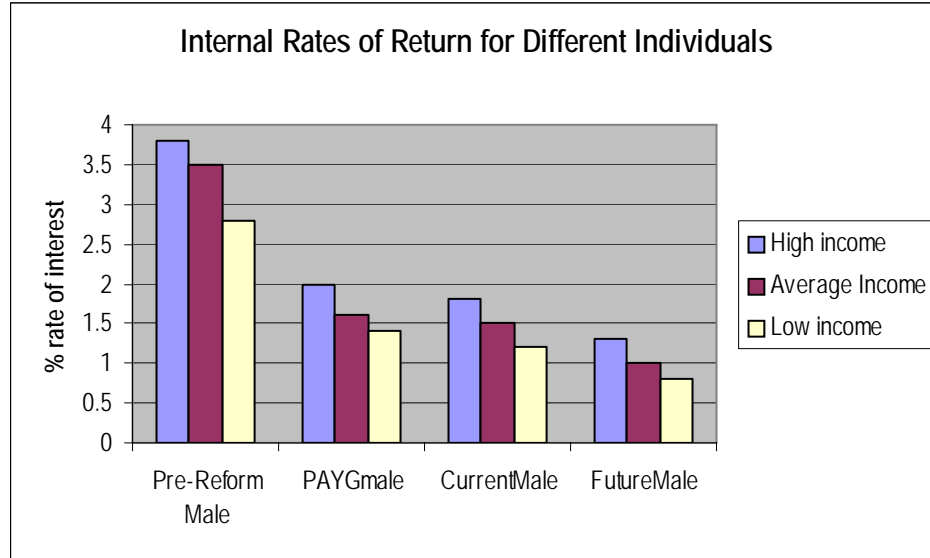
79. Figure 20 shows the internal rates of return for the different individuals. The internal rate of return calculates the rate of return an individual would have to receive on his own contributions in order to receive the benefits that the pension system provides upon retirement. On the basis of the internal rates of return, the high income workers receive higher rates of return than all other income classes. This is largely explained by their lower mortality rates, which allow them to receive pension benefits for a longer period of time, even if they had initially paid the same amount of contributions. Lower income individuals receive lower rates of return for precisely the same reason; they have higher mortality rates so receive pension benefits for fewer years. While the reforms do not remove these differences, in absolute terms the difference become smaller between income groups. Initially, there is a one percentage point difference in the internal rates of return between high and low income groups. After the reforms, the difference has narrowed to 0.6 of a percentage point.⁹

80. Similar results have been prepared for the three types of women and will be presented in the annex. The impact of the pension system on the three income types is consistent with the findings for men. The pensions relative to average wage are all typically lower than for men, reflecting the lower average earnings of women relative to men. The internal rates of return are significantly higher than for men, almost 50 percent higher for a couple of reasons. Life expectancy for women is much higher than for men in Slovakia. Second, women are given credit for time spent raising children under the age of six. The simulations assumed that each

⁹ While the mortality differentials always cause a difference in internal rates of return in favor of high income individuals, there may be other offsetting factors. The contribution covers not just old age, but also the risks of disability and death. Low income individuals tend to have higher disability rates, so while on old age their internal rate of return may be low, their overall rate of return taking into account the higher incidence of disability may be the same. Similarly, since low income individuals tend to have higher mortality, they more frequently leave young widows with children to support, again raising the overall rate of return to these income groups, or leave younger widows who will collect a widow's benefit for a longer period of time.

