



DIRECTIONS IN DEVELOPMENT
Finance

Pension Reform in Southeastern Europe

*Linking to Labor and Financial
Market Reforms*

Robert Holzmann, Landis MacKellar, and Jana Reřpansek
Editors



THE WORLD BANK

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Robert Holzmann

Landis MacKellar

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THE WORLD BANK
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Contents

<i>Preface</i>		<i>xxi</i>
<i>About the Editors</i>		<i>xxv</i>
<i>Abbreviations</i>		<i>xxvii</i>
PART I	Setting the Stage	1
Chapter 1	Fiscal Implications of Population Aging <i>Andrej Bajuk</i>	3
Chapter 2	Linking Pension Reform to Labor and Financial Market Reforms: An Introduction <i>Robert Holzmann</i>	9
	Population Aging and Fiscal Implications for Pension Schemes	11
	Drivers for Pension Reform and Reform Options	12
	International Reform Trends and Lessons	14
	Labor Market Reforms	16
	Financial Sector Reforms	19

	Conclusion	23
	Notes	24
	References	24
Chapter 3	New Social Risks, the Life Course, and Social Policy	27
	<i>A. Lans Bovenberg</i>	
	Trends	28
	Challenges	30
	A Life-Course Perspective	32
	Policy Recommendations	33
	Conclusions	39
	Note	39
	References	39
PART II	Aligning and Linking the Reforms	41
Chapter 4	An Overview of Pension, Labor Market, and Financial Market Reforms in Southeastern Europe	43
	<i>Dušan Kidrič</i>	
	Responses to the Pressures	44
	Conclusions	48
	Note	49
	References	49
Chapter 5	European Pension Reforms	51
	<i>Olivier Bontout and Georg Fischer</i>	
	The Pension Challenge and Europe's Open Method of Coordination	52
	Changes in the Labor Market and Projected Impacts of Reforms on Adequacy and Sustainability	55
	Risks of Divergence between Member States, Genders, and Qualification Levels	58
	New Reform Issues	64
	Conclusion	70

	Notes	70
	References	71
Chapter 6	The Slovenian Pension System in the Context of Upcoming Demographic Developments	73
	<i>Boris Majcen and Miroslav Verbič</i>	
	Developments in the Slovenian Pension System	74
	Results of the Simulations	80
	Conclusion	85
	Notes	87
	References	87
Chapter 7	Decreased Employment and Pensions: The Case of Hungary	89
	<i>Maria Augusztnovics and Janos Köllő</i>	
	Exodus to Retirement	93
	Pension Reform 1998	94
	Pension Promises until 2020	97
	Policy Conclusions	101
	Notes	102
	References	103
Chapter 8	Live Longer, Work Longer: Making It Happen in the Labor Market	105
	<i>Milan Vodopivec and Primož Dolenc</i>	
	What Are the Growth and Welfare Implications of Population Aging, and What Can Be Done about Them?	106
	Why Is It Difficult to Extend Working Lives?	110
	What Can Be Done to Improve People's Incentives to Work Longer and Their Workplace Choices?	114
	How Can Employers Be Induced to Offer More Jobs to Older Workers?	118
	Conclusions	121
	Notes	122
	References	123

Chapter 9	Preparing the Labor Market for an Aging Population: Designing Public Policy to Increase Labor Force Participation	127
	<i>Gary Burtless</i>	
	Participation Rates in Southeastern Europe	128
	Slowing Exit from the Labor Force: Supply-Side Incentives	134
	Slowing Exit from the Labor Force: Demand-Side Incentives	143
	Impact of Higher Old-Age Participation Rates on Employment Rates of the Young	144
	Summary	145
	Notes	146
	References	146
Chapter 10	Retirement Reform in a Mature Welfare State: The Danish Experience	149
	<i>Lars Haagen Pedersen</i>	
	Projection of the Danish Economy Given Current Welfare Arrangements	152
	Retirement Reform	155
	Time-Inconsistency Problems	159
	Conclusion	160
	Notes	160
	References	162
Chapter 11	The Pension System and Employment of Older Workers: How to Change the Incentive Structure—The Polish Experience	163
	<i>Agnieszka Chlon-Dominczak</i>	
	Labor Market Participation by Older Workers	164
	Early Retirement Options in Poland	167
	Potential Effect of the Pension Reform on Workers' Retirement Behavior	173
	Change in Retirement Age and Pension Expenditure	174

	Conclusions	175
	Notes	176
	References	176
Chapter 12	Turning Boomers into Boomerangs: Policies and Preferences with Regard to the Employment of Older Workers in the Netherlands	177
	<i>Ernst B. K. van Koesveld</i>	
	Policies with Good Intentions but Bad Outcomes	179
	Policies with Good Intentions and Good Outcomes	182
	The Labor Market for Older Workers:	
	Supply and Demand Factors	184
	Market Failures and Government Policies	190
	Notes	192
	References	193
Chapter 13	Pension Reform and Financial Markets: Encouraging Household Savings for Retirement	195
	<i>Anita Tuladhar</i>	
	Household and Pension Fund Savings:	
	Some Stylized Facts	196
	Factors Affecting Pension Fund Savings	196
	Empirical Evidence on Pension Fund	
	Participation and Savings	200
	Challenges and Policy Implications	203
	Conclusions	206
	References	207
Chapter 14	Contemporary Issues and Challenges in a Supplementary Pension System: The Case of Slovenia	209
	<i>Aleš S. Berk</i>	
	Framework for the Future Development of Fully Funded Pensions in Slovenia	212

	Tax Treatment of the Funded Pension System	215
	Impact of Strategic Asset Allocation Decisions	216
	Caveats	220
	Conclusion	221
	Notes	222
	References	223
Chapter 15	Designing a Regulatory Framework for Pension Reform and Development of Financial Markets: The Estonian Experience	227
	<i>Tõnu Lillelaid, Veiko Tali, and Thomas Auväärt</i>	
	Main Features of the Second Pillar	228
	The Second Pillar in Action	229
	Changes in the Regulatory Framework since 2002	235
	The Impact of Pension Reform on Financial Markets	236
	Current Issues and Further Development of Pillar II	245
Chapter 16	Linking Pension Reform and Financial Market Development: The Experience of Latin America	247
	<i>Augusto Iglesias P.</i>	
	Interactions between Pension Reform and Capital Market Development	250
	Challenges to the Design of Pension Fund Investment Regulations	255
	Conclusion	258
	Notes	259
	References	259
Chapter 17	Preparing the Financial Market for an Aging Population: The Case of the FYR Macedonia	261
	<i>Zorica Apostolska</i>	
	Preparation and Implementation of Pension Reform	261
	Conclusion	268
	Note	269

PART III	Panels and Country Statements	271
Chapter 18	Guidance Notes for the Policy Panels <i>Robert Holzmann</i>	273
	Questions for the Panel of Ministers of Finance on the Pension Reform	273
	Questions for the Panel of Ministers of Labor and Social Affairs on the Related Labor Market Reform	274
	Questions for the Panel of Central Bank Governors on Related Financial Market Reforms	275
Chapter 19	Pension Reform: Broad Context and Perspective <i>Gonzalo C. Capriolo</i>	277
	Ensuring Consistency between Pension Reform, the Social Model, and Economic and Demographic Characteristics	278
	Delimiting the Role of the State: Using Resources Effectively and Efficiently	285
	Conclusions	288
	References	289
Chapter 20	Aging Populations and the Scope for Adjustment in the Slovenian Labor Market <i>Alenka Kajzer</i>	291
	Demographic Projections and Estimated Consequences of Slovenia's Aging Population	292
	Labor Market Developments and the Situation in Slovenia	293
	Scope for Improvement of Labor Market Performance in Slovenia	295
	Conclusion	297
	Note	298
	References	298

Chapter 21	Reforming the Slovenian Pension System: Some Guidelines and Intergenerational Distribution Issues	301
	<i>Jan K. Grobovšek and Damjan Kozamernik</i>	
	The Framework and the Unsustainability of the Current System	303
	The Retirement Age Adjustment	307
	The Private Saving Rate Adjustment	311
	Conclusion: Think about a Wise Combination of Options	314
	Notes	316
	References	317
Chapter 22	Statement of the Ministry of Labor and Social Welfare, Federation of Bosnia and Herzegovina	319
	<i>Zehra Novo-Omanović</i>	
Chapter 23	Statement of the Ministry of Finance, Republic of Srpska	323
	<i>Snježana Rudić</i>	
Chapter 24	Statement of the Ministry of Labor and Social Policy, Bulgaria	327
	<i>Goran Bankov</i>	
Chapter 25	Statement of the Ministry of Finance, Croatia	331
	<i>Ivana Maletić</i>	
Chapter 26	Statement of the National Bank, FYR Macedonia	335
	<i>Dimitar Bogov</i>	
Chapter 27	Statement of the Ministry of Finance, Moldova	339
	<i>Oleg Hirbu</i>	
Chapter 28	Statement of the Central Bank, Montenegro	341
	<i>Nikola Fabris</i>	
Chapter 29	Statement of the Ministry of Labor, Montenegro	345
	<i>Mileva Todorović</i>	

Chapter 30	Statement of the Ministry of Finance, Romania	349
	<i>Steluta Nedelcu</i>	
	Pension System Reform: Main Features	350
	Reform Measures	351
Chapter 31	Statement of the Ministry of Finance, Serbia	355
	<i>Marko Lisica and Vladimir Malbašić</i>	
Chapter 32	Statement of the Ministry of Finance, Slovenia	359
	<i>Andrej Širčelj</i>	
Chapter 33	Statement of the Ministry of Labor, Slovenia	363
	<i>Romana Tomc</i>	
	<i>Index</i>	367

Boxes

5.1	Key Reforms of Statutory Schemes	56
8.1	How Different Countries View Old Age and Retirement	115
8.2	Push and Pull Factors in Labor Market Withdrawal	116

Figures

2.1	Old-Age Dependency Ratios in Selected World Regions, 2000 and Projected to 2050	11
2.2	Increase in Number of Pension Systems with Second Pillars, 1960–2009	15
2.3	Implicit Tax on Remaining at Work	17
2.4	Ratio of Savers to Dissavers by Region, 1950–2050	20
2.5	Financial Sector Readiness Indicator Scores in Year of Reform and Five Years Later (or in 2006), Selected Countries	22
4.1	Male and Female Retirement Ages in CEF Countries	45
4.2	Loss of Contributors as a Result of Low Coverage, CEF Countries	46
5.1	Activity Rates in the European Union, by Gender, 1970 and 2000	52
5.2	Cohort Comparison in the European Union, by Gender, 1981, 1986, and 1991	53
5.3	Employment Rates of Older Workers, European Union in 2005 and Evolution since 2000	57

5.4	Share of Part-Time Employment in Employment of Age Group 55–64, European Union, 1995–2006	57
5.5	Reasons for Leaving Last Job or Business for Workers Age 55–64, European Union, 1995–2006	59
5.6	Dispersion of Employment Rates, Ages 55–64 and 25–54, European Union, 1983–2006	60
5.7	Employment Rates by Gender, Age 55–64, European Union, 1992–2006	60
5.8	Employment Rates for Men Age 55–64, by Skill Level, European Union, 2000 and 2006	61
5.9	Trends in Replacement Rates: Effect of Enacted Reforms at a Given Retirement Age, 2005 and 2050	62
5.10	Trends in Pension Expenditures, European Union (EU25), 2005–50	63
5.11	Projected Evolution of Theoretical Replacement Rates (TRRs) and Pension Expenditures for Public Pension Schemes, European Union	65
5.12	Change in (Synthetic) Replacement Rate and Decline in Employment Rates between Ages 55–59 and 60–64, Selected European Union Countries, 2006	67
6.1	Welfare Effects in Slovenia for Different Sources of Pension System Financing (Retirement Age 60 and Full Indexation), 1925–2055	81
6.2	Supplementary Pension Savings Required in Order to Keep the Total Pension at the Given Level (Retirement Age 60 and Full Indexation), Slovenia, 1960–2050	82
6.3	Expected Change in the Supplementary Pension Savings Required in Order to Keep the Total Pension at the Given Level with Retirement Age Increased to 65 and Unchanged Indexation of Pensions, Slovenia, 1960–2050	83
6.4	Expected Change in the Deficit of the Slovenian State Pension Fund with a Mandatory Second Pillar, Keeping the Total Pension at the 2000 Level (Retirement Age 60 and Full Indexation), 2005–50	85
7.1	Cross-Sectional Employment Ratios, Population Age 25–64, Hungary, 1970–2005	90
7.2	Age-Adjusted Probability of Employment, by Educational Level, Males Age 25–64, Hungary, 1970–2005	90

7.3	Employment Ratios and Birth Cohort Paths, Males with Primary Education, Hungary, 1970, 1990, and 1996–2001	91
7.4	Age-Adjusted Gross Monthly Wages, by Educational Level, Males Age 25–64, Hungary, 1985–2005	92
7.5	Relative Wages and Birth Cohort Paths, Males with Higher Education, Hungary, 1989, 1996, and 2001	92
7.6	Number of New Retirees, Hungary, 1971–2005	94
7.7	Monthly Old-Age Pensions per Year of Service, by Year of Retirement, Hungary, 2003	95
7.8	Number of Births, Population Age 60, and Eligibility for Pension at Age 60	98
8.1	Demographic Aging: Share of Population Age 60 and Older, 2000–2050	107
8.2	Average Male Retirement Age, United States, 1910–2001	111
9.1	Labor Force Participation Rates by Age Group, Southeastern Europe, 1980, 1995, and 2005	129
9.2	Change in Labor Force Participation Rates between 1980 and 2005, by Age Group, Southeastern Europe	130
9.3	Labor Force Participation Rates by Age Group, Southeastern Europe and Austria, 2005	131
9.4	Labor Force Participation Rates by Age Group, Southeastern Europe and Switzerland, 2005	132
9.5	Change in Labor Force Participation Rates between 1980 and 2005, by Age Group, Austria and Switzerland	132
9.6	Trends in Economic Activity among Men and Women Age 50–64 in 21 OECD Countries, 1950–2000	133
9.7	Male Exit Rates and Net Earnings Replacement Rate at the Standard Retirement Age, 14 OECD Countries	141
9.8	Distribution of Postretirement Earnings among U.S. Men Age 62 and Older	142
10.1	Labor Market Participation Rates, 2002	150
10.2	Net Contribution to Public Finances Depending on Age, 2004	151
10.3	Danish Public Budget without Pension Reform	154
10.4	Share of Lifetime Spent in the Labor Force with and without Reform	157
10.5	Labor Force with and without Reform	157
11.1	Employment Rate of Workers Age 55–64, EU25 and Poland, 1997–2006	165

11.2	Average Age of Exit from the Labor Market, EU25 and Poland, 2002–06	166
11.3	Number of Newly Granted Pensions (Old Age and Disability), Poland, 1990–2004	168
11.4	Number of People Receiving Old-Age Pensions and Preretirement Benefits below Retirement Age, Poland, 1997–2005	169
11.5	Average Effective Retirement Age, Poland, 1990–2004	170
11.6	Age Structure of New Old-Age Pensions Granted in 2006, Poland	171
11.7	Year of Reaching the Minimum Age for the Right to an Early Old-Age Pension or Bridging Pension	172
11.8	Accumulation of Pension Capital, Poland	173
11.9	Changes in Pension Level Depending on Retirement Age, Poland	174
11.10	Projection of Pension Expenditure, Poland, 2004–50	175
12.1	Employment Rates, Netherlands and Selected OECD Countries, 2005	178
12.2	Employment Rates of Older Workers, Selected Countries, 1971–2005	179
12.3	Employment Rates by Age and Gender, Netherlands, 1971–2005	180
12.4	Employment Rate Projections by Gender, Netherlands, 2005–40	180
12.5	Trend in Average Exit Ages and Change in Employment Decomposed, Netherlands	184
12.6	Older Workers (55–64) and the Labor Market, Netherlands	185
12.7	Age-Earnings Profiles by Gender, Netherlands and Selected OECD Countries, Early 2000	187
12.8	Average Earnings Profiles by Gender and Skill Level, Netherlands	188
13.1	Composition of Financial Assets in Balance Sheets, Selected Countries, 2000	197
13.2	Relationship between Key Economic Variables and Pension Fund Assets, Cross-Country Data, 2005	198
15.1	Proportions of Those Switching to Pillar II, by Type of Fund, Estonia	230
15.2	Proportions of Those Switching to Pillar II, by Year of Change, Estonia	231

15.3	Pillar II Assets, by Investment Strategy, Estonia, 2002–06	232
15.4	Pillar II Investments, by Asset Type, Estonia, End of Second and Fourth Quarters, 2004–06	232
15.5	Pillar II Investments, by Country or Region, Estonia, by Quarter, 2004–06	233
15.6	Fees and Nominal Investment Returns of Pension Funds, Estonia	234
15.7	Investment Returns of Different Types of Pension Funds, Estonia	234
15.8	Pillar II System Costs, Estonia, Cumulative, 2002–06	235
15.9	Assets of Mandatory Pension Funds, Estonia, 2002–30	242
15.10	Investment Fund Market, Estonia, 2001–06	243
15.11	Investment Fund Asset Shares, Estonia, End of Second and Fourth Quarters, 2001–06	244
15.12	Pillar II Investments, by Asset Class and by Country or Region	245
16.1	Domestic Financial Sector Development, Selected Countries, End 2004	251
17.1	Institutional Players in the Reformed Pension System, FYR Macedonia	264
17.2	Pillar II Asset Portfolio, FYR Macedonia, December 31, 2006	267
19.1	Average Amount Earned by Those with Positive Earnings, by Age Group, Selected Countries	282
19.2	Labor Market Flexibility, Selected Countries	283
21.1	Projected State Pay-as-You-Go Pension Expenditure as Share of GDP, with No Change in Average Effective Retirement Age, Slovenia, 2005–50	306
21.2	Projected Ratio of Public Debt to GDP, with No Change in Average Effective Retirement Age, Slovenia, 2005–50	307
21.3	Projected Net Wage, with No Change in Average Effective Retirement Age, Slovenia, 2005–50	308
21.4	Projected Average Retirement Age of Cohorts Necessary to Keep Net Replacement Rate Equal to 70 Percent of Average Net Wage, Slovenia, 2005–50	309
21.5	Theoretical Yearly Saving Rate as Share of Net Wage of a Cohort Retiring at a Given Date (at Age 59) to Maintain a Combined Pension of 70 Percent of Average Net Wage, Slovenia, 2005–50	312

Tables

4.1	Pension Reform in Southeastern European Countries	44
6.1	Estimates of Total Balance of the State Pension Fund Using Different Assumptions about Retirement Age and Indexation Level of Pensions, 2010–50	84
7.1	Pension Eligibility and Contributing Status, Birth Cohorts 1945–59 (Age 45–60), by Educational Level, Hungary, 2005	99
7.2	Expected Relative Entry Pension, Birth Cohorts 1945–59, by Educational Level, Hungary, Average 2005–20	100
9.1	Male Labor Force Exit Rates, by Age Group, 21 OECD Countries, 1960s and 1990s	140
12.1	Dutch Survey Results: People's Views on Their Retirement Age	185
12.2	Menu of Policy Options	192
13.1	Factors Affecting Pension Fund Participation	201
13.2	Factors Affecting Pension Savings by Individuals	202
14.1	Future Values in Real Terms, Adjusted for Productivity Growth, of Annual (Gross) Pension Savings	216
14.2	Monthly Annuity Factors Expressed in Terms of Annual (Gross) Pension Savings, Tax Allowances Required for Targeted (Net) Pension of 700 Euros for Individuals with Different Entrance Timing, and Total Pension Savings at Age 65	217
14.3	Impact of a Strategic Asset Allocation on Monthly Annuity Factors Expressed in Terms of Annual (Gross) Pension Savings	218
14.4	Impact of a Strategic Asset Allocation on (Net) Monthly Annuity Expressed in Terms of Annual (Gross) Pension Savings of 1,000 Euros	219
15.1	Number of Switchers in Pension Funds, Estonia, 2003–06	231
15.2	Number of Persons Moving between Different Types of Pension Fund in 2006, Estonia	231
15.3	Main Indicators, Estonian Financial Market, 2000–06	236
15.4	Debt and Investments of Private Persons, Estonia, 1999–2006	237
15.5	Investments in the Tallinn Stock Exchange, by Country, 1996–2006	238
16.1	Pension Reform, Latin America	248
16.2	Pension Funds in Capital Markets, Latin America	248

16.3	Annual Rates of Return to Pension Funds, Latin America, 1997–2006	249
16.4	Portfolio Composition of Pension Funds, Latin America, by Issuer and Asset Class, 2006	250
16.5	Diversification Rules for Pension Fund Portfolios, Latin America: Limits by Asset Class	256
19.1	Labor Market Indicators, Selected Countries	281
19.2	Coverage Rate and Type of System, by Country	284
19.3	Indicators of Sustainability and Adequacy of Pensions, Selected Countries	286
20.1	Main Demographic Characteristics of the Slovenian Population, 1985 to 2008 and Projections to 2050	293
20.2	Estimates of Age-Related Public Expenditures in Slovenia	294
20.3	Estimations of Potential Growth Rate in Slovenia and the European Union	294
20.4	Main Labor Market Indicators, Slovenia	295
21.1	Projections of Key Social and Economic Parameters, Slovenia, 2004–50	304
23.1	Main Pension System Parameters, Republic of Srpska	324

Preface

The papers and country statements in this volume were prepared for the conference “International Forum on Pension Reform: Exploring the Link to Labor and Financial Market Reforms,” held in Bled, Slovenia, June 7–9, 2007. The contributions have since been revised and updated. The conference was an initiative of the Center of Excellence in Finance (CEF) and was organized in close cooperation with Robert Holzmann of the World Bank and with Slovenian experts.

Among the more than 140 presenters and participants were senior government officials from ministries of finance, ministries of labor and social affairs, and central banks in Southeastern Europe who presented country statements on vision and progress in pension, labor, and financial sector reforms. Other invited experts explored the reform needs of pension systems, labor markets, and financial markets and exchanged country-specific experiences.

Pension reform is at the center of public debate in many countries around the world. Given the importance of its social and macroeconomic implications, it confronts policy makers, practitioners, and academia with challenging questions.

The diverse reform needs of pension systems in aging societies, which are further stressed by the pressures of globalization, require parallel

reforms of labor and financial markets. Faced with aging populations, countries have to reform both their pension systems, to promote longer working lives, and their labor markets, to ensure that people can actually work longer. At the same time the working population, including youths, has to be motivated to start contributing to the pension scheme. Diversifying the great spectrum of risks through a multipillar pension scheme with mandated or voluntary pillars could answer these needs and allow more flexibility in individual retirement decisions. To do this on a large scale, however, a well-developed financial market is required.

The complexity of the issues, the variety of approaches, and the mixed results of adjustments and reforms call for a continuing discussion in an attempt to answer the question, where do we go from here, and how? Enabling the exchange of views and open discussion in search of the best answers was the most important goal of the conference, as it is of this volume. It is hoped that the contributions gathered here will be valuable to policy makers in Southeastern Europe and other parts of the world who are planning pension system, labor, and financial market reforms in their countries.

This volume has three main parts. Part I, "Setting the Stage," begins with an opening statement by the Slovenian minister of finance (chapter 1), followed by an introduction to the conference topic (chapter 2) and an analysis of "New Social Risks, the Life Course, and Social Policy" (chapter 3).

Part II, "Aligning and Linking the Reforms" (chapters 4–17), contains contributions by invited experts in the three interlinked policy areas: pension reform, labor market reform, and financial market reform. The 14 chapters by experts from academia, research institutions, international organizations, and country ministries offer a wealth of observations, policy considerations, and experience that should help further policy discussion in the region. The chapters are intentionally brief, to make them accessible and readable.

Part III, "Panels and Country Statements," begins with the guidance notes provided to each of the three policy panels to ensure a productive discussion (chapter 18). Chapters 19–21 contain the opening statements by the panel chairs. Finally, the country statements on the policy reform areas of the conference (chapters 22–33) provide an interesting and stimulating picture of reform progress and vision.

The conference and this volume represent a combined effort by many people. We are, above all, grateful to Robert Holzmann of the World Bank, whose expertise was crucial in the organization and execution of

the conference and in the preparation of this volume. Neither would have come about without his valuable inputs.

Among Slovenian contributing experts, we especially thank Dušan Kidrič from the Institute of Macroeconomic Analysis and Development, Gonzalo Capriolo from the Ministry of Finance, and Damjan Kozamernik from the Bank of Slovenia for their advice on preparation of the conference.

We extend our thanks to the panelists from ministries of finance, central banks, and ministries of labor in the CEF member countries who accepted the invitation to share their valuable views with others. We are also grateful to the presenters, supported by their institutions, who shared their views and country cases with the conference.

Most of the panelists and presenters responded to our request to submit written statements and background papers for this publication in order to add to the research work on the topic of pension reform combined with labor market and financial market reform. We are grateful to Landis MacKellar of the International Institute for Applied Systems Analysis (IIASA), Vienna, who transformed these statements and background papers into a manuscript.

Book design, editing, and production were coordinated by the World Bank's Office of the Publisher. Nancy Levine edited the manuscript.

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About the Editors

Robert Holzmann is the World Bank's Sector Director for Social Protection and Labor. His department is in charge of conceptual and strategic Bank work in the area of social risk management and leads the Bank's work on pension reform. Holzmann has been professor of economics at the University of Saarland in Germany and the University of Vienna and has lectured on pension issues at Harvard and Oxford Universities. As a member of the staff of the Organisation for Economic Co-operation and Development, he wrote a comprehensive report on public pension reform in industrial countries. He has also served at the International Monetary Fund, where he was heavily involved in the pension reform issues of Hungary, Poland, and other transition economies. He has published 27 books and more than 150 articles on social, fiscal, and financial policy issues.

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Abbreviations

CEE	Central and Eastern Europe
CEF	Center of Excellence in Finance [Ljubljana]
CGE	computable general equilibrium [model]
DREAM	Danish Rational Economic Agents Model
EC	European Commission
ECSD	Estonian Central Depository for Securities
EEA	European Economic Area
EEE	“exempt-exempt-exempt” [tax regime for pensions]
EET	“exempt-exempt-taxed” [tax regime for pensions]
EPC	Economic Policy Committee [of the European Commission]
EPL	employment protection legislation
EPLI	employment protection legislation index
EU	European Union
FBH	Federation of Bosnia and Herzegovina
FIAP	International Federation of Pension Funds Administrators [Federación Internacional de Administradoras de Fondos de Pensiones]
FMC	fund management company
FSA	Financial Supervisory Authority [Estonia]
FYR	former Yugoslav Republic [of Macedonia]

G-7	Group of 7 [high-income countries]
GA	generational accounts [model]
GDP	gross domestic product
GRR	gross replacement rate
HEV	Hicks-equivalent variation
IIASA	International Institute for Applied Systems Analysis
ILO	International Labour Organization
IMF	International Monetary Fund
IPDI	Institute for Pension and Disability Insurance [Slovenia]
MAPAS	Agency for Supervision of Fully Funded Pension Insurance [FYR Macedonia]
MILES	macroeconomic policy, investment climate, labor market institutions, education and skills, and social protection [framework for job creation]
NAV	net asset value
NBER	National Bureau of Economic Research
NDC	nominal (or notional, or nonfinancial) defined contribution
ODR	old-age dependency ratio
OECD	Organisation for Economic Co-operation and Development
OLG-CGE	overlapping-generations–computable general equilibrium [model]
OLG-GE	overlapping-generations general equilibrium [model]
OMC	open method of coordination
PAYG	pay-as-you-go
PDIA	Pension and Disability Insurance Act [Slovenia]
PDIF	Pension and Disability Insurance Fund [FYR Macedonia]
SEE	Southeastern Europe
SPC	Social Protection Committee [of the European Commission]
TRR	theoretical replacement rate
VERP	voluntary early retirement pension

PART I

Setting the Stage

CHAPTER 1

Fiscal Implications of Population Aging

Andrej Bajuk

Welcome to this important International Forum on Pension Reform. Although much progress has been made toward understanding the fiscal implications of population aging, and although we are now clearly aware of its consequences, less has been done in other important, and related, areas. That is why it is so relevant to devote this forum to the exploration of links between pension, labor, and financial market reforms. We are pleased to have with us leading international experts and practitioners who will enrich our understanding of the issues and update us on the state of play and the progress made in these three interrelated areas, both in our countries and at the international level.

Consistent reform in the pension system and in labor and financial markets can generate important positive synergies. Pension systems embed incentives that affect the labor supply of older workers, and high employment ensures high levels of contributions into the system, higher rates of economic growth, and greater financial returns. Similarly, diversifying the sources of retirement income and the associated risks can facilitate the development of the financial system, with a positive effect on labor demand and supply and on economic growth. A principal aim

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of this forum is to shed light on the complementarity of reforms in these three areas and on how to ensure consistency among them.

Without a doubt, the challenge of aging is monumental, and addressing it requires sustained effort and constant fine tuning of policy. Pension reform might be best described as a continuous policy endeavor. The international experience of countries that embarked earlier on addressing the challenge or that have well-developed financial markets and pension products indicates that the design of a pension system is an ongoing task. This is the case, for example, with the recent changes in the pension systems of the United Kingdom and Chile. We can learn a lot from each other and can use this experience to address our country-specific circumstances.

The common challenge of population aging points to future reductions in employment, growth, financial returns, and pensions. In Europe this will occur in the context of labor market integration and flexibilization, and as a result pension coverage will become even more of a challenge for all concerned. Likewise, failures or successes in reforming pension systems in an environment of more integrated labor markets in which labor supply is shrinking might become important driving factors for labor mobility, further reinforcing or hindering pension provision. Such a dimension will have to be incorporated into the design and modernization of pension systems, and consistency between labor market reform and pension coverage will need to be ensured.

We would probably agree that the final outcome of pension reform, seen from different backgrounds, should ensure adequacy of retirement incomes. Such an endeavor requires a system design that minimizes the risks of delivering adequate retirement income. From a fiscal standpoint, minimizing risk will require long-term sustainability of public finances (affordability) and the elimination of contingent liabilities stemming from poor system design. From a labor market perspective, minimizing risk requires that reform encourage labor participation (robustness). From the financial market point of view, minimizing risk means fostering the efficiency and soundness of the financial system that should provide and manage products related to accumulation and deaccumulation phases. From the social point of view, minimizing risk means adequate provision of risk sharing and distribution.

Undoubtedly, the core of ensuring adequacy of income after retirement in a challenging demographic environment is the adjustment of pay-as-you-go (PAYG) benefits toward affordable replacement rates. It is equally important to offset such adjustments by strengthening incentives for labor market participation and saving. Specifically, this

can be done by providing incentives to work longer, increasing the employability of older workers, and improving the efficiency and soundness of capital markets. It is important that reforms in all three areas be perceived as part of an integrated strategy aimed at delivering adequate retirement income.

The agenda of the forum, organized around the three key topics, provides a unique opportunity to look at the interrelated dimension from a reform perspective that supports its complementarities and synergies.

The first session can provide insights regarding strategies for rebalancing replacement rates at affordable and adequate levels. We can exchange views about intergenerational burden sharing in shaping the reforms (i.e., how much burden can current and future pensioners shoulder?) and explore how to ensure a fair transition to a mixed system of income retirement provision. We can focus on the obligations and risks that public pension schemes can assume and afford. In this regard, a distinction can be made between provision of social insurance and welfare assistance.

Second, we can discuss the role that incentives to work longer and underlying strategies can play in offsetting the reduction in replacement rates. How can we extend working lives? How much such extension can we afford? Of similar importance is the extent to which diversifying and broadening the sources of retirement income can help address the decrease in replacement rates. In this regard the key issues when shifting the risk from government to households are the coverage and proper design of funded schemes. In particular, it is a question of how to ensure coverage of funded pensions and how to deal with the institutional design features of funded schemes.

An important ingredient in the adjustment of the pension system and its sustainability for an aging population is undoubtedly financial literacy and transparency. Information should be accessible so that individuals can assess the contributions of different types of schemes to retirement income and understand products, costs, and risks. It is particularly important to establish greater transparency with respect to PAYG possibilities.

The impact of the design of pension reform on the labor market, and vice versa, is important. Pension reforms have changed the incentives for older workers by removing incentives for early retirement, extending working lives, and introducing financial incentives. An important question is how design will affect individual behavior, particularly that of the workforce. Undoubtedly, clarification of the retirement benefits from PAYG

systems contributes to streamlining labor incentives and enhancing understanding of the link between contributions and benefits, ameliorating the widespread perception that PAYG system contributions are simply a tax. Of equal importance, however, are well-managed funded pension funds that offer adequate replacement rates. Compulsory contributions to expensive, risky, and inefficiently managed funded pension schemes can be perceived as a tax and can thus discourage labor participation and effort.

Another important avenue for exploring links is to ensure the consistency of current labor market reforms and pension reform. For example, reducing social security contributions for low wage levels can defeat the purpose of ensuring retirement income for low wage earners. More broadly, while the payroll tax can be perceived as a distortion, it nevertheless provides protection against reduced consumption in old age—something that cannot be neglected in light of individual myopic behavior and the financial risks exacerbated by the very issue of aging.

Pension reform and behavioral response need deeper analysis. For example, it can be argued that when income is higher, the marginal value of social protection declines and distortions might arise. It is not clear, however, whether the labor supply will increase if the payroll tax is reduced. This issue has to be scrutinized in the context of the greater longevity of high-income earners.

Reform of the PAYG system can have an important effect on individual savings when accompanied by a shift to a mixed system with individual accounts. What is less certain in an open economy model is the effect on growth, particularly in the highly integrated European Union (EU) financial market. Nevertheless, partly funding pensions as a means of diversifying retirement income sources and providing potentially higher returns than a pure PAYG system can contribute to offsetting reductions in replacement rates and streamlining labor incentives. For the market to deliver its contribution, well-designed funded pension schemes are needed. The forum should carefully consider critical design issues such as charges, discontinuity in contributions, investment strategies, investment performance, fund annuitization, provider incentives, and regulation.

The development of a funded system is an integral part of whatever pension reform ultimately arises. As such, it hinges primarily on the level of payroll tax rates and the split among retirement income sources. Funding is probably the best way to encourage the growth of private pension savings. The use of tax breaks to encourage voluntary private savings should be considered in the light of the additional burden resulting from

lost tax revenues, the groups that benefit, and the consistency of such measures with the overall goals of pension reform.

Financially and socially sustainable reforms based on delaying retirement and diversifying sources of retirement income will necessarily lead to reallocation of the burden of coping with population aging between current and future pensioners. Intergenerational consensus is therefore essential. I am sure the deliberations of the forum will contribute to this outcome.

CHAPTER 2

Linking Pension Reform to Labor and Financial Market Reforms: An Introduction

Robert Holzmann

The reform of public pension systems and, more generally, the review of old-age income support are on the reform agenda worldwide. The reform discussion is more intense in countries where population aging is well advanced, including the member countries of the Organisation for Economic Co-operation and Development (OECD), much of Latin America, China, Russia, and the former transition economies of Southeastern Europe (SEE). But developing countries in the global South are also awakening to the challenges of aging and old-age income support in view of changing family structures, urbanization, and migration. Over 80 percent of the increase in the numbers of persons age 65 and older up to 2050 will take place in countries with current per capita incomes of US\$1,000 and below. Whereas the North grew rich before becoming old, the South risks becoming old before becoming rich.

Without deep structural reforms, expenditures for publicly provided and financed pension programs (and health care services) could derail

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fiscal policy in the decades to come. A recent study for the United States predicts a major increase in federal spending as a share of gross domestic product (GDP) unless pensions and, more important, federal health programs are reformed (CBO 2007). Projections for the 25 (older) member countries of the European Union (EU25) suggest that a few have already done their homework and introduced reforms that should limit or even reverse the increase in public pension expenditure as a percentage of GDP. EU25-wide pension spending is projected to increase to 2050 by 2.2 percentage points, to 12.8 percent of GDP (EPC 2006). But a number of experts question the optimistic results of these mechanical projections because they implicitly assume adjustments in the labor market through delayed retirement or increases in voluntary personal savings—even though the labor and financial market reforms to create these conditions have not yet been carried out. In many cases the lack of these very reforms may be the reason for delayed or insufficient progress on pension reform.

In algebraic terms, the options for pension reform designed to deal with population aging are simple and very limited: increase contributions or general revenues; reduce pension benefits; or delay retirement—which would profit both the revenue and the expenditure sides. Because most European countries already have high contribution and tax rates that are often held responsible for labor market imbalances and a rising shadow economy, a further marked revenue increase is typically not envisaged or advised. Reducing the public generosity of the pension system through benefit cuts and tightened eligibility can go some way, as a number of countries may still have too generous schemes. Beyond such corrections, however, individuals must be given the opportunity to compensate for cuts in retirement income through access to appropriate and credible saving vehicles, through delayed retirement and continued labor force participation, or both. The absence of such alternatives and of the capability to prepare for them risks derailing the pension reform in political terms and, even if the reform is successful, missing the social policy objectives of the reform. Put differently, in order for pension reform to work, parallel reforms in the labor market and the financial market are required. That is the key message of the conference and of this introductory chapter.

The remainder of the chapter attempts to substantiate this point. The next section briefly describes aging and its fiscal implications in the light of demographic developments in the countries of Southeastern Europe. There follows an outline of the drivers of pension reform that go beyond

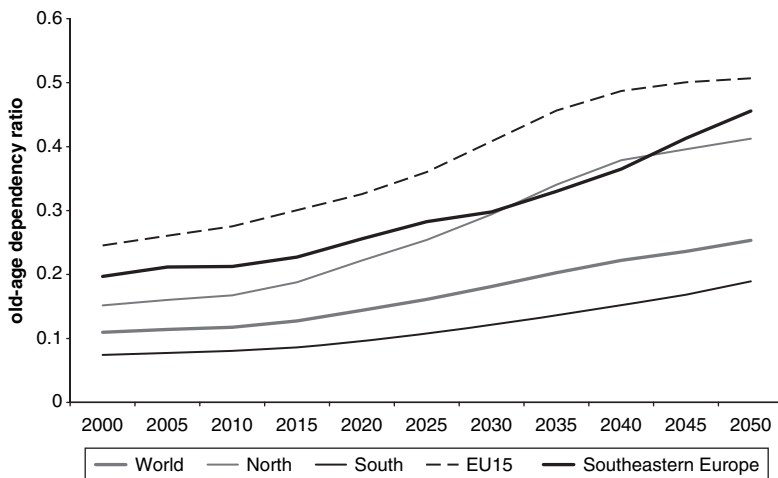
population aging and have to be understood when choosing among reform options. Subsequent sections take up recent international reform trends and lessons and underline key points concerning the labor market and financial market reforms needed to support pension reform. The chapter ends with some concluding remarks.