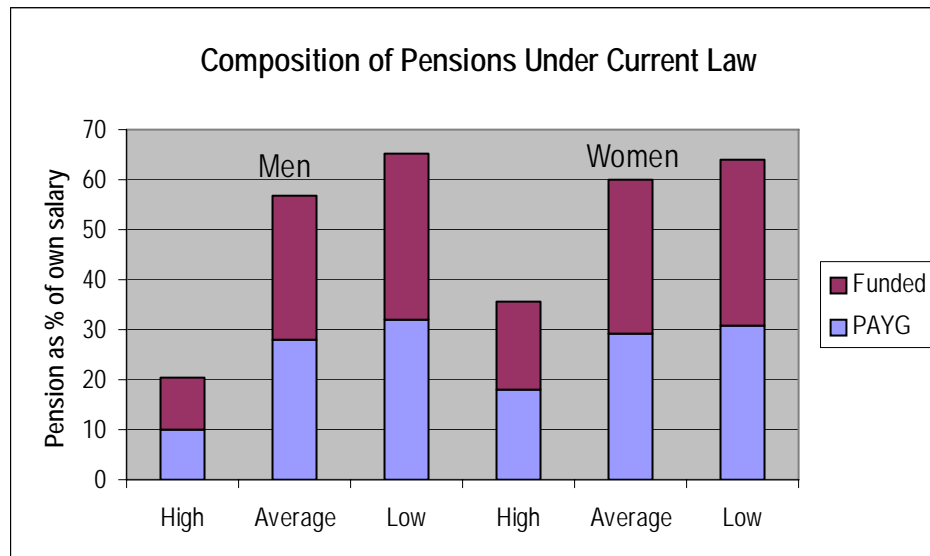
woman spent eight-nine years raising children, which means that relative to the contributions paid by the woman and her employer, the benefits are more generous.

Figure 20: Internal Rates of Return for Men of Different Income Levels



81. Figure 21 shows the division of the pension between the PAYG part and the funded part. On the contribution side, less than one third of the total contribution goes to the funded part, but for all individuals, the funded pension pays approximately half of the total pension.¹⁰

Figure 21: Composition of Multi-pillar Pensions by Source of Pension, Men and Women



¹⁰ The actual annuity provisions in the Slovak system have not yet been determined. The results projected here are assuming that unisex annuities will be available. Some of the male-female results would change if gender-specific annuities are required instead.

82. The above analysis has focused on old age pensions. There are similar provisions for disability and survivors. The particular changes which apply to these groups have already been discussed.

VI. Impact on Labor Markets and Affordability

83. Affordability is largely defined as whether the pension system requires such high contribution rates as to reduce labor competitiveness. In the short run, this is not a huge issue for the Slovak Republic given that its current wage rates lie below the EU average. However, the Slovak Government is expecting relatively rapid convergence to EU levels in the medium term. Convergence would highlight the relatively high payroll taxes currently prevalent in the Slovak Republic. Continuing on the reform path, particularly with the measures for further reform described in section IV would provide the fiscal room to potentially reduce contribution rates.

84. Many of the other labor market distortions inherent in the initial system have been remedied through the reform. The bases for contributions and benefits have been harmonized, resulting in less of a tax to workers. There is a much stronger tie between contributions and benefits in the new system, providing incentives for workers who want reasonable pensions to contribute. Individuals are appropriately penalized for retiring before the retirement age and given some incentives for postponing retirement.

85. However, the high overall payroll tax may at some point discourage growth in formal sector labor markets and continue to encourage growth in the informal sector. Given the lower access to social programs available through the informal sector, such a development would not be beneficial from either a social, fiscal, or growth perspective. The Government would be wise to pay close attention to future developments in the labor market and to consider further reform measures should adverse developments appear.

VIII. Robustness of the Reform

86. A reform which includes a funded component, such as the Slovak reform, provides a diversified source of pension income for the worker. Workers face political and governmental risk under PAYG systems, but face financial market risks under funded systems. Since there is not usually a systematic correlation between the two risks, the individual worker's pension income is more secure than reliance on one source. By introducing the funded pillar, the Slovak Government has achieved this objective, making pension income more robust.

87. In order that the income from the funded pension be relatively secure, there need to be adequate assets in which the pension companies can invest. An analysis of the capital market is well beyond the scope of this paper. However, the Slovak authorities have recognized the limited depth of their own capital markets and limited the minimum amount that must be invested in entities domiciled in the Slovak Republic to 50 percent, with a proposal that this be lowered to 30 percent. This would be among the most liberal worldwide with the foreign investment limits in Central European countries shown in Table 9. These reforms limit the risks imposed on workers. Investing pension funds in the domestic market might serve to deepen domestic capital markets, but would increase the risk to workers from less diversified portfolios,