Population Aging and Fiscal Implications for Pension Schemes

Population aging can be measured by indicators such as the change in average population age, the share of the elderly (age 65 and above) in the population, and the old-age dependency ratio (ODR), typically defined as the ratio of the population age 65 and above to the working population (age 15–64). The ODR is of particular relevance for fiscal considerations, as it traces closely the number of potential retirees in comparison with the number of contributors to a pension scheme.

Figure 2.1 presents the old-age dependency ratio for the world and for its principal regions: the global North, including North America, Europe, Russia, China, and the rich nations of Asia and the Pacific; the global South; the 15 member countries of the European Union prior to

Figure 2.1. Old-Age Dependency Ratios in Selected World Regions, 2000 and Projected to 2050



Source: United Nations 2007.

Note: North includes North America, Europe, Russia, China, and high-income Asia and the Pacific. South refers to developing countries. The EU15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

the 2004 expansion (EU15); and the countries of Southeastern Europe—Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia (FYR Macedonia), Montenegro, Romania, and Serbia. As can be seen in the figure, the whole world is aging; even in the South the ODR will more than double between 2000 and 2050 (albeit from low levels). At the start of the new millennium the EU15 countries already had one of the highest ODRs in the world, and the ratio of 0.25 in 2000 is projected to double by 2050. Southeastern Europe started at a lower level (0.20), but the increase is much more pronounced and will continue unabated to 2050, for a projected increase of 130 percent. The change in the countries of Central and Eastern Europe and the Baltic (CEB) is broadly similar.

As elsewhere, aging in SEE countries stems from a total fertility rate that is below the reproduction level of 2.1 children per woman, as well as from further increases in life expectancy. Both contribute in roughly equal shares to population aging. In SEE countries, and in many CEB countries, the aging is often exacerbated by negative net migration that accelerated with the beginning of economic and political transformation.

If this more than doubling of the ODR in Southeastern Europe were fully to translate into a higher system dependency ratio (the ratio of beneficiaries to contributors), the contribution rate would also need to more than double, or benefits would have to be more than halved, to maintain financial balance, other things being equal. To avoid such a scenario, reforms of the public pension system typically attempt to work on multiple fronts: a lengthening of the working life through an increased retirement age; an increase in labor force participation and a reduction in unemployment, to increase the number of contributors; and a reduction in benefit levels through changes in the benefit formula to reduce the initial pension, along with adjustments in the indexation mechanism for pensions already being disbursed.¹ Translation of these actual or envisaged changes into reality requires comprehensive reforms of the labor market and the financial market, especially in a region that is still characterized by high unemployment and slow progress in financial sector reforms.²

Drivers for Pension Reform and Reform Options

To assess the reform options for pension schemes and the suggested parallel reforms in the labor and financial markets, it is important to

understand the key drivers of reform: fiscal pressure, the need to align pension systems with socioeconomic changes, and the challenges of globalization. (For details, see Holzmann and Hinz 2005.)

Fiscal imbalances remain the main driver of pension reform, with short-term deficits constituting, in most countries, the principal motivation for moving the reform agenda and implementing adjustment measures. High and rising pension deficits carry the risk of contributing to macroeconomic instability and crowding out other social expenditure and growth-oriented investments. Projected population aging and longer-term deficits are secondary motivations for reform, but they serve as useful arguments to substantiate more comprehensive reform measures.

Yet even without the short- and long-term fiscal pressures, pension systems need to be reformed to address the socioeconomic changes that have taken place since their inception. Increased life expectancy, female labor force participation, and divorces are developments that require rethinking of the design of old-age, disability, and survivors' benefits. When the Bismarckian-type pension system was conceptualized and implemented, only 1 in 10 workers could expect to reach the prevailing high retirement age (up to age 70) and access an old-age pension. Others died before becoming eligible or drew a disability pension. The survivors' pension was predicated on the model of a working husband and spouse taking care of children. Nowadays, almost 9 out of 10 workers can expect to reach (a lower) retirement age, while female labor force participation leading to own pension rights is high and rising and in some countries approaches that of men. The consequence is that the design of old-age pensions has to be adjusted to allow for a much longer working life, to separate the risk of disability and the design of the disability pension from old-age pensions, and to rethink the very existence of the survivors' pension (aside from short-term transitory support).

The challenges and opportunities of globalization also affect the design and reform of pension systems. A requirement for profiting from globalization is an ability to shift resources quickly from declining to expanding industries and regions. This ability, however, is often impeded by sector-specific pensions, including those for the public and private sectors. Increased mobility across sectors, countries, and world regions demands high portability of pension rights. Finally, the integration of the financial sector of a country into the world economy creates a crucial element for better absorbing globalization-induced and other shocks and for diversifying risk, but this requires a well-developed domestic financial sector—toward which pension reform can contribute.

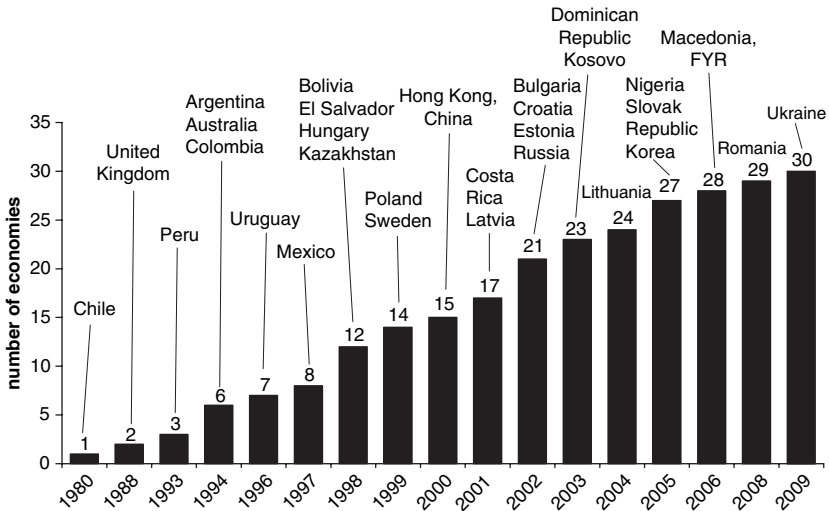
To understand these multiple reasons for rethinking pension systems is critical, as they call for reforms in design and implementation that go well beyond mechanistic adjustment to a deteriorating old-age dependency ratio. Among the key design options, two stand out:

- *Defined benefit versus defined contribution design.* The latter promises more flexibility and better incentives for handling such challenges as later retirement, individual pension rights for women, and portability of benefits.
- *Funded versus unfunded pensions.* Although funding is no panacea for dealing with aging, since most of the adjustment will have to come through a split in increased life expectancy between more work and more (retirement) leisure, some funding will be crucial for addressing more differentiated individual life courses, reduced public generosity, portability, and risk diversification.

International Reform Trends and Lessons

The reforms introduced in many countries of the OECD, Latin America, and the (former) transition economies and in a few other countries in Asia and the Pacific and North Africa since the early 1990s exhibit differences but also show common trends. The latter can be summarized under three broad headings:

1. *A move toward multipillar systems.* Features include
 - Increasing emphasis on providing zero pillars (that is, social pensions or assistance) to alleviate old-age poverty
 - Reformed unfunded first pillars, with better links to contributions and higher retirement ages
 - Fiscal balancing mechanisms to address future demographic deterioration
 - Introduction of new funded second pillars in a number of countries (see figure 2.2)
 - New or revamped voluntary (funded) pillars.
2. *Country innovations* that find strong interest in other countries. These include
 - Nonfinancial (or notional) defined contribution (NDC) schemes—unfunded individual retirement accounts intended to reform the first pillar, as seen in Italy, Latvia, Poland, and Sweden (see Holzmann and Palmer 2006)

Figure 2.2. Increase in Number of Pension Systems with Second Pillars, 1960–2009

Source: World Bank database.

Note: "Second pillar" is defined here as a pension system with mandatory personal retirement accounts. The source includes exceptions and provides detailed information.

- Clearinghouse approaches—centralized contribution collection and other services for funded second pillars, to reduce costs and fees (as in Argentina, Croatia, Poland, and Sweden)
 - Transformation of traditional severance pay schemes into funded unemployment-cum-retirement accounts (as in Austria, Chile, Italy, and the Republic of Korea)
 - Introduction of nationwide voluntary schemes, with an opportunity to opt out (as in New Zealand and as is under consideration in the United Kingdom).
3. *An emerging trend toward harmonization*, or at least stronger coordination, of pension schemes across occupations and sectors (as in Austria, Italy, and Portugal).

These trends are expected to continue and perhaps even accelerate, as information about pension reform developments travels rapidly nowadays. In Europe this transmission is fostered by the EU's "open coordination method."

Labor Market Reforms

The labor market challenges linked with pension reform are manifold and are discussed in greater detail in later chapters. This chapter focuses on three key messages:

- The number of jobs in an economy is not fixed.
- Current pension systems contain many incentives for early retirement.
- Maintaining and creating demand for elderly workers is crucial.

The Number of Jobs: Common Misperceptions

A critical element in public resistance to pension reform and the lengthening of the working life is public perceptions about labor markets and their capacity to generate enough employment for the elderly.

The perception of a fixed number of jobs in an economy—often called the “lump of labor” fallacy—is widespread among the population and many politicians. It suggests that the labor market functions like a game of musical chairs in which only a limited number of individuals will find a job, to the detriment of others. This is clearly incorrect, as demonstrated across countries. Of course, bad economic policy risks limiting the number of jobs that will be created by the private sector in a country, but such policies can be and need to be changed.

Related to this perception is the proposition that early withdrawal by elderly persons from the labor market opens jobs for other workers, particularly entrants. This belief was responsible for early retirement programs in the 1980s and early 1990s in many countries. There is little evidence, however, that this policy has been successful; on the contrary, experience suggests that it may have aggravated the situation for younger labor market participants, as the increased financing needs of the elderly have accentuated labor market distortions and reduced firm and employment creation.

There are increasing signals that, as life expectancy rises, the elderly want to stay in the labor market if they are offered jobs with adequate wages. This change in attitude, reversing trends that persisted until recently, is quite likely the result of the reduced generosity of public schemes, which makes working a few more years more attractive. It also may be that the elderly increasingly view prolonged labor market participation as a means of continued social integration; 20 or perhaps 30 years in retirement may not be as attractive as initially envisaged.

Of course, employment is not created purely automatically. Rather, it is a multisector affair in which the binding constraint may be in any of

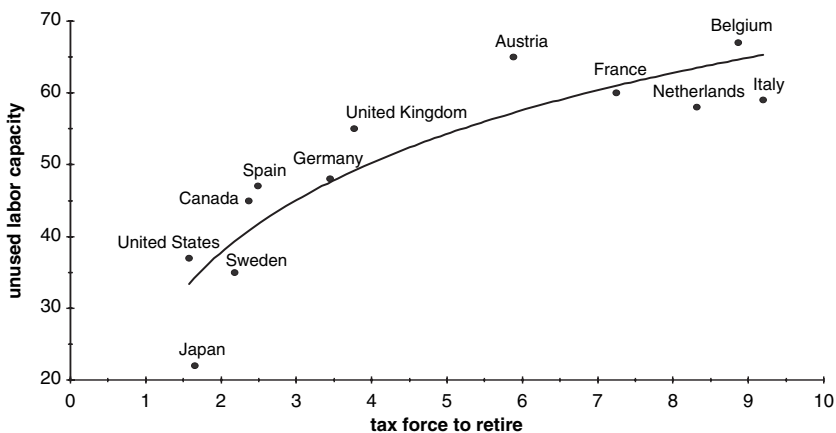
the fundamental “MILES” areas—macroeconomic policy, investment climate, labor market institutions, education and skills, or social protection.³ Identifying those binding constraints and working across government ministries and social partners to eliminate them is a suggested key approach for success.

To keep more elderly persons employed longer in the labor market requires, in addition, other policy changes—in particular, reforms that change the incentives for both individuals’ labor supply and retirement decisions and firms’ labor demand decisions. And incentives matter, as discussed next.

Reducing the Incentives for Early Retirement

The claim that individuals react to incentives in making labor force participation and retirement decisions can be substantiated by cross-country comparisons. Figure 2.3 depicts the relationship between unused labor capacity (the share of retired workers in the elderly population) and the tax force to retire (a measure of income loss with continued labor force participation). Clearly, the implicit tax on remaining at work that results from nonactuarial benefit design has had a bearing on retirement decisions in the 12 countries investigated. Figure 9.7, in chapter 9 by Gary Burtless, indicates that the net replacement rate (pension level to earnings at retirement, net of direct taxes and social security contributions) affects the exit rate in the 60–64 age group: retirement leisure is obviously a normal good.

Figure 2.3. Implicit Tax on Remaining at Work



Source: Gruber et al. 1999; Hofer and Koman 2001.

These aggregate incentive effects can be traced back to a number of pension system design characteristics and policy programs: the insufficient (or nonactuarial) adjustment for early or late retirement that exists in many countries;⁴ earnings tests that reduce the benefits disbursed while the person continues working (often justified by the nonactuarial nature of the benefit calculation); tax treatment of contributions and benefits that creates a high net replacement rate once a person retires; high net benefit levels, which are typical for unsustainable schemes; low minimum retirement ages linked with social pressure to retire to make room for younger workers; and special early retirement programs in many countries, including programs for the long-term unemployed and generous disability benefits.

As part of their reform pension efforts, countries will need to review closely a long list of potential incentives for early retirement if they want to increase the effective retirement age beyond a mere legal change.⁵

Maintaining and Creating Demand for Elderly Workers

To keep the elderly in the labor market and to create sustained demand for elderly workers will require a major rethinking of labor market institutions and practices. Three key areas are highlighted here:

1. *Addressing the productivity-wage gap* for elderly workers. The increase of this gap with age is often at the heart of enterprises' incentives to lay off the elderly in favor of younger workers and their reluctance to hire older workers. The empirical evidence suggests a hump-shaped productivity profile for workers, while wages may even rise with age because of seniority rules or are not easily adjusted downward. This leaves only two options: upward adjustment of the productivity profile or downward adjustment of wages. Resistance to the latter is often reinforced by pension rules that favor the last years before retirement for benefit calculation.
2. *Strengthening lifelong learning.* Although broadly based lifelong learning is widely recognized as crucial in a world of rapidly changing technologies and knowledge and increasing life expectancies, its actual implementation is mostly lacking, and the discussion about financing continues. Social partners typically propose that the government pay for learning out of budgetary resources. Although government and employers should contribute financially, because they benefit from a more up-to-date, educated workforce, most of the financing will have to come from the workers themselves, as they profit the most from

sustained and higher skills. This reform calls for an extension of collective bargaining beyond concern with wages and working time to include lifelong learning components such as internal and external training and sabbaticals.

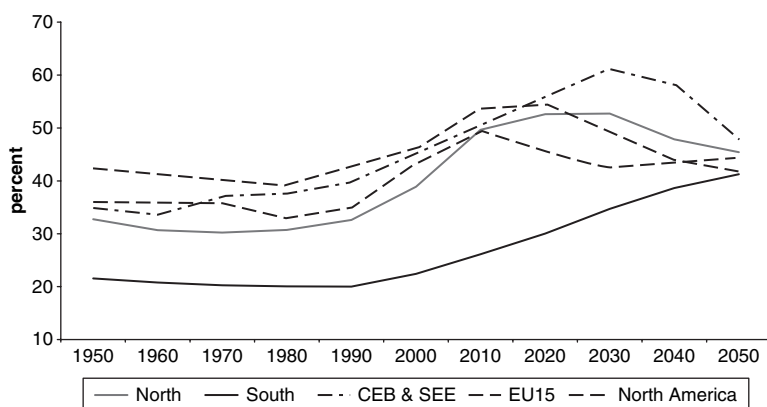
3. *Creating mobility*, including mobility across sectors, countries, and regions; across stages of family life and family structures (such as child raising and divorce); and across positions and statuses throughout the life cycle. The latter consideration suggests that increasingly, people may no longer retire at the highest position achieved in life (and in the enterprise). The realization of such a possibility will necessitate a dramatic cultural change for all involved.

Financial Sector Reforms

The trend toward multipillar pension schemes, and hence reliance on funded provisions for at least some part of retirement income, will continue worldwide and in both Central and Eastern and Southeastern European countries via two channels:

- By design, with the introduction of a mandated and funded pillar, as seen in Bulgaria (2002), Croatia (2002), Hungary (1998), Poland (1999), FYR Macedonia (2006), Romania (2008), and the Slovak Republic (2005). Altogether, 14 countries in the former transition economies have legislated such a pillar, and of these, 13 had introduced the program by 2008, with Ukraine conditionally scheduled to put it in place within the next few years.
- By default (and partly by design), through reforms making the first unfunded pillar less generous, while supporting voluntary (third-pillar) retirement savings through the tax system or explicit subsidies, as in Austria, the Czech Republic, Germany, Italy, and Slovenia.

The timing for the introduction of increased reliance on a funded pillar in the CEB and SEE countries works well from a demographic point of view. The ratio of savers to dissavers in these countries is projected to increase until about 2030 before decreasing (figure 2.4). The ratio of the population age 45–64 to the population 65 and above proxies the proportions of the population in the saving and dissaving phases of the life cycle and hence the capacity to prefund retirement income from a macroeconomic point of view. In the United States this ratio will peak about 2010 and in the EU25, around 2020.

Figure 2.4. Ratio of Savers to Dissavers by Regions, 1950–2050

Source: Author's calculations based on United Nations (2007).

Note: North includes North America, Europe, Russia, China, and high-income Asia and the Pacific. South refers to developing countries. CEB refers to Central and Eastern Europe and the Baltic countries and SEE to Southeastern Europe. The EU15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The financial market must also be ready to host a funded system and then be able to deliver adequate, risk-adjusted rates of return and actuarially fair annuity products. To this end, some financial sector development work still needs to be done in many countries in these regions.

Readiness of the Financial Sector

To deliver on the expected benefits of a funded pillar, the financial sector has to be ready to accommodate funded retirement provisions. What these criteria for readiness (often called preconditions) are has been a point of discussion since the reform approach of a mandated second pillar was proposed. The literature typically identifies the three basic sets of factors that need to be in place to enhance the prospects of a pension reform: macroeconomic stability, a sound financial infrastructure, and adequate regulatory and supervisory capacity (see Rudolph and Rocha 2007). To make such a reform approach successful, a fourth point needs to be added: government commitment to continued structural reforms such as adoption of an economic model based on a private sector-led economy, to include privatization, financial innovation, and institutional strengthening.

The CEB and SEE countries have made significant progress in the development of their financial markets during the past 15 years, after starting to move from plan to market (EBRD 2006). But much more

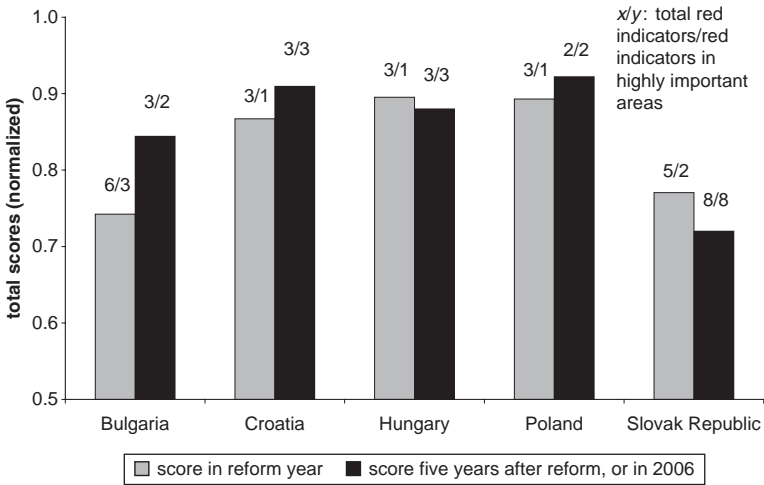
progress has been made to date in the banking than in the nonbanking area, as witnessed by the transition indicator score (EBRD 2007, annex tables A and B). The banking system has become well developed in many countries, with the strong presence of foreign banks contributing greatly to this evolution. The entry of foreign banks helps develop skills in the transition countries and increase the range of financial services available to customers. The strengthening of the bank-led financial market approach has implications for the development of the market for public and private equity and for corporate bonds. Although a sound banking system is important for the development of pension funds and other institutional investors, a dominant bank sector risks dampening the development of asset markets and institutions and hence the supply of diversified assets that pension funds can invest in.

This score-based assessment of financial sector readiness is confirmed by a more detailed readiness indicator study for selected countries that have introduced a mandated funded pillar (Holzmann, Feher, and von Gersdorff 2008). Ten areas have been identified as crucial for readiness of a funded second pillar. Some—a prudent fiscal approach, tax collection, and the historical context—are outside the financial sector concerns but are important for the success of the introduction of a mandated second pillar. The seven areas directly related to financial markets are the legal and institutional infrastructure, the institutional framework, the availability and quality of information, transaction security, the availability and quality of critical financial services, governance and the availability of financial instruments, and financial literacy and education. Although the overall index for the five pilot countries suggests that none achieved the maximum score in the year of introduction of the funded pillar, four made major progress after five years, achieving 90 percent and more of the possible score (figure 2.5). But several red flags regarding readiness in key areas are still up. For other countries in the region that envisage introducing a funded pillar, quite a lot of work may be needed to attain such scores.

Scaling Up for a Larger and More Diversified Pension Fund Portfolio

The portfolio of pension funds in the former transition economies is, so far, very much concentrated on bank deposits and bonds and, except in Poland, not much on stocks (Holzmann, Feher, and von Gersdorff 2008). While the situation in the Slovak Republic, with its 80 percent in bank deposits in 2005, may simply reflect the introduction of the funded scheme in that year, the focus on bonds is more worrisome, in particular

Figure 2.5. Financial Sector Readiness Indicator Scores in Year of Reform and Five Years Later (or in 2006), Selected Countries



Source: Holzmann, Feher, and von Gersdorff 2008.

Note: The ratio x/y refers to the number of “red flags” in a country, where x is the total number of red flags (that is, areas of unsatisfactory indicators), and y refers to those red flags that are considered important.

because in most countries it is on domestic government bonds. Only in Estonia and Lithuania, which have currency boards and exchange rates linked to the euro, are foreign government bonds and foreign corporate bonds important. Such a portfolio composition signals for all countries a domestic supply and demand mismatch on the securities market that affords little chance to create income security for future retirees while contributing to domestic financial market development.

To deliver on return expectations of pension funds in the medium and long runs, diversification toward equity capital is required. This raises two important questions: 1. What should be the degree of international diversification? The answer is facilitated for countries that are or will be EU members and that will participate in the euro area. 2. Regarding the development of a domestic share market, how large a domestic share market is needed, and would the financial market be able to absorb a sustained move toward funded pillars and the supply of, say, an additional 1 percent of GDP of pension fund resources annually?

Although excess demand for financial assets by pension funds should not be considered an immediate concern, it could become a serious problem in the medium term. Pension funds have so far been unable to serve as a

driving force for capital market development in these economies, in part because of system design flaws but especially because of macroeconomic and institutional weaknesses that are yet to be addressed.

In these bank-centered financial systems, rapid, full-fledged capital market take-off is unlikely, making it advisable to begin the process by fostering the securitization of bank-originated assets and a more intensive use of nontraditional credit instruments such as leasing and factoring (Bebczuk and Musalem 2008).

The Payout Phase

Analyses of and preparations for private pension systems in the region have typically focused on the issues that are most relevant in the early stages of the accumulation phase, including the regulation of the pension industry and financial infrastructure requirements. This emphasis is justified, as most of these systems are young and policy makers have an interest in consolidating the reform. Pension assets, however, have been growing significantly; they have already reached 10 percent of GDP in many countries, and may exceed 30 percent of GDP in the next decade. Moreover, in the next decade several countries will have to start facing the payout phase, when pension balances will be converted into retirement products. But even if the actual payout phase were to set in only much later, there are convincing arguments for working on it early on or even for making it part of the reform process. Without a clear view of how the accumulated assets in individual accounts will actually be paid out, the credibility of the scheme may be reduced and participation diminished. This prospect calls for an early review of options for the payout phase and subsequent speedy work on structures and regulation (Rudolph and Rocha, 2008).

Conclusion

This chapter has highlighted the main links between pension reform and labor and financial market reforms. The principal message is that without parallel reforms in labor and financial markets, even the best conceptualized pension reform may derail in political and social policy terms. In turn, without a clear reform vision in these areas and some up-front actions, the needed comprehensive pension reform may not even get started because of the risk that the credibility of the reform will be low and, consequently, resistance to reform will be high.

The reform approach in each area needs to take account of these linkages, which create a special challenge for the reform process because of the requirement for strong and continued interaction between the key players in a country—in particular, the ministry of finance, the ministry of labor and social affairs, and the central bank. This challenge inspired the structuring and presentations of this conference and the questions posed to each of the panels.

Critical for starting as well as completing the reforms in each of the three key areas is a clear formulation of one's own reform objectives, as well as full understanding of the expectations of others. To this end we invited countries and key players to outline their reform visions and the envisaged actions. Their statements are collected in part III of this volume.

Notes

1. For actual or planned reforms in the region, see the relevant chapters in this volume and Holzmann and Guven (forthcoming).
2. See World Bank (2005) for an in-depth analysis of the labor market situation and EBRD (2006) for a review of financial sector reforms in the region.
3. The World Bank's proposed MILES approach for the creation of more and better jobs was inspired by work in the Europe and Central Asia Region during the drafting of World Bank (2005). For details, see World Bank (2008).
4. For a definition and discussion of actuarial fairness, see Queisser and Whitehouse (2006).
5. OECD (forthcoming) will provide a comparative view of early retirement incentives in OECD member countries.

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CHAPTER 3

New Social Risks, the Life Course, and Social Policy

A. Lans Bovenberg

Life courses are becoming more heterogeneous in terms of how individuals divide their time between working, taking care of children and the elderly, learning, and pursuing leisure activities. In transitional labor markets, workers move between periods of full-time work to periods of voluntary (part-time) absence from the labor market to enjoy leisure, educate themselves, set up a business, or care for children or frail relatives. These developments are changing the nature of social risks at a time when traditional institutions for insuring social risks are under pressure. In particular, firms can offer less job security to their employees in a dynamic economy with constant innovation and creative destruction. At the same time, governments find that insuring human capital through income replacement is becoming increasingly costly in terms of harming incentives to accumulate and maintain that capital.

This chapter discusses the need to develop proactive approaches to social policy that better fit the changing nature of social risks over the life cycle.¹ Special attention is paid to the accumulation and maintenance of human capital over the life course and to reconciliation of

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work and family. Human capital becomes more and more the key to personal fulfillment, stable personal relationships, and social inclusion. This capital is produced not only in school but also in families and firms. Reconciliation of work (including workplace learning in firms) and family (including informal care for young children) is therefore essential for safeguarding human capital.

The next section describes a number of trends that are changing the nature of social risks and highlights the increased importance of human capital, adaptability, and flexibility. There follows a discussion of several challenges that endanger the level and quality of human capital at a time when corporations and governments are withdrawing from their traditional roles as insurers of human capital risks. These trends and challenges call for institutional innovation in developing new, proactive approaches to social protection over the life cycle. Subsequent sections develop a life-course perspective and put forward recommendations for social policy. The concluding section focuses on the political economy of reform.

Trends

Among the trends that affect social policy and pension systems are the changing roles of women, the increased importance of human capital in the workplace, and the needs, in light of economic challenges, for lifelong learning, for an adaptable workforce, and for the noncognitive skills that are first transmitted early in life, primarily in families.

1. *Female human capital is stronger.* Female labor force participation has increased greatly in almost all member countries of the Organisation for Economic Co-operation and Development (OECD) over the last few decades. A major factor is the increased supply of female human capital as a result of the growth in numbers of better-educated women, improved birth control, better household appliances, and changing female aspirations. At the same time, the increasing employment shares of the service sector and technological developments have boosted the demand for female labor by facilitating part-time work and by raising the demand for communication and creative skills at the expense of raw muscle power in the industrial sector. The increased potential earnings of women in the formal labor market reduce the scope for specialization in home production between male and female partners and encourage sexual equality. As a direct consequence, both male and female employees increasingly combine a career in the formal labor market with family obligations.

2. *Human capital is increasingly important.* Human capital is the key to a successful career in a modern knowledge-intensive economy. Indeed, several studies indicate that the skill premium has increased as human capital has become scarcer. The heightened demand for skills resulting from rapid technological change outstrips the additional supply of skills provided by a better-educated workforce. At the same time, work and career are increasingly important for personal fulfillment and development, for lifelong learning, for the maintenance of social networks, and for mental and physical health. This holds true not only for men but also, increasingly, for women. Indeed, well-educated women aspire to the independence and fulfillment that paid employment brings. Access to employment, and thus to workplace learning, prevents not only social exclusion but also depreciation of skills as a result of rapid technological change.

3. *Longer lifespans and rapid innovation call for lifelong learning.* Increased longevity implies that human capital has become more durable. Average life expectancy at birth has increased by about two and one-half years per decade since 1950 in most industrial countries. Life expectancy at age 65, which is more relevant for the costs of pensions, rose by an average of one year per decade. At the same time, knowledge and specific skills age faster on account of the creative destruction associated with fierce competition and rapid innovation. The combination of longer lifespans, faster obsolescence of skills, and the increased importance of human capital implies a greater need for lifelong learning.

4. *An adaptable labor force enhances the legitimacy of competition.* The creative destruction associated with a competitive, innovative economy requires greater adaptability and employability of the workforce to prevent a competitive market economy from losing its social legitimacy. By absorbing the risks associated with creative destruction, an entrepreneurial workforce empowered with sufficient skills safeguards the legitimacy of a dynamic market, thereby boosting productivity growth. Moreover, an adaptable labor force can embrace risk, raising the supply of risk-taking capital for additional research and development (R&D) and for risk-taking entrepreneurs who experiment and challenge existing firms. More generally, in the continuously changing and highly competitive environment of a modern economy, intellectual flexibility, emotional resilience, and the capacity to work well with others are at a premium.

5. *Noncognitive skills, shaped early in life, are becoming more important.* Adaptability and the ability to learn are important components of human capital. The same holds true for noncognitive skills—for example, social

and communication skills that facilitate stable relationships, self-discipline, self-control and self-esteem, perseverance and other virtues, emotional security, time preference, motivation to learn, and openness to change—as well as for values stressing creativity, personal growth, responsibility, and readiness to meet challenges. These skills and values, which enhance adaptability and the ability to learn throughout adulthood, are shaped early in life, mainly in families.

Challenges

Several challenges can be identified having to do with the need to create more room for investments in human capital, particularly those that foster the adaptability of parents and their children.

Maintaining the Intergenerational Contract

A first challenge is to maintain social cohesion in the face of a population that is aging on account of increased longevity and declining fertility. In particular, aging threatens the intergenerational contract according to which each generation invests in the human capital of the next and is taken care of at the end of its life by the generations in which it has invested. Each generation gives care twice—for the previous and for the next generation—and is taken care of twice, as a child and in old age. Within a family context, women are the traditional brokers of the intergenerational contract, providing most of the informal care given to children and aged relatives. The higher potential earnings of women in the formal labor market have increased the opportunity costs of these activities at a time when, as a result of shrinking family size, most elderly people have fewer younger relatives who can care for them. Moreover, those in middle age face a heavy tax burden as the large baby-boom generation starts to take advantage of pay-as-you-go (PAYG) pensions and health care provisions. This development threatens the sustainability of the public intergenerational contract under which middle-aged agents care not only for the very old but also for the very young.

Breaking the Vicious Circle of Early Retirement and Rapid Depreciation of Human Capital

The so-called work-age paradox exacerbates the threat to the intergenerational contract. Whereas life expectancy is increasing and people are enjoying better health at age 65 than ever before in history, the effective retirement age, in Europe especially, has fallen substantially below 65.

Biological aging and social aging have thus moved in opposite directions. As a direct consequence, the expected retirement span has increased substantially, while the working life is being compressed.

Maintaining Investments in the Younger Generations

With increased longevity, earlier retirement, and the compression of the working life, the aging European continent risks becoming entangled in a vicious circle of early retirement and lower fertility in which politically strong older generations favor generous passive spending on pensions and health care at the expense of investments in the human capital of younger generations. The decline in fertility in various European countries implies that current generations are investing less in future generations. The opportunity costs of raising children in terms of forgone career possibilities seem excessive to many high-skilled women, who opt for a career in paid work rather than childrearing.

Insuring Human Capital While Protecting the Incentives to Maintain Human Capital

Various developments increase the dangers of moral hazard and make human capital risks less insurable. As the economy shifts from blue-collar work in industrial sectors to white-collar work in service sectors and to knowledge-intensive activities, mental causes of sickness and disability have become more prominent. These forms of sickness and disability may be less easily verified than physical disabilities. Moreover, increasing numbers of workers now move between periods of full-time work and periods of voluntary absence from the labor market, during which they enjoy leisure, educate themselves, set up a business, or care for children or frail relatives. In such a transitional labor market with a growing diversity of life courses, it becomes more difficult to distinguish voluntary periods of inactivity from involuntary unemployment. At the same time, individuals can increasingly affect the probability of becoming unemployed or sick through investments in their own employability or by the way in which they organize their lives. In other words, the dividing line blurs between the contingencies that people are responsible for (the so-called manufactured or voluntary risks) and those for which they are not (the so-called external risks). More and more periods in which people experience a cut in income are in part "manufactured," increasing the risk of moral hazard in social insurances that protect people against these losses in income.

These changes in the nature of and responsibility for social risks make it more costly to insure human capital through income replacement, in terms

of harming the incentives to accumulate and maintain that capital. At the same time, a more dynamic world economy and the decline of the extended family as an insurance device have increased the demand for such insurance as people experience more substantial economic insecurity.

Empowering Workers to Become Less Dependent on Corporations

Furthermore, corporations can offer people less job security. Fewer and fewer employees work for 40 years for the same company. More intense competition implies that companies have shorter life spans; in a dynamic economy, constant innovation results in substantial creative destruction. Firms can thus offer less security to their employees. Within firms, employees have to update their knowledge and qualifications regularly as they move between different jobs in the internal labor market. These developments point again to the importance of continuously maintaining and updating skills in order to guarantee income security. The goal of making workers less dependent on their employers requires more employable workers through more general human capital.

A Life-Course Perspective

Given the trends and issues described above, it is possible to outline some characteristics of the life cycle prevalent in modern economies.

Reconciling Career and Family during Longer Lifespans

A modern, knowledge-intensive economy requires longer periods of learning, meaning that young adults start their working lives later. At the same time, older workers terminate their working careers earlier as effective retirement ages decline or stagnate, even though life expectancy increases. People thus increasingly concentrate work effort in the relatively short life season in which they also raise children—yet many parents wish to look after their children themselves, especially immediately after childbirth. The key challenge is to accommodate these preferences by allowing parents to strengthen family life while maintaining their human capital through continued attachment to the labor force so that they can enjoy long, fulfilling careers.

From Dividing Tasks under the Breadwinner Model to Combining Work and Family

The traditional breadwinner model relies on a strong division of labor between men and women. In the face of an eroding comparative

advantage of men in paid work, young generations increasingly combine various activities by engaging simultaneously in learning, working, caregiving, and relaxing. The relative importance of these activities varies during the life course, depending on family obligations and idiosyncratic and macroeconomic shocks.

The Seasons of Life: Spring and Summer, Fall and Winter

In the modern, longer life course, family formation and parenthood (as well as death) are delayed, and adults spend considerable time in households without young children. Indeed, in the “spring” of the modern life course (the early adulthood phase, or “playtime of life”), young adults experiment with relationships and jobs before they take responsibility for raising children during the “summer”—the family season, when adults bear the responsibility for raising minors. The summer season in the modern life course is quite hot. The costs of living are high, and time is scarce, as parents invest not only in their children but also in their own careers. During this so-called “rush-hour of life,” people may experience “combination stress.” Compared with other European household types, families with co-residing children are least satisfied with their living conditions, including their work (or main activity), income, housing, and leisure time (Avramov 2002). After their children have grown up, adults typically spend considerable time in good health in the “fall” season of their life course (the active senior phase) before they enter “winter,” the final phase of life, in which people suffer from serious health problems.

The modern life course is most apparent in northern Europe, where many people in the 20–30 and 56–60 age brackets live as singles or as couples without children. In southern Europe, in contrast, the extended family is still dominant in these age groups.

Policy Recommendations

The trends and challenges outlined above call for social innovation. At a time when corporations and governments are withdrawing from their traditional roles as insurers of human capital risks, new institutions should be created to offer workers more durable social protection and lasting security. Indeed, a more dynamic world economy and the decline of the extended family and the firm as insurance devices have heightened the demand for new ways of absorbing social risks over the life cycle. These new institutions will have to operate in a transitional labor market in which human capital is the key determinant of macroeconomic performance and personal fulfillment.

A Longer Working Life

A higher effective retirement age is crucial for a number of reasons. First, it increases the return on human capital by lengthening the horizon for investments in that capital. Raising the retirement age in line with longevity capitalizes the benefits of increased longevity in terms of more durable human capital. Indeed, one can argue that all of the landmarks that are used to measure old age should be linked to longevity so that old age is measured from the end rather than the beginning of life. In this way, society ensures that social aging and biological aging do not diverge further and that people age actively rather than passively.

The rule of automatically linking public pensions and tax privileges to life expectancy avoids the political costs of discretionary decisions to limit eligibility for public pensions and tax benefits if longevity increases further. Agreeing on a risk-sharing rule *ex ante* also reduces the political risks associated with collective discretionary decision making. Moreover, it allows individuals and firms to adapt gradually to a longer working life by better maintaining human capital and by adjusting the organization of work to the needs of older workers. An increase in spending on disability pensions and unemployment benefits is thus avoided.

Another benefit of a higher effective retirement age is that it allows people to exploit their longer life to reconcile the two ambitions of (a) investing in the next generation as a parent and (b) pursuing a fulfilling career in paid work in which one keeps learning and applying new technologies. A longer active working life better fits the biological clock of women; whereas some men of about 45–50 years of age already look forward to retirement, women in the same age group would like to return to work when their children are leaving the household. Indeed, a better reconciliation of work and family goes beyond child-care facilities and parental leave schemes during the family phase and involves the way the entire life course is organized.

More generally, a longer working life reduces the need to transfer resources from the summer season of life to the fall season through intergenerational transfers such as PAYG pension systems or through the allocation of resources over the life cycle (for example, through compulsory pension saving). This reduces the time and income squeeze in the hot summer of the life course and helps relieve the liquidity constraints in that life season. Resources are used proactively to maintain and invest in human capital rather than reactively to provide additional transfer income as a compensation for the premature depreciation of human capital.

Greater adaptability and employability facilitate a longer effective working life. They also require people to bear more individual responsibility for the maintenance of their own human capital, thereby stimulating lifelong learning in firms. To that end, retirement schemes should be actuarially fair. This also gives workers more individual choice about when and how to retire. More generally, if workers are no longer paid more than their productivity when old, the labor market position of elderly workers becomes stronger, so that elderly workers enjoy greater discretion in adjusting working conditions to their specific needs. More flexible retirement patterns (such as part-time and gradual retirement) and more opportunities to change jobs and work patterns, so that elderly workers become less dependent on their current job and the talents of elderly workers can be better used, are then possible. The flexibility to change one's working conditions to better suit changing needs and to find new challenges in fulfilling work can help extend fulfilling working lives.

More Flexibility of Working Time over the Life Course

Greater flexibility in allocating working time over a person's life course can prevent stress and excessive time squeeze when workers bear substantial family responsibilities. Moreover, it helps women—who still carry most of the family obligations—to remain attached to the labor force. Their human capital is thus better maintained, strengthening their labor market position and raising their labor force participation when the children have grown up.

Greater individual discretion in allocating working time (time sovereignty) over the life course requires more individual responsibility for financing periods of (part-time) leave. This ensures that increased flexibility in selecting work times results in more rather than fewer hours worked over the life course as a whole. In this connection, tax-favored savings accounts for financing (part-time) parental leave can supplement minimum public income provisions—such as child and child-care benefits and publicly financed parental leave schemes—to protect purchasing power during the summer of the family season without leading to excessive consumption of leave and child care and large budgetary costs.

By helping agents take more responsibility for drops in income, savings accounts can stimulate not only a more flexible working life but also a more flexible labor market and better management of human resources. In particular, individuals can self-insure a larger part of the shocks to the value of their human capital by using personal savings accounts. For example, older workers can draw on the account to retire

gradually or to supplement a reduced hourly wage at an advanced age. This facilitates wage flexibility of older workers, strengthening their labor market position.

Social partners should nurture more inclusive, flexible workplace cultures that reconcile the needs of individual employees who are balancing work with family obligations with the employers' need to respond flexibly to fluctuations in demand in increasingly competitive markets. To remain competitive in an aging labor market and to promote themselves as good places to work, firms should attune work conditions to the needs of employees who want to remain employable despite substantial family obligations and the challenges of rapid innovation and creative destruction. They should aim to create workplaces in which workers develop and maintain their talents, skills, and health. Moreover, firms should help their workers plan ahead about how they can remain productive in fulfilling work when they grow older.

More Inclusive Labor Markets

To allow young adults to build families, European labor markets should become more inclusive so that workers do not have to be continuously employed full time in order to enjoy a successful career. Rather than shielding insiders through employment protection, labor market institutions should enable parents of young children, secondary workers, and young people to enter the labor market easily, to remain in it by taking advantage of, for example, job-protected parental leave, and to adjust their working conditions to changes in family conditions. This helps reduce the opportunity costs of becoming a mother, in terms of forgone career prospects, and (for fathers) of sharing household work.

Basing their security on employability and on portable saving, retirement, and social insurance schemes rather than on employment protection helps workers better diversify their human and financial capital; emancipated workers are less dependent on the firms for which they work. Adaptable individuals endowed with sufficient human and financial capital are empowered to embrace the nonverifiable, idiosyncratic risks associated with creative destruction in a dynamic, competitive world economy and a transitional labor market. Moreover, workers enjoy greater flexibility in adjusting working conditions to changing needs during their life courses and in finding fresh challenges from which they can continue to learn.

A more inclusive labor market can help reverse the trend toward compression of the working life and postponement of social adulthood

by facilitating first entry into the labor market. Condensing the period of full-time education, combining learning with work at an earlier stage, and spreading learning to a greater degree over the life cycle by integrating it better with work could also help shorten the period of social adolescence, decompress the working life, and bring forward parenthood. Activating social policies should induce young adults to build up their human capital through education, work, or both.

From Breadwinner Support to In-Work Benefits for Parents

Lower minimum wage floors boost the supply of reliable household services for families and the elderly while improving the employment prospects of low-skilled women in the formal labor market. To accomplish this while protecting the income position of vulnerable households, more activating social assistance should be combined with in-work benefits (including child-care benefits) for parents caring for young children. In particular, a condition for social assistance based on mutual obligations should be that all adults, including low-skilled women, be available to the labor market, possibly on a part-time basis while parents care for young children who are not yet of school age. By moving away from breadwinner support—in which the breadwinner needs to earn sufficient wage income to provide for a dependent adult and children—and toward targeted in-work benefits for families with young children, governments decouple income policy from the allocative role of wages. This creates more low-wage jobs in the formal sector.

Subsidized or publicly provided child care for households with low earnings helps women, including single mothers, escape poverty and alleviates liquidity constraints during the summer season of life. School schedules should be attuned to the needs of working parents, with affordable after-school care for children of working parents with low labor incomes. Subsidies for high-quality child care internalize the externalities of child development and alleviate the distortions of the tax system with respect to female participation and human capital accumulation in the formal sector and the production of labor-intensive goods and services in the untaxed household sector.

Activating policies facilitate social integration, especially if work obligations for women are combined with programs supporting the development of young children. Indeed, early intervention in dysfunctional families is the key to preventing social exclusion, increasing the participation rates of unskilled men and women alike, and encouraging durable two-parent families. A proactive social policy aims at creating

equal opportunities at the start of life through an equal distribution of human capital. Early interventions designed to enrich the family environments of disadvantaged children can carry a high economic return in terms of raising school performance in adolescence and boosting wages and labor force participation in adulthood.

Shifting Public Support from the Old to the Young

The aging of the population is a consequence of increased longevity and lower fertility. Both funded and PAYG pension systems are vulnerable to increased longevity, and PAYG pension schemes are especially vulnerable to lower fertility because they rely on the human capital of the young to finance the pensions of older generations. As generations invest less in the human capital of the next generations by reducing fertility, they should invest more in financial capital. Hence, lower fertility calls for a gradual move from PAYG financing to funded pension schemes (Sinn 2000). In this way, public support is slowly shifted away from the fall and winter seasons of life toward the spring and summer seasons. This is consistent with a gradual move from a reactive social policy that provides passive income support to those who have depreciated their human capital toward a proactive social policy that helps people build up and manage human talents better.

Countries with large PAYG systems should consider focusing the public scheme on poverty alleviation by incrementally reducing earnings-related PAYG benefits for individuals earning higher incomes. This would yield a portfolio that is better balanced between funded and PAYG schemes as workers with middle and higher incomes substitute private, funded pensions for public PAYG benefits (OECD 2001). Reducing PAYG benefits for, and increasing tax payments by, the more affluent elderly are steps that are consistent with the trend toward a more heterogeneous older population. When PAYG schemes were established, the older generation had been impoverished by the economic depression of the 1930s and by World War II. Since poverty was concentrated among the elderly, poverty alleviation called for transfers from the younger to the older generation. At present, in contrast, age is generally no longer a good indicator of poverty, as many elderly people have accumulated substantial financial wealth and more risks have shifted to the beginning of the life cycle. Hence, information on age should increasingly be supplemented by other information, particularly on incomes and family status, to identify those most in need of income support.

The currently retired generation has not been able to anticipate lower public PAYG benefits, and it cannot adjust easily because it has already depreciated its human capital. A strong case can therefore be made for changing the rules of the game (by reducing PAYG benefits and increasing taxes on the elderly) only bit by bit.

Conclusions

These policy recommendations imply the transformation of passive benefits that compensate for loss of human capital into preventive, proactive social policies that build and maintain human capital. They also point to the importance of flexibility in wages and work practices. As workers increasingly combine work with other activities (caregiving, leisure, and learning), new social protection institutions should facilitate the varied transitions and changing combinations of activities that take place during the life course. Substantial human capital contributes to a high level of labor force participation as the basis for ensuring solidarity with vulnerable elderly persons, children, and disadvantaged adults of working age.

The required reforms confront politicians with a major challenge because these reforms often run against vested interests and the perceived short-term interests of powerful insiders. Moreover, transforming passive, reactive social policies into more proactive policies raises a transitional problem similar to that associated with a shift from a PAYG to a funded pension system. In particular, society still has to pay for passive benefits to the currently old generations, which have typically depreciated their human capital because they have not profited from more proactive social policies. At the same time, human capital investments in the young generations—which reduce social spending and increase tax revenues only with a lag—have to be financed. The combination of passive old-age benefits and proactive spending aimed especially at the human capital of younger generations may create fiscal pressures and pose difficult political choices.

Note

1. For a more elaborate discussion of these issues, see Bovenberg (2007).

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PART II

Aligning and Linking the Reforms

CHAPTER 4

An Overview of Pension, Labor Market, and Financial Market Reforms in Southeastern Europe

Dušan Kidrič

Political and economic transition has affected the pension sector in all the members of the Center of Excellence in Finance (CEF) group—Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia (FYR Macedonia), Moldova, Montenegro, Romania, Serbia, and Slovenia.¹ All have experienced decreases in economic activity, reductions in the number of insured persons, increases in informal employment, evasion of mandatory social contributions, and declines in the revenue available to the public pension system. As a result of demographic aging and labor market developments adverse to older workers, all have experienced increases in the number of beneficiaries. Combined with the adverse impact of the trends identified above on pension system revenues, this has meant a decline in pensions in all CEF countries. Some systems have experienced arrears and a resulting loss of public confidence.

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Responses to the Pressures

Pension reform in the CEF countries has involved not only changes in the structure of pension systems but also the introduction, often against great resistance, of a new vocabulary: empowerment replaced solidarity, individualization replaced redistribution, poverty alleviation replaced social equality, actuarial fairness replaced entitlements, and so on. Clearly, the process was an ideological one, and the role played by advisers from the international financial institutions and, in some cases, bilateral aid agencies was controversial (see, for example, ILO 2002; World Bank 2006).

The peak years for pension reform activities and political decisions related to pensions in the CEF countries were the late 1990s and early 2000s. Pension reform has not occurred in the region with a “big bang”; rather, it has been a gradual process with a great deal of fine tuning.

As can be seen from table 4.1, almost all countries in the region engaged in various forms of parametric reform by adjusting the parameters of the first-pillar public pay-as-you-go (PAYG) pension system. The main parametric changes, as reported in a CEF questionnaire, were as follows:

- Increasing the statutory retirement age, which now ranges from 62 to 65 for men and 56 to 65 for women in various countries.

Table 4.1. Pension Reform in Southeastern European Countries

<i>Country</i>	<i>Number of laws regulating pension insurance</i>	<i>Year of adoption of parametric reform law</i>	<i>Year of adoption of systemic reform law</i>	<i>Number of changes after adoption of reform laws</i>
Bosnia and Herzegovina	2	1998		6
Bulgaria	1	2000	2000	6
Croatia	3	1998	1998	
Macedonia, FYR	2	2000	2002	2
Moldova	1			
Montenegro	2	2003	2006	2
Romania	3		2006	
Serbia	4	2003	2006	
Slovenia	1	1999	1999	7

Source: CEF questionnaire.

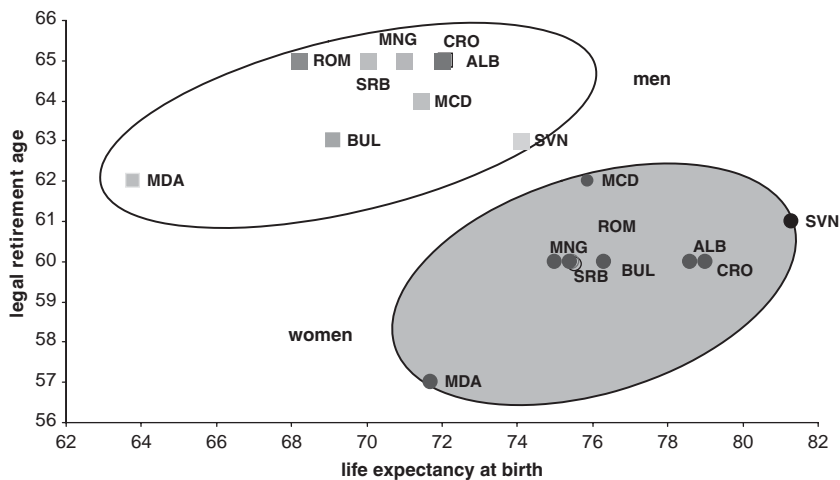
Note: Albania had not initiated pension reform at the time of the survey.

- Reducing the yearly accrual rate, which ranges from 0 to 0.5 percentage points.
- Lengthening the minimum contributory history for qualifying for a standard old-age pension, which currently ranges from 18 to 40 years.
- Forging a closer link between number of years of contribution and pension. Currently the decrement for early retirement is in the range of 0 to 3.6 percent per year, well below the actuarial level of 6 to 8 percent. In addition, systems exhibit many noncontributory periods, such as for education, that need to be revisited.
- Capping benefits and contributions.
- Tightening criteria for disability pensions.
- Indexing benefits less generously.

One area in which CEF countries have not made much headway is in rationalizing retirement ages for men and women. As figure 4.1 shows, it is still largely the case that women, with higher life expectancy at birth, nonetheless can retire earlier than men. In effect, the CEF countries are operating one first-pillar pension system for men and another for women.

Adjustment of benefits and indexation of the pension base are sensitive issues in the CEF countries, and the relevant regulations must take

Figure 4.1. Male and Female Retirement Ages in CEF Countries



Source: CEF questionnaires, 2005 and 2006.

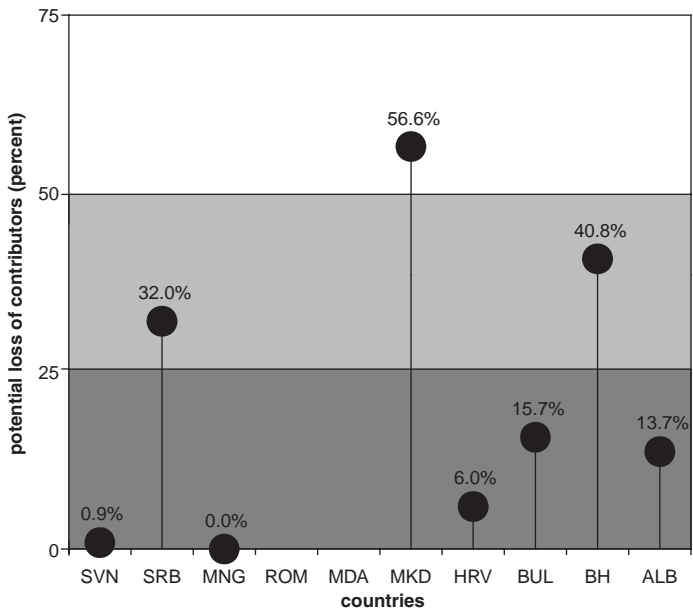
Note: ALB, Albania; BUL, Bulgaria; CRO, Croatia; MCD, FYR Macedonia; MDA, Moldova; MNG, Montenegro; ROM, Romania; SRB, Serbia; SVN, Slovenia.

into account the adequacy of pension benefits and the sustainability of public pension financing. The CEF countries have a variety of rules—price indexation, wage indexation, and combinations of the two. Perhaps the most interesting is the regulation in Bosnia and Herzegovina that adjusts pensions each month according to mandatory contributions collected; thus, the fund can only pay out as much as it takes in.

In all CEF countries the level of benefits is very low, both in absolute terms and relative to wages. Except in Slovenia the average pension is less than 50 percent of the average wage, while the minimum benefit (sometimes called the social, or guaranteed, pension) is still lower, approximately one-third of the average pension.

The capacity of a first-pillar pension system to deliver adequate benefits depends on the ratio of the employed and contributing population to the retired beneficiary population. Low coverage means high loss of potential contributions. From the data reported, we can estimate the potential loss resulting from low coverage. Officially employed and registered unemployed persons may be considered potential contributors,

Figure 4.2. Loss of Contributors as a Result of Low Coverage, CEF Countries



Source: CEF questionnaires, 2005 and 2006.
Note: ALB, Albania; BH, Bosnia and Herzegovina; BUL, Bulgaria; MKD, FYR Macedonia; MDA, Moldova; MNG, Montenegro; ROM, Romania; SRB, Serbia; SVN, Slovenia.

while first-pillar pension system statistics provide data on the actual number of contributors. As can be seen in figure 4.2, most CEF countries are experiencing significant losses of potential contributions.

Except in Bosnia and Herzegovina, all public first-pillar pension systems in the CEF region collect less in mandatory social contribution revenues than they must pay out to fulfill their obligations to beneficiaries. First-pillar pension system deficits must be financed with budgetary transfers.

	<i>Bosnia and Herzegovina</i>	<i>Bulgaria</i>	<i>Croatia</i>	<i>Macedonia, FYR</i>	<i>Montenegro</i>	<i>Romania</i>	<i>Serbia</i>	<i>Slovenia</i>
Contribution rate (percent)	24.0	23.0	20.0	21.2	21.6	29.0	22.0	24.4

As shown in the table, contribution rates and contribution bases differ from country to country. Indeed, they may even differ within the same country—for example, in Bosnia and Herzegovina, between the Federation of Bosnia and Herzegovina and the Republika Srpska.

In the long-term fiscal perspective, contribution rates can hardly be increased, which means that the share of contribution revenues in gross domestic product (GDP) will decline or, at best, remain the same as it is now. Meanwhile, the amount and share of pension obligations will increase as the population ages, since further reduction of the current level of pension benefits is not plausible.

In no CEF country is the long-term financial sustainability of public pension expenditures at the top of the agenda for pension administrators. That agenda is focused on near-term problems, not those that are 10, 20, or even more years in the future. The perspective of finance ministries tends to be different because to meet international standards in public finance management, the state must be aware of its future fiscal obligations (implicit liabilities) and devise means of fulfilling them.

A problem that is not unique to the CEF region but is at least particular to it is that of population data. After a conflict and in a new political and territorial situation, population censuses are highly politicized. Bosnia and Herzegovina, Kosovo, Montenegro, and Serbia all rely on population data that are more than 10 years old.

With even population data not to be taken for granted, it is not surprising that there are few studies on the public finance consequences of population aging. It is highly probable that life expectancy will increase as much as in neighboring countries, while low fertility rates and migration will cause shortages of labor supply.

In addition, some social phenomena need to be taken into account. Social stratification and poverty will likely emerge as a result of low pension benefits and low coverage. Social cohesion problems and social exclusion may be especially severe for elderly people and older workers.

With the long-term financial viability of first-pillar pension systems in question, many countries in the CEF region have looked into alternative approaches. Introduction of explicit funding, in the form of a mandatory second-pillar pension system, is often a part of reform packages—for example, in Bulgaria, Croatia, Kosovo, FYR Macedonia, and Romania. At the end of 2006 more than 5 million people in the region, most of them in Bulgaria and Croatia, were in mandatory or voluntary prefunded pension schemes, and second-pillar reforms were anticipated in many other countries. Another reform under consideration is the introduction of a nominal defined contribution (NDC) scheme to reform the first pillar.

All CEF countries except Bosnia and Herzegovina provide for voluntary, fully funded retirement saving plans (the third pillar). Most of these consist of individual schemes, but Slovenia has developed voluntary but mainly collective pension schemes.

A problem that plagues the introduction of funded pension schemes in the CEF region is underdeveloped financial markets. There are not enough solidly established, competent, domestic financial intermediaries to handle investments, and few domestic financial instruments to invest in. Funds invested are low, and management fees and start-up costs are high. Regulatory and supervisory problems are often neglected.

Finally, pension reforms in the CEF countries need to look beyond purely financial solutions. Equally pressing are reform of non-insurance-based benefits such as maternity leave, the redefinition and redesign of minimum benefits in pension and social assistance systems, and consideration of the scope and desirability of introducing a universal minimum benefit, the zero pillar.

Conclusions

Parametric reforms have been introduced in CEF countries, and the new parameters offer a possibility of mastering current fiscal problems. But to ensure long-term fiscal sustainability, the reforms have to strengthen individual responsibility and make clear the consequences of individual decisions. The mandatory, redistributive part of the pension system needs to be rethought, as do the philosophical bases of social insurance. Is the limitation of the solidarity-based system exclusively to formally

employed persons defensible? Should eligibility criteria be widened? Should NDC benefit calculation be used to make transparent the link between contributions and benefits and in the process improve financial literacy for second- and third-pillar purposes?

The basics of the second and third pillars also have to be reconsidered. The saving period has to be as long as possible so that, just as in the case of the first pillar, a long working life is a prerequisite for an adequate pension. Contributions have to be greater than at present, even if funded systems are to serve only a supplementary role. Pension reforms have to take a hard look at the fees and costs associated with second- and third-pillar reforms and ensure that they are socially acceptable.

Note

1. For further information about the CEF, see: <http://www.cef-see.org/>.

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CHAPTER 5

European Pension Reforms

Olivier Bontout and Georg Fischer

European pension systems are one of the great achievements of the welfare state in the last century and remain a key element of social models in this century as well. The fact that poverty is no longer the normal fate of people who stop working is a great achievement of social protection policies. That workers can maintain to a certain extent their standard of living is a second accomplishment closely related to the first. (In European Union social protection language, it is referred to as the adequacy of pension systems.)

The nature of the pension challenge concerns not only demographic trends but also changes in the labor market and society. As outlined in the next section, results from the European process of open coordination in the area of pensions permit characterization of the main features of the pension reforms that are taking place. Ongoing changes in the labor market and the projected impacts of reforms on adequacy and sustainability must be monitored, as described in the middle section. The final section looks at some outstanding new reform issues.

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The Pension Challenge and Europe's Open Method of Coordination

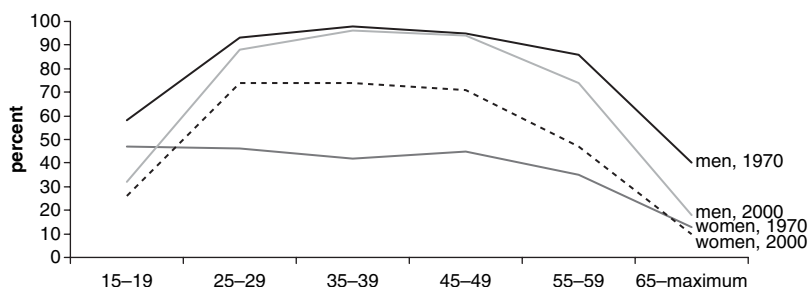
A dominant proportion of total pension provision in almost all 27 member states of the European Union (EU27) is organized within the general government sector. Public provision plays a central role in national pension systems, which are very diverse among the EU27, highlighting the fact that there is no one-size-fits-all solution. While the basic goals of access, adequacy, and financial viability are universal, there is a considerable degree of variation in design at the national level as a result of historical differences and differing preferences regarding redistribution or individual choice.

The Pension Challenge

In essence, the pension challenge consists of the growing gap between two decisive parameters for any pension system: life expectancy and retirement age. The former has increased continuously; the latter has declined. Whereas in the 1960s it was normal to retire well after 60, employment of older workers fell in the 1970s and 1980s in many countries. Despite recent increases, average ages of leaving the labor market remain below the levels of the late 1960s (figures 5.1 and 5.2).

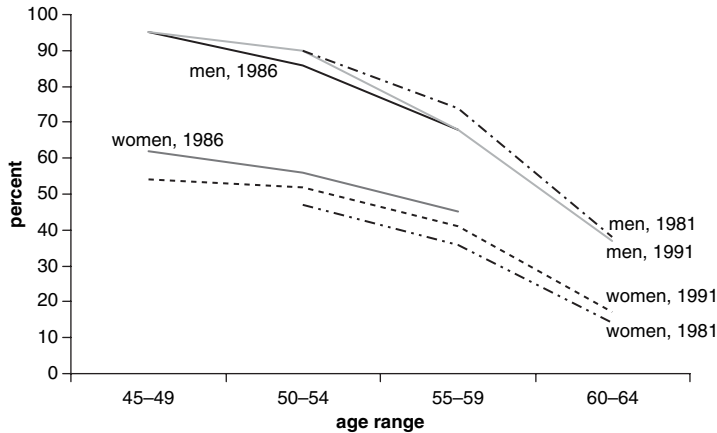
The decline in the average effective retirement age, which is accompanied by an increase in the age of entry into the labor market, runs contrary to the substantial increase in life expectancy in the same period. Life expectancy at age 60 for 25 EU countries (EU25, the number before the 2007 expansion) increased by about four years between 1960 and 2000. The most recent Eurostat projections project that life expectancy in the

Figure 5.1. Activity Rates in the European Union, by Gender, 1970 and 2000



Source: OECD data; see also ILO (2004).

Figure 5.2. Cohort Comparison in the European Union, by Gender, 1981, 1986, and 1991



Source: Eurostat, Labor Force Survey, Spring data.

Note: The figure shows the activity rates of three cohorts in the 12 members of the European Union as of 1981 (EU12): (1) cohort of those age 45–49 in 1986 (50–54 in 1991, 55–59 in 1996, and 60–64 in 2001); (2) cohort of those age 45–49 in 1991 (50–54 in 1996 and 55–59 in 2001); and (3) cohort of those age 45–49 in 1981 (50–54 in 1986, 55–59 in 1991, and 60–64 in 1996). The slope of the lines shows the speed at which activity rates decrease as the cohort ages. The position of the lines represents the actual level of participation. In the Netherlands the age 45–49 cohorts refer to 1985, 1990, and 1980, respectively.

EU25 at age 65 will increase by another four years between 2004 and 2050 (4.4 years for men and 3.9 years for women).

In most EU member states, people are now, on average, retiring at about age 60 after having started to work around age 20. In 2004 the related dependency ratio amounted to a bit less than 40 percent. According to demographic projections, this ratio will increase to almost 60 percent by 2025 and to 80 percent by 2050. In 2025 the ratio of persons age 65 and older to those age 15–64 would be around 40 percent, and by 2050 the age ceiling would have to be raised to 70 to maintain this old-age dependency ratio.

The aging challenge is common to all pension systems, which need to compensate for the decline in employment of older workers and the continuous increase in life expectancy. Pay-as-you-go (PAYG) systems are directly affected by population aging because their future contribution base is shrinking while the number of beneficiaries is increasing. If people do not retire at later ages, they will draw a pension for a longer period, and their benefits will have to be financed by the future active

population or else will have to be reduced. Funded systems may be safe in terms of the contribution base, but here too, the increase in life expectancy implies some imbalance: if contributions are not increased, or if people do not retire later, benefits will be lower. In the absence of reform, defined benefit systems would be unable to keep their promises, while defined contribution systems would have benefit levels well below what was foreseen when people paid in to them.

In general, the impact on rates of return and productivity of a shift in the balance between the active population and the retired population will affect both types of systems. Rates of return affect future benefits in funded systems, and productivity affects contribution levels in unfunded systems. In the absence of reform, public finances would need to partially fill the gap, leading to huge pressures on budgets and to substantial political splits in societies. Moreover in a currency area and a single market with free movement of people, negative effects in one country spill over into others via interest rates and labor mobility.

Developments in Pension Reform in the European Union

Pension reform has been on the European agenda for more than 10 years. Although the pension debate began with the question of whether reforms were needed, it has developed further. The first real push came from the side of finance ministers and central banks that were worried about both short-term burdens on public budgets and long-term effects on the stability of public budgets. About the same time, labor market experts pointed to the high levies on labor resulting from pension and other social insurance as one of the reasons for low employment, notably among less skilled workers. The pension debate now focuses not on whether reform should be implemented but on how, yet hopes have faded that cuts in social contributions alone are a sure remedy for unemployment.

A Coordination Framework for Pension Reforms: The EU's Open Method of Coordination (OMC)

The OMC is a cooperative process involving member states, the European Commission (EC), and the European Council—that is the main source of information for this chapter. The challenges are, in essence, common: member states' actions affect others, and social cohesion has a clear European dimension. But this is not the only reason for action on the EU level. Members share common values and understandings, expressed, for example, in the charter of fundamental rights, which includes the right of older people to a decent living. Social cohesion is not just a national issue but also a European one.

The basic structure of this coordination process is as follows. Member states and the European Commission have agreed to work within the open method of coordination on social inclusion and social protection. The OMC works through the setting of common objectives by the EC and the Council, reporting by the member states on the basis of these objectives, and synthesis of the findings by the Commission in a report that is subsequently endorsed by the Council. The report documents overall progress and challenges at the EU level and suggests future areas and directions for action. There is agreement that the key objectives of pension reform, adequacy, financial sustainability, and adaptation of systems go together: pension systems should provide adequate retirement incomes in a financially sustainable way and adapt to societal and economic change. Member states presented a first round of national strategy reports in 2002 and a second in 2005. These were synthesized by the EC in 2003 and 2006 in the Joint Reports on Social Protection and Social Inclusion (see box 5.1), which were endorsed by the European Council, and the Synthesis Reports on Adequate and Sustainable Pensions and their annexes (country summaries and horizontal analysis). A third wave of national reports is expected in autumn 2008.

Four issues highlighted in the 2003 EC report *Adequate and Sustainable Pensions* remain priorities: (a) strengthening incentives for working longer; (b) developing a life-cycle approach and strengthening the link between contributions and benefits while ensuring adequate income replacement and managing increasing longevity; (c) making pension systems more adaptable to structural changes; and (d) strengthening the role of minimum pensions and of solidarity in pension systems. Two other issues emerge more forcefully in the 2006 synthesis report, in the light of recent reforms: securing private pensions that complement and partially replace public pension provision, and strengthening the governance of pension systems.

Changes in the Labor Market and Projected Impacts of Reforms on Adequacy and Sustainability

Over the last decade the employment rate of older workers has increased, reversing a long trend of decline. The employment rate of older workers age 55–64 increased from 36 percent in 1995 to 44 percent in 2006 for the EU15, and for the EU25 the rate rose from 37 percent in 2000 to 43 percent in 2006.¹ But these levels are a far cry from the target of 50 percent employment among older workers. These developments show significant discrepancies (figure 5.3): the levels and, to a lesser extent, the depth of improvements still differ among countries.

Box 5.1**Key Reforms of Statutory Schemes**

Most EU member states have introduced reforms of statutory pension schemes that provide earnings-related pensions. The contribution period taken into account in the calculation of pensions, the pace of accrual of pension benefits, the pace of revalorization of past wages (no revalorization, revalorization on prices or on wages, or a mix), the pace of indexation of current pensions, and standard retirement ages vary appreciably among member states and are generally the target of adjustments during reforms, with various time horizons. A significant development has been the introduction of a demographic adjustment factor in a number of member states—in pay-as-you-go systems like those in Austria, Finland, France, and Germany; in notional defined contribution plans, as in Latvia, Poland, and Sweden; and in all defined contribution-funded schemes. The adjustments take into account future demographic trends and, in particular, increases in life expectancy. The plans provide strong incentives for people to postpone retirement to match rising life expectancy and offer opportunities to reach adequate pension levels. The same effects can be achieved by more fundamental changes in the organization of pension systems, but the expected effects are actually similar.

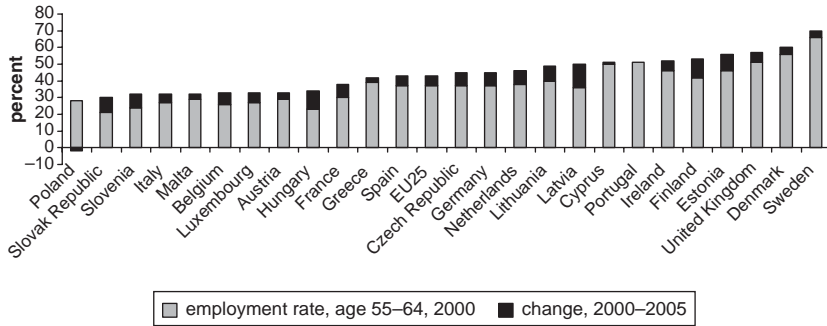
Compared with the huge declines (10 to 20 percentage points) observed earlier, the improvements look small, but they are important as a sign of a trend change.

Employment rates stabilized in the mid-1990s, and the reversal began in the late 1990s, with the trend accelerating in the early 2000s. Earlier, the employment rate increased in the late 1980s in response to a favorable economic situation, but it declined again in the economic downturn of the early 1990s. There are composition effects in play (the early baby-boom generation is moving into the older age brackets), but they cannot account for the change observed.²

Contribution of Part-Time Work

The rise in employment of older workers over the last decade is partly attributable to an increase in part-time work, notably among men (figure 5.4). The share of part-time employment among older workers has been increasing significantly within the EU in the last decade. It is now nearly 25 percent for the EU15, 22.5 percent for the EU25, and 22 percent for the EU27. This trend accounts for the structural increase in the

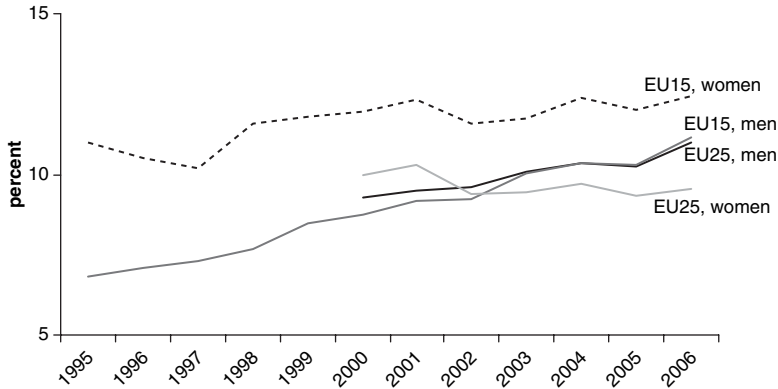
Figure 5.3. Employment Rates of Older Workers, European Union in 2005 and Evolution since 2000



Source: Eurostat, Labor Force Survey, annual averages.

Note: The listed countries constitute the EU25.

Figure 5.4. Share of Part-Time Employment in Employment of Age Group 55-64, European Union, 1995-2006



Source: Eurostat, Labor Force Survey, second-quarter data.

Note: For the EU25, see note to figure 5.3. The EU15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

employment rate of women, who more often work part-time; the share of part-time work among women increased slightly over the period, while it increased steadily among men.

In the EU15 half of the employment creation among older workers during the period 1995-2000 was accounted for by increases in part-time

employment. The trend slowed for the 2000–2006 period, but part-time work still explained about one-third of the net increase in employment of older workers (and about 30 percent of the increase during 2000–2006 for the EU25).

Direct Transition from Employment to Retirement

The most common reason that workers leave their last job or business is for normal retirement (about 35 percent). Other reasons include early withdrawal from the labor market through early retirement (nearly 20 percent) and illness or disability (about 15 percent); termination (end of job, dismissal, or redundancy), which accounts for about 20 percent; and reasons not in the above categories (around 10 percent). Direct transition from employment to retirement among workers age 55–64 represents an increasing share of departures from the labor market in the EU15, although a decline can be observed between 2000 and 2006 in the EU25 (figure 5.5). Although the frequency of exit through early departure has fallen in the past decade in the EU15, it has remained roughly constant in recent years in the EU25. The share of exits resulting from lack of employment has also been increasing in recent years, highlighting the need to develop employment opportunities for older workers.

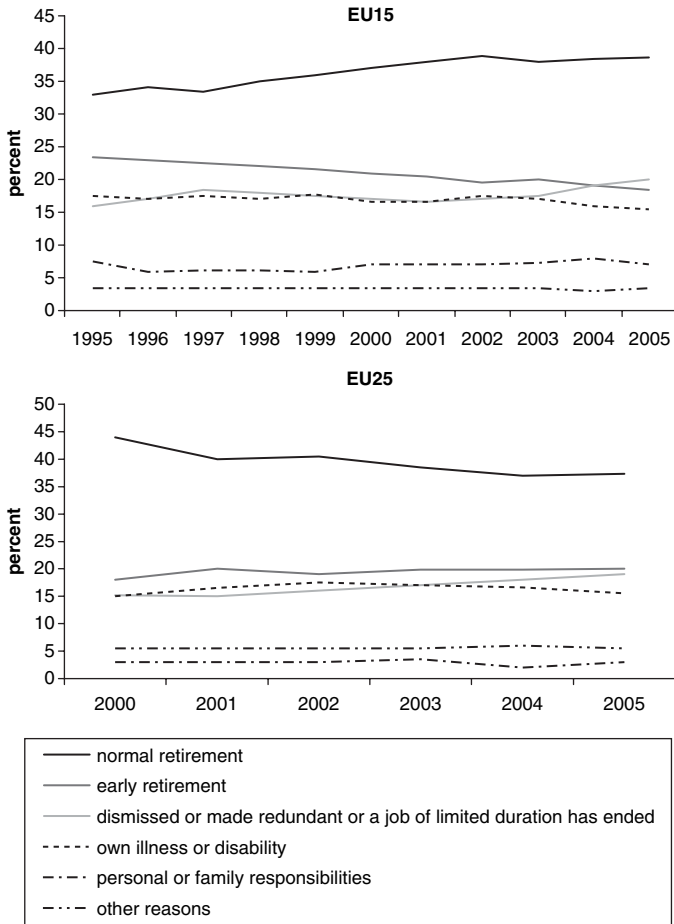
Risks of Divergence between Member States, Genders, and Qualification Levels

Although, with the beginning of recovery in recent years, labor market outcomes show more positive developments than in former decades, there are some risks that these improvements will not prove widespread. Improvements may occur in some member states and not in others, and they can affect men and women, or skilled and low-skilled labor, differently.

The improvements in older people's employment differ greatly between countries. Progress can be slower in member states where employment rates of older people are already lower. The analysis shows that while there is a convergence over the last two decades of employment rates of the population age 25–54, there is a divergence among those age 55–64 (figure 5.6), especially since the mid-1990s, when, on average, a declining trend can be observed.

The employment rate of persons age 55–64 has increased by 7 percentage points since 2000 in the EU25, but the increase is 6 points for men and 8 for women. Catching up is a slow process, and employment

Figure 5.5. Reasons for Leaving Last Job or Business for Workers Age 55–64, European Union, 1995–2006

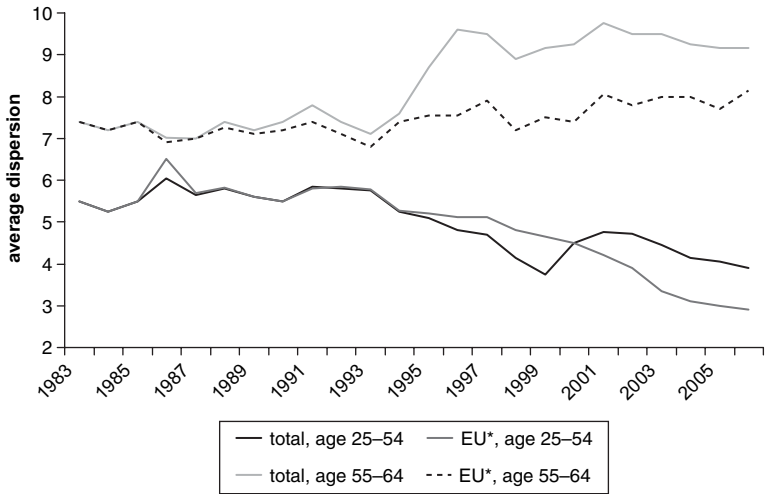


Source: Eurostat, Labor Force Survey, annual averages.