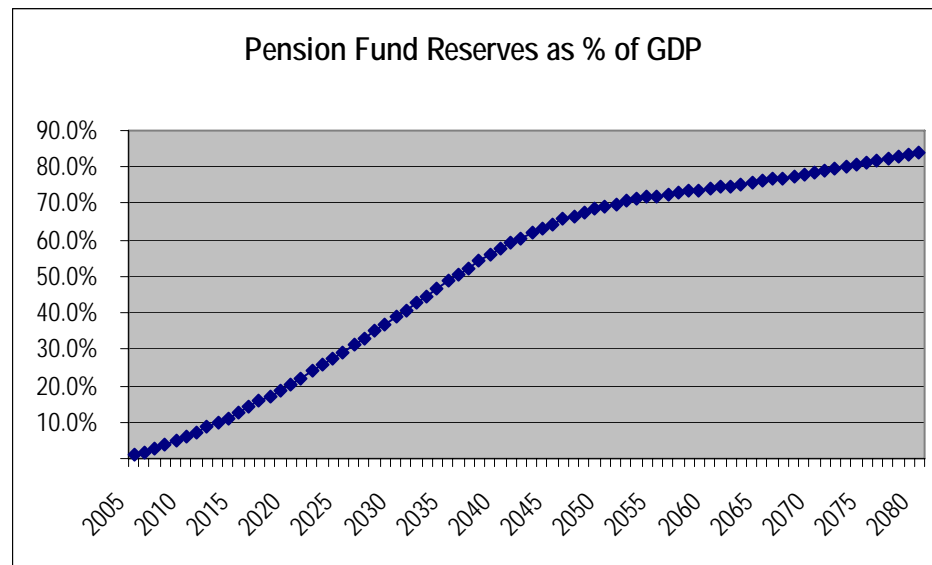
particularly when the economy and capital markets are relatively small. However, the experience in most countries that have undertaken this type of reform is that pension funds rarely use the flexibility provided in the law relative to foreign investment, even when it is fairly limited. The EU accession, however, may help the Slovak pension companies overcome this, since a primary reason for over-investing in domestic assets is often currency risk.

Table 9: Limits on Foreign Investment in Central European Countries with Funded Pillars

Portfolio Limits on Foreign Investment in Funded Pillar in Central Europe	
Country	Limits on Foreign Investment
Hungary	30%
Kazakhstan	10% in issues of international institutions
Poland	5%
Latvia	30%
Croatia	15%
Bulgaria	5%
Macedonia	20%
Source: Chlon (2004), 230.	

88. Figure 22 shows the amount of funds expected to be accumulated by the pension companies as the pension reform unfolds. As with the fiscal sustainability analysis, while the long run picture is fairly clear, the short run capital accumulation will depend on the degree of voluntary participation in the new scheme. Figure 22 uses the same switching assumptions as for the fiscal sustainability analysis, but clearly if more people switch, the capital accumulation will be greater in the short and medium run. As Figure 22 shows, the pension fund reserves will begin small, with only about 1 percent of GDP in reserves in 2005, but are expected to rapidly grow to more than 80 percent of GDP in the long run. With the EU accession, these funds can be invested throughout the EU markets, leaving less doubt of whether assets worthy of investment will exist in the future.

Figure 22: Projected Pension Fund Reserves as a Percentage of GDP



89. Another critical issue which affects the robustness of the financial market investment is the quality of the supervision and regulation of the pension companies. The Financial Markets Authority (FMA) in the Slovak Republic has been tasked with supervising the pension companies with the Ministry of Finance responsible for issuing regulations. The Financial Markets Authority is currently also tasked with supervising capital markets and the insurance industry. There is some discussion of the Financial Markets Authority being joined with the National Bank in 2006, which would consolidate financial market supervision with banking supervision.

90. However, in the short run, the pension supervision department in FMA contains only eight staff. There is sufficient budget to increase the number of staff to 20 in 2005. By contrast, in Latin America, the supervision staff per pension fund is much higher than that as shown in Table 10. And in many respects, the supervision staff needs to be strongest at the outset when a huge amount of sales activity will take place and can decline somewhat as the system matures. Most of the Latin American countries shown here have had their supervision agencies functional for some time. However, even with the proposed increase in staff, the number of staff per pension fund is still low given that 8 pension funds have currently been licensed.

91. The responsibilities of the pension fund supervisor include licensing the pension companies, licensing the sales agents who will sell enroll clients in the companies, monitoring and supervising the behavior of the sales agents, monitoring and supervising the information provided to clients by the pension companies to avoid fraudulent claims, monitoring and supervising the investment practices of the pension companies, making sure that clients are receiving adequate service and that companies are complying with the charge structures specified in the law, and making sure that the accounting within the pension companies is accurate and that adequate financial safeguards are in place. These are huge tasks, but critical for the success of the pension reform and the credibility of the Government. After all, the Government is requiring that individuals invest their wages in particular pension companies and therefore has an

obligation to make sure that the money is secure, even more so than for other financial market institutions.

Table 10: Supervision Staff Per Pension Fund

Number of Supervision Staff per Pension Fund in Latin America	
Country	Staff per pension fund
Argentina	16
Costa Rica	9
Chile	20
Dominican Republic	8
El Salvador	35
Mexico	19
Source: Palacios (2004), 75.	

92. By comparison, the Slovak supervision seems relatively thin and could use some reinforcement if it is to be successful in providing the security and confidence that the new system needs to provide robustness to the pension system.

IX. Conclusion and Recommendations

93. The Slovak pension system has made enormous reform progress, and the pension system is well on its way to improvements in sustainability, adequacy, affordability, and robustness.

- (a) Sustainability – the pension system has reduced the long run deficit by more than 80 percent. However, some further reform measures which can take place in the future are needed to bring the long system into balance.
- (b) Adequacy – the pensions seem reasonably adequate with individuals who contribute receiving reasonable to slightly generous pensions. However, many people with incomplete work histories and widows who previously had access to the pension system will get small or no pensions from the new system. Appropriate resources and design for the social assistance is critical to ensure that significant portions of the elderly population do not fall into poverty.
- (c) Affordability – Currently the full impact of the high contribution rates on labor competitiveness have not been felt. As the wages converge to EU levels, the Government may need to revisit the issue of contribution rates to avoid higher than necessary unemployment and the accelerated rise of informal markets.
- (d) Robustness – By providing a funded pillar, the Government has offered individuals a mechanism to diversify their pension income. By avoiding unnecessarily high requirements for investment in Slovak assets, the Government has avoided saddling the pension companies with lower yielding and less diversified assets. However, to insure the security of the system, the Government must quickly move to strengthen the supervision agency. Individual happiness with the scheme will depend heavily on the ex post outcomes of the decisions that individuals make with regards to switching. The government needs to insure good regulation and

supervision without depressing returns along with an appropriate institutional structure to avoid the skepticism toward the reform faced in other countries.

Technical Annex

94. This technical annex will consist of four parts: (1) summary of simulation assumptions, (2) sensitivity analysis on demographic assumptions, (3) sensitivity analysis on switching behavior, and (4) intra-cohort distributional impact of the reform for women.

Summary of Simulation Assumptions

95. Table A-1 below summarizes the critical simulation assumptions.

Table A-1: Assumptions Used in the Simulations

Indicator	2000	2005	2010	2015	2020	2030	2040	2050	2060	2070	2080
Real GDP Growth	2.2%	3.3%	4.9%	3.8%	2.9%	1.8%	1.1%	1.2%	1.6%	1.3%	1.1%
Real Wage Growth	-6.5%	2.7%	3.7%	3.3%	3.7%	2.6%	2.3%	2.3%	2.0%	1.6%	1.7%
Inflation	12.0%	4.3%	3.8%	3.6%	3.5%	2.8%	2.5%	2.3%	2.1%	2.0%	2.0%
Market Real Interest Rates	-2.3%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Total Fertility Rate	129.3%	118.7%	127.8%	136.9%	146.0%	158.1%	164.3%	170.5%	170.5%	170.5%	170.5%
Life Expectancy At Birth, Male	69.2	70.3	71.3	72.2	73.3	74.9	76.0	77.1	78.4	79.6	81.0
Life Expectancy at Birth, Female	77.4	78.2	79.0	79.9	80.8	82.2	83.0	84.0	85.0	86.2	87.7
Employed as % of Working Age Population	72.0%	77.5%	82.3%	85.8%	87.8%	93.8%	97.8%	97.3%	95.4%	96.9%	96.8%