Note: For EU15 and EU25, see note to figure 5.4.

levels remain very uneven, at 36 percent for women and 53 percent for men (figure 5.7). There is a need to pay particular attention to the situation of women when they approach retirement age, but also more generally because employment rates in the 25–54 age group remain very unequal, at 86 percent for men and 70 percent for women. It is clear that gender differences in access to employment have strong consequences for differences in gender pension outcomes.

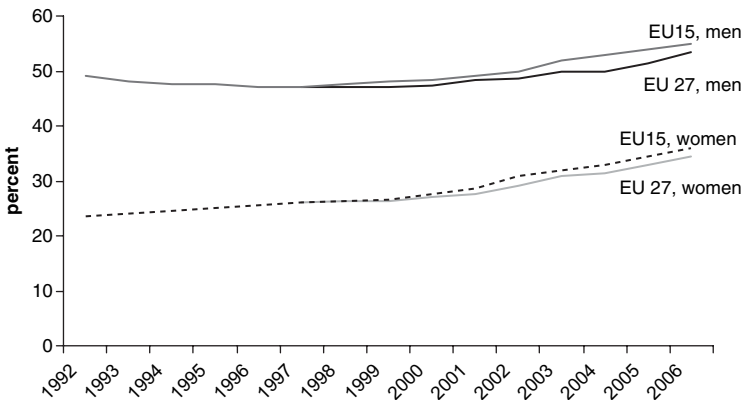
Figure 5.6. Dispersion of Employment Rates, Ages 55–64 and 25–54, European Union, 1983–2006



Source: Eurostat, Labor Force Survey.

Note: Average of absolute deviations from the mean. Total refers to all member states for which data are available. EU* refers to a group of 10 member states for which data are available for the whole period: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom. For EU15 and EU25, see note to figure 5.4.

Figure 5.7. Employment Rates by Gender, Age 55–64, European Union, 1992–2006



Source: Eurostat, Labor Force Survey.

Note: For EU15, see note to figure 5.4.

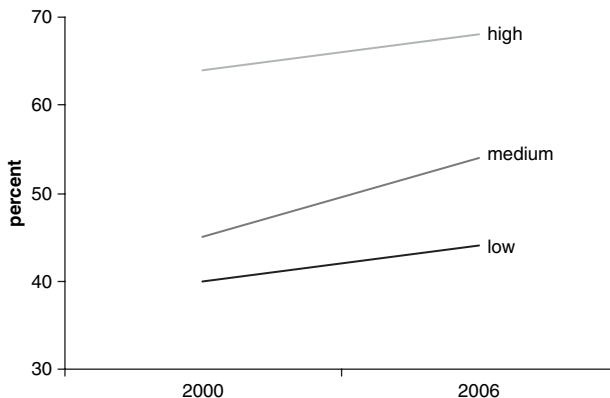
Since 2000, the increase in the employment rate among persons age 55–64 has been relatively slower for the less qualified in the EU25, at 5 points, compared with 6 or 7 points for the more qualified (figure 5.8). The development of employment rates for the less qualified was more favorable for the 25–54 age bracket, probably reflecting targeted employment measures, and this raises the issue of the development of employment opportunities for less qualified older workers. The uneven employment trends are a cause of some concern especially as regards the future adequacy of pensions, as working longer is central for accruing pension rights.

Projected Impacts on Longer Working Lives

To survey reform impacts from the perspective of an individual, the EC's Social Protection Committee (SPC) has developed a measure of theoretical replacement rates, calculated by member states for 2005 and 2050 (see ISG 2006). The work carried out indicates that reforms of statutory schemes will often lead to a decrease in replacement rates at given retirement ages, which also reflects the trend toward an increase in life expectancy at 60 or 65.³ The development of replacement rates is assessed for given retirement ages and contribution lengths, while most pension reforms actually plan an increase in one or both of these parameters.

Calculations are also available of the impact on theoretical replacement rates of private pension provision and longer time at work: in an average member state a combination of private pension savings amounting to

Figure 5.8. Employment Rates for Men Age 55–64, by Skill Level, European Union, 2000 and 2006

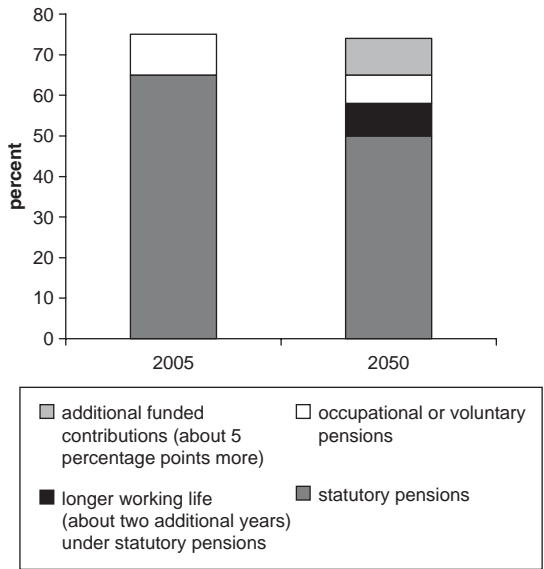


Source: Eurostat, Labor Force Survey.

5 percent of earnings over the working life and an increase in retirement age of two years would roughly maintain the 2005 replacement rate (see figure 5.9). This clearly highlights the risks for future adequacy of an insufficient increase in employment rates among persons age 55–64.

The calculations are highly hypothetical; in particular, they assume that private pension promises are kept. It may therefore be appropriate to comment on private pensions as a growing part of the future incomes of retired people. It should be noted that the impact assessments are based on averages and do not say anything about the likelihood that lower-income groups would be able to opt for private pension provisions in the same way as higher-income groups. But the calculations do show the extent to which future retirement income will depend on private provision. Recent work by the Organisation for Economic Co-operation and Development (OECD) shows that lower-income groups are less likely to opt for private pension provision (see Förster and Mira d’Ercole 2005).

Figure 5.9. Trends in Replacement Rates: Effect of Enacted Reforms at a Given Retirement Age, 2005 and 2050



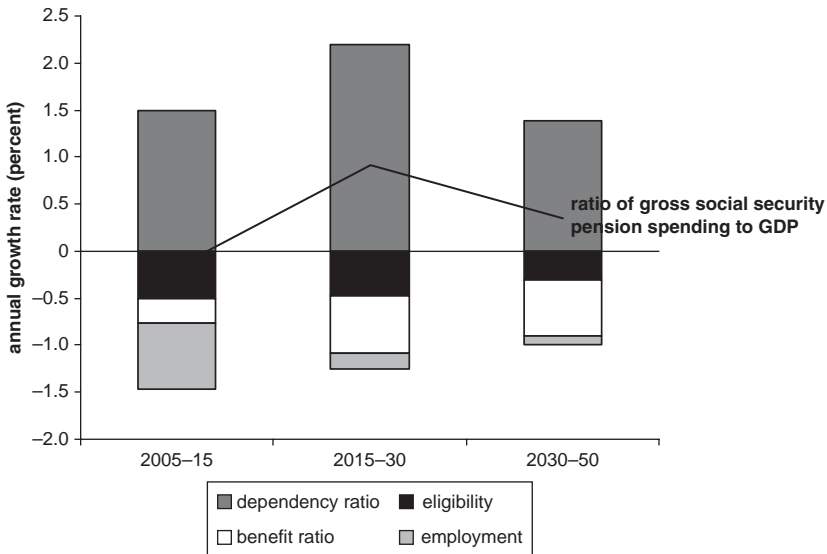
Source: Stylized illustration from calculations elaborated by the Indicator Subgroup (ISG) of the European Commission's Social Protection Committee; results on gross replacement rates.

From a Collective Point of View: Expenditures and Public Finances

The collective outcome of the pension reforms can be measured by the impact on public pension expenditures, using the results of the projections carried out by each member state in a coordinated framework. The latest set of pension expenditure projections produced by the Economic Policy Committee's Working Group on Aging shows that changes in employment rates of older workers and drops in the benefit ratio play a major part in decoupling public pension expenditure growth from the increase in the old-age dependency ratio.^{4,5}

Demographic pressure alone would bring about an increase in the ratio of pension expenditure to GDP, but actual growth is expected to be much more modest (figure 5.10). It is particularly interesting to compare the periods 2005–15 and 2015–30. For the first 10 years the ratio is actually expected to drop because several factors overcompensate for the demographic changes: an increase in overall employment, a reduction in benefit levels, and a decline in the number of people applying for pension benefits. The last item reflects mostly the assumptions about people retiring later.

Figure 5.10. Trends in Pension Expenditures, European Union (EU25), 2005–50



Source: From calculations by the Working Group on Aging of the European Commission's Economic Policy Committee (EPC): results on pension projections.

Note: GDP, gross domestic product. For EU25, see note to figure 5.3.

In the second period (2015–30) the projections do not assume much more progress on employment and less progress on later retirement, but the reduction in the average benefit ratio is more marked. After 2030 almost all the expenditure stabilization results from reductions in the level of public pensions. This corresponds to the results presented above on trends in individual replacement rates.

Clearly, these are projections, and they are to be seen more as an invitation to think about policy priorities than as forecasts of what could happen. What they should inspire is policy innovation, not depression about gloomy prospects.

New Reform Issues

Future reforms will have to take cognizance of such issues as the equity and adequacy of pensions, how to induce people to work longer and use private pension plans, and the conditions for social and financial sustainability.

Equity and Poverty

Risks related to inadequate pension provision. A key dimension of pension systems is that they relate not only to the current situation of older people but also to future developments, which are influenced by the reforms enacted. In view of the potential high costs implied by the aging of populations, most member states are engaged in significant reforms of their pension systems, which will clearly affect future pension benefits. Indeed, reforms are generally aimed at curbing the rise in pension expenditures, as is well reflected in the projections described above.

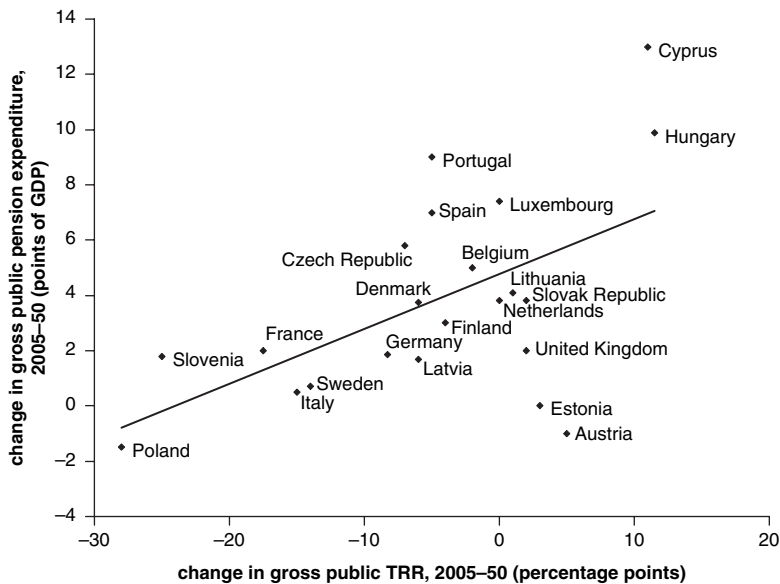
As underlined in the EC's 2006 synthesis report, the adequacy and sustainability of pensions cannot be achieved separately: they are mutually reinforcing, in a virtuous or vicious circle. Indeed, achieving sustainability at the cost of a significant decline in the future relative level of pensions would put the reform strategy at risk of unexpected demands for revaluation of pensions. By the same token, promises of pensions without sustainable financing raise questions as to the capacity of pension systems to deliver effectively.

Furthermore, the evolution of theoretical replacement rates is linked to the evolution of pension expenditures, as is highlighted in figure 5.9 for public (statutory) pensions. Member states with more positive developments in theoretical replacement rates appear to face more significant challenges as regards their future pension expenditures and are generally relatively less advanced in the process of pension reform, as

shown in figure 5.11. (The figure is based on data on reforms up to 2004; some member states have introduced significant reforms since then.)

A revival of minimum income schemes. In addition to general earnings-related schemes, minimum income provisions for older people have an essential role in alleviating or reducing poverty risk among the elderly (SPC special studies 2007 and 2008). In several member states the number of beneficiaries of minimum income benefits has been in decline in recent decades, reflecting progressive maturation of pension schemes, improvements in levels of benefits, and increases in participation rates. Future developments in the role of minimum income provision for older people are difficult to assess because in coming decades contradictory trends will be in play: maturation of pension schemes and growth in female workforce participation will continue, but the effects of past unemployment levels, an increase in part-time employment, and the effect of recent reforms that often translate into decreased benefit levels

Figure 5.11. Projected Evolution of Theoretical Replacement Rates (TRRs) and Pension Expenditures for Public Pension Schemes, European Union



Source: Projections by the European Commission's Indicator Subgroup (ISG) and Working Group on Aging.

Note: GDP, gross domestic product. Public pension schemes include the funded tier of statutory schemes.

will begin to be felt. It seems essential to develop tools to monitor these possible future developments through further prospective analysis of trends at work.⁶

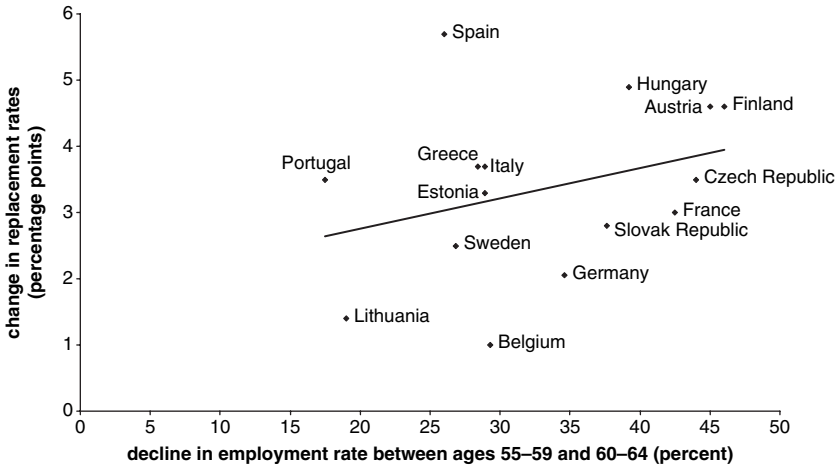
Already, in a number of member states the risk of poverty for people of retirement age is higher than for the active population, in spite of minimum income benefits for older people. (Poverty gaps, however, are lower, probably because of the minimum benefits.) Women and the extremely elderly are particularly at risk of poverty, which mainly reflects past accruals and ongoing indexation of pensions. Of course, needs may be different, and these numbers do not take good account of in-kind benefits and imputed rents from owner-occupied housing. Partly as a result of indexation rules, including those influenced by automatic adjustment mechanisms, replacement rates of people will lag the general progression of incomes, and 10 years or more after retirement, the lag may be substantial. Those with good pensions at the moment of retirement will still have good pensions even 20 years later, but what about others, notably women and very elderly pensioners?

Member states are trying to maintain or even improve basic income protection, while pension reforms tend to reduce the level of replacement rates for a given career length and profile. This highlights the reality that although many reforms can lead to reductions in the average level of pensions, member states nevertheless pay attention to guaranteeing a decent minimum to all. It should be noted that incentives and indexation rules can be designed to benefit or at least not disadvantage pensioners with modest incomes. Some indexation rules can translate into a worsening of the relative situation of the poorest pensioners, in particular when they grow older. Although, from the few evaluations available, minimum income provisions are generally not seen as providing adverse incentives to work longer or save, some provisions tend to make the prolongation of active life easier. This applies particularly to the design of means tests.

Compulsion vs. Incentives: Working Longer and Private Pensions

Working longer. Choice and options can help, but leaving the labor market should be thought of as a process rather than as an instantaneous decision. People may wish to work longer but less intensively and to work shorter hours, days, or weeks. Incentives do matter (these areas are well developed by the OECD; see OECD 2005, 2007), and we need to get the incentives right (figure 5.12), but we can see that while there is

Figure 5.12. Change in (Synthetic) Replacement Rate and Decline in Employment Rates between Ages 55–59 and 60–64, Selected European Union Countries, 2006



Source: From SPC (forthcoming); replacement calculations from European Commission and OECD project on "Modelling Pension Entitlements."

a link, countries with fairly comparable retirement incentives have different labor withdrawal rates. Most member states are currently reviewing or reforming the prerequisites for receiving pensions—notably by adapting statutory retirement ages (as in Denmark, Germany, and the United Kingdom) or by introducing more flexibility in the choice of the path from work to retirement, but also by reviewing conditions for early exit from the labor market (SPC forthcoming).

Greater flexibility in the retirement age can be achieved through appropriate incentives to prolong working lives but also through partial pensions and possibilities for combining pensions and earnings. The strength of incentives to work longer appears to be a key issue for the design of flexibility in retirement age. In particular, incentives should be as strong for lower-wage workers as for better-off ones, on both efficiency (sustainability) and adequacy grounds. For low-income workers the incentive structure needs to be reviewed as minimum income provisions are strengthened (see SPC 2006).

For lower age brackets (in particular, before age 60), the emphasis should be less on incentive structures than on restricting the possibilities of exiting the labor market before standard retirement age, except

perhaps for special conditions, such as hazardous jobs. If incentives are too high, however, the cost for public finances can be substantial if there is a significant increase in the average retirement age, notably because at higher ages there is a risk of subsidizing those who would have in any case postponed retirement.

Introducing more flexible retirement provisions requires both careful design of the structure of incentives and the provision of appropriate information to beneficiaries. This is difficult and requires long-term effort, as experience suggests that even when individuals are provided with information on their pension entitlements, they do not necessarily understand the consequences of different retirement choices in a context of changing rules. This consideration also highlights the importance of defining minimum provisions (for instance, ceilings on pension benefits or on age) that ensure adequate retirement incomes by restricting the scope for choice.

The impact of pension reforms on retirement age and on employment of older workers also depends to a great extent on other factors, notably opportunities on the labor market for older workers. These depend both on employees' ability to continue working beyond age 55 (which involves health status and training opportunities) and employers' attitudes toward older workers.

Private pensions. The trend toward a decline in prospective replacement rates at a given age results in various adjustments not only in statutory schemes (pay-as-you-go and possibly a funded tier) but also in the expansion of private pension schemes in some member states. The latter will benefit people who are actually covered, and thus a significant share of pensioners will rely only on the contribution provided by statutory schemes. Hence, there is a whole set of measures in member states to encourage the development of private pensions.⁷ One obvious option is to go through employers and social partner agreements (occupational pensions). Another is tax incentives, but costs to public budgets can be substantial, and concerns have been articulated about the distributional impacts. There is also a debate about making such savings plans compulsory, as some countries, notably in Northern and Eastern Europe, have done. Recently, Italy and the United Kingdom have moved toward default solutions (you are in unless you opt out). Compulsory and opt-out schemes have specific characteristics that distinguish them from traditional private funded systems in terms of freedom and choice, on the one hand, and risks and security, on the other.

Social and Financial Sustainability

Pension reforms, employment, and growth are interdependent. Working longer is not just a matter of pension reform; it involves other factors, including various paths out of the labor market (early exits) and, more generally, labor market opportunities for older workers, training, discrimination, and so on. Increasing employment opportunities for older people is vital for achieving employment goals and supporting sustainable growth, thereby allowing the maintenance of a high level of social protection in an aging society.

Pensions constitute a major part of public expenditure in almost all countries. A financially sound public pension system is essential to the sustainability of public finances as a whole, which in turn supports overall growth and economic performance. Similarly, improvement of competitiveness and productivity can create room for maneuver for pension reform. In any case, there are close ties between pension systems and labor market performance. Pension systems embed incentives that affect the labor supply of older workers, while a high level of employment ensures high levels of contributions into the system. Contributions required for the financing of pension systems affect labor costs and, consequently, labor demand. Higher contribution rates can result in reduced labor demand, while overgenerous benefits can reduce labor supply and aggravate labor market imbalances. Both benefits and contributions need to be considered in the context of their impact on the functioning of labor markets.

These issues should be distinguished from those surrounding a move to funded pillars and to diversification of systems, which can and does take place within all systems and is also a trend but a somewhat different one. Furthermore, we know that today's assumptions about life expectancy, growth, employment (policies could be more successful than assumed in the projections), and demography (think about migration) may be more or less accurate tomorrow and in five years.

Some member countries have therefore built in automatic adjustment mechanisms in which the benefit calculation adjusts to life expectancy. Employment and growth trends are systematically considered when indexation of benefits is fixed or the income base for benefit calculation is determined. This leads to automatic adjustments and should reduce the gaps between assumed expenditure trends and real trends. Other member countries have opted for (often, in addition) compulsory regular reviews of the accuracy of the assumed trends. In the best case, independent experts submit reviews pointing to the discrepancies that have emerged, and governments are obliged to consider appropriate policy responses.

Conclusion

It is widely accepted that working longer is a key path for balancing the adequacy and sustainability of pension systems. Therefore, more action is needed with a view to having people work longer. This means not only ensuring that retirement systems send the right message but also implementing the labor market reforms that are necessary to improve employment opportunities for older workers.

It is apparently agreed that strengthening individual responsibility and the flexibility of retirement provisions is crucial. Societies also need to be confronted with the collective consequences of their decisions, in particular with respect to equity and adequacy. This should not be undertaken at the eleventh hour, when reforms require huge efforts, but early on, when adaptations can be carried out smoothly.

Such measures require good governance and transparency of pension systems, especially to avoid significant delays in implementation. There is a real need to invest in system regulation and, in particular, in transparency so as to allow society to pursue policy priorities and avoid unintended effects, which create huge difficulties. Regular reviews and continuous reform paths are preferable to late and large reforms, which often prove difficult to implement.

Notes

1. EU25 refers to the 25 countries of the European Union following the 2004 expansion. EU15 refers to 15 countries of the European Union before the 2004 expansion: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.
2. See especially the "Joint Employment Reports" and the "Employment in Europe" reports, in particular those for 2003, 2006 and 2007.
3. See "Joint Report on Social Protection and Social Inclusion," 2007, supporting documents, sec. 3.3; available at http://ec.europa.eu/employment_social/social_inclusion/docs/2007/joint_report/sec_2007_329_en.pdf.
4. This corresponds to a decline of average pensions in relation to average wages, as the former are projected to increase at a slower pace than the latter.
5. A new set of projections by the AWG is planned for 2009.
6. The analysis could employ, for instance, theoretical replacement rates or dynamic (panel) microsimulation models.
7. See "Joint Report on Social Protection and Social Inclusion," 2007, supporting documents, sec. 3.3, for a presentation of issues linked to representativeness.

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CHAPTER 6

The Slovenian Pension System in the Context of Upcoming Demographic Developments

Boris Majcen and Miroslav Verbič

The economic sustainability of social security systems is under severe pressure because of the aging of populations caused by decreasing fertility rates and increased life expectancies. The result is an increased population share of social benefit recipients and a decreasing share of active population (see OECD 2000; European Commission 2001). These trends are behind an anticipated increase in traditional social security benefits and the introduction of new types of old-age insurance. Development of a sustainable, efficient, and fair system for funding social security in the environment of a population that is only going to get older is among the most pressing social security topics in Slovenia. Special emphasis is being placed on the pension system because of its weight in the system of public finances, and it is therefore the focus of our research.

It became obvious in Slovenia in the 1990s that the existing pension legislation would not be able to sustain the pressure of unfavorable demographic developments. In 1996, for the first time, the state pension

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fund needed additional financing from the central government budget. This was enough to jump-start intense preparations for Slovenian pension reform, which took the form of the 1999 Pension and Disability Insurance Act (PDIA), effective January 1, 2000. With the gradual implementation of the PDIA, the second pension pillar became increasingly important relative to the first pillar, the pay-as-you-go (PAYG) system, making people less dependent on the pension from the first pillar when they retire. But since the second pension pillar is mainly voluntary in Slovenia, there are reservations as to whether the present amount of supplementary pension savings will be sufficient to compensate for the reduction in pensions from the first pillar.

The present analysis looks at how changing the parameters of the current Slovenian pension system and introducing a mandatory supplementary funded pillar would affect different generations and public finances. To that end, we analyze the Slovenian economy with an overlapping-generations general equilibrium (OLG-GE) model, complemented by a generational accounts (GA) model. Particular emphasis is placed on the Auerbach-Kotlikoff-type OLG-GE model (Auerbach and Kotlikoff 1987), which is the most developed version of computable general equilibrium (CGE) models. The model SIOLG 2.0 (Verbič, Majcen, and van Nieuwkoop 2006; Verbič 2007) enables analysis of the intragenerational and intergenerational redistribution effects of different public financing strategies in order to achieve sustainable long-term economic growth and social development. It also allows one to monitor unfavorable demographic developments and anticipate their effects on the volume of social transfers to the population.

In the next section developments in the Slovenian pension system from the 1990s onward are described in some detail. Simulation results are then presented, and the final section summarizes the main findings.

Developments in the Slovenian Pension System

The Republic of Slovenia inherited from the former Yugoslavia the legislation of its pension system, which was based on an intergenerational contract and was therefore a pay-as-you-go (PAYG) system. After independence in 1991, Slovenia embarked on transformation to a modern market economy. Mass early retirement was used to deal with the consequences of firm bankruptcies, economic recession, and restructuring of the business sector, all resulting from economic transformation.

New pension legislation was adopted, somewhat behind schedule, in 1992, when the restructuring was for the most part already finished. Even

the increased retirement age was therefore unable to relieve the pressure to retire early. Because the pension system offered little incentive for additional years of service, the increase in actual retirement age as a result of the reform was modest. The ratio between the number of insured persons and the number of pensioners has been relatively steady over the past decade (Stanovnik 2002), although this stability is somewhat misleading, since the new pension legislation introduced additional categories of insured persons.¹

Legislative modifications adopted in 1992 were also partially responsible for the large increase in that year in pension expenditure of the PAYG-financed state pension fund, the Institute for Pension and Disability Insurance (IPDI). Under the new Pension and Disability Insurance Act, the IPDI was compelled to pay contributions for health insurance for pensioners, adding at least an additional percentage point to the ratio of pension expenditure to gross domestic product (GDP). After 1992, pension expenditure stabilized somewhat at the level of 11 percent. That could have been a sign of the financial stabilization of the IPDI, but things took a drastic turn for the worse, as is discussed below. Until 1996, all increases in pension expenditure were financed by raising the pension contribution rate. As a result, the (joint employer and employee) pension contribution rate rose from 22.55 percent of the gross wage in 1989 to 31 percent in 1995. Finally, in 1996 the government decided to lower the employer pension contribution rate from 15.5 to 8.85 percent of the gross wage in order to increase the competitiveness of the Slovenian economy.

The year 1996 hence represented a decisive moment, since it was then that the financially autonomous state pension fund was in deficit for the first time. The deficit has subsequently been compensated for every year through 2004 with “generalized” transfers from the central budget. Transfers of funds from the central government budget to the IPDI indeed existed prior to 1996 but were only intended to finance additional government obligations such as pensions for farmers, policemen, customs officers, and World War II veterans. Subsequently, the government actually committed itself to partially financing pensions, which were primarily established on actuarial principles and were, before 1996, entirely funded by the contributions of the active population. With the economic transformation, what had been relatively favorable pension figures became unsupportable in just a few years.

The decrease in employer pension contributions was thus a “suitable” occasion for the extreme measure of transfer funding of the pension system. The insolvency of the pension system went unnoticed by the general

public, but the consequences of the pension deficit could be seen in the structure of the Slovenian budget, which had fewer funds available for investments and for research and development. Yet the economic situation was commonly not perceived to be so grave. Slovenia's fiscal position was relatively favorable at the time and was certainly the most promising among the new member states of the European Union (EU). The budget deficit had been relatively low in the previous decade despite the difficult situation in the first years of economic transition, and so there was only a moderate increase in the public debt.

The problem, which had by that time drawn the attention of economists from the International Monetary Fund and the World Bank, was addressed by a 1997 white paper that led to adoption of the new PDIA in 1999. The implementation of the law began January 1, 2000, and is to be completed in 2024. The pension system has become more complex than ever before, partially as a result of difficult negotiations in the government coalition but mainly because of lengthy negotiations between management and labor (Stanovnik 2002). The main characteristic of the new pension legislation in comparison with the former legislation is path-dependency, which appears to be a universal feature of the predominantly gradual reforms of the Slovenian economic system. In addition, the transitional periods are lengthy, so the actual values of the parameters of the present three-pillar pension system in Slovenia converge only slowly to the final values.

The statutory retirement age under the 1999 PDIA, which guarantees insured persons retirement benefits, dependent only on completed years of service (without deductions), is 63 years for men and 61 years for women. This criterion is to be increased from 58 years and 6 months in 2000 by 6 months per year for men, and from 53 years and 4 months in 2000 by 4 months per year for women. An individual can, however, retire at age 58 and receive a pension without deductions if he or she has fulfilled the full pension-qualifying period, which is 40 years of service for men and 38 years of service for women. The transitional period terminates at the end of 2008 for men and at the end of 2022 for women. The minimum pension-qualifying period is still 15 years of service. The retirement age can be reduced for every born or adopted child that has been brought up and supported by the insured person for at least five years.

More consideration is given in the 1999 PDIA to actuarial fairness in the system. For insured persons who have not fulfilled the full pension-qualifying period and who retired before reaching age 63 for men or 61 for women, the pension decreases for every month short of the full

service period until the statutory retirement age. If the insured person remains employed after reaching the statutory retirement age and full pension-qualifying period, the pension increases for every month completed after the statutory retirement age. The incentives and disincentives consist of an added or subtracted 1.5 percentage points of accrual rate for every year of service added or missing.

The calculation of pensions is less favorable for insured persons under the 1999 PDIA. The old-age pension is calculated from the pension base depending on the number of completed years of service: 35 percent for men and 38 percent for women for the first 15 years of service, and 1.5 percent for each additional year of service irrespective of gender. Under the proviso that the insured person is not subject to pension disincentives, the pension in the case of a full pension-qualifying period amounts to 72.5 percent of the pension base instead of 85 percent under the 1992 PDIA. Since the pension base under the 1999 PDIA is calculated on the basis of the best 18 consecutive years of service instead of the best 10 consecutive years of service, as in the 1992 PDIA, the decrease in pensions is even more significant.

The most complex procedures of the 1999 pension legislation concern the revalorization of pension bases and the indexation of pensions (see Stanovnik 2004). Revalorization of the pension base in the Slovenian pension system is a procedure for recalculating the sources of pensionable income in the best 18 consecutive years of service, using a vector of revalorization coefficients, in order to obtain the pension base. It is actually an instrument used for attaining horizontal equity between existing and new pensioners. Indexation of the pension is a method for adjusting retirement benefits to economic developments in the country using a complex set of rules, where the consumer price index is the floor and the wage index is the ceiling for the growth rate of pensions.

In 2005 the government introduced several changes to the 1999 PDIA that were aimed at increasing pensions in real terms. The most important of these was the introduction of full indexation of pensions, to be carried out twice a year, in February and in November. Other changes in pension legislation included increases in the level of pensioners' recreation grant and lower eligibility requirements for a widower's pension. These provisions, especially the introduction of full indexation of pensions, will undoubtedly have substantial negative long-term implications for controlling the expenditure of the system of public finances.

The 1999 PDIA introduced a number of elements that improved horizontal equity in the system (see Stanovnik 2002). The gender divide

with respect to eligibility and benefits was considerably narrowed. Not only were accrual rates equalized, but also the eligibility criteria for women are now closer to those for men. Nonetheless, even greater emphasis was laid on the principle of vertical equity, or "solidarity." Thus, the ratio between two comparable pensions cannot exceed 4:1, which is less than the prior ratio of 4.8:1 under the 1992 PDIA.² Instead of explicit minimum and maximum pensions, the Slovenian pension system includes a minimum and a maximum pension base. The minimum base is set nominally, but it amounted to approximately 62.5 percent of the average net wage in 2000, while the maximum base is four times the minimum. A further redistributive element lies in the fact that social security contributions are not capped.

Another important innovation of the 1999 pension legislation was the adjustment of existing pensioners' pension growth to the entry pensions of new pensioners, which amounts to approximately -0.6 percentage points per year. This means that pensions of existing pensioners are being decreased because of the lower pensions of new entrants. An initiative for constitutional review of this article was submitted to the Institutional Court of the Republic of Slovenia, but the court ruled in December 2003 that the article is congruent with the constitution. Such an outcome is particularly important because this modification of the pension legislation represents a large share of the pension reform's overall effects and has a significant positive effect on management of the expenditures of the pension system.

The 1999 PDIA enabled the development of supplementary pension saving within the second pillar. In Slovenia the second pillar comprises supplementary pension insurance, which can be broken down into (a) individual and collective, (b) voluntary and mandatory, and (c) based on payments by the employer or employee. Following significant consolidation on the pensions market in the first half of this decade, the first and third classifications can be taken as practically the same, and one can speak of individual supplementary pension insurance as insurance based on employee payments, and collective supplementary pension insurance as insurance based on employer payments. Distinguishing as to whether participation is mandatory and the type of scheme is somewhat more difficult; individual supplementary pension insurance is voluntary, while collective supplementary insurance may be mandatory or voluntary.

According to the current pension legislation, the second pillar includes insurance companies and pension companies, as well as the state. It covers private professional schemes financed from contributions by employees and their employers. Participation in the first pillar is a

condition for inclusion in the second pillar. The investment financing system represents the collection of funds in personal pension accounts, with the purpose of providing the insured persons with an additional pension on their reaching a set age or in other cases defined in the pension scheme. Monthly contributions earn interest at an agreed rate or on the basis of the profit the fund manager generates from investments. There is a minimum return requirement for pension funds, requiring them to provide at least 40 percent of the average annual interest rate on long-term government bonds.

Insured persons participating in voluntary supplementary pension insurance can claim tax relief if the pension scheme is on the approved list at the Ministry of Labor, Family, and Social Affairs. According to the act, value added tax is not paid on premiums, which are also exempt from the 6.5 percent insurance service tax. The tax relief on a premium paid by an insured person works by reducing the personal income tax base by the amount the insured person paid for voluntary supplementary pension insurance. The reduction of the personal income tax base is, however, limited. The premium an employer pays for an insured person is not computed in that person's income tax base. The pension is included in the income tax base in the year in which the beneficiary receives payment of the pension. The premium paid by the employer is recognized for tax relief on corporate income tax but does not count as wages paid, nor are contributions paid on it. Experience to date with collective schemes indicates that employers finance most of the premium, or even the entire premium.

The pension scheme manager is eligible for reimbursement of input costs from premiums paid, output costs, and an annual management commission. The input costs are calculated as a percentage of the paid premium and reduce the paid premium. The output costs are calculated as a percentage of the surrender value and reduce the surrender value. The commission for managing an active fund is defined as a percentage of the average net annual value of mutual fund assets and reduces the fund's actual return. The minister of finance prescribes the maximum permitted percentages for these costs; at present the maximums are 5.5 percent for input costs, 1 percent for output costs, and 1.5 percent for the management commission. Administrative costs are therefore high, although the trend is for them to fall.

The second pillar of the Slovenian pension system has undoubtedly undergone considerable growth; in mid-2006 more than half the active working population was included in voluntary pension insurance. Most of these insured persons, however, were involved via collective insurance;

the individual pension saving segment is marginal. Civil servants represent a significant proportion, although they pay the minimum premium. On November 1, 2005, 439,280 insured persons were included in supplementary pension insurance, but 167,363 of them were civil servants subject to a minimum pension insurance premium.

Overall, the most worrisome indicator of progress in Slovenia's supplementary pension insurance is the value of paid premiums. As this analysis indicates, there is a large gap between the actual paid premium for supplementary pension insurance and the target premium value that would enable compensation for the effects of the pension reform on the welfare of the elderly. In the remainder of the chapter we examine the possible future consequences of this gap.

Results of the Simulations

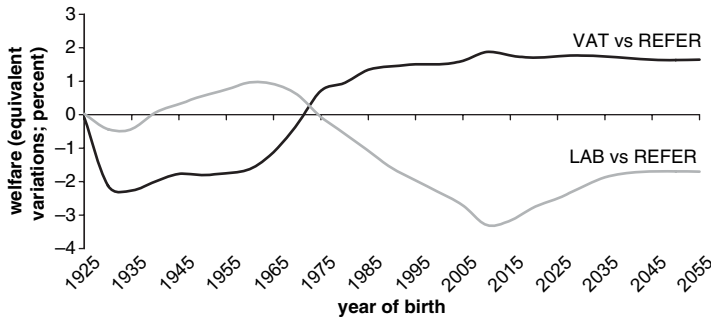
We begin with an analysis of welfare effects in Slovenia and then analyze supplementary pension savings. The last part of the section examines the effects of the IPDI's deficit on the sustainability of Slovenian public finances.

For the purpose of welfare analysis, we use the Hicks-equivalent variations (HEVs) as a measure of change in the welfare of generations. Equivalent variations can be defined as the equivalent percentage change in full lifetime resources needed in the reference scenario to produce the same level of welfare under the counterfactual scenarios. A positive value means that a generation will gain from switching from the reference scenario to the counterfactual scenario. The intergenerational redistribution effects for the current pension system parameter values in Slovenia—a retirement age of 60 and full (100 percent) indexation of pensions—are shown in figure 6.1.

A first glance at the figure shows that if the pension system were funded with revenues from value added tax, future generations would gain. It is obvious that in this scenario the elderly would stand to lose, as they have to pay more value added tax in comparison with the reference scenario; they would be forced to bear a larger burden of the present value of public expenditure. In the case of funding the pension system with revenues from labor income tax, all future generations would lose, as they alone would have to bear the burden of public expenditure.

Funding of the pension system with revenues from value added tax appears to be a somewhat better alternative than funding it with pension contributions. This inference can be explained as follows. Replacement

Figure 6.1. Welfare Effects in Slovenia for Different Sources of Pension System Financing (Retirement Age 60 and Full Indexation), 1925–2055



Source: Authors' simulations using SIOLG 2.0.

Note: LAB, labor income tax revenue; REFER, reference scenario; VAT, value added tax revenue.

of social security contributions with revenues from value added tax improves the financial situation of young generations because the consumption of the elderly is taxed additionally. Since young generations have a lower marginal propensity to consume than do the elderly, after the tax reform their consumption decreases, while their supply of labor has to increase. Total consumption therefore decreases, whereas total labor supply increases, savings grow, and increased capital stock leads to higher GDP.

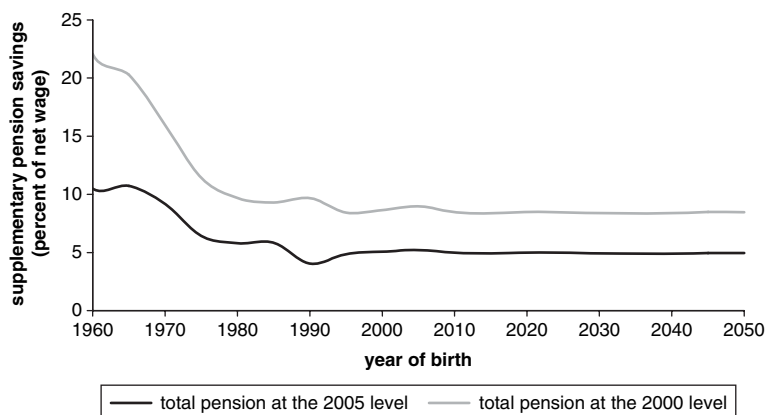
As the value added tax rate is raised over time, making consumption in the future more expensive, the value added tax acts as a capital income tax. In the event that the pension system is funded with revenues from value added tax, there is a substantial increase in labor supply. This is also true, to a lesser extent, if the system is funded with revenues from labor income tax. People will not only work more; they will also work longer. Retired generations suddenly have to pay an increased tax on their consumption. As they live on their savings, the only way to keep their consumption at an unchanged level is by supplying additional labor—that is, by retiring later. Correspondingly, raising the labor income tax rate will change the relative intertemporal prices of leisure. The price of future leisure will fall relative to the price of current leisure, inducing a substitution of future with current labor supply.

The reduction in the income of older generations as a consequence of pension reform can be compensated for by supplementary pension insurance. The level of savings required in the mandatory second pillar

depends primarily on the amount of the target total pension, which comprises the pensions from the mandatory pension insurance (first pillar) and the supplementary pension insurance (second pillar), and on mandatory pension insurance parameters. Those worth emphasizing are the retirement age and the wage indexation of pensions from mandatory pension insurance. A distinction must be made between saving in the second pillar, required to compensate for the overall effects on mandatory pension insurance of the 1999 pension reform (which came into effect in 2000), and saving in the second pillar, which only has to compensate for key changes in pension reform in 2005 that came into force in the same year. Both are defined in the model by the proportion of the net wage allocated to saving in the second pillar of the pension system.

Figure 6.2, which assumes a retirement age of 60 and full wage indexation of pensions, indicates that second-pillar saving required to achieve the given target total pension is falling along with reduction in household age, while it remains stable in the base period, and that it is constant for new generations of households. This is to be expected, given the assumption in the model (in which households start saving in the second pension pillar in 2000) that older generations have less time to compensate for the effects of the pension reform with additional pension saving, making the required saving level higher. Compensating for the total effects of the pension reform requires a higher level of savings than

Figure 6.2. Supplementary Pension Savings Required in Order to Keep the Total Pension at the Given Level (Retirement Age 60 and Full Indexation), Slovenia, 1960–2050



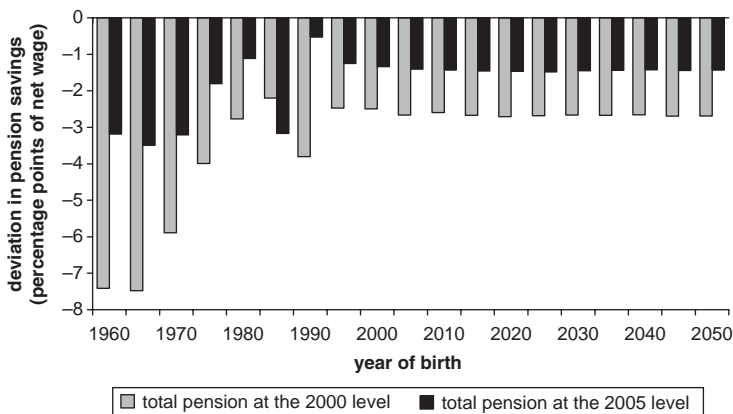
Source: Authors' simulations using SIOLG 2.0.

compensating for the changes in pension legislation alone, so the first liquidity constraint curve lies above the second. The saving share required for the new generation to compensate for the total effects of the pension reform is 8.5 percent of the net wage, while compensating for the changes in the pension legislation from 2005 would require savings of 5.0 percent of the net wage. The reference savings in the second pillar are very low, which is in accordance with the supplementary pension insurance profiles constructed for Slovenia (Verbič 2007, 214–21).

Figure 6.3 indicates the changes required in second-pillar saving by age cohort to achieve the required target total pension when the retirement age is raised by five years while retaining full wage indexation. The development of both liquidity constraint curves is similar to that in the preceding case, while the saving level required to achieve the given target full pension is significantly lower. Therefore, the saving required for the new generation to compensate for the total effects of the pension reform is 5.82 percent of the net wage, whereas compensating for the changes in the pension legislation from 2005 on requires savings of 3.54 percent of the net wage. Increasing the retirement age by an additional year therefore reduces the additional second-pillar saving required to achieve the given target pension by 0.4 percentage points of the net wage.

The model simulations indicate that the pension fund deficit, under the conditions of the current pension reform (retirement ages of 61 for

Figure 6.3. Expected Change in the Supplementary Pension Savings Required in Order to Keep the Total Pension at the Given Level with Retirement Age Increased to 65 and Unchanged Indexation of Pensions, Slovenia, 1960–2050



Source: Authors' simulations using SIOLG 2.0.

women and 63 years for men, and full wage indexation), would grow to 9.9 percent of GDP by 2040. To understand the dimensions of the forecast growth in pension expenditure, it is enough to note that over the period 1947–51, when the pension system started functioning, the total proportion of the IPDI's funds in GDP was just 2.5 percent (Stanovnik and Kukar 1995). Meanwhile, at the beginning of the 1990s, as a result of a drastic fall in the number of employees and a subsequent steep rise in the number of pensioners, pension expenditure had already passed the 10 percent of GDP milestone, with the figure settling at around 13 percent of GDP following the implementation of the 1999 pension reform.

Selection of the method for indexing pensions has an important impact on the pension fund deficit (see table 6.1). In relation to the assumptions presented above, the transition from full to partial (80 percent) indexation of pensions to wages represents a reduction in the pension fund deficit in 2040 of 3.3 GDP percentage points. Increasing the retirement age has an even more beneficial effect on the pension fund balance; the transition from a retirement age of 60 years to 65 years in the counterfactual scenario represents a reduction in the pension fund deficit in 2040 of as much as 3.7 GDP percentage points. Furthermore,

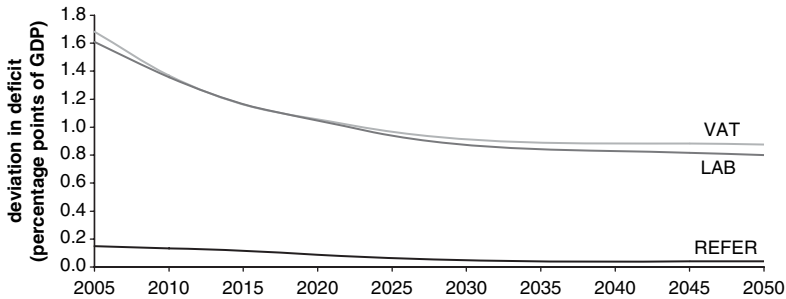
Table 6.1. Estimates of Total Balance of the State Pension Fund Using Different Assumptions about Retirement Age and Indexation Level of Pensions, 2010–50
percent of GDP

	2010	2020	2030	2040	2050
Retirement age 60 years; 100% indexation of pensions	–4.1	–6.0	–8.9	–12.0	–13.7
Retirement age 60 years; 80% indexation of pensions	–3.8	–4.7	–6.3	–8.5	–9.2
Retirement age 61/63; 100% indexation of pensions (current pension provisions)	–3.6	–4.6	–6.9	–9.9	–11.7
Retirement age 61/63; 80% indexation of pensions	–3.3	–3.5	–4.8	–6.6	–7.5
Retirement age 65; 100% indexation of pensions	–3.0	–1.9	–3.8	–6.2	–8.1
Retirement age 65; 80% indexation of pensions	–2.8	–0.9	–1.9	–3.5	–4.5

Source: Calculated using generational accounts model (March 2007); see Verbič (2007), 281.

Note: The numbers 61/63 represent statutory retirement ages for women and men, respectively.

Figure 6.4. Expected Change in the Deficit of the Slovenian State Pension Fund with a Mandatory Second Pillar, Keeping the Total Pension at the 2000 Level (Retirement Age 60 and Full Indexation), 2005–50



Source: Authors' simulations using SIOLG 2.0.

Note: GDP, gross domestic product; LAB, labor income tax revenue; REFER, reference scenario; VAT, value added tax revenue.

higher retirement age also defers the occurrence of an additional pension fund deficit by approximately 10 years (Verbič 2007, 260–62).

Finally, we are interested in the impact of a mandatory second pension pillar on the first pillar—that is, in the effect on the balance of the cash flows of the IPDI. If employees increase second-pillar saving, the value of labor supply has to increase or the employees have to reduce the value of their current consumption. If the first option is selected, their gross income from the employment on which social insurance contributions (including pension and disability insurance contributions) are paid will increase, which could lead to a reduction in the IPDI deficit. As indicated by figure 6.4, keeping the targeted full pension at the level that was in place before the 1999 pension reform came into effect would actually lead to this phenomenon. As a result of the participation of employees in a (targeted) mandatory second pillar, the pension fund deficit would be reduced by between 0.80 and 1.74 GDP percentage points, depending on the year selected.

Conclusion

This chapter has presented an analysis of welfare effects in Slovenia, of supplementary pension insurance, and of the effects of the pension fund deficit on the sustainability of Slovenian public finances. Stress was placed on varying the parameters of the current Slovenian pension system and on introducing mandatory supplementary pension insurance.

It was established that the burden of introducing the 1999 pension reform and its amendments will largely be shouldered by the young, active generations and future generations on behalf of already retired generations and the baby-boom generations that are starting to retire. Partly as a result of a fall in the replacement rate and the effect of partial indexation of pensions between 2000 and 2005, but primarily because of growth in the dependency ratio as a consequence of demographic aging, the younger existing and new generations will have to pay higher contributions for the same or a lower pension, while to compensate welfare with supplementary pension insurance, they will have to reduce current consumption or increase their labor supply.

The volume of current second-pillar saving in Slovenia is too low to compensate for the reduction in rights from mandatory pension insurance. Not only is inclusion in that form of insurance too low, but, even more important, so are the amounts paid in. Model simulations indicate that for a retirement age of 60, the saving required for the new generation to compensate for the total effects of the pension reform is approximately 8.5 percent of the net wage, while the changes in the pension legislation from 2005 can be compensated by savings of approximately 5.0 percent of the net wage. The reference (voluntary) second-pillar saving of the present new generations amounts to approximately 0.4 percent of the net wage, on average.

It would appear that alternative forms of saving for old age are not developing quickly enough to successfully deal in the long term with the problems of an aging population. Accordingly, Slovenia will require additional measures at a number of levels to normalize the state of the pension system. The 1999 PDIA introduced incentives for retirement saving in funded systems, which could be subject to modification. Another possible solution to deteriorating economic circumstances among the elderly could be to reduce the difference between the minimum and maximum pension bases by raising the former and reducing the latter. This would enable insured persons in lower-income brackets to save "voluntarily" for retirement in the context of the second pension pillar and compel insured persons in middle- and higher-income brackets to do so. Ultimately, mandatory (enacted) additional pension insurance would assist in the move toward a more rational reallocation of life-cycle consumption and a more optimal labor supply. The consequent increased activity by insured persons in the labor market would also bring about a greater volume of contributions for mandatory pension insurance, which would reduce the pension fund deficit.

Notes

1. Evident examples of additional categories of insured persons are “voluntarily insured persons” and “unemployed persons receiving unemployment benefits,” for whom contributions are paid by the National Employment Office.
2. Comparable pensions exist when two pensioners enter the pension system under the same conditions and both have the full pension-qualifying period.

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CHAPTER 7

Decreased Employment and Pensions: The Case of Hungary

Maria Augusztinovics and Janos Köllő

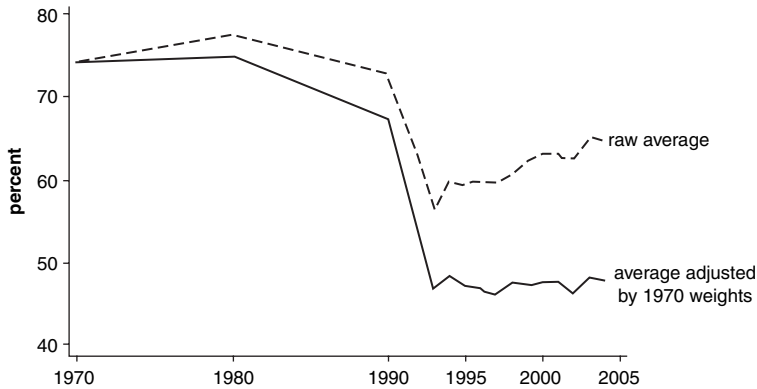
Until 1990, the economically active working-age population in Hungary was almost fully employed, and the level of employment was practically unaffected by economic fluctuations.¹ The transition brought about a decline of nearly 20 percentage points in the aggregate employment ratio over the period 1990–93, followed by a partial recovery.

This aggregate measure reflects not only the number of people working but also their educational attainment. A closer inspection reveals that the recovery was almost fully accounted for by shifting weights—that is, by improvements in the working population's educational attainment. Although the aggregate ratio has increased somewhat, an adjusted ratio calculated as a weighted average of education-specific employment rates (using 1970 educational shares as weights) demonstrates that group-specific employment ratios of groups by sex and educational attainment have not improved significantly since 1993 (figure 7.1).

Although the dramatic drop in employment during the transition affected all educational groups, education-specific employment ratios became highly differentiated. Among males age 25–64, the probability of being employed was practically the same for various educational attainment

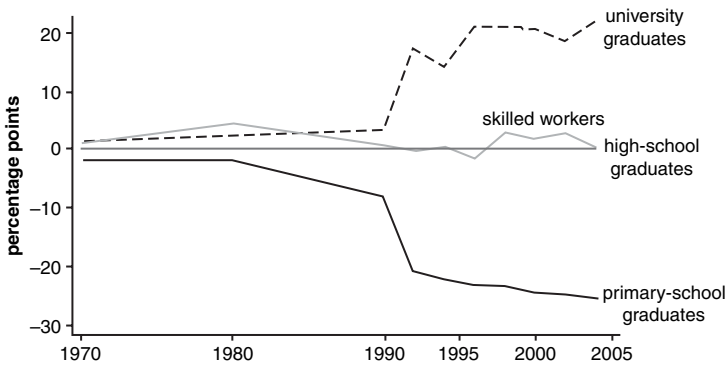
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Figure 7.1. Cross-Sectional Employment Ratios, Population Age 25–64, Hungary, 1970–2005



Source: Authors' calculations.

Figure 7.2. Age-Adjusted Probability of Employment, by Educational Level, Males Age 25–64, Hungary, 1970–2005



Source: Authors' calculations.

groups in 1980, but the gaps widened somewhat in the late 1980s. By the mid-1990s the probability was 20 percent higher for university graduates than for high-school graduates and 30 percent lower for those with primary education than for those with a high-school education (figure 7.2).

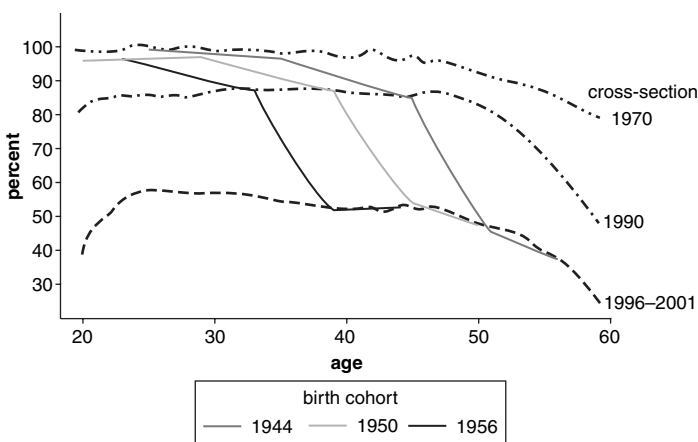
Most affected were males with primary education (eight or fewer years of elementary school, age 6–14). Their cross-sectional age-employment profiles shifted downward dramatically, from almost 100 percent employed, as a percentage of population, at age 30 to less than

60 percent, and from close to 80 percent at age 60 to less than 30 percent. The younger a birth cohort, the sooner it moved from high to low employment over the life cycle, and so the longer its pension claims have been affected by decreasing employment (figure 7.3).

Relative wages also changed significantly during the transition. Compared with those with a secondary school background, university graduates' wages doubled for females and tripled for males, while the disadvantage of primary school graduates doubled for both males and females between 1989 and 1998. A minor recovery of unskilled wages resulted from large increases in the minimum wage in 2001–2, but this improvement proved transitory (figure 7.4).

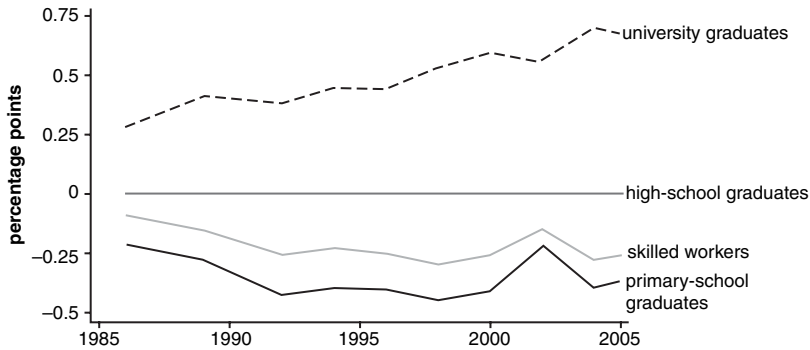
The higher relative earnings of university graduates benefited almost exclusively the younger generation. Age-wage profiles changed significantly for those with higher education. Technological changes during and after the transition depreciated the school-based skills and experience of older cohorts (see, for example, Kertesi and Köllő 2002; Kézdi 2002). The losses implied by skills obsolescence were enormous by any standard: male university graduates born in 1944, for example, earned 60 percent less in 2001 than would have been expected on the basis of the 1989 cross-sectional age-wage profile. The changes at other educational levels were far less dramatic (figure 7.5).

Figure 7.3. Employment Ratios and Birth Cohort Paths, Males with Primary Education, Hungary, 1970, 1990, and 1996–2001



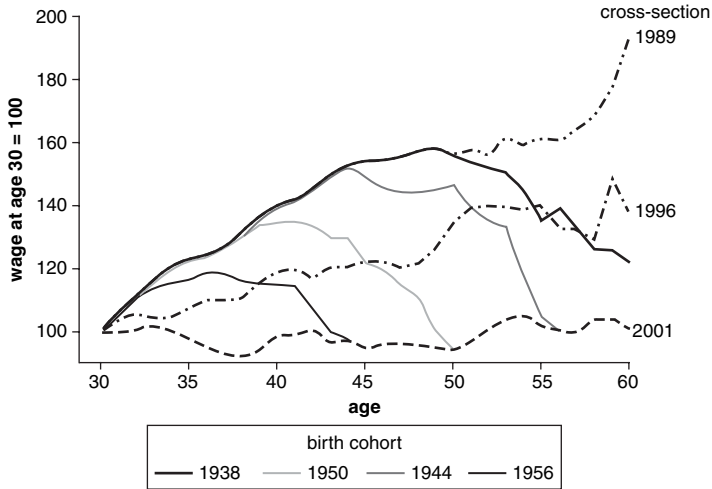
Source: Authors' calculations.

Figure 7.4. Age-Adjusted Gross Monthly Wages, by Educational Level, Males Aged 25–64, Hungary, 1985–2005



Source: Authors' calculations.

Figure 7.5. Relative Wages and Birth Cohort Paths, Males with Higher Education, Hungary, 1989, 1996, and 2001



Source: Authors' calculations.

Looking at the future, in the absence of any reliable forecast for the Hungarian labor market, an overtly (maybe even naively) optimistic scenario based on the National Development Plan for 2005–15 has been applied. In disaggregating the planned employment figures, identical growth rates in all educational groups until 2010 and complete stability after that have been assumed. It has been hypothesized that relative wages

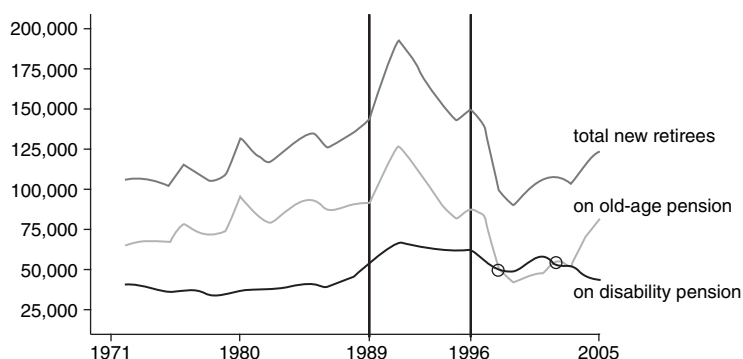
stay stable except for university graduates, in whose case recovery of returns to experience has been assumed. The contributory ratio (actual contributors divided by statistically observed employed) has also been kept at its 2005 level in all groups. These assumptions allowed projection of the cumulated years of service at the level of groupings by cohort, sex, and education, on a cross-sectional basis.

In addition, however, it is necessary to account for intergroup turnover and for individual mobility along the life path, from full to part-time to zero employment or the reverse; otherwise pure, cross-sectional group averages would lead to overestimation of the number of those who end up at pensionable age without 20 years of service that qualifies for eligibility. Unfortunately, data on such mobility are exceptionally rare at present. Therefore, cross-section-based projections of the noneligible population will be regarded as an upper-bound estimate. In the absence of information for estimating a reliable lower-bound figure, a very broad, cautious confidence interval will be set between the upper bound and half of the upper bound.

Exodus to Retirement

World War II and postwar hyperinflation wiped out the real-estate and financial wealth of previously operating funded pension schemes that covered about 50 percent of the working population. In 1949 a pay-as-you-go public pension system was established and then gradually expanded; it was finally codified in 1975 by a comprehensive social security act. By the mid-1980s coverage of the working population, as well as eligibility of older cohorts for old-age pensions, reached practically 100 percent.

In the early 1990s an unprecedented decline in employment hit the system in two parallel ways. (For early experience, see, for example, Augusztinovics 1993.) On the one hand, the number of contributors decreased dramatically. On the other hand, retirement served as an escape route from unemployment for hundreds of thousands of people. Consecutive governments supported the exodus from the labor market through several (temporary) forms of early old-age retirement arrangements and by effectively making disability pensions easier to obtain. The number of new retirees reached a historical peak in 1991 and did not return to its pre-1990 level until 1997. There followed a natural decline, and the situation started to normalize around the turn of the century. By that time, however, new disability pensions had grown to 56 percent of all new pensions. From 1999 to 2001 there were even more disability than old-age pensioners among new retirees (figure 7.6).

Figure 7.6. Number of New Retirees, Hungary, 1971–2005

Source: Authors' calculations.

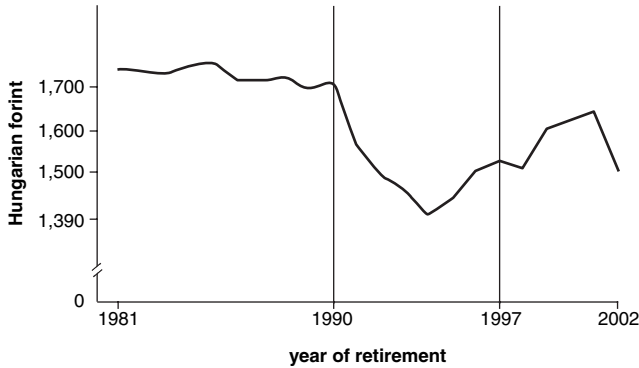
The dual pressure caused the system dependency ratio (the number of pensioners divided by the number of contributors) to increase from its 38 percent level in 1988 to 64 percent by 1996, and this high level has persisted until today. The financial balance of the pension system has become critical, and aggregate pension expenditure must be restricted.

Meanwhile, the number of pensionable accrual years of new retirees did not decrease over time; on the contrary, it increased because consecutive cohorts had gained from expansion of employment deep in the past, in their young and middle years. Hence, there were only two ways of curtailing pension benefits. One was to press down entry pensions by manipulating pensionable income in the pension formula (undervaluing past inflation and keeping the ceiling on pensionable income unchanged in years of two-digit inflation). The other was to press down continuing pensions by wage indexation when real wages decreased and then by “Swiss” indexation (half by wages, half by prices) when wages increased.² As a result, the average real pension—first trailing, then overtaking the decline of real wages—lost approximately 30 percent of its value between 1989 and 1996. The “return” on a year of service dropped rapidly and became a function of the calendar year of retirement rather than of individual labor market history, resulting in a highly unfair distribution of pension benefits (figure 7.7).

Pension Reform 1998

A long-running debate on the necessity and the direction of a pension reform had already started in the early 1990s, concentrating on the

Figure 7.7. Monthly Old-Age Pensions per Year of Service, by Year of Retirement, Hungary, 2003



Source: Authors' calculations.

inherited and newly emerging distortions in the pension system. From 1995 on, the focus of the debate shifted to a new dimension, the public-private dichotomy, largely under the influence of international financial institutions (see, for example, World Bank 1994; Müller 2003). At that time, none of the participating parties considered seriously the possible consequences of underemployment that persisted for at least several decades.

In 1997 a paradigmatic reform was codified as a “compromise” solution, to become effective on January 1, 1998 (for details, see Augusztinovic et al. 2002). The main innovation was a partial privatization of the system whereby 25 percent of employees’ contributions went into private pension funds rather than into the public scheme and 25 percent of the otherwise due public old-age pension was forgone by members of this “mixed” system, without compensation for past contributions. Membership in the new scheme was optional for the already employed but was mandatory for entrants into the labor market.³ Hasty legislation resulted in a number of unsolved problems that are still a matter of discussion.

One cluster of problems concerns the second-pillar scheme. Apart from significant but less prominent areas, two major issues should be mentioned. First, despite prereform calculations which revealed that for voluntary entrants above age 45–47 annuities receivable from the private pillar will not replace the lost 25 percent of the public pension benefit, the Hungarian parliament rejected “age discrimination” and did not put

any age ceiling on voluntary entrance to the mixed system. Hundreds of thousands of older workers joined; whether they were misled or simply lacked proper information is still fiercely debated but is actually immaterial. These workers are currently about to reach pensionable age or will do so within a few years, only to realize that their combined income from the two schemes will be less (in many cases, significantly less) than could have been expected from the 100 percent public pension.⁴ Second, the responsibility for supplying annuities is still unclear. Mandatory private funds are not obliged to pay annuities, nor do they seem committed to do so. At the point of retirement they may take the accumulated capital on the members' account and buy insurance for them from an insurance company selected by the fund rather than by the member. The trouble is that presently there are no such products available on the insurance market that would comply with legal requirements (for example, unisex life tables and indexation of annuities corresponding to indexation of public pensions). Experts say that should such products become available, they would be extremely expensive. Both issues will become acute in the coming years.

The other cluster of problems concerns the public scheme. The changes did not seem to be significant at the time of the reform and did not attract much attention, as they were to be phased in, taking effect over a period of several years.⁵ With the approach, however, of the final year of the transitory period, 2013, the consequences of reform for pensions to be expected are becoming disturbingly clear.

The basic outlines of the pension formula remain unchanged: the entry pension equals the accrual factor \times number of years of service \times pensionable earnings, with 20 years of service as a threshold for eligibility. In the past, and to a large extent even today, several additional rules have been in effect that favor the poorer segments of the new retirees. The principal ones are as follows: (a) In some cases, under special conditions, 15 years of service instead of 20 qualify. (b) There is a minimum pension guarantee below which no entry pension can fall. (c) Pensionable earnings are calculated in a degressive way; higher deciles of income are included in decreasing proportions. (d) Most important, the scale of the accrual factors is not linear; rather, it can be represented by a stepwise downward sloping curve. For example, it assigns 80 percent of the pensionable income as entry pension for 40 years of service, but significantly more than half, 53 percent, for 20 years.

On the one hand, these redistributive ("solidarity") components have been intensely and justifiably criticized for rendering the pension system

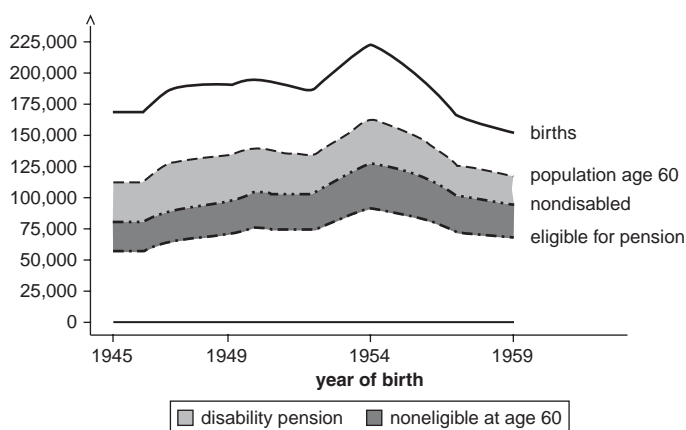
less than transparent, discouraging higher-income people from contributing, and failing to provide fair income replacement for labor market history. On the other hand, in an era of practically full employment, they seemed sufficient to protect the poor and to prevent extreme poverty in old age.

Somewhat ironically, these components are being phased out from the public pillar by the 1998 reform even though the era is one of persistent low employment—of disrupted or fragmented working careers. Instruments (a)–(c) listed above will cease to be effective, and, again most important, the downward-sloping scale of the accrual factor (d) will be replaced in 2013 by a constant 1.65 percent for each year of service. The “scale” will thereby become a linear function of the contributory period; moreover, it will provide significantly lower entry pensions (for example, 66 percent of the pension-base income for 40 years of service, and 33 percent for 20 years).⁶ This might be the reason for having maintained the “perversely” redistributive 20-year threshold of eligibility; below that, impossibly low entry pensions could be generated.⁷ What people with less than 20 years of service will live on in their old age is presently unclear.

Pension Promises until 2020

Old-age entry pensions in the 2010s are often supposed to be dominated by the retirement of the postwar baby-boom generation. Indeed, very large cohorts were born in the early 1950s, but this does not seem to be the major determinant in the Hungarian case. Mortality over the baby-boomers’ life-path has been significant, particularly among middle-aged males. Thus, their numbers at pensionable age will be much lower than at birth. Of those surviving, a high percentage is already or will be on disability pension at pensionable age, and a large fraction of the remainder will not qualify for old-age pensions. The number of those who may be expected to be eligible for old-age retirement will reflect the birth peak, but at a much lower level and less extremely, certainly lagging significantly behind the historical retirement peak of the early 1990s (figure 7.8).

Eligibility—20 years of lifetime service—and entry pension naturally depend on the entire working-age career rather than on some selected shorter period. In the absence of longitudinal data, however, the past (and future) of those reaching pensionable age in the coming 15 years had to be estimated from the authors’ earlier study (see note 1), relying on scarce cross-sectional data and heroic assumptions. Nevertheless,

Figure 7.8. Number of Births, Population Age 60, and Eligibility for Pension at Age 60

Source: Authors' calculations.

reliable recent cross-sectional data might throw some light on the high ratio of noneligibility. In 2005, for example, in the 15 single-year cohorts considered here (age 45–60), 23 percent of the respective population was already retired, mainly (17 percent) on disability pensions. Another 56 percent enjoyed contributory employment, but one-fifth of these were employed for less than the entire year. Finally, 21 percent was neither retired nor contributing.⁸ These are averages across educational groups. The numbers are much worse in the low-educated group, which accounts for one-third of the respective population, with 35 percent retired, only 36 percent contributing, and 29 percent in the neither-nor category (table 7.1).

Estimated proportions based on the entire working-age career are not significantly different from the estimates based on the recent cross-sectional distribution. The differences that exist are attributable to two effects that work in opposite directions and more or less balance each other. First, the early working years of these age 45–60 cohorts were spent before 1990, when employment ratios were much higher. Second, their future employment, as mentioned above, has been estimated under a highly optimistic employment scenario. All in all, the share of noneligible people over the coming 15 years, as derived from cross-sectional estimates, reaches about 20–22 percent of the respective population. Applying the very cautious “halving rule” suggested above, it can be stated with high probability that 10–20 percent, or about 250,000–500,000

Table 7.1. Pension Eligibility and Contributing Status, Birth Cohorts 1945–59 (Age 45–60), by Educational Level, Hungary, 2005

Percent of respective population

	<i>Primary education</i>	<i>High- school education</i>	<i>Higher education</i>	<i>All educational levels</i>
Retired	35	20	8	23
Old-age pension	8	5	4	6
Disability pension	27	15	4	17
Contributing	36	64	73	56
12 months per year	24	50	65	44
>6 months, <12 months	6	7	4	6
<6 months	6	7	4	6
Neither retired nor contributing	29	16	19	21

Source: Authors' calculations.

people, will be left without either disability or old-age pensions at and after pensionable age over the coming decade and a half.

Estimated entry pensions of those eligible in the 15 cohorts are expressed as a percentage of the estimated overall average wage in the year of retirement (thereby circumventing the eternal problem of inflation and wage dynamics) and then averaged over the 15-year period. Two versions of the estimates are presented, one according to present rules and one reflecting the rules legislated for 2013. Both versions are, however, applied to the entire 15-year period so that changes in composition by cohort size, sex, and educational attainment over time should not distort the comparison of the two pension formulas; both are applied to the same sample consisting of 15 birth cohorts.⁹ Annual average lifetime contributions of more than or less than half a year are distinguished, since at least annual half-year contributions over a 40-year working-age career would be required to accumulate 20 years of service until pensionable age. (Under present rules, those with an annual average contribution of 4 to 6 months may still be eligible because of special conditions satisfied by 15 years of service.)

Marked differences by educational attainment and by the average duration of employment can be observed. Without going into details, the most striking difference between the two pension formulas is that the new formula reduces the average relative entry pension by 15 percentage points, from 75 to 60 percent of the prevailing average wage in the year of retirement. Within that, for those in the low-education group that typically exhibits a less than complete contribution density, the

replacement rate will sink below the 40 percent standard of "adequate" relative income in old age set by the International Labour Organization (ILO) and the Organisation for Economic Co-operation and Development (OECD). Adding those groups whose relative average entry pension would exceed 40 percent but remain below 50 percent, the number of people not excluded from eligibility but left with entry pensions that are less than half the average wage may be estimated at 250,000–300,000 (table 7.2).

Whether entry pensions are to be considered high or low depends on what is going to happen after retirement. If pensions are wage-indexed, a 60 percent relative entry pension would remain 60 percent over the retirement span, and this, on average, could be considered satisfactory (without regard to groups of low-employment, low-income retirees). Swiss indexation, however, or even the often suggested price indexation, if steadily applied, would quickly depreciate relative pensions. Assuming a modest 2 percent increase in real wages over a period of 20 years, 60 percent at retirement would sink to 40 percent (Swiss index) or to 20 percent (price index) of average wage at about age 80. The combination of low relative entry pensions and less than wage indexation appears unsustainable in the long run.

To sum up, the pension outlook for cohorts approaching retirement in the next decade and a half does not seem to be bright. Legislation presently in force indicates an increasing number of people excluded from eligibility and, at the same time, lower entry pensions and declining existing pensions over the retirement span for those who are eligible.

Table 7.2. Expected Relative Entry Pension, Birth Cohorts 1945–59, by Educational Level, Hungary, Average 2005–20
percent of overall average wage in year of retirement

	<i>Primary education</i>	<i>High- school education</i>	<i>Higher education</i>	<i>All educational levels</i>
Current formula	53	74	124	75
12 months per year	65	87	133	89
>6 months, <12 months	43	59	111	58
<6 months	25	25	80	30
2013 formula	43	60	100	60
12 months per year	55	72	110	74
>6 months, <12 months	33	44	85	44

Source: Authors' calculations.

Note: Boldface type indicates less than ILO standard (40 percent replacement rate).

Policy Conclusions

Many analysts, governments, and international bodies seem to be obsessed by the expected deterioration of pension systems' cross-sectional financial balance as a result of aging. Yet the link between low employment and pensions and the longitudinal consequences in old age of disrupted, fragmented, or empty work careers deserves as much attention, if not more. Financial sustainability should, of course, be preserved, but as a necessary condition for reforms rather than as their goal.

A pension system has two core objectives: fair income replacement ("consumption smoothing") and poverty alleviation in old age (see Schmähl 2000; Augusztinovics 2003; Holzmann 2007). The former implies actuarially fair insurance; the latter requires income redistribution. The two objectives may be more or less compatible within a single, contributory, earnings-related pension scheme when practically full employment prevails, although both functions, as well as transparency, would be impaired to some extent. In conditions of persistent underemployment, however, compatibility seems to be vanishing.

The Hungarian pension system is now belatedly moving toward more or less fair income replacement with respect to entry pensions, except for those with less than 20 years of lifetime service. Below-wage indexation will decrease relative pensions over the retirement span, depending on the length of the span and irrespective of individual contributory history. A large number of people will be excluded from eligibility for the old-age pension benefit. Hence, mass poverty in old age is looming not far ahead, and it will not be dealt with by the pension system.

The system requires a new reform—this time not focusing on the important, yet secondary, public-private dichotomy but on the more basic problem of income security in old age. By sheer formal logic, there seem to be four options for the mandatory public scheme:

1. Sustain a single, formally (although not actually) earnings-related scheme, but reintroduce strong (stronger than previously deemed necessary) redistributive components. The disadvantages are that opaque redistribution is reinforced and a heavy, economically unjustified, and undesirable load is placed on labor income.
2. Preserve the earnings-related pension system for fair income replacement and leave other branches of the social safety net to deal with extreme old-age poverty on a means-tested basis. The risks include difficult targeting and high administrative costs in the social protection area.

3. Launch a unique, universal, basic, flat-sum pension scheme on a residential basis and leave voluntary, private retirement saving to deal with income replacement. The risks are myopia and free riding.
4. Split the present unique scheme into two: a universal, basic, flat-sum scheme and a mandatory, actuarially fair insurance scheme. A counter-argument to this proposal is that the basic scheme is “too expensive” and thus leaves little room for the earnings-related insurance scheme.

In any of these four cases, a number of contingent issues must be fitted to the fundamental choice. These include the division between wage-related contributions and general taxation in financing; the relationship between the public pillar(s) and the existing mandatory, private pension funds; and the connection between old-age, disability and survivors' benefits.

A nonpartisan roundtable of pension experts was launched by the prime minister at the beginning of 2007 with the task of considering reform options and related issues. There is no deadline, but a preliminary report and possibly a final set of recommendations (including various options, if no consensus can be reached) is expected by the end of 2008.

Notes

1. This paper is based on a detailed study by the authors published in *Közgazdasági Szemle* [Economic Review], June 2007, in Hungarian.
2. Actually “Swiss indexation” has not been employed systematically. In most years ad hoc corrections, sometimes favoring and sometimes harming pensioners, were introduced. Hence, the effect of this indexation cannot be empirically observed and can only be simulated in theoretical models (for example, Simonovits 2003).
3. Voluntary private pension funds, independent of membership in the public scheme, existed from 1993 on. The reform did not affect their operation.
4. A temporary measure has been taken which allows those who have spent less than 10 years as members of the mixed system and who would suffer more than 6 percent loss to “return” to the “pure” public scheme without consequences. This, however, is considered unfair with respect to those who have continuously paid a full contribution to the public scheme, and it will expire anyway, as by 2008 the 10-year membership limit will be surpassed by most retiring persons.
5. A stepwise increase of the statutory retirement age to 62 (from 60 for men and 55 for women) was legislated prior to the reform, in 1996.

6. The law stipulates that gross rather than net income will be pensionable and that pensions will be taxed. No details are given, however, and the statement is so unclear up to now that it will not be discussed in this chapter.
7. The threshold is perversely redistributive, since contributions paid over, say, 19 years by those who do not pass the 20-year lower limit are lost for the contributor; he or she receives nothing, and the contributions feed higher pensions for those eligible.
8. Some of this group may be gainfully employed on the gray or black labor market, but since they do not contribute, they cannot make pension claims for that work.
9. Members of private funds are not separately dealt with; 100 percent public pension is calculated for all new retirees. This implies the assumption that annuities from private funds will in the longer run substitute for the lost 25 percent of the public pension. If this does not happen, the total retirement income of private fund members can be expected to be less than is presented here.

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CHAPTER 8

Live Longer, Work Longer: Making It Happen in the Labor Market

Milan Vodopivec and Primož Dolenc

Longer lifespans represent one of the major achievements of modern societies. Perhaps curiously, in developed countries a longer life expectancy has been accompanied by a long-term trend toward reduction of time spent at work. There are signs, however, that this paradoxical situation will have to change. Faced with the prospect of an aging—and shrinking—workforce, many countries are confronting the challenges of how to mitigate the resulting slowdown of growth in gross domestic product (GDP) and how to fix ailing elderly support systems. Extending the working life would go a long way toward addressing these issues.

The obvious question is how to persuade workers to work longer and employers to offer jobs to old workers. What incentives should be provided to old workers to attract them to work longer? The prospect of higher pensions? Flexible work arrangements? Better skills? Will better health cause the elderly to work longer? And what will encourage employers to keep the elderly on the job? Removing institutional obstacles mandating age-related wage increases? Increasing mandatory retirement age? Changing outdated attitudes? Subsidizing the training of old workers

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and promoting lifelong learning to improve their productivity? Particularly in developing countries, moreover, there is concern about promoting the choices available to old workers—choices that would both improve the job prospects of those who would like to work and reduce the pressures on those who are forced to work until they are unable to do so any longer.

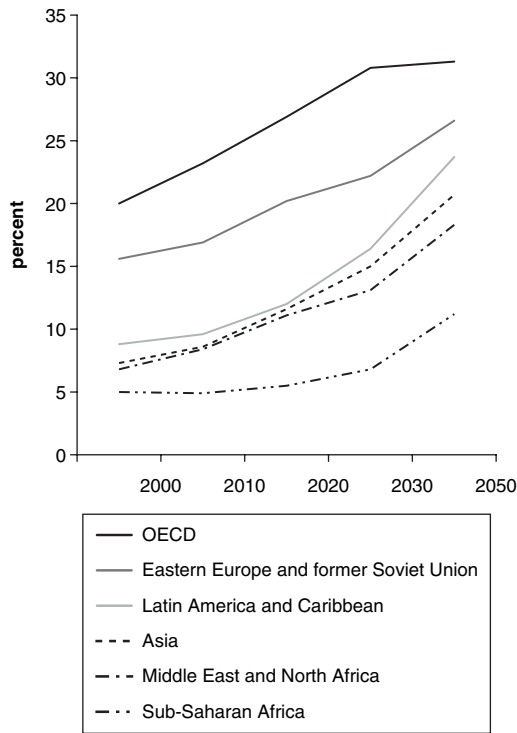
The objective of this chapter is to summarize the labor market implications of population aging and to discuss policy options for increasing employment of old workers. The argument is put forward that population aging and the ensuing shrinkage of the workforce will create a significant drag on the economies of developed, transition, and even some developing countries. Thus, working longer is an imperative: unless population aging and workforce shrinkage are countered by productivity increases, by working longer, or both, these developments will reduce economic growth and may jeopardize the economic well-being of some of the elderly.

Extending working lives has proved difficult because workers do not want to work longer and employers are lukewarm about employing old workers. Among measures for motivating workers to work longer, we propose providing retirement incentives and attractive, flexible working arrangements and stimulating employers to hire old workers. We argue for removing obstacles imposed by restrictive labor market institutions, for increasing the human capital of workers via lifelong learning, and for addressing age discrimination. Opportunities for extending working lives will also increase with improving health of old workers.

The next section discusses the implications of population aging for economic growth. There follows an examination of the factors that stand in the way of longer working lives—why workers opt for early exit from the labor market, and why employers are often reluctant to employ old workers. The policy part of the paper discusses measures for inducing workers to work longer and describes how to remove institutional obstacles and introduce incentives to make old workers more appealing to employers.

What Are the Growth and Welfare Implications of Population Aging, and What Can Be Done about Them?

Population aging is a universal phenomenon that, unless addressed, will create a drag on countries' ability to grow. While developed countries have progressed further in the demographic transition, in the next decades most developing countries will experience particularly rapid aging (see figure 8.1), and the share of population age 60 years or more in these countries will increase from 63 percent currently to 79

Figure 8.1. Demographic Aging: Share of Population Age 60 and Older, 2000–2050

Source: World Bank 1994.

Note: OECD, Organisation for Economic Co-operation and Development.

percent (United Nations 2007). Population aging and the ensuing reduction of labor force growth—indeed, in many countries, labor force shrinkage—may reduce the growth rates of countries by as much as one-third in comparison with growth rates under the stagnant population scenario and may jeopardize the economic well-being of some old people.¹ Aging will loom particularly large for developing countries; by 2050 many of these countries will have populations as old as those in Europe or Japan today, yet their per capita income will be much smaller.

Populations are aging as a result of increased longevity and decreased fertility, and these trends will continue, although at a slower pace. According to the Organisation for Economic Co-operation and Development (OECD 2006), life expectancy at birth in all OECD countries strongly increased in the last 50 years, from 64 years in 1950 to 77 years in 2000, while the

average total fertility rate fell from 3.23 in 1950 to 1.78 in 2000. Increases in life expectancy can be traced over longer periods; Oeppen and Vaupel (2002) report a positive, strikingly linear trend for both men and women in some of today's developed countries over the period 1840–2000.² For the future, Martins et al. (2005) predict a significant slowdown in longevity gains in most developed and transition countries, with estimated gains in life expectancy at birth of 1.2 years per decade in the next 50 years, compared with 2.2 years per decade in the last four decades. But, deceleration aside, this still represents significant increases in longevity.

Population aging will affect the size and composition of the labor force. Projections show that in most developed countries the workforce will stop growing in the next decade unless participation rates rise (OECD 2006; World Bank 2007). Projections for the United States are relatively favorable, but the 25 countries of the European Union as of 2004 (EU25—the number before Bulgaria and Romania joined) and Japan are at high risk. In the EU25, the growth of the labor force is likely to be reversed by the end of this decade, other things being equal, whereas in Japan the labor force has been in decline since the mid-1990s. As a result, the composition of the labor force is changing, producing a higher old-age dependency ratio (the ratio of population over age 60 to the population age 15–59), as well as a higher ratio of retirees per active workers. OECD (2006) projections indicate that the number of retirees per worker is likely to double between 2000 and 2050 in most member countries. In the EU25 area, the number of retirees per 100 workers is projected to increase from 50 in 2000 to 100 in 2050—in Italy and Spain, even to 130. By comparison, the ratios are much more favorable in the United States, where a ratio of 51 per 100 workers is predicted for 2050.

Since labor force growth is one of the sources of economic growth, the slowdown and shrinkage of workforce growth may contribute to a slowing of GDP growth. Because of population aging, the forecast of GDP per capita growth in the OECD area is reduced to around 1.7 percent per year over the next three decades, bringing about a 30 percent reduction in comparison with the 1970–2000 growth rate (OECD 2006). Martins et al. (2005) estimate that in the next half-century workforce decline will contribute to a reduction of annual growth rates by 0.2 to 0.5 percentage points in France and Germany and by 0.8 percentage points in Japan. Moreover, because of the raising share of the inactive population, economic growth in these countries will slow by an additional 0.2 to 0.3 percentage points compared with growth under a stable

population age structure. For comparison, about one-quarter of the growth of OECD countries in recent decades has been attributed to workforce growth (Martins et al. 2005).

Population aging may also reduce aggregate savings and affect consumption and investment patterns. First, the elderly save less than young people (United Nations 2007).³ Lower savings imply lower capital formation and, other things being equal, lower labor productivity and slower overall growth. Second, different age groups have different consumption structures: on average, old people spend more on housing, social services, and health care and less on motor vehicles, entertainment, and education (Martins et al. 2005), and thus population aging could affect the structure of aggregate demand. Martins et al. (2005), however, argue that if elderly labor force participation increases, the consumption patterns of the elderly could come closer to those of prime-age workers. Third, aging influences aggregate investment decisions because old people are more risk averse, which can have impacts on capital accumulation, allocation, and the structure of financial markets. Fourth, aging and large increases in dependency ratios are likely to place increasing strains on public finances. OECD (2006) estimates that over the coming decades, expenditure on public pensions and on health and long-term care will increase significantly as a proportion of GDP in most countries. Because such public consumption may come at the cost of investment, it may contribute to the reduction of capital accumulation.

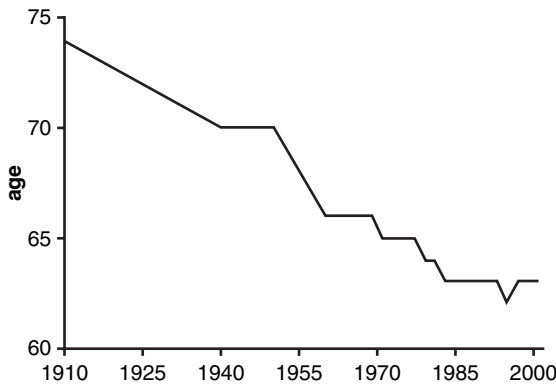
Population aging, however, may not necessarily reduce economic growth if countervailing factors prevail. The most important of these is the increase in labor force participation rates of old workers. A drag on economic growth created by population aging could be countered by higher overall (multifactor) productivity, increases in labor quality, or increased labor force participation.⁴ Simulations for developed countries reveal that the most powerful countervailing effects can be expected from the latter—more precisely, from the increased labor force participation of old workers. Martins et al. (2005) show that over the long run, the impact of increased retirement age in line with longevity gains prevails over the impact of improved labor quality and that the former effect is particularly large for countries currently having low participation rates of older workers. For example, an increased labor force participation scenario in France would turn a decline in labor supply into an increase in labor supply over the next four decades. (In Japan, however, the intensity of aging is such that even the combined effect of quality adjustments and increases in participation rates is insufficient to prevent an absolute

decline in labor supply by 2050.) Projections for Eastern and Central European countries also show that increased labor force participation by workers age 40–59 years, as well those over age 60, significantly slows the shrinking of the workforce (Muenz 2007). For the Czech Republic, for example, an increase in the participation rate of both men and women older than age 65 that raises participation rates, compared with 2005 rates, by 6 percentage points by 2020 cuts in half the reduction of the workforce predicted under the scenario of no change in the participation rate. Similar results are observed for Bulgaria, Poland, and the Russian Federation. Even some developing countries face a decline in their workforces in the coming decades, and increased labor force participation would help there, too. For Sri Lanka, for example, it is estimated that an increase in women's participation rate by 20 percent would delay by 15 years the reduction of the workforce projected to start around 2030 (Vodopivec and Arunatilake 2008).

Working longer is a win-win-win option. First, as described above, working longer boosts workforce growth and helps offset the negative effect of population aging on economic growth (OECD 2006). Second, longer working lives strengthen public finances, as more tax revenues are collected and fewer retirement-related expenditures are paid out. Third, working longer increases current incomes, allowing the elderly to accumulate more savings (and generating more interest earnings), which can provide higher retirement income over a shorter period of inactivity.⁵ So, why is it difficult to extend working lives, and what encourages people to withdraw from the labor force even when they are able to work? We discuss these topics in turn below.

Why Is It Difficult to Extend Working Lives?

Despite increases in life expectancy, in the past century the developed world witnessed people leaving work earlier than ever before—a trend that occurred irrespective of types of old-age support systems and in all developed countries (Kohli and Rein 1991). The long-term trend of falling retirement age in the United States is illustrated in figure 8.2; the average male retirement age fell particularly strongly before the 1980s but stabilized during 1983–2001. Kohli and Rein report similar long-term falling retirement age trends for France, Germany, Sweden, and the United Kingdom. During the last three decades of the twentieth century even labor force participation rates for men age 55–64 fell precipitously throughout the developed world (Palacios 2003).⁶ Indeed, since 2000

Figure 8.2. Average Male Retirement Age, United States, 1910–2001

Source: Burtless and Quinn 2002.

Note: Average male retirement age is defined as the youngest age at which fewer than half the men in the age group remain in the workforce.

the number of years men in OECD countries spend out of work has exceeded the number of years spent working (Palacios 2003). In the developed world these trends helped solidify the perception that old age is synonymous with retirement.

With people viewing retirement as an entitlement, extending working lives is not an easy task. And the problem is not confined to workers; employers are reluctant to employ old workers. Next, we discuss the reasons for such preferences.

Desire for Early Retirement

The dominant factors behind the trend toward earlier retirement have been economic development and changes in social security systems. Economic development and the resulting long-term increase in wealth allowed workers to enjoy rising living standards even as they spent a growing percentage of their lives outside the workforce. Another factor encouraging earlier retirement over much of the past century, and one that is itself the result of underlying economic changes, has been institutional arrangements accommodating such trends, including the introduction of mandatory retirement rules.

In most developed countries three main paths to retirement—that is, institutional arrangements bridging work life and retirement—can be distinguished. First, older unemployed workers who fail to find jobs under

regular benefit entitlements are often entitled to additional, “bridging” *unemployment benefits*. These benefits consist of cash transfers, pension credits for state-sponsored retirement schemes, or both and are provided until the workers fulfill retirement conditions for public pensions. Second, older workers may be offered state- or enterprise-sponsored *early retirement schemes* consisting of lump-sum payments for those who opt to leave the enterprise. In the past decade, the use of such schemes has been strongly reduced. Third, the *sickness and disability pathway* can also provide old workers with “interim” cash benefits. One of the most cited examples is the 1970s and 1980s program in the Netherlands that was used as a tool for exit of workers in troubled industries (see Vroom and Blomsma 1991). OECD (2006) reviewed these pathways for all OECD countries.

That these schemes have often not been planned is further proof that people want to retire early. Often, early retirement pathways emerged as unexpected consequences of marginal adjustments to welfare and social insurance systems (Kohli and Rein 1991). Indeed, these systems have often been changed precisely in order to accommodate changes needed in the labor market. (For example, Kohli and Rein report on the introduction of guaranteed income in France in 1972 and the emergence of disability insurance in the Netherlands in 1973.) Often, as one early-exit program is phased out, another gains popularity.

That people are “right” in their ambitions to exit the workforce early is in part confirmed by research about the satisfaction and well-being of retirees: once retired, people are happier than before retirement. Limited research is available on this topic, but studies in the United States suggest that most individuals are indeed satisfied with their lives in retirement. Among the respondents in a nationally representative sample of the U.S. elderly population, a majority of persons who were fully retired in 2000 stated that their well-being in retirement was better than in the years just before retirement, 33 percent found it about the same, and 17 percent were worse off than before retirement (Bender and Jivan 2005). Interestingly, according to the same research, flexibility to choose when to retire significantly improved satisfaction with retirement.

Employers’ Reluctance to Employ Older Workers

Employers see both advantages and disadvantages in employing old workers. According to U.S. surveys, employers view old workers as more reliable and as having better skills and a better work ethic but also find

them less suitable for training, resistant to change, and reluctant to learn new technologies. One U.S. survey reported the following 10 reasons why employers are reluctant to hire old workers: shorter career potential, lack of energy, higher costs of health and life insurance and of pensions, less flexibility and adaptability, higher salary expectations, risk of absence for health reasons, obsolescence of knowledge and skills, blocking of career paths of younger workers, suspicion about competence, and fear of age-discrimination lawsuits (Lahey 2005).

Beyond perceptions, labor market outcomes for old workers are often much worse than for young workers. Evidence about layoffs is instructive: according to Orazem, Vodopivec, and Wu (2005), during the early transition to market Slovenia's old workers did not face a greater risk of displacement (that is, of permanent, involuntary job loss), but they were much less likely to get a job after losing one, and they faced much larger postdisplacement wage losses when reemployed. (The wage loss of workers with 25 to 30 years of experience was 36 percent, as against no wage loss for workers with less than 10 years of experience.) Similar results are found for other countries.⁷

What accounts for worse labor market outcomes? Are old workers less productive than young ones? This is a highly controversial topic, and although the relationship is nonlinear, with large differences across individuals and tasks, one may interpret the evidence as a mild "yes." Studies find strong evidence that after age 50 several aspects of physical and mental abilities, such as reasoning, numerical abilities, and short-term and long-term memory, start to decline, with the decline often being progressive, although varying substantially from one person to another (OECD 2006). In contrast, some verbal abilities remain virtually unchanged even late in the life cycle.

Strong evidence that older workers are less productive than young ones comes from studies based on matched employer-employee datasets. For example, OECD (2006) summarized two studies of the productivity of French and American firms which found that workers age 55 and over are less productive than younger workers. A similar study on Slovenia found that over the period 1992–2001 workers age 30 or younger were 7 percent more productive than workers age 50 or over and that the period witnessed a strong reversal of relative productivity. In 1992 older workers were more productive than young workers (the productivity advantage of workers age 50 years over workers younger than age 30 was 41 percent), but by 2001 they were 13 percent less productive (Vodopivec 2007). The reversal occurred because the transition to a market economy forced

enterprises to restructure, and this process destroyed the advantage of old workers—their job-specific skills. Restructuring involved abandoning old production lines and introducing new ones, which produced significant worker layoffs (see World Bank 2005), and it boosted the advantage of young workers—their ability to adjust to changes in the environment. This result is telling about the differences in productivity between old and young workers. Interestingly, Vodopivec (2007) also reports that in 2001 old workers retained their advantage in terms of higher relative wages, with wages of workers age 50 or over being 43 percent higher than those for workers younger than age 30, other things being equal.

The above findings, however, are also consistent with the claim that individual productivity may not decline with age if additional investments in human capital are made. A study on firm-level productivity in a car assembly plant showed that productivity monotonically decreases with age and increases commensurate with job tenure, with the opposing effects approximately canceling out (Ilmakunnas et al. 2007). Furthermore, if workers expect their working lives to be longer, they will be more motivated to undergo training. We turn now to the overall question of incentives that may entice workers to work longer.

What Can Be Done to Improve People's Incentives to Work Longer and Their Workplace Choices?

The above trend of a steadily decreasing retirement age is a result of people's "voting with their feet"—but shouldn't we also listen to their voices? Interestingly, a large HSBC survey of over 21,000 adults, some of them identified as "trendsetters," in 20 economies across five continents suggested that people may be changing their vision of later life and opting for more active aging (see box 8.1). When asked how they wanted to spend retirement, more than half of the people in each economy included paid work in their ideal plan; Japan, with 95 percent, was at the top, and Hong Kong, China, with 57 percent, was at the bottom. Perhaps surprisingly, a higher share of people in developed countries than in less affluent countries wanted to go on working in retirement. Earning money was the most prevalent reason, but other important motives were mental stimulation, having something valuable and meaningful to do, and connecting with others. In general, while people mostly want a retirement centered on families, friends and fitness, the results of the survey suggested that people are increasingly viewing retirement as an opportunity "for a whole new chapter in life."

Box 8.1**How Different Countries View Old Age and Retirement**

- For *Canadians*, later life is a time of reinvention, ambition, and close relationships with friends and family.
- *Americans* view their later years as a time for opportunity, new careers, and spiritual fulfillment but are less focused on family or health than people in other countries.
- The *French* see these years as a time of dreams and aspirations but also as a time of worry, and they are concerned about being a burden on their families.
- People in the *United Kingdom* view later life as a time of self-sufficiency, independence, and personal responsibility, counting on neither government nor family to care for them.
- *Brazilians* look forward to later life as a time for slowing down, relaxing, and spending time with their families, relatives, and friends, and they expect significant support from their children.
- *Mexicans* see this stage as a time for continued work and hard-earned financial stability.
- In *China* younger generations view retirement as an opportunity for a new life but continued careers, while older generations want to stop working and relax. All Chinese people view family as an important source of happiness and support.
- Respondents from *Hong Kong, China*, see later life as a time for rest, relaxation, and the enjoyment of accumulated wealth, which is seen as the cornerstone of well-being.
- *Indians* view later life as a time to live with and be cared for by their families.
- The *Japanese* look forward to their later years as a time of good health, family considerations, and continued fulfillment from work.

Source: HSBC 2006.

Optimistic though the above views may be, we argue here that it is possible to motivate workers to work longer if they are provided with suitable incentives, if they are offered attractive and flexible working arrangements, and if they are in good health. Among the considerations that influence decisions about work and retirement, this section mostly focuses on the “pull” factors of retirement, with the “push” factors being addressed in the next section (see box 8.2 on this terminology). In

Box 8.2**Push and Pull Factors in Labor Market Withdrawal**

Several “pull” and “push” factors influence work and retirement decisions by old workers. Pull factors are associated primarily with financial incentives facing an individual, and push factors with circumstances that restrict the job opportunities available to an individual.

Among the most common factors that pull workers into retirement are financial incentives provided by pension schemes and other formal or informal early retirement schemes. The age at which pension funds are accessible, their generosity, and how additional years of work change the present value of net pension wealth are crucial to workers’ retirement decisions. In many developed countries other welfare schemes, such as unemployment benefits and disability benefits, are also often used by workers as a means of early exit from work. In addition, private pension arrangements and joint retirement decisions of couples may pull workers into retirement in some countries, particularly those who value leisure. In developing countries family obligations such as helping with child care of grandchildren are pull factors.

Push factors include both firm and individual circumstances that restrict suitable job opportunities. At the firm level these include negative perceptions about the capacities of old workers, labor costs that exceed old workers’ contribution to output, and difficulties firms confront in adjusting employment as a result of employment protection rules. At the individual level push factors include skills mismatch in the face of technological and structural changes in labor demand, perceptions of low returns to further training, work-related stress, poor health, and inflexible working hours.

Source: OECD 2006.

developing countries the ways of improving workers’ choices that are identified above are relevant primarily for formal sector workers. Many informal sector workers would benefit from the ability to *withdraw* from the labor market—a choice many of them are denied.

Improving Financial Incentives to Work

One of the most important incentives for working longer is the financial benefit of staying active. A high replacement rate and, consequently, a high implicit tax on continued work push workers toward early withdrawal from the labor market (Duval 2003).⁸ In OECD countries the implicit tax rate is highest in France, Italy, Luxembourg, and the Netherlands, which

also have the strongest reductions in participation rates of workers age 65 or older. In countries with low implicit taxes on continued work, such as Korea, Sweden, and the United States, where the implicit tax rate is below 10 percent, the reduction of the participation rates of higher age groups is much smaller.

Fitting Jobs to Old Workers: Making Work Arrangements more Flexible

Alternative, flexible work arrangements can encourage the elderly to work longer. At the individual level, the likelihood of employment depends on the interaction between the individual's functional capacity, the nature of the work, his or her state of health, and the possibilities for work accommodation. It should come as no surprise that among the factors that help explain the rising participation rate of old people after 2001 in the United States, Friedberg (2007) singled out more flexible arrangements that increased the choices of old workers. Similarly, Ruhm (1990) and Friedberg (2004) found that old workers preferred more flexible work arrangements (part-time or shorter-hour jobs); these "bridge" jobs suit old workers on their way to retirement. The increase was particularly notable among relatively educated and well-off workers. Buddelmeyer, Mourre, and Ward (2004) showed that increasing the flexibility of labor markets by stimulating part-time employment as an alternative to full-time employment prolonged labor force participation of old workers by several years. Such jobs offer hourly wage rates below those offered to full-time workers (OECD 1999), but given the choice of more flexible work arrangements, this is a price many old workers are willing to pay. OECD (2006) notes that better working conditions also play a key role in encouraging longer working lives.

Improving the Health of Old People

Making old people healthier will contribute to their desire to work longer. Not surprisingly, research shows that poor health has a negative effect on the likelihood of being in the workforce, on the expected retirement age, and on hours worked and wages. (For a survey, see Currie and Madrian 1999.) But while it is clear that people's health affects their ability to work, it surely must also affect their desire to work: if poor health leads to withdrawal from the labor force by making even simple tasks painful and by rendering people less productive (which affects, among other things, their wages), then good health does just the reverse. By implication, improvements in the health of old workers, coupled with

the fact that jobs are becoming less physically demanding than in the past, will contribute to the desire of old workers to work longer and, if opportunities exist, will lead to longer working lives.

Recent research suggests that people indeed not only live longer but also live longer in good health: this is the “healthy aging” hypothesis, according to which longevity gains translate into gains in healthy life years. Munnell and Libby (2007) show that in the United States since the early 1980s there has been a steady reduction of the proportion of men age 45–64 with activity limitations and disabilities, and this finding has been corroborated by Dormont et al. (2007) for Europe and Japan. The latter researchers, however, caution that maintaining the healthy aging regime in the future may call for “large investments in health care, which to be sustainable may require in turn a careful design of insurance mechanisms and use of technological progress” (Dormont et al. 2007, 8).⁹

In developing countries increasing workers’ choice often means helping old workers withdraw from the labor market if they opt to do so. Evidence shows that labor market duality—a hallmark of many developing countries—carries over to old age and importantly determines the fate of old workers. In contrast to formal sector workers, who retire before they reach age 60, mostly because they are mandated to do so, informal sector workers, such as self-employed and casual workers, continue to work full-time into very old ages and exit mainly for health reasons. (For the example of Sri Lanka, see Vodopivec and Arunatilake 2008.) Improving the choices of old workers thus entails improving their health, removing mandatory retirement provisions to help them continue working, and providing independent sources of income (by extending the coverage of old-age income support systems) to enable them to withdraw from work if they wish.

How Can Employers Be Induced to Offer More Jobs to Older Workers?

Above, we discussed how workplaces can be made more appealing to workers and how to improve choices by workers. We now turn to possible measures for increasing the demand for old workers, focusing on labor market institutions and the skills of old workers.

Removing Institutional Obstacles

Introducing flexible wage determination can increase the employability of old workers if institutional rigidities are preventing wages from adjusting to

changes in the life-cycle productivity of workers. As discussed above, on average the productivity of a worker eventually decreases as he or she ages. If changes in the wage level across the individual's working life do not adjust to reflect such changes in productivity, employers are likely to be reluctant to retain old workers and will prefer to hire young workers. Reflecting individuals' productivity profiles, wage-age profiles in many countries are indeed hump-shaped and are thus consistent with employability of old workers. (See OECD 2006 for a description of profiles in OECD countries.)¹⁰ In some countries, however, rigidities embedded in the wage determination system prevent the relative wages of old workers from reflecting underlying productivities, thus undermining employment opportunities for these workers: OECD (2006) singles out Austria, Belgium, the Netherlands, and Spain, and above we showed evidence for Slovenia, where legislation similar to that in other successor states of Yugoslavia mandates a 0.5 percent increase in wage level per year of work experience. Based on cross-country analysis, OECD (2006) provides evidence of a negative impact of high relative wages on the employment opportunities of old workers (a drop in the retention and hiring rates of older male workers).¹¹ To circumvent such seniority bonuses, most workers in Japan and Korea are forced to retire from their career jobs at the age of 60 or 55. Many of them continue working by taking lower-paid jobs with the same or other firms, shift to part-time or temporary work, or embark on self-employment (OECD 2006; Williamson and Higo 2007).

Restrictive employment protection legislation (EPL) may create disincentives for employment of old workers. In principle, it is not possible to predict the impact of strict EPL on labor market outcomes for old workers, as such provisions may lead to greater retention of old workers, as well as to reduction in their hiring. Although the empirical evidence is weak, some recent studies report negative effects of strict EPL on employment of old workers. For example, OECD (2006) found a statistically significant association of strict EPL with reduction of employment and hiring rates of workers age 50–64 on the basis of cross-section analysis for OECD countries. It also reported on a number of country studies that identified strict EPL as a barrier to the hiring or retention of older workers, in Belgium, the Czech Republic, France, Germany, Japan, Korea, the Netherlands, Norway, and Spain. By reducing flows in and out of the workforce, strict EPL reinforces the compression of working lives that is increasingly identified as an obstacle to better reconciliation of work and family, as well as to investment in human capital (Bovenberg 2007).

Preventing age discrimination through antidiscrimination legislation, as well as through information campaigns and guidelines on employment of old workers, is another important objective. While difficult to prove, survey evidence in OECD countries suggests that workplace age discrimination exists, as 1 to 14 percent of workers reported that during the previous 12 months they had either personally experienced or witnessed it.¹² But antidiscrimination laws may not always be effective, and they may have significant unintended effects.¹³ OECD (2006) argues for a combination of antidiscrimination laws with information campaigns and guidelines. The U.K. Age Positive campaign is one example; it promotes age diversity at work through a practical guide for business in the areas of recruitment, selection of candidates, promotion, training and development, layoffs, and retirement, with detailed explanations of the guidelines and indicators for assessing conformity with them (United Kingdom 2007).

Improving the Employability of Older Workers

To increase the attractiveness of older workers to employers, new generations of older workers should possess better skills, which calls for lifelong learning, including learning toward the end of the work career. Indeed, several considerations speak in favor of such a development. First, if the anticipated age of retirement increases, the break-even age for training increases, as the payoffs to training are spread over a longer work period. Second, OECD (1998) argues that if workers undergo continued training throughout their careers, it is unlikely that they will experience a decline in their trainability in old age. Third, because the retention rates of older workers are high, training old workers may be as profitable as training younger ones. Indeed, OECD (1998) reports that retention rates of workers age 45 years or more were higher than those of younger workers in six of the nine OECD countries studied and, unsurprisingly, that the incidence of rates of training among those age 45–54 years was about as high (21 percent) as the incidence for those age 25–44 years (23 percent), using unweighted country averages.

Better reconciliation of work and family also calls for continual investment in human capital. Recent socioeconomic developments, especially feminization of work, have changed the sharing of family responsibilities. Bovenberg (2007) argues that a key challenge is the need to maintain a highly skilled workforce while allowing parents to strengthen their family life. The changing nature of risks over the life cycle will make lifelong learning a key factor in reconciling the occasionally conflicting requirements of

work and family; well-trained workers are better able to pursue personal fulfillment and stable personal relationships, as well as supply highly productive labor and thus contribute to high levels of employment and labor productivity on a macro level. Larger investments in human capital throughout the working career will also enable and motivate workers to work longer. Moreover, we believe that there is a powerful reverse causality at work: if their working life is expected to last longer, workers will be eager to make investments in their skills, and employers will find it profitable to support these investments.

Conclusions

The above discussion suggests that the perplexing long-term trend of reduced time spent at work—a paradoxical result in light of persistent gains in longevity—will have to change: working longer is an imperative because it boosts workforce growth, strengthens public finances, and increases retirement incomes. This chapter concludes that to achieve the goal of longer working lives, policies should stimulate the supply of labor by old workers by making work in old age more attractive in financial and nonfinancial terms (the latter, among other means, by offering flexible working arrangements and by improving the health of old workers). At the same time, they should promote the demand for that labor by employers by removing restrictive labor market institutions, fostering lifelong learning, and addressing age discrimination.

When implemented together, the proposed policy measures would reinforce each other and create synergies. Improvements in the health of old workers would allow many to continue earning and postpone retirement; this outcome would be facilitated by employers' offering more flexible working conditions, as well as by workers' undergoing lifelong learning that would enhance their employability. The resulting lighter pressure on pension systems would positively affect public finances and overall economic growth. And better health, enhanced old-age income support, and the ability to choose when to retire would all contribute to better intergenerational relations and improved attitudes toward old people.

Despite promising signs of change in some countries, and in view of technological advances that allow for more flexible work arrangements (such as advances in information and communication technology), formulating and fine-tuning policies to promote extended working lives remain tasks for future research. Above all, research should shed light on

the most effective ways to foster lifelong learning of workers (type of training and modalities of financing), on the financial incentives and work arrangements that are best suited to keep workers in the workforce, and on the best ways of combating age discrimination. Better understanding of how to prevent early exits from main lifetime jobs is also needed, particularly in countries where workers, after exiting from such jobs, continue to work, but in much less productive jobs. In many countries postponing early exit from lifetime jobs calls for removing rigidities in the wage-setting process; this is not an easy task, but the large potential gains to both employers and workers should make such adjustments possible.

Notes

1. One way of reducing welfare is via stressed pension systems that would scale back their promises and hurt individuals without alternative arrangements.
2. Such a trend was observed for Australia, Iceland, Japan, the Netherlands, New Zealand, Norway, Sweden, and Switzerland. According to Oeppen and Vaupel (2002), the four-decade increase in life expectancy during the period 1840-2000 was remarkably linear, with a slope equal to 0.24 ($R^2 = 0.992$).
3. Panel regression analysis performed by Martins et al. (2005) on 30 countries in the period from 1970 to 2003 indicates that an increase in the share of the old-age population has a strong negative impact on the saving rate—more than five times greater than the positive impact of increasing the share of the prime-age population. Other empirical analyses show that an increase in the old-age dependency ratio of 1 percentage point decreased the saving rate up to 1.6 percentage points, but precise estimates are debatable. (See Turner et al. 1998 for a review of the study results.)
4. In most economies growth is largely driven by developments in multifactor productivity that is mainly affected by factors other than population aging but could be influenced by aging through shifts in consumption and pressures on public finances, as noted in the text.
5. For example, the baby-boom generation (currently in their 50s) in the United States will retire on much different terms than previous generations, as a smaller share of preretirement earnings will be replaced at any given retirement age (Munnell, Sass, and Aubry 2006). Putting off retirement, however, will produce larger increases in retirement income than for workers in the past.
6. The trends for women are less uniform, but their workforce participation in the developed world beyond age 65 has never been significant, and their

- increasing rates of participation at older ages mask the trend toward a falling retirement age (see Kohli and Rein 1991).
7. See, for example, evidence on U.S. workers in Jacobson, LaLonde, and Sullivan (1993) and, for OECD countries, OECD (1998) and Kletzer and Fairlie (2003).
 8. The replacement rate is retirement income as a proportion of preretirement income. The implicit tax is the sum of the actual taxes paid on earnings and the reduction of retirement payments as a result of “in-retirement activity.”
 9. Dormont et al. (2007) contrast the “healthy aging” regime with two extremes: (a) an optimistic “compression of morbidity” hypothesis that there is a reduction in morbidity and disability in the last years of life that makes life expectancy similar to disease- and disability-free life expectancy, and (b) a pessimistic “expansion of morbidity” hypothesis, in which all gains in longevity translate into years of poor health.
 10. Note, however, that wage-age profiles based on cross-sectional data reflect not only life-cycle changes in wage levels but also changes in the composition of the workforce.
 11. Daniel and Heywood (2007) also show that U.K. firms which use seniority bonuses hire a smaller share of old workers.
 12. On the basis of an experiment to test for age discrimination (sending out resumes for job applicants with different ages and measuring the response rate of employers asking for interviews), Lahey (2005) determined that employers clearly treated older workers differently. For example, she found that to receive a job offer for a clerical position would take 1–10 weeks for a worker about 35 years of age and 14–20 weeks for a worker about 60 years of age.
 13. For example, U.S. law prohibits age-based discrimination in hiring, firing, lay-offs, and compensation, but in practice, as one researcher noted, “The law may have only limited benefits and significant costs. Although the laws provide a boon for older men who remain in their jobs and are more difficult to fire, they harm those seeking new employment.”

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CHAPTER 9

Preparing the Labor Market for an Aging Population: Designing Public Policy to Increase Labor Force Participation

Gary Burtless

A common view among policy makers is that population aging represents a growing threat to European economies. Because pensions and old-age health insurance are largely funded out of public budgets, increases in the percentage of the population past retirement age must eventually cause a steep increase in the fraction of government budgets devoted to old-age consumption and a rise in public spending. According to some economists, either taxes or government debt will be pushed to unsustainable levels unless public programs are significantly reformed to curtail health and pension benefits.

The extra burden of an aging population could be reduced if labor force participation rates among the working-age and elderly populations increased. Employment rates among the nonaged have risen in many rich industrial countries as a growing percentage of women has entered the workforce. In addition, many countries have adopted

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policies that actively encourage work among people past the traditional retirement age.

This chapter examines ways in which the burden of an older population can be reduced by increasing participation rates among the aged. The effects of this kind of policy depend critically on three factors. First, what is the current level of labor force participation among working-age and older workers? Second, can we identify labor market policies that will increase participation among groups, such as the elderly, who have traditionally had low participation rates? And third, will policies that increase labor force participation in the elderly population depress employment rates among the nonelderly, especially among young adults who are trying to enter the labor force?

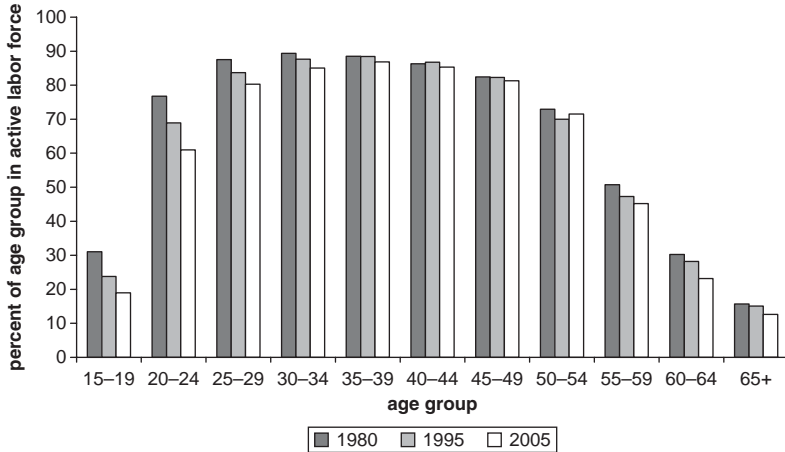
Participation Rates in Southeastern Europe

The analysis in this chapter focuses on the situation in nine Southeastern European countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia (FYR Macedonia), Moldova, Romania, Serbia and Montenegro (before their separation in 2006), and Slovenia. Figure 9.1 shows estimates of labor force participation rates, or economic activity rates, by age in the nine countries. The activity rates displayed represent the combined rate for men and women. The estimates reflect the unweighted nine-country average of participation rates as estimated by the International Labour Organization (ILO) for selected years in the past quarter-century.

In each year we see a characteristic pattern of rising activity rates between ages 15 and 25, relatively stable rates between ages 25 and 44, and accelerating declines in participation after age 45. In 2005 the peak participation rate was attained between ages 35 and 39. Among adults age 55–59 the participation rate is only about half the rate of adults age 35–39, and among adults past age 65 it is only one-seventh the rate in the age 35–39 group.

Population aging in Southeastern Europe has gradually increased the importance of adults in the older age groups, which have very low economic activity rates. According to United Nations estimates, the proportion of the adult population that is 55 or older increased from 22 percent in 1980 to 29 percent in 2005. UN population projections imply that the percentage of adults in Southeastern Europe who are past age 55 will rise to 36 percent by 2020.¹ This trend will increase the importance of old-age labor force participation rates in the determination of the overall

Figure 9.1. Labor Force Participation Rates by Age Group, Southeastern Europe, 1980, 1995, and 2005



Source: Author's tabulations using data from International Labour Organization, LABORSTA database, and United Nations (2005).

Note: Rates are unweighted averages for nine countries of Southeastern Europe: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia (FYR Macedonia), Moldova, Romania, Serbia and Montenegro, and Slovenia.

adult participation rate. Between 1980 and 2005 the economic activity rate of people over age 15 would have declined 2.8 percentage points, from 65.0 to 62.2 percent, even if participation rates in each age group had remained unchanged, and between 2005 and 2020 the overall participation rate should fall an additional 1.1 percentage points as a result of population aging even if there is no change in age-specific participation rates.

The impact of a growing number of elderly adults has been partially offset by the steep decline in the relative size of young adult cohorts. Between 1980 and 2005 the proportion of the adult population age 15–24 has fallen 4.8 percentage points, and it is expected to fall an additional 5.7 percentage points between 2005 and 2020.² Like adults past age 55, people between ages 15 and 24 have sharply lower labor force participation rates than the population between ages 25 and 54. Thus, the decline in the proportion of young adults in the population has tended to increase the overall activity rate among the population age 15 and older.

Population aging is not the main source of change in overall activity rates, however. Adult labor force participation in Southeastern Europe

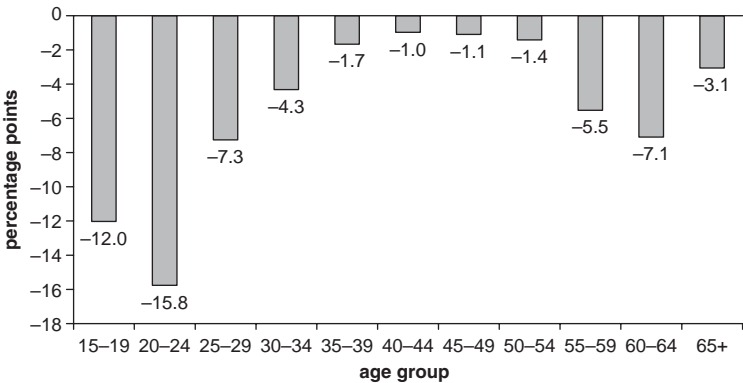
has declined mainly because activity rates have declined *within* age groups, especially among young adults and the near-aged (adults 55–64). Figure 9.2 shows the trend in Southeastern European activity rates by age between 1980 and 2005. The participation rate of people 15 and older fell 8.0 percentage points in that period. As we have seen, the change in the population age structure can account for only 2.8 percentage points of this 8.0 point decline. The remaining decline resulted from a fall in activity rates within each age group.

Comparison with Austria and Switzerland

Activity rates in Southeastern Europe can be compared with those in neighboring countries. A useful comparison is with countries that maintain retirement systems with different incentives to retire or to leave paid employment. Austria and Switzerland are interesting cases because public policies in those countries provide very different incentives for workers to withdraw from the labor force in their late 50s and early 60s.

Figure 9.3 compares labor force participation rates, by age, in Southeastern Europe and Austria. Labor force participation rates are higher in Austria than in Southeastern Europe for every age group below age 60. At higher ages, activity rates are higher in Southeastern Europe than in Austria. Compared with the pensions available in Southeastern Europe, the Austrian public pension system provides much more comfortable

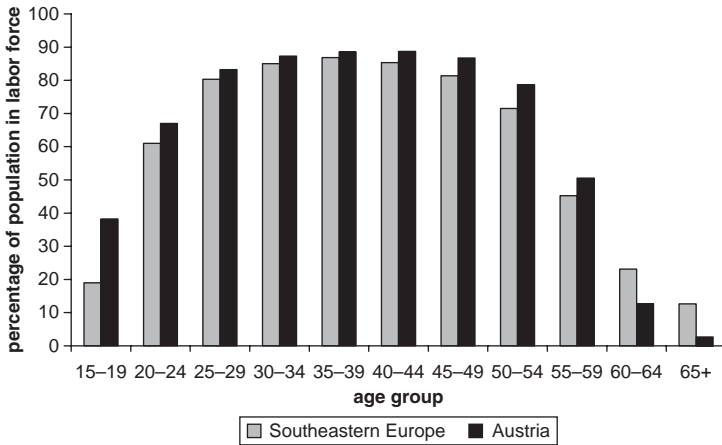
Figure 9.2. Change in Labor Force Participation Rates between 1980 and 2005, by Age Group, Southeastern Europe



Source: Author's tabulations using data from International Labour Organization, LABORSTA database, and United Nations (2005).

Note: See note to figure 9.1.

Figure 9.3. Labor Force Participation Rates by Age Group, Southeastern Europe and Austria, 2005



Source: Author's tabulations using data from International Labour Organization, LABORSTA database, and United Nations (2005).

Note: See note to figure 9.1.

incomes to the aged population, and this almost certainly contributes to Austria's lower participation rates at ages past 60.

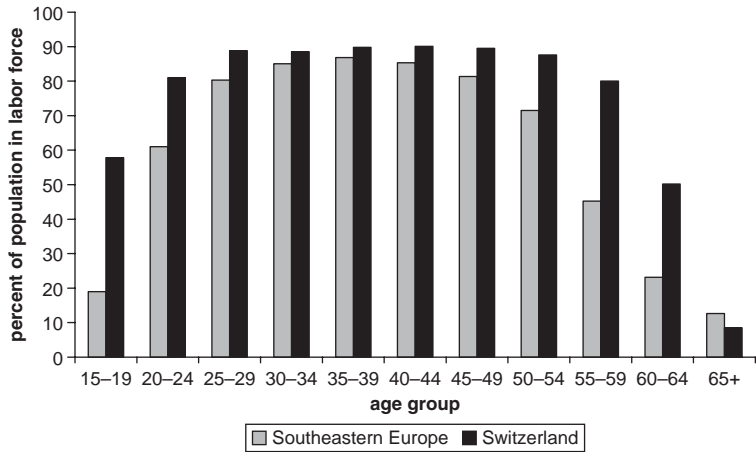
The contrast between Southeastern Europe and Switzerland is also striking (see figure 9.4). Switzerland has higher labor force participation rates than Southeastern Europe at every age up to age 65. The gap is particularly large at younger (15–24) and older (50–64) ages.

Austrian and Swiss participation rates were not always above those in Southeastern Europe. In 1980 Southeastern European participation rates were higher than those in Austria in every age group older than age 20, and they were also higher than Swiss participation rates in every age group between 25 and 54. As was shown in figure 9.2, however, Southeastern European activity rates declined after 1980. At the same time, participation rates of persons age 25–59 increased strongly in Austria and Switzerland (see figure 9.5). Nearly all of the increase occurred among women, whose activity rates in 1980 were much lower than female activity rates in Southeastern Europe.

A European Perspective

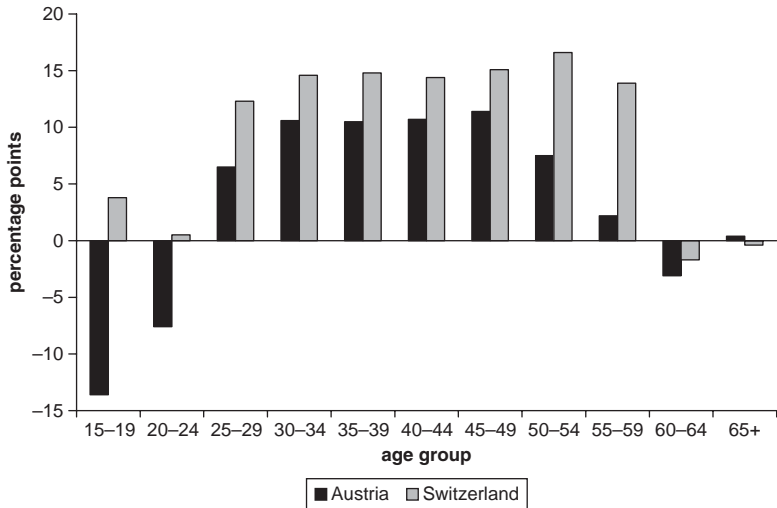
The trends in activity rates at older ages in Austria and Switzerland generally mirror long-term trends in other wealthy countries of the Organisation for Economic Co-operation and Development (OECD).

Figure 9.4. Labor Force Participation Rates by Age Group, Southeastern Europe and Switzerland, 2005



Source: Author's tabulations using data from International Labour Organization, LABORSTA database, and United Nations (2005).
Note: See note to figure 9.1.

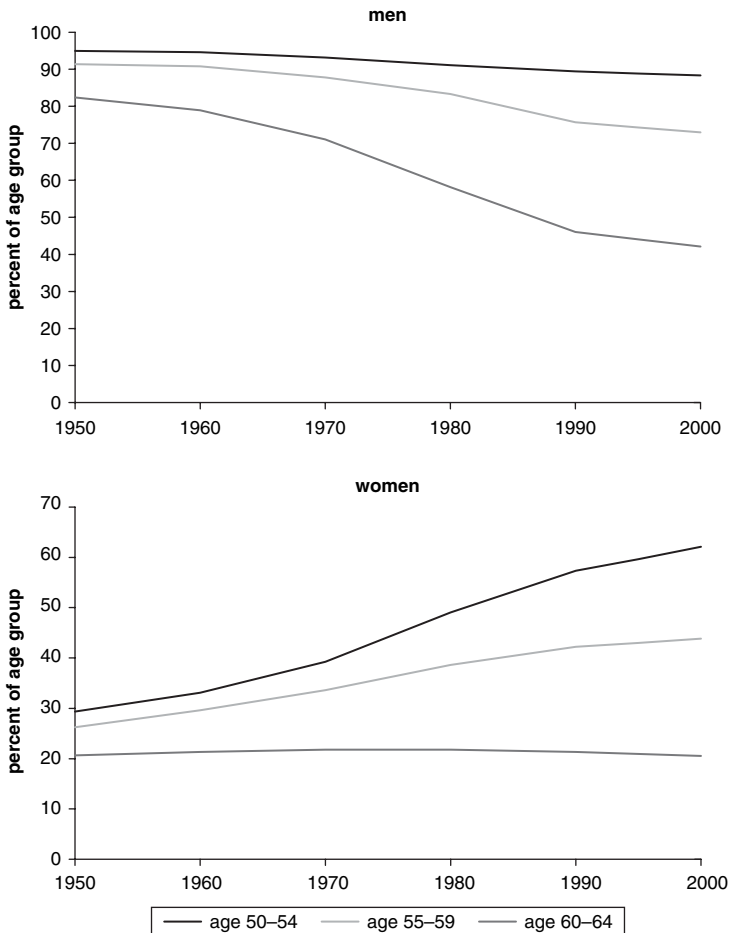
Figure 9.5. Change in Labor Force Participation Rates between 1980 and 2005, by Age Group, Austria and Switzerland



Source: Author's tabulations using data from International Labour Organization, LABORSTA database, and United Nations (2005).
Note: Data are unweighted averages.

Figure 9.6 shows average trends in 21 OECD countries for three older age groups (50–54, 55–59, and 60–64) between 1950 and 2000. Activity rates of men show monotonic declines in each of the three age groups covered by the figure. The decline is small for men age 50–54, but it is considerably larger, both absolutely and proportionately, in the two older age groups. Between 1950 and 2000 the average participation rate of men age 60–64 declined by roughly half in OECD countries. Participation trends among older women show a strong contrast with

Figure 9.6. Trends in Economic Activity among Men and Women Age 50–64 in 21 OECD Countries, 1950–2000



Source: Author's tabulations using data from International Labour Organization, LABORSTA database.

Note: OECD, Organisation for Economic Co-operation and Development.

those for men. Female activity rates increased or at least remained roughly constant at older ages, offsetting some of the impact of lower male participation.

In one respect the male and female trends are identical, however. The falloff in participation rates as people grow older was considerably faster in 2000 than it was in 1950, and this is true for workers of both sexes. In 1950 the average activity rate of men age 60–64 was 13 percentage points (or 13 percent) lower than that of men age 50–54. By 2000 the difference in participation rates between the two age groups was 46 percentage points, or 52 percent. If activity rates in both years are treated as estimates of a stable lifetime participation pattern in the two years, they imply much faster exit rates from the workforce in 2000 than in 1950. In 1950, 13 percent of participating men exited the workforce between ages 50–54 and 60–64; 50 years later, the exit rate was 52 percent. A similar change in exit rates occurred among women: in 1950 women age 60–64 had participation rates 9 percentage points (or 30 percent) lower than those of women age 50–54. By 2000 the gap was 42 percentage points, or 67 percent. Female exit rates between ages 50–54 and 60–64 increased from 30 percent in 1950 to 67 percent in 2000.

In the absence of reliable historical data on activity rates by age in the nine Southeastern European countries, it is impossible to track the long-term trend in labor force exit rates in those countries. It is obvious from figure 9.3, however, that exit rates from the labor force were faster in Southeastern Europe than in Austria between ages 50 and 59 and considerably faster than in Switzerland between ages 50 and 64. Either weak demand for older workers or powerful incentives to leave work for retirement must explain the difference.

Slowing Exit from the Labor Force: Supply-Side Incentives

One reason that workers leave the labor force is their eligibility for benefits that replace lost earnings when they become unemployed or reach retirement age. Compared with the 1960s or 1970s, jobless workers past age 50 are now more likely to qualify for unemployment and disability benefits, and larger percentages of aged workers are eligible for an early pension. The impact of these benefits has been extensively studied in recent years by economists at the OECD, the Brookings Institution, and the National Bureau of Economic Research (NBER). Their studies have uncovered sizeable effects of disability and pension programs and of special unemployment benefits for older workers on the activity rates of

people past age 55 (see Blöndal and Scarpetta 1999; Gruber and Wise 1999; Duval 2003).

Incentives in the Pension System

Pension systems can affect the age of labor force withdrawal for three reasons. First, they affect workers' lifetime wealth in comparison with what it would be in a world without pensions. For many workers, a public pension system increases lifetime wealth and thus the capacity of these workers to consume during their lifetimes. Workers can use the extra wealth for higher consumption of goods, services, or retirement leisure. Many workers probably use the extra wealth to retire at a younger age.

On average, the lifetime wealth gains provided by public pension programs have shrunk over time. A smaller percentage of current and future workers will obtain wealth gains under most public pension systems. In countries with slow growth or an actual decline in the working-age population, workers under a fully mature pay-as-you-go (PAYG) pension system can often anticipate losses in lifetime wealth. Many workers will receive smaller lifetime pensions than their contributions would have entitled them to if these contributions had been invested in safe assets. Compared with early generations retiring under a PAYG system, more recent generations will be able to consume less goods, services, and retirement leisure over their lifetimes as a result of their participation in the pension system. Some may respond to these wealth losses by retiring at a somewhat older age.

A second feature of pensions accelerates labor market withdrawal. Public pensions provide earnings replacement for workers who have attained the eligibility age for pensions. This almost certainly hastens labor force exit among workers who do not make long-term plans for retirement or for lifetime wealth accumulation. Workers with short time horizons or high rates of time preference often accumulate little savings over their careers. A worker with little savings may decide to retire when the earnings replacement provided by a pension is high enough so that the worker does not experience a large drop in consumption on ceasing to work. Workers who are short-horizon planners will be more likely to retire the higher is the immediate income replacement provided by a pension.

Third, public pensions can influence the net return from working an additional year. If the net return from work is small enough, many workers will withdraw from the labor force. The fact that a pension becomes

available at a particular entitlement age, such as 60, does not directly affect the net return from working at that age, however. The net return is determined by eligibility rules for the pension, the formula that links monthly pension benefits to the worker's past and current earnings, pension contribution requirements, and the relative taxation of wages and pensions.

It is a common misconception to think that when a worker reaches the earliest eligibility age for pensions, he must sacrifice one month of potential pensions for every month that he delays retirement. If this were true, the marginal return to work would drop dramatically at the earliest entitlement age, especially in countries offering generous pensions. But no sacrifice is required in a pension system that allows pensioners to continue working and receive unreduced pensions. When workers attain the pensionable age in this kind of system, they can continue to earn their preretirement wage and still collect a full pension. The worker's net wage does not change simply because he has become eligible to receive a pension. Under this kind of a system, workers who choose to retire at the pensionable age do so because the availability of extra, unearned income or social custom induces them to leave the labor force at that age.

Many public pension systems have a retirement earnings test: workers who attain the pensionable age must stop working or substantially reduce their earnings in order to qualify for an unreduced pension. Mulligan and Sala-i-Martin (2003) estimate that over half the world's public pension systems require workers to exit the labor force or limit their earnings in order to collect a pension.

Even in this case, however, it is not obvious whether attainment of the pensionable age affects the worker's marginal return to continued employment. This depends on another feature of the pension formula, the actuarial adjustment for deferred retirement. In some pension systems there is no such adjustment: workers who delay claiming a pension for one year sacrifice forever 12 months of potential pension income. In this kind of system a worker who attains the pensionable age and remains employed pays a substantial penalty for continued employment because he faces a sharp reduction in his net return to working as soon as he reaches the pensionable age. His lifetime pension wealth is lower if he postpones retirement after the first eligibility age than if he stops working at that age.

A retirement earnings test does not necessarily reduce the net return from working, however. Many public pension programs offer an actuarial adjustment to workers who delay claiming a pension until after the

first pensionable age. If the adjustment is large enough, pensions lost as a result of continued employment past the first pensionable age are made up through higher monthly pension payments once workers retire and claim a pension. Even though workers must give up an immediate pension when they continue to work past the pensionable age, they may be fairly compensated with higher monthly pensions in every month after they stop working. If the compensation is actuarially fair, workers enrolled in a pension scheme with a retirement earnings test face no penalty as a result of remaining employed after the first pensionable age.

A benefit calculation rule that is age-neutral for the average worker can still provide strong financial incentives to retire for workers who have below-average life expectancy. These workers may not expect to live long enough for the future benefit increase to make up for the benefits given up by delaying retirement for one more year. Similarly, workers who apply high discount rates when evaluating future benefits may not be impressed that the pension adjustment is “fair” for an average worker. For workers who are impatient to consume, a 10 percent hike in benefits starting one year from today may not be enough to compensate for the loss of 12 monthly benefit checks over the next year.

This discussion implies that a worker’s net return to employment at the earliest eligibility age is affected by two critical features of the pension formula: the presence or absence of a retirement earnings test, and the generosity of actuarial adjustment when a pension is deferred after the earliest eligibility age. Workers only face a reduction in their net wage at the first pensionable age if there is a retirement earnings test *and* if the pension formula does not provide fair actuarial adjustment for deferred retirement.

Unemployment Insurance Incentives

In almost all countries workers who suffer involuntary job loss are offered income replacement for earnings lost as a result of unemployment. Some countries, especially in Western Europe, offer particularly generous or long-lasting benefits to older unemployed workers. In a few cases these benefits can last two or three years, allowing workers to collect unemployment benefits until they reach the youngest pensionable age. The availability of generous unemployment benefits or special early retirement benefits may reduce the incentive for older unemployed workers to try hard to find another job. Generous benefits may also weaken the incentive for an unemployed worker to accept a job offer, especially if that job pays relatively low wages.

Reducing the Incentives to Accept Early Retirement

This discussion of supply-side incentives suggests several policy steps that might delay workers' exit from the labor force:

- Reductions in the value of pensions or unemployment benefits
- Delays in the earliest eligibility age for pensions
- Changes in the pension formula to reward workers for delaying their labor force exit
- Modifications in the pension "earnings test" to allow pensioners to work while collecting a pension.

The attractiveness of each of these reforms will depend on the current generosity of pensions and unemployment benefits, the rules that determine when workers become eligible for pensions, and the existing formula for calculating pension benefits. Countries that offer meager pensions or have a high retirement age may not find it practical to implement any of these reforms.

Is there any evidence that the reforms will cause workers to delay their exit from the labor force? Such evidence exists, but it is not easy to use it to estimate the impact of specific reforms on labor force participation rates in old age. Moreover, some reforms that succeed in increasing old-age participation rates may have undesirable effects on pension costs and tax burdens. For example, one way to increase activity rates among people who are older than the pensionable age is to permit them to earn wages or self-employment income while they are collecting a pension. Depending on how this reform is implemented, pension costs may increase at the same time that old-age activity rates rise. Suppose that before the reform 10 percent of workers delayed collecting a pension until five years after the earliest pensionable age. Suppose further that the reform allows pensioners to begin earning wages without any reduction in their pensions. In this case, the 10 percent of workers who delayed collecting a pension would immediately claim a pension at the earliest pensionable age, substantially increasing the cost of pensions.³ The reforms that are most likely to simultaneously increase old-age participation rates and improve public finances are those that reduce or delay benefits available to workers who retire at younger ages.

One reason for believing pension reform can boost participation rates in old age is that cross-national evidence suggests this will be the case. Analysts who have examined cross-national differences in pension incentives generally find they have predictable and significant effects on labor

force withdrawal. Countries with early pension ages, generous income replacement, and heavy implicit taxes on earnings in old age tend to have earlier exit from the labor force than countries with pension systems that provide fewer work disincentives.

Even though there are broad similarities in labor force participation trends across rich countries, there have been striking differences in the long-term trend toward earlier retirement. Some countries, such as Austria, have seen a sharp drop in the typical age of labor market withdrawal. Other countries, including Switzerland, have seen a much slower and smaller trend in this direction.

One way to summarize a country's attitudes toward early retirement is to estimate the percentage of middle-age labor force participants who exit the labor force by subsequent ages. To measure trends in labor force exit, these calculations can be repeated at different historical intervals. Such estimates can be derived with considerable precision for countries that have detailed historical data on labor force participation and usual hours of work for people at successive years of age. For example, labor force exit rates for U.S. workers can be calculated by exact year of age for cohorts born in 1906 and later years (Bosworth and Burtless 2004). In the absence of detailed labor force data, it is possible to calculate exit rates using activity rate data for five-year age groups. Table 9.1 shows estimates of exit rates for 21 OECD countries based on activity rate data for selected years.⁴ The estimates are intended to reflect the exit rates that would prevail in the long run if the one-decade change in labor force participation for given birth cohorts could be assumed to represent a stable pattern of labor market withdrawal. The base for this calculation is the labor force participation rate of men who were 45–49 years old at the beginning of the decade. The estimates in columns 1 and 3 show estimates of the proportion of these men who withdraw from the labor force in 10 years' time, when they reach ages 55–59. Columns 2 and 4 show the estimated proportion that withdraws in 15 years' time, when the cohort reaches age 60–64. The two right-hand columns show the change in exit rates between the 1960s and 1990s.

The tabulations show wide disparities in labor force exit across OECD countries. Moreover, the differences have grown much larger over time. All countries have seen an increase in labor force exits by the time workers reach their late 50s and early 60s, but the increases vary widely. In Japan, Norway, Sweden, and Switzerland, there are small differences between the exit patterns of the 1960s and 1990s among those age 55–59, and the changes in exit rates for the 60–64 age group are

Table 9.1. Male Labor Force Exit Rates, by Age Group, 21 OECD Countries, 1960s and 1990s*percent*

Country	Exit rate, 1960s		Exit rate, 1990s		1960s–90s, change in exit rates	
	Through	Through	Through	Through	Age 55–59 (3) – (1)	Age 60–64 (4) – (2)
	age 55–59 (1)	age 60–64 (2)	age 55–59 (3)	age 60–64 (4)		
Austria	13	54	38	88	+25	+34
Belgium	14	41	50	83	+36	+42
France	17	43	32	81	+15	+39
Netherlands	12	32	35	79	+23	+47
Finland	18	40	36	74	+18	+33
Germany	8	25	23	69	+15	+45
Italy	14	50	32	67	+18	+18
New Zealand	6	31	17	65	+11	+33
Greece	12	30	27	56	+14	+26
Spain	11	24	23	56	+12	+31
OECD average	9	27	23	56	+13	+29
Denmark	5	15	14	54	+9	+40
Australia	8	23	21	51	+13	+28
Canada	7	24	20	50	+13	+26
United States	9	24	17	46	+9	+21
Portugal	9	18	23	45	+14	+26
United Kingdom	5	18	17	44	+12	+26
Ireland	5	14	18	40	+13	+26
Sweden	7	23	11	38	+4	+15
Norway	6	17	15	37	+9	+21
Japan	3	11	4	26	+1	+15
Switzerland	3	11	4	21	0	+9

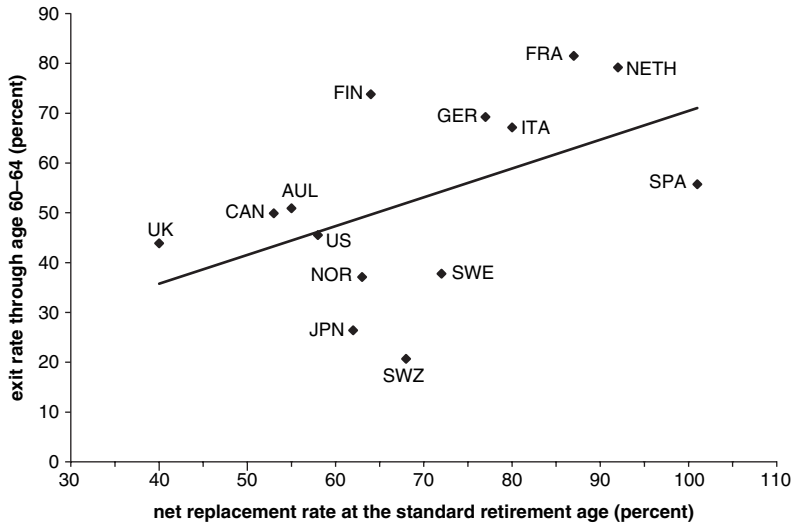
Source: Author's tabulations using data from International Labour Organization, LABORSTA database.

Note: OECD, Organisation for Economic Co-operation and Development. The exit rate is the proportional drop in economic activity rates from age 45–49 to the indicated ages over the course of the decade. Countries are ranked from highest to lowest by their exit rates through age 60–64 in the 1990s.

comparatively modest. The changes in other countries, especially in Europe, are often startling. Exit rates through age 55–59 increased at least 15 percentage points in seven countries, and exit rates through age 60–64 increased at least 30 percentage points in nine.

The cross-national differences in labor force exit rates are strongly associated with cross-national differences in pension generosity. One measure of generosity is the percentage of net earnings that is replaced by the public pension available at a specified age. Figure 9.7 shows the association between this measure of the pension replacement rate and

Figure 9.7. Male Exit Rates and Net Earnings Replacement Rate at the Standard Retirement Age, 14 OECD Countries



Source: Casey et al. (2003) and author's estimates, as described in the text.

Note: OECD, Organisation for Economic Co-operation and Development. AUL, Australia; CAN, Canada; FRA, France; FIN, Finland; GER, Germany; ITA, Italy; JPN, Japan; NETH, Netherlands; NOR, Norway; SPA, Spain; SWE, Sweden; SWZ, Switzerland; UK, United Kingdom; US, United States. Exit rate = 0.58 replacement rate + 12.60; $R^2 = 0.25$.

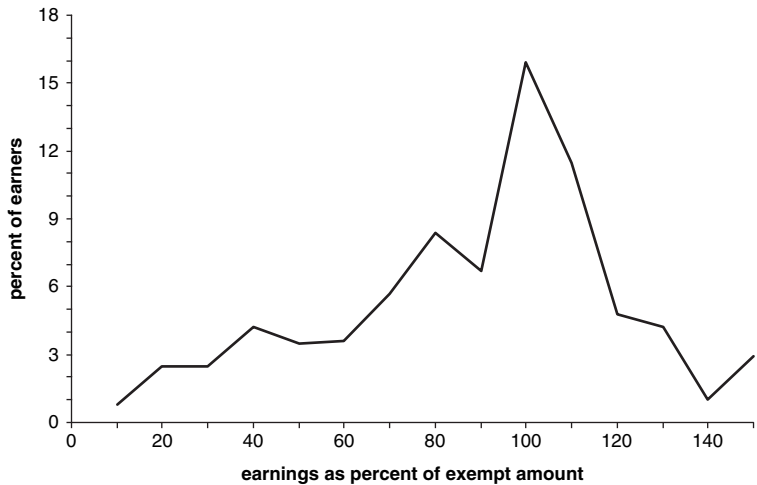
the rate of labor force exit. Estimates of the replacement rate are taken from the net replacement rate tabulations published by Casey et al. (2003), and the estimated withdrawal rates are those shown in column 4 of table 9.1. The scatter plot shows a clear pattern of increasing exit rates as net income replacement at the standard retirement age rises. Cross-national differences in replacement rates account for 25 percent of the variance in cross-national male exit rates. The regression line implies that an increase in the replacement rate of 10 percentage points (the approximate gap between the United States and Spain) will increase the proportion of the age 45–49 group that exits the labor force by age 60–64 by an additional 6 percentage points. Use of other measures of income replacement yields smaller and less significant estimates of the impact of replacement rates on labor force exit. In every case, however, there is a positive association between exit rates and the level of income replacement provided to older workers.

Analysts have also found large effects of the implicit social security tax on earned income. Probably the most striking estimate of this impact was uncovered by Gruber and Wise (1999). They regressed their

preferred measure of the implicit tax burden of the pension formula on labor force participation rates between ages 55 and 64 and found that 82 percent of the variance in the latter could be explained by cross-country differences in implicit social security taxes.

One reform mentioned earlier in this section is a modification of the penalty imposed on pensioners who continue to earn wage or self-employment income. By reducing this penalty, or allowing pensioners to earn higher wages while collecting an unreduced pension, some workers may be induced to remain in paid jobs or reenter the workforce. Evidence from the U.S. public pension system shows that workers are quite sensitive to the penalty imposed by the so-called retirement earnings test. In the early 1970s U.S. pensioners were permitted to earn up to a specified annual amount, known as the earnings-exempt amount, without any penalty. Workers who earned more than the exempt amount had their social security pension reduced by \$0.50 for every \$1.00 in earnings above the exempt amount. Figure 9.8 shows the distribution of pensioner earnings around the exempt amount, indicated by 100 on the horizontal axis. Note that 16 percent of all pensioners who had wages earned exactly the exempt amount; 37 percent earned between 90 and 110 percent of the exempt amount, and slightly more than half earned within 20 percent of the exempt amount. When the

Figure 9.8. Distribution of Postretirement Earnings among U.S. Men Age 62 and Older



Source: Burtless and Moffitt 1984.

U.S. Congress later increased the exempt amount, working pensioners increased their earnings in line with that increase.

Although some older workers show extreme sensitivity to the incentives embodied in their nation's pension system, other workers may base their retirement ages on social norms or on imitation of their friends' or relatives' behavior. Even then, however, worker behavior may be powerfully influenced by the design of a national pension system, at least in the long run. For example, in most countries there are two critical ages that are well known to most older workers. One is the early entitlement age for public pensions, that is, the earliest age when a public pension can be claimed (often with an actuarial reduction). The second critical age, sometimes called the normal retirement age, is the earliest age at which a worker can claim an unreduced pension (that is, a pension not subject to actuarial reduction). In many cases workers may not have a sophisticated understanding of the factors that determine their pensions, but they are nonetheless well aware of the early and normal retirement ages. Because the national pension system has selected these two critical ages, some workers may feel they are socially sanctioned ages for healthy workers to leave their jobs. By changing the early or normal retirement ages, policymakers may in the long run change social norms with regard to retiring at one age rather than another.

Slowing Exit from the Labor Force: Demand-Side Incentives

Although researchers have devoted more effort to uncovering the influence of supply-side factors than to examining demand-side factors, it is well known that labor force exit is strongly influenced by the level of demand for workers. In the United States, for example, the labor force participation rates of the aged tend to fall much faster in recessions and weak labor markets than during periods of robust economic growth (Burtless and Quinn 2001). It is not very helpful to tell policy makers they should aim to maintain low unemployment and devise policies that stimulate economic growth; they generally aim to achieve these goals for reasons that are independent of their desire to boost old-age activity rates. Other demand-side policies, however, may encourage employers to hire or retain older workers.

Mandatory Retirement

In many countries it is or was customary for employers to require their workers to accept retirement at a specified age, such as 60 or 65. Except

in rare circumstances, workers were not permitted to remain in their jobs past this mandatory retirement age. As long as there are some employers who do not have mandatory retirement rules, workers who are forced out of their jobs can always find new jobs or become self-employed. It is typically harder, however, for older unemployed workers to find work than it is for people who are between ages 25 and 50. Experienced older workers who have earned good wages and attained a responsible position may reject the prospect of accepting a new job where their wages will be lower and their work less fulfilling. For that reason, mandatory retirement may lead to involuntary and premature exit from the labor force.

Some countries, including the United States, have outlawed mandatory retirement except in a very small percentage of jobs where advanced age may seriously impair a worker's performance. Although it is unclear whether the elimination of mandatory retirement has had a major impact on overall activity rates, it has almost certainly increased employment tenures in certain occupations where many workers would like to remain employed past the normal retirement age.

Targeted Employment Subsidies or Tax Reductions

Another policy alternative is tax incentives or employment subsidies, payable to employers, that encourage hiring or retention of older workers. Few countries seem to have tried this approach, so it is unclear whether it would significantly boost employment rates in old age. Governments more commonly use tax incentives and targeted employment subsidies to encourage hiring in other disadvantaged groups— young first-time job seekers, the economically disadvantaged, and working-age people with disabilities.

Impact of Higher Old-Age Participation Rates on Employment Rates of the Young

Many policymakers hesitate to institute policies that will boost employment rates among the aged because they fear the consequences for the employment rates of younger workers. Political leaders are particularly concerned about hurting the employment prospects of young job seekers who are trying to enter the workforce for the first time. Their fear is based on an understandable but mistaken belief that the employment gains of one group must necessarily be counterbalanced by employment losses in some other group. This theory of labor demand, known to economists as the "lump of labor" fallacy, may occasionally hold true in a very rigid labor

market and over a very short period of time, but it is unlikely to be valid over longer periods of time, especially when a nation's laws, customs, and labor market institutions give employers and workers some flexibility in setting wages and adjusting the content of jobs.

In countries that have flexible institutions for setting average and relative wages, employment gains of the elderly do not translate into job losses for young or middle-age workers. Switzerland, which has exceptionally high labor force participation and employment rates among older adults, has achieved a high rate of employment and an enviably low rate of involuntary unemployment among its young and middle-age citizens. It is notable in table 9.1 that nearly all of the countries with low labor force exit rates also enjoy below-average unemployment. Policies that encourage older workers to remain in the labor force later in life have not been associated with high joblessness among the young.

Summary

One way to make the cost of old-age pensions and health insurance more affordable is to encourage higher labor force participation and work effort among aged and near-aged citizens. Cross-national evidence suggests that the work and retirement incentives built into a nation's pension system can have a major influence on both the timing of retirement and the level of work effort in old age. Pension systems that offer citizens generous benefits in late middle age can encourage workers to withdraw from the labor force several years before the time retirement normally occurs in countries where generous pensions do not become available until age 65. Pension formulas that heavily penalize pensioners for working in part-time jobs tend to discourage work by people who have claimed pensions.

If a government wishes to change its pension or unemployment insurance system to encourage more labor supply in old age, it is important to consider in designing the reform whether the changes are intended solely to raise the old-age employment rate or also to reduce pension spending. Some reforms that encourage additional work late in life can be costly from the point of view of total pension payments. Finally, by and large there is little evidence that countries which are successful in encouraging high old-age employment rates pay a price in terms of lower employment rates and labor force participation among the young and middle-aged.

Notes

1. These estimates represent the unweighted averages for all nine Southeastern European countries. Of course, the trends will differ from this average in individual countries.
2. These estimates again reflect the unweighted nine-country average.
3. It is of course possible that the reform would encourage many retired pensioners to reenter the workforce, and the extra tax contributions of reentering workers might be large enough to pay for the extra pensions disbursed to the workers who formerly delayed claiming a pension. The crucial point, however, is that a reform which has the intended effect on old-age labor force participation rates may have unwanted consequences for pension costs and public budgets.
4. The entries in columns 1–4 of table 9.1 reflect my best estimates of the steady-state exit rates that would prevail if the one-decade change in labor force participation rates for the cohorts which were 45–49 and 50–54 years old at the beginning of the decade were assumed to be stable. This calculation is less reliable when the percentage of those ages 45–49 and 50–54 in the labor force is changing rapidly, as was the case for women during much of the postwar period.

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CHAPTER 10

Retirement Reform in a Mature Welfare State: The Danish Experience

Lars Haagen Pedersen

The Danish welfare state model is an extended one and includes a public sector that distributes more than 50 percent of gross domestic product (GDP).¹ Income transfers imply relatively high compensation rates, especially for low-income earners, and the welfare services provided by the public sector are of a relatively high standard. The welfare system is universal in the sense that entitlements to benefits and individual services are available to all inhabitants who fulfill objective criteria. The financing of public expenditures is collective and relies on direct and indirect taxation of earned income.

The Danish welfare model both enables and relies on high labor market participation rates for both men and women.² Labor market participation rates are therefore close to 80 percent for individuals in the working ages, and the potential for increasing the tax base through a larger labor force is correspondingly low. Labor market participation

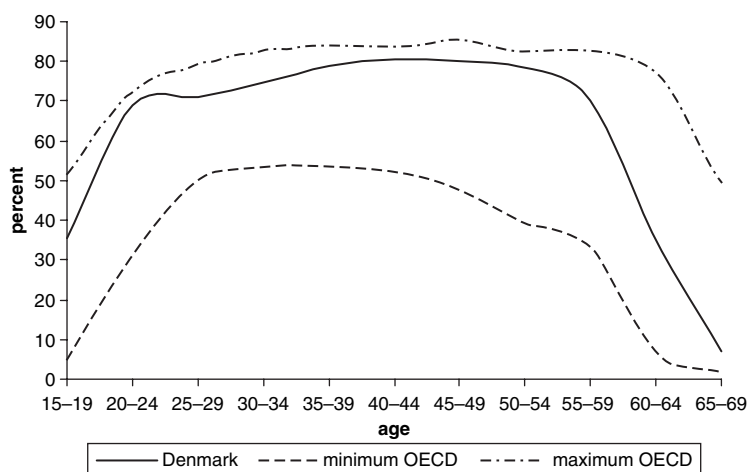
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rates remain high until around age 60, when a significant drop in the rate is experienced (see figure 10.1).

The delinking of benefits and services from their financing implies a strong intergenerational dependency in the net contribution to the public sector. Young and old individuals are net receivers of public benefits and services, whereas the middle-aged are net contributors to the public sector, as shown in figure 10.2. This age dependency in net contributions is one reason why the Danish and, more broadly, Scandinavian welfare systems may be more vulnerable to changes in demographic composition than other types of welfare models. A second reason is that the policy instruments for improving the financing of the welfare state may be more limited in Scandinavian countries because of high initial market participation rates.

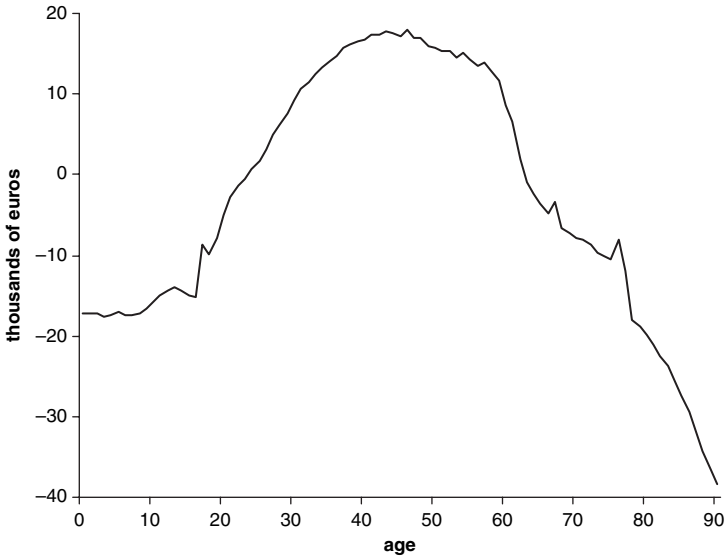
The potential for financing increased aging-related expenditures by increasing the tax rates may also be limited. First, the tax burden is already around 50 percent of GDP, and this, through the marginal tax rate on labor income, generates tax distortions of the labor supply that run counter to the necessity for a large labor force. The distortionary consequences of high labor taxation are likely to increase as a result of globalization, making further tax increases even less attractive. In addition to

Figure 10.1. Labor Market Participation Rates, 2002



Source: OECD and Statistics Denmark data.

Note: OECD, Organisation for Economic Co-operation and Development.

Figure 10.2. Net Contribution to Public Finances Depending on Age, 2004

Source: Author's calculations based on the Danish Rational Economic Agents Model (DREAM).

the economic aspects, current political willingness to increase taxes on the part of both the incumbent government and the leading parties of the opposition is limited.

Reform strategies based on tight expenditure rules are available but will imply either a reduction in the standards for provision of public services to individuals or a decrease in the income replacement ratio of social transfers. This may not in the long run be compatible with maintaining the current type of welfare system.

To retain the welfare model, a reform strategy based on increasing the labor force and, at the same time, reducing the number of recipients of transfer income has been adopted by the Danish government and parliament. The most recent reform involves postponing the statutory pensionable age in the public pension system. The general idea of the retirement reform is that the statutory pensionable age is to be indexed to the life expectancy of a person age 60 so that the expected public pension period remains constant at approximately 19.5 years. The indexation scheme is being phased in very slowly and therefore does not affect the statutory pension age until 2019.

The aim of this chapter is to assess the long-run gradual reform strategy of postponing the statutory pension age.

Projection of the Danish Economy Given Current Welfare Arrangements

To assess the financial consequences for the public sector of the aging of the population and the expected permanent annual increase in longevity, an economic projection is made.³ The projection is based on exogenous demographic projections that are fed into the Danish Rational Economic Agents Model (DREAM). This is an overlapping-generations–computable general equilibrium (OLG-CGE) model that includes a very detailed modeling of the Danish welfare system (see, for example, Pedersen and Stephensen 1999). In the projection it is assumed that current welfare arrangements are maintained, and fiscal sustainability is assessed on the basis of this assumption.⁴

The main implication of the assumption of unchanged welfare arrangements is that the distribution between wage income and social transfers (including social pensions) tends to be neutral with respect to growth.⁵ Similarly expenditures on public consumption are assumed to increase with productivity growth.⁶ The projection also implies that the financing of the welfare system remains unchanged (unchanged direct and indirect tax rates) and that therefore public revenues tend to increase proportionally to the income in the economy.⁷ For a given age structure of population, these assumptions imply that public expenditures and revenues remain approximately constant in relation to GDP.

The question raised is therefore to what extent the aging of the population necessitates change in either current welfare arrangements or their financing to ensure fiscal sustainability. This change is measured as the necessary permanent reduction in collective public consumption relative to GDP. Any compensating change in private spending is ignored.⁸

In comparison with most European economies, the initial conditions for the Danish economy are rather favorable. Unemployment was down to about 4 percent of the labor force by mid-2006. Average economic growth measured by real GDP growth during the period 1966–2005 was 2.1 percent, with a somewhat lower growth rate in recent decades. There has been a current account surplus almost every year since the late 1980s, and the foreign asset position has been positive since 2005. Fiscal discipline has been demonstrated by governments of different color over

the last couple decades. Net public debt has been brought down from 89 percent of GDP in 1986 to 28 percent in 2005. The ratio of gross public debt to GDP was 36 percent in 2005.

The projection of future production and income in the economy depends on productivity growth and the evolution of the size of the effective labor force. The projection of the labor force is based on the demographic forecast and the assumption that current labor market participation rates remain constant for a given age, sex, and country of origin. These joint assumptions imply that the labor force is gradually reduced until 2040; the total reduction is 8.8 percent of the 2004 level.

The reduction in the labor force reduces production, other things being equal. This reduction has, however, only a marginal effect on the long-run level of real production, which almost doubles (increases by 95 percent) by 2040 as a result of the assumed annual Harrod-neutral technological progress rate of 2 percent per year, close to the historical growth rate. The projection implies that real private consumption increases by 110 percent between 2004 and 2040. The additional increase in real private consumption relative to production is a consequence of the doubling of the number of retirees in the period until 2040. This demographic change also drives the increase in real public consumption, which grows 124 percent until 2040. In this case the additional growth reflects both the increased number of retirees and the fact that public consumption per individual increases with age.

Public expenditures increase by 9 percentage points, from 50 to 59 percent of GDP, during the period from 2005 to 2040. The increase is almost equally divided between increases in public transfers stemming from the larger number of pensioners and growth in spending on public services for increased health care and elderly care. This indicates that although the population-aging phenomenon is of fairly modest proportions in Denmark, the institutions of the Danish welfare system imply large economic consequences.⁹ The increase in public expenditures relative to GDP of 9 percentage points over the next 35 years is comparable to the increase relative to GDP in the previous 35 years. But the historical increase came about because of expansion of the types of welfare arrangement included in the public service.

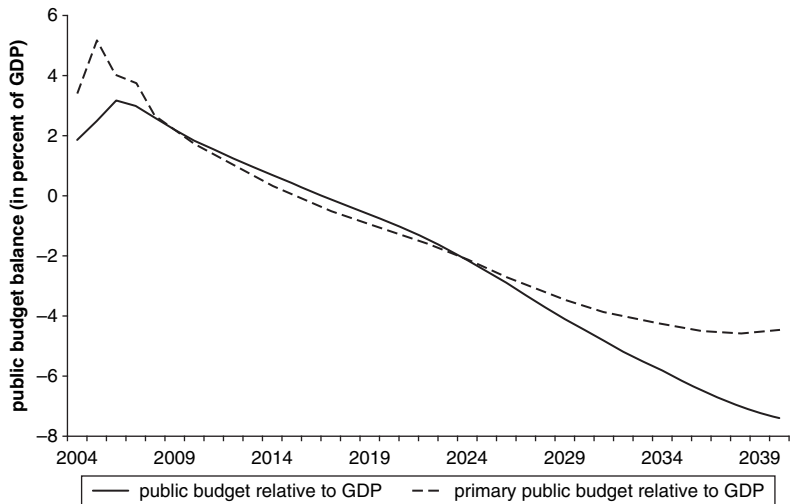
Public revenues also increase relative to GDP.¹⁰ From 2010 to 2040 revenues increase by almost 3 percentage points. This rise appears to result from taxes on the payout from funded (second-pillar) pensions. Danish legislation implies that contributions to funded pensions are

deductible from gross income for purposes of determining taxable income. The flip side of this deductibility is that pension payments from funded pensions are subject to income tax. Since funded pensions in Denmark are far from being mature, current taxes on pension payments are based on a much lower level of contributions relative to GDP than current contributions. The Danish funded pension system is not expected to mature before around 2060, and therefore the increase in tax revenue relative to GDP continues beyond 2040.

These developments imply that the Danish public budget surplus of 5 percent of GDP in 2005 is gradually reduced and becomes a deficit around 2015. From this point on, deficits will increase. The primary deficit amounts to 4.5 percent of GDP in 2040, and the deficit on the total budget becomes 7.4 percent of GDP, given the assumptions of the projection, as illustrated in figure 10.3.¹¹ The gradual deterioration of the primary public budget over time follows the gradual change in the composition of population as relatively large generations retire and relatively small generations enter the labor force. This development is reinforced by the annual increases in life expectancy of the retirees.

A permanent reduction of public expenditures amounting to 4.0 percent of GDP is required to ensure fiscal sustainability. Therefore, even the relative modest increase in the Danish dependency ratio, from 0.5 to

Figure 10.3. Danish Public Budget without Pension Reform



0.75, necessitates a fairly substantial permanent change in the welfare arrangements or their financing.

Retirement Reform

To deal with the expected fiscal consequences of the aging of the population, the Danish parliament in June 2006 adopted a retirement reform that was supported by 90 percent of the votes in the parliament.

The reform has two elements. First, it raises the statutory retirement age of the Danish voluntary early retirement pension (VERP) scheme by two years, from age 60 to age 62, in the period 2019–22. The maximum period of the VERP is maintained at five years per individual, and the statutory pension age for the Danish social security pension is accordingly also increased by two years in the period 2024–27. Second, from 2025 on, the statutory retirement age of the VERP is indexed to the life expectancy of a person age 60. The statutory pension age of the social security pension follows the increased life expectancy with a lag of five years. The indexation of the retirement age of the VERP is renewed every five years. Increases in the legal retirement age resulting from the indexation may be zero, a half-year, or one year for each indexation, depending on the growth in the life expectancy of a 60-year-old individual.¹²

The reform affects individuals who are currently 48 years old or younger, not individuals close to the current retirement age. The downside of this provision is that the reform cannot be expected to affect either the size of the labor force or the number of pensioners in the next 15 years. This is a major concern, as the large postwar generations will retire during this period.

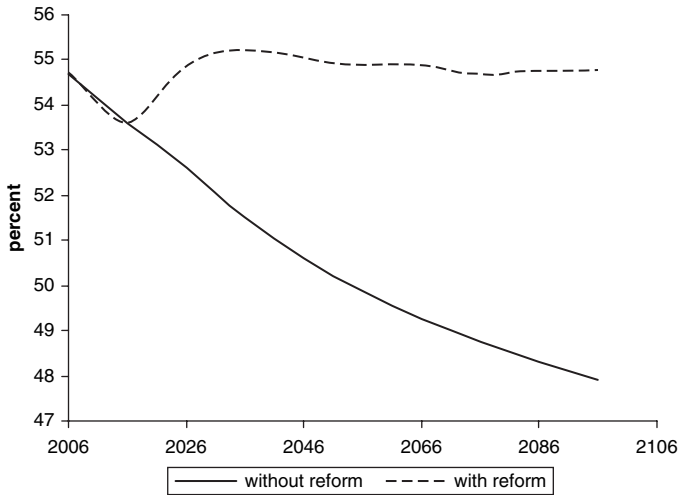
Currently, less than 5 percent of the Danish population retires without entering directly into the disability pension system, the VERP, or the social security pension system. Approximately 50–55 percent of the population retires into the VERP, 20–25 percent involuntarily retires into the disability pension system, 15 percent retires directly into the social security pension system, and approximately 5 percent retires before the legal pension age of the social security pension without receiving other types of public transfers.

A prerequisite for enrolling in the VERP is that the individual be entitled to unemployment benefits before entering the retirement scheme. In principle, therefore, only those individuals can enter the VERP who are employed or are receiving unemployment benefits. It is

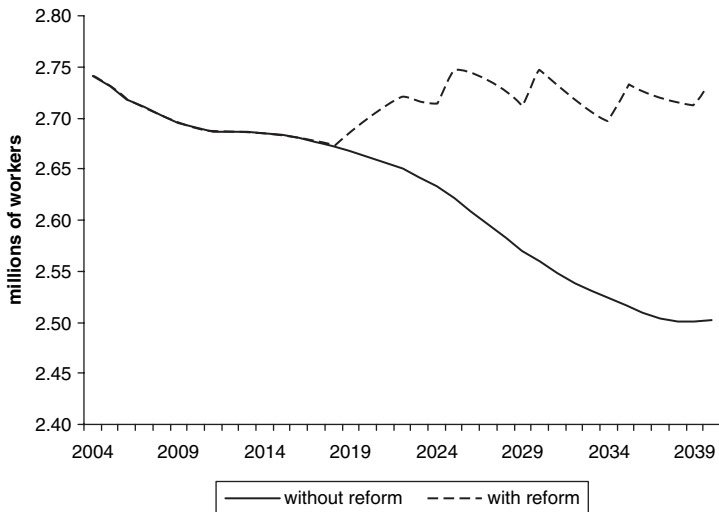
not possible to retire from the labor market and enter the VERP after retiring. Since the pension from the VERP is relatively high (50 percent of the income of an average worker), and since 80 percent of the pension is public transfers, incentives to remain in the labor force until eligible to retire into the VERP are very strong. This situation implies that the expected impact of the retirement reform on the effective retirement age is high. It is assumed that only a very limited number of additional individuals retire voluntarily prior to reaching the legal pension age of the VERP and so make themselves ineligible for pensions from the VERP. It is expected that the number of individuals who involuntarily retire into the disability pension scheme will increase rather significantly because of the lack of possibilities for voluntary retirement. Data based on questionnaires suggest that 20 percent of individuals who retire into the VERP will be unable to remain in the labor force for health reasons (Danish Welfare Commission 2006), and analyses based on register data on health yield a figure between 10 and 20 percent (Danish Economic Council 2006). The current assessment is based on the former, more pessimistic assumption.

The philosophy of the indexation scheme is that the expected maximum length of the period spent as retired in either the VERP or the social security pension scheme remains at the current level, approximately 19.5 years. The generations that retire in the coming years before the indexation mechanism is initiated will have a longer expected retirement period in these two pension systems. Since, however, increasing numbers of individuals are expected to retire into the disability pension system, the expected effective retirement period rises over time. With the indexation rule of the reform, the expected average period in retirement increases from the current 17.0 years to 19.0 years in 2040, which should be compared with an expected increase in the average expected retirement period to 22.5 years under the current retirement rules. The indexation rule in fact obtains the effect that the average share of life spent in the labor force remains at the current level of 55 percent of life in the long run. The delay in the introduction of the indexation rule implies, however, that generations who retire in the coming years may expect a lower share of life in the labor force and, accordingly, a larger share of life in retirement (see figure 10.4).

The retirement reform has positive effects on the labor force from 2019 on. During the period 2020–40 the drop in the labor force experienced during 2004–20 is redressed, so that the labor force increases by 2.0 percent during the 20-year period to 2040, as shown in figure 10.5.

Figure 10.4. Share of Lifetime Spent in the Labor Force with and without Reform

Source: Author's calculations based on demographic forecast in DREAM (2006).

Figure 10.5. Labor Force with and without Reform

Source: Author's calculations.

The effects on the labor force appear discontinuously every five years after 2025. This is because of the indexation mechanism that operates every five years to increase the statutory retirement age by one year. The first three times the mechanism acts, the retirement age is postponed a whole year. This yields the three major peaks in figure 10.5, at 2025, 2030 and 2035. In each of those years the increase in the labor force is approximately 1.5 percent. Although there is a general tendency toward a tight labor market in the future because of the simultaneously decreased labor supply and increased labor demand, business cycle effects may dominate, and there is a risk that the increase in the labor supply will be badly timed vis-à-vis the business cycle, generating short-term increases in unemployment.

The macroeconomic effects of the retirement reform stem from the combined effects of the increased labor force and the reduced number of recipients of public transfers. The labor force is expected to be 9 percent higher in 2040 than without the reform. This implies that the current level of the labor force is regained in 2040, whereas without the reform there would have been a reduction of 8.8 percent. The increase in the labor force generates an increase in production of 5 percent and an increase in consumption of 4 percent in 2040, compared to the situation without reform.¹³

Public expenditures are reduced by 3.4 percentage points relative to GDP in 2040 as a result of the reform; 2.0 percentage points is attributable to the reduction in public transfers and the rest to the reduction in public services. The reduction in the ratio of expenditures on public services to GDP stems partly from the increase in GDP and partly from an endogenous cost reduction that appears through a wage moderation effect from the less tight labor market. Since labor intensity is high in public services, this tends to reduce the relative price of these services.

Public tax revenue is reduced by 2.5 percentage points relative to GDP because public transfers in Denmark are taxed according to the income taxation scheme; increases in the labor force and reductions in the number of pensioners only affect tax revenues through taxation of the increase in income.¹⁴ The net increase in the primary public budget in 2040 is therefore 0.9 percentage point of GDP. The annual improvement in the public surplus is affected by the timing of the indexation, and so five-year cycles are observed. It so happens that the improvement in 2040 is particularly low, as a result of this cycle effect, and therefore a more relevant measure of the improvement of the public budget is the

effect on fiscal sustainability. The necessary permanent reduction in public expenditures falls from 4.0 percent of GDP without the reform to 2.2 percent with the reform. The reform therefore solves almost half of Denmark's fiscal sustainability problem.

The improvement in fiscal sustainability is obtained by stabilizing the ratio of public transfers to GDP at the current level. In particular, the pension system is sustainable, given the reform. Public revenue relative to GDP is also stabilized, which implies that the remaining unsolved part of the fiscal problem is attributable to the increases in public services, particularly health care and elderly care expenditures, relative to GDP.

Time-Inconsistency Problems

The reform has two major flaws from a political-economy point of view. Both have to do with time-inconsistency problems. The first is a consequence of the timing of the reform. Current politicians have abstained from indexing the statutory retirement age for the generations that will retire in the coming 12 years, but they expect that future politicians will postpone the retirement age for the generations that are retiring in the period when those politicians are active. In fact, the reform is implemented in such a way that the indexation is high in the initial phase because indexation has to catch up with the increase in life expectancy in the next 12 years. There is a risk that political pressures will emerge to postpone the reform further into the future.

The second time-inconsistency problem stems from the design of the indexation rule as a discontinuous mechanism that postpones the statutory retirement age in intervals of five years and therefore potentially implies relatively large increases. A large increase in the retirement age may not be politically credible if the economy is at a trough in the business cycle. In that case political pressures to avoid increasing the legal retirement age in the specific situation may be felt, since the short-term effect may be an increase in unemployment.

Both these time-inconsistency problems could have been avoided by alterations in the reform. First, the mechanical increase in the retirement age that is to start in 2019 could have been initiated, for example, with a five-year announcement in 2011, and indexation could have been initiated in 2015. In this way, current politicians could have signaled that they were prepared to incur the potential political costs in the same way as future politicians. Second, by indexing the statutory retirement age, for example, every year or every second year and by increasing the legal

retirement age in steps of, say, one month, the discontinuities in the labor supply might easily have been avoided. In addition, such a rule might be fairer, as individuals of about the same age would have almost the same statutory retirement age.

Conclusion

Indexation of the statutory retirement age of voluntary retirement systems to the life expectancy of a 60-year-old individual is sufficient to ensure sustainability of the pension system, even with a fixed compensation ratio of the pay-as-you-go pensions. This holds even in a situation of a substantial increase in the number of individuals who retire involuntarily into the more generous disability pension system.

Indexation of the statutory retirement age is not sufficient to finance the total costs of aging because the potential increase in public expenditures on health care and elderly care cannot be financed without invoking an indexation rule which implies that the share of life in employment increases as life expectancy is increased. This may run counter to the individual's desire to spend a part of the growing wealth in a growing economy by increasing the amount of leisure.

Indexation of the statutory retirement age is therefore not a universal remedy for all the financial effects of aging. Nevertheless, it remains a simple and powerful tool for securing sustainability of the pay-as-you-go pension system without reducing annual pensions relative to the wage rate.

Notes

1. The analysis in this paper is based on work carried out while the author was affiliated with the Danish Rational Economic Agents Model (DREAM) and the Danish Welfare Commission.
2. Public provision of child care and old-age care enables high labor market participation rates for both men and women.
3. The projection was originally published in Danish in DREAM (2006).
4. Technically, fiscal sustainability requires evaluation of primary budgets over an infinite future, and the present analysis does not deviate from this. It is technically assumed, however, that the phenomenon of increased longevity stops at year 2100 and that the population becomes stationary after this point, implying that the economy is approaching a steady state after 2100. The analysis is therefore restricted to evaluating the robustness of the welfare arrangements given the expected aging of the population until 2100, but not permanently increasing life expectancy.

5. Current Danish legislation implies that transfers are indexed to the wage rate.
6. The projection does not include the well-known effects of Baumol's "cost disease" or Wagner's recognition that the income elasticity for services is greater than one. The projection also ignores potential cost reductions from healthy aging.
7. Two major exceptions are revenues from Danish North Sea oil production and revenues from pension payments from fully funded contributions defined under the second-pillar pension schemes.
8. Since the policy implies a permanent reduction in spending beginning in 2011, the primary surplus is increased by an almost constant amount relative to GDP from 2011 on. Aging of the population, however, is a gradual process that leads to a gradual deterioration of the primary budget. The consequence of the policy is therefore that the government follows a savings strategy. This implies that the size of the necessary adjustment becomes highly sensitive to the relevant yield on savings (i.e., the interest rate corrected for growth and inflation). In addition, even if there may be efficiency gains from the tax smoothing implied by the policy, there are also large intergenerational distribution effects (see Andersen and Pedersen 2006). Therefore, it should be stressed that these policies are to be viewed only as means for measuring the size of the problem, not as policy recommendations.
9. The increase in the dependency ratio is only a result of the retirement of the large postwar generations (with echo effects) and an expected increase in longevity. The fertility rate is expected to stabilize around the current level of 1.9 children per woman.
10. Large revenues from North Sea oil production and nonstructural revenues from taxation of interest income of pension savings imply that 2005 revenue relative to GDP is comparable to the 2040 ratio.
11. The largest public deficit in Danish economic history was 8.5 percent of GDP in 1982.
12. The indexation of the retirement age of the VERP is based on the observed life expectancy of a 60-year-old individual in the year of the announcement and is announced 10 years in advance, and so the indexation of the social security pension is announced 15 years in advance.
13. Production functions exhibit constant returns to scale but sluggish adjustment in the capital stock because of the convex cost of installation. This is why the observed increase in production in 2040 is lower than the observed increase in employment.
14. The negative effect on public revenue relative to GDP also appears to stem from the unaffected revenues from North Sea oil production and taxation of pension payments. It is reinforced by a reduction in private savings and, therefore, lower capital income tax revenue because of the reduction in the expected pension period.

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CHAPTER 11

The Pension System and Employment of Older Workers: How to Change the Incentive Structure—The Polish Experience

Agnieszka Chlon-Dominczak

This chapter presents the experience of Poland with regard to the pension system and employment incentives. These issues are becoming more and more important in Poland, which ranks among the countries that have the lowest employment rates among older workers in the European Union (EU). This situation is a result of many years of implementing policies that were focused on relatively early deactivation of workers. One of the most important components of these policies was early retirement options that were extended to a large group of workers, combined with a relatively generous pension formula.

Widespread early retirement privileges were one reason for the implementation of the pension reform in Poland. The authors of the reform, in working on the design for the new pension system, sought solutions that would stimulate workers to prolong their working lives.

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The age of withdrawal from the labor market in Poland is one of the lowest among the countries of the Organisation for Economic Co-operation and Development (OECD). This outcome is the inheritance of the pre-transition pension system that offered a wide range of early retirement privileges addressed to various occupational groups.

Such developments were one of the reasons for the introduction of the new pension system in Poland. In the new system there will be no opportunity to draw a retirement pension below a minimum retirement age of 60 years for women and 65 years for men. In addition, the new pension formula includes significant incentives to postpone retirement. The new system, however, covers only persons born after 1948. This means that until 2008 individuals were retiring according to the old system rules, either because they were not covered by the new pension system or because they could apply for a transitional arrangement.

This chapter presents recent developments in Poland with regard to the labor market participation of older workers. It examines retirement ages and retirement decisions under the old-age pension system, but also with respect to other routes leading to early retirement.

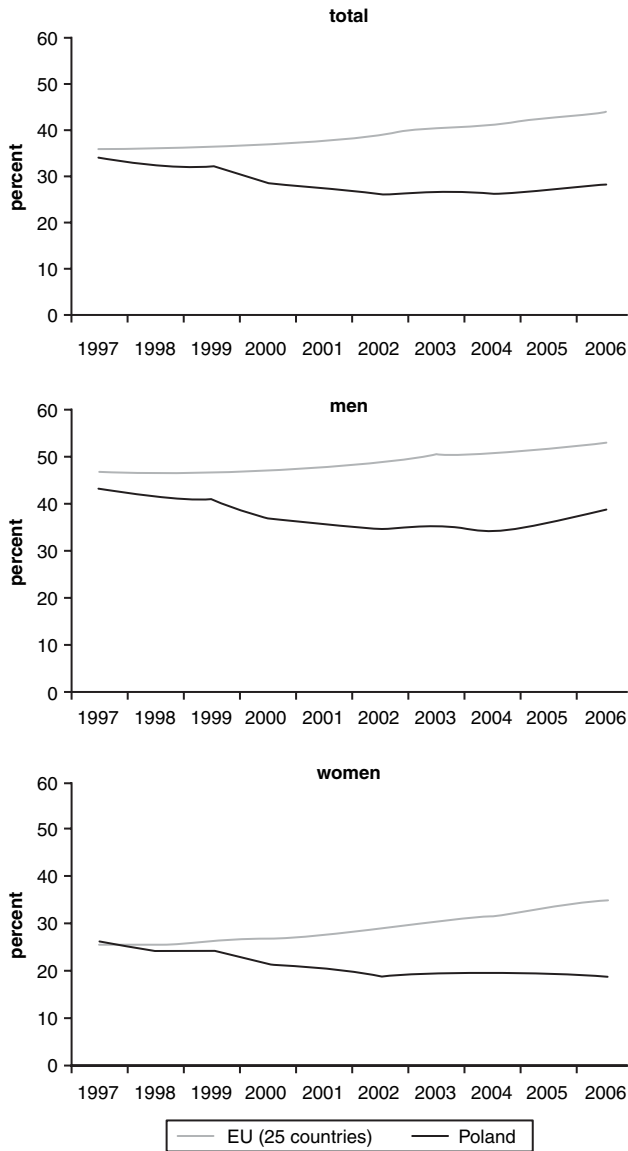
Labor Market Participation by Older Workers

The Polish labor market developed in several phases following the transition. After 1989 the first adjustment led to a reduction in employment, a sharp increase in unemployment, and significant changes in the employment structure. Following the initial shock, the labor market started to recover, and this phase lasted until 1998. Then a second phase of restructuring on the labor market, characterized by a fall in employment and an increase in unemployment to around 20 percent, set in. These processes all had an impact on the employment of older workers. The drop in the employment level mainly affected older workers whose skills and competence did not match demand.

As a result, the employment rate of older workers has fallen steadily for the past two decades. This experience ran counter to developments on the EU labor market, as the implementation of the Lisbon strategy led to the introduction of policies aimed at increasing the labor market participation of older workers.¹

Figures 11.1 and 11.2 show the changes in the employment rate of older workers in Poland in comparison with the level in 25 countries of the European Union (EU25) before the 2007 expansion. From the end of the 1990s on, the gap between the employment of older workers in

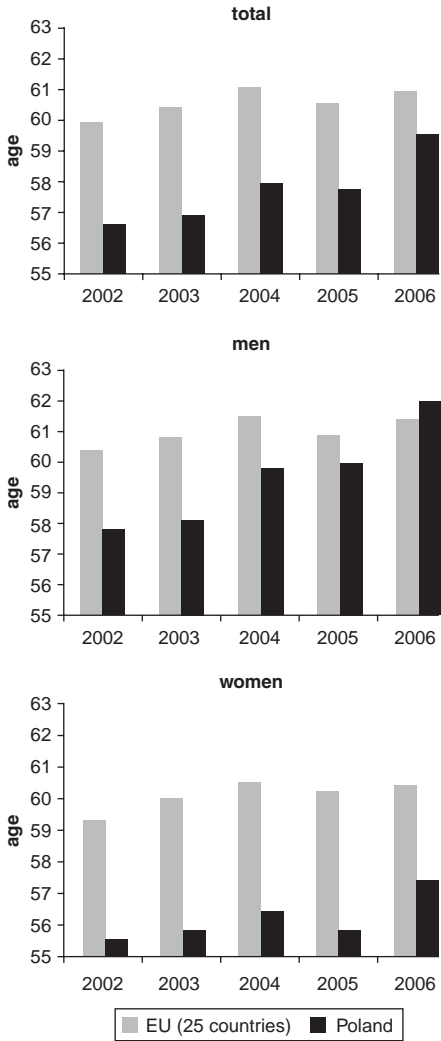
Figure 11.1. Employment Rate of Workers Age 55–64, EU25 and Poland, 1997–2006



Source: Eurostat, November 14, 2007, http://epp.eurostat.ec.europa.eu/poral/page?_pageid=1996,45323734&dad=portal&schema=PORTAL&screen=welcomeref&open=/&product=STRIND_EMPLOI&depth=2.

Note: EU, European Union. The employment rates for EU25 in 2005 and 2006 are provisional.

Figure 11.2. Average Age of Exit from the Labor Market, EU25 and Poland, 2002–06



Source: Eurostat, November 14, 2007. http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=STRIND_EMPLOI&depth=2.

Note: EU, European Union. The average exit ages for EU25 in 2005 and 2006 are estimates.

Poland and in the EU countries began to widen. Whereas in 1997 there was little difference between the EU25 countries and Poland, the gap is now more than 15 percentage points, and the distance to the Lisbon target of 50 percent is almost 22 percentage points. Although the employment

rate of men age 55–64 was recovering in 2005 and 2006, women's employment has been steadily declining.

A slightly different picture emerges if we analyze the average age of exit from the labor force. The gap in the exit age between Poland and the EU25 has narrowed recently. For men, the exit age in Poland is above that in the EU25 countries. A significant gap is still observed in the case of women. As a result, Poland has the largest difference between exit ages of men and women in the EU.

To summarize, Poland faces a big challenge of improving the labor market participation of older workers. Labor market policy in that direction lags behind developments in the EU area. The situation is more acute in the case of women, whose labor market participation is particularly low, as is their age of exit from the labor market.

The question that arises is, to what extent the benefit policy in Poland has affected the situation and had an impact on the described labor market developments. This is discussed in the next section.

Early Retirement Options in Poland

At the end of the 1980s the pension system was employed as a tool to reduce social anxiety. The authorities used early retirement as a privilege granted to the segments of the labor force that were demanding an improved labor market situation. In particular, early retirement pensions were granted to miners, railway workers, and teachers, as well as to people working in so-called special conditions or in professions of special character. The 1983 decree of the Council of Ministers specified several hundred professions that could receive such an early retirement benefit. In addition, women could retire at age 55 if they had worked for at least 30 years.

With the onset of economic transition, additional options for early retirement were granted to people who were laid off from their companies. Disability assessment procedures were also relatively weak at that time. The aim of such policies was to absorb the excess labor supply of people with relatively low human capital who had lower chances of finding employment in the rapidly changing economy.

As a result of these policies, the number of pension beneficiaries increased drastically, leading to an increase in total pension expenditure. This, in turn, resulted in the increase of social security contribution rates and increased the tax wedge. In 2006 Poland had a tax wedge of 43.7 percent of total wage cost, well above the OECD average (OECD 2007). The weight of social security contributions in the tax wedge was

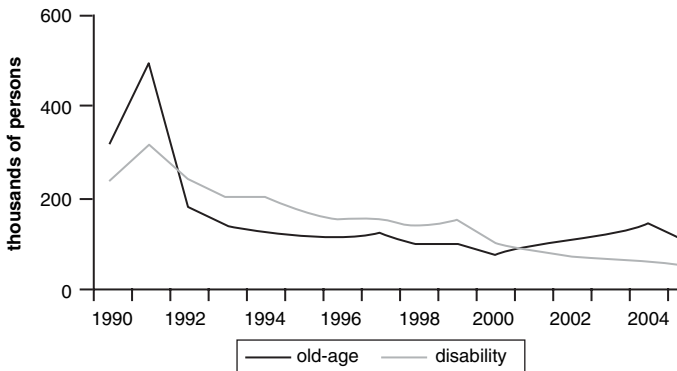
also high. Of a total 43.7 percent, employee social security contributions accounted for 21.4 percentage points, employer social security contributions for 17.0, and personal income tax for 5.3. The high tax wedge has an impact on the labor market, especially in the case of workers with lower qualifications.

Polish pension expenditure is still one of the highest in the EU countries. This is a result of, among other things, policies introduced at the beginning of the 1990s. In 1991 the number of new old-age and disability pensions granted peaked at 815,000 persons. For comparison, in 2006 the corresponding number was 80 percent lower (154,000). After 1991 the number of new pensions gradually decreased as a consequence of finalization of the main wave of the restructuring process, as shown in figure 11.3.

In 1998 the option for early retirement because of layoff from the company was discontinued, but new types of preretirement benefits were introduced. The preretirement benefits and allowances, financed from the Labor Fund, were paid to laid-off workers, initially from age 50 (in the case of women) or 55 (in the case of men) or, in specific circumstances, even below those ages. After restructuring had progressed, eligibility for preretirement benefits was tightened. Currently, the preretirement benefits are paid to laid-off workers who cannot find employment and who are above age 55 (women) or 60 (men).

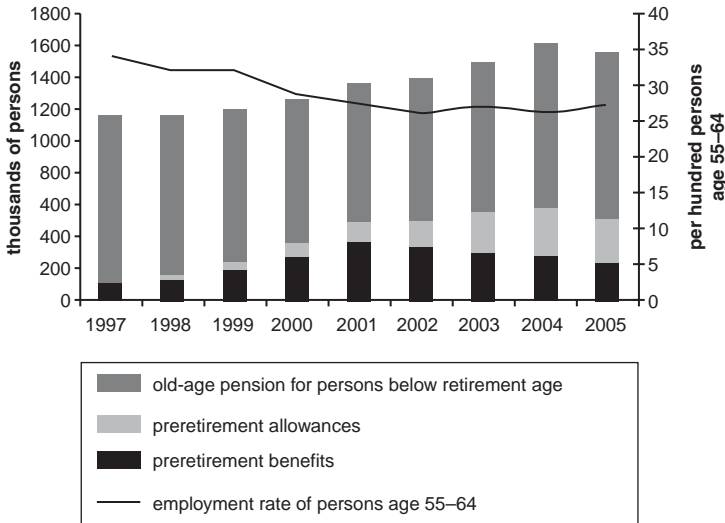
After 1997 the number of people drawing either pensions below retirement age or preretirement benefits increased (figure 11.4). The reason was that the reduction in the number of people receiving early old-age pensions

Figure 11.3. Number of Newly Granted Pensions (Old Age and Disability), Poland, 1990–2004



Source: ZUS (2007) and earlier years.

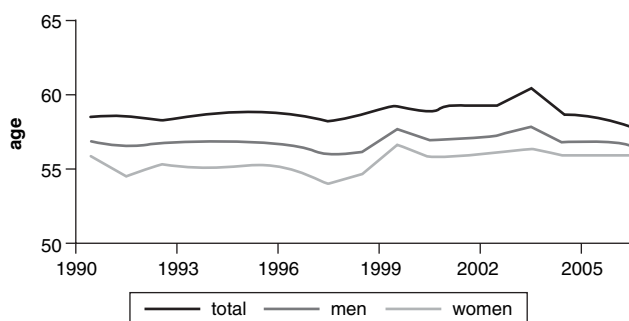
Figure 11.4. Number of People Receiving Old-Age Pensions and Preretirement Benefits below Retirement Age, Poland, 1997–2005



Source: Calculation of Department for Economic Analyses and Forecasting, Ministry of Labor and Social Policy, based on administrative data.

was offset by the increase in the number of people receiving preretirement benefits and allowances. The increase in the number of people receiving various types of early retirement transfers was accompanied by a drop in the employment rate for people age 55–64. This leads to a first observation that routes to early retirement should be reduced for all benefit schemes, as otherwise the substitution effect will appear and the outcome, from the labor market perspective, will be negligible.

As a result of existing options for early retirement, the average age at which the old-age pension is taken up is significantly lower than the legal retirement age, for both men and women. As illustrated in figure 11.5, average retirement age in Poland did not change significantly between 1990 and 2006. Some variations that can be observed can be explained by minor changes in the legislative framework. At the beginning of the 1990s, average retirement age was about 55 for women and 59 for men. This means that the large inflow of new beneficiaries noted at the beginning of 1990s mainly stemmed from the introduction in 1990 of new options for early retirement. The reduction of the average retirement age before 1998 is attributable to the effect of mass retirement decisions prior to the withdrawal of the early retirement option in 1998; it is the

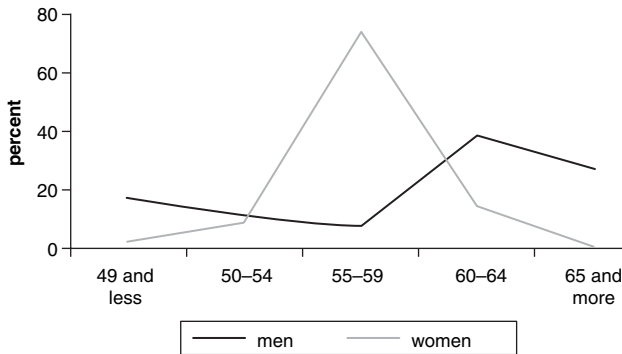
Figure 11.5. Average Effective Retirement Age, Poland, 