96. The macroeconomic assumptions were chosen by the Ministry of Finance to be consistent with the scenarios for convergence with the European Union.¹¹

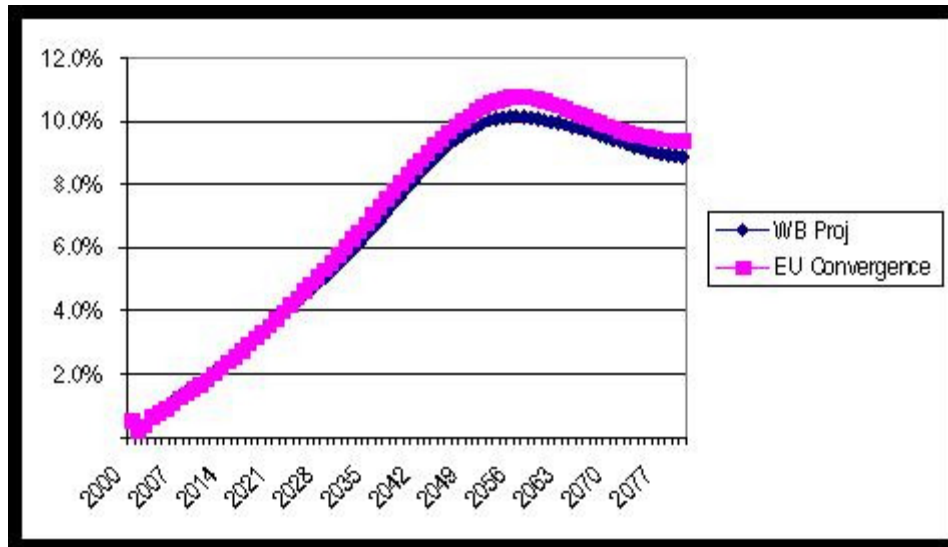
Impact of Higher Fertility Rates

97. Slovak fertility rates are currently well below replacement levels. The Slovak population projections assume that the fertility rates will gradually rise to EU levels of 1.7 children per woman. World Bank population projections assume a more rapid rise to two children per

¹¹ The macroeconomic parameters for 2000 and 2005 were chosen to conform with the requirements of the modeling and do not fully correspond to the official statistics.

woman, by 2050 rather than the 1.7 forecast in the EU. The difference in deficits from the alternative scenarios is relatively minor as shown in Figure A-1.

Figure A-1: Pension System Deficits in Base Case Under Different Demographic Assumptions



Impact of Switching Assumptions

98. The switching assumptions discussed in the text are merely a hypothesis on how people will switch. This section takes two opposite extremes: (a) that no current contributors switch to the new system; and (b) all current contributors up to age 53 switch to the new system. Figure A-2 shows the respective pension deficits under these two extreme assumptions as well as with the assumptions discussed in the text. If no current contributors choose the new system, the costs will be much lower in the short run, even generating surpluses for a period of years. But in the medium-long run, the costs will be huge because higher PAYG benefits will be paid to individuals with longer life expectancies with limited revenue in the system since all new entrants from 2005 are in the new system. On the other hand, if everyone switches, the deficit will be much higher initially, but lower in the medium-long run. It is unlikely that everyone will switch and even the assumptions used in the text seem conservative among the range of possibilities.

Impact of Reform on Pensions for Different Types of Women

99. The text discusses the impact of the pension reform on different types of individuals and presents graphs showing impact on different types of men. The same analysis was done for different types of women and is presented here. Figures A-3-5 correspond to Figures 13-15 in the text, but for women instead of men.

Figure A-2: Transition Deficits Under Different Switching Scenarios

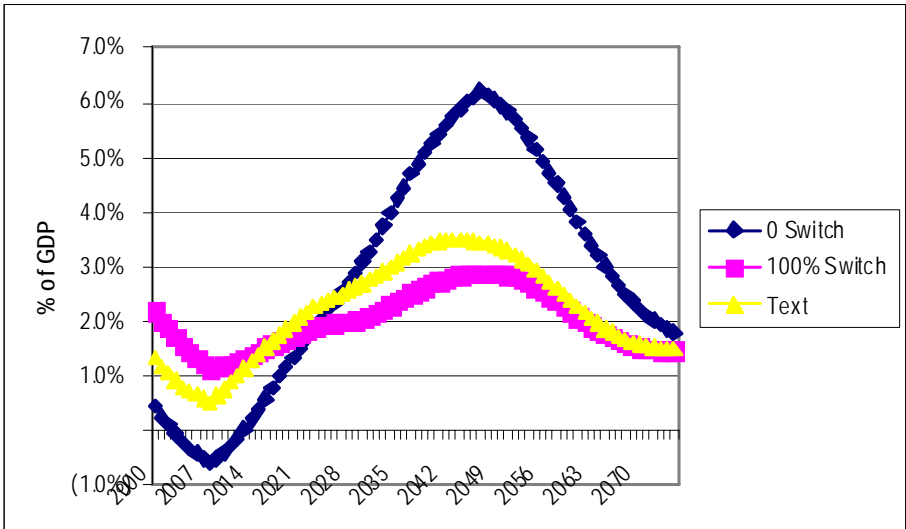


Figure A-3: Pension as Percentage of Economy-wide Average Wage

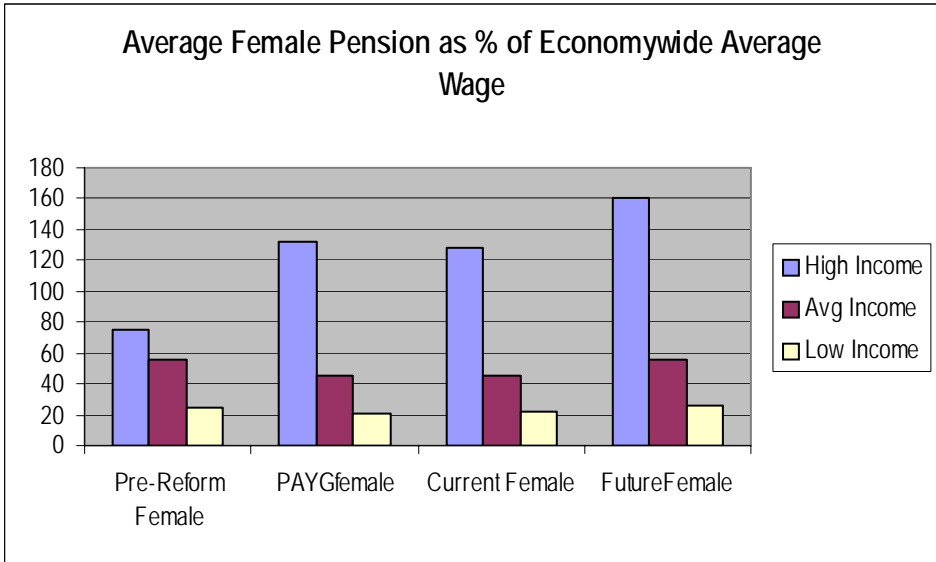


Figure A-4: Women's Pensions Relative to Pre-Retirement Wage

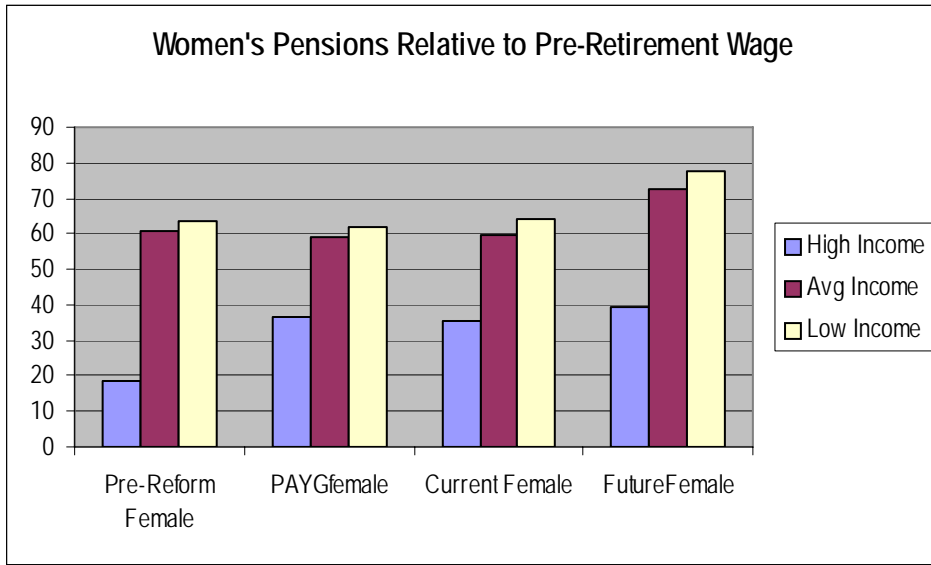
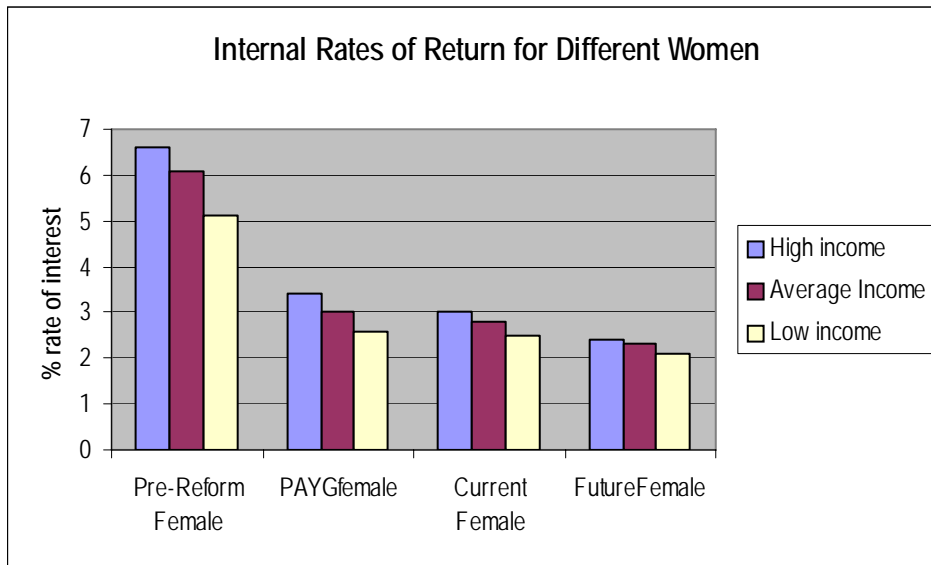


Figure A-5: Internal Rates of Return for Different Categories of Women



Selected References

Andrews, Emily. "Kazakhstan: An Ambitious Pension Reform." Social Protection Discussion Paper, No. 0104. World Bank: 2001.

Anusic, Zoran; O'Keefe, Philip; and Madzarevic-Sujster, Sanja. "Pension Reform in Croatia." Social Protection Discussion Paper, No. 0304. World Bank: 2003.

Chlon, Agnieszka; Gora, Marek; and Rutkowski, Michal. "Shaping Pension Reform in Poland: Security through Diversity." Social Protection Discussion Paper, No. 9923. World Bank: 1999.

Chlon-Dominczak, Agnieszka. "Evaluation of Reform Experiences in Eastern Europe, " in Pension Reforms: Results and Challenges. International Federation of Pension Fund Administrators. Santiago, Chile: December 2003.

Fultz, Elaine. Pension Reform in Central and Eastern Europe. ILO: 2002.

Holzmann, Robert; Gill, Indermit; Hinz, Richard; Impavido, Gregorio; Musalem, Alberto R; Rutkowski, Michal; and Schwarz, Anita. "Old Age Income Support in the 21st Century: The World Bank's Perspective on Pension Systems and Reform." World Bank: 2004.

Palacios, Robert and Rocha, Roberto. "The Hungarian Pension System in Transition." Social Protection Discussion Paper, No. 9805. World Bank: 1998.

Palacios, Robert. "Pension Reform in Latin America: Design and Experiences," in Pension Reforms: Results and Challenges. International Federation of Pension Fund Administrators. Santiago, Chile: December 2003.

Whitehouse, Edward. "Analysis of Pension Entitlements Across Countries: OECD countries, Latin American/Caribbean, Eastern Europe/Central Asia." World Bank, 2004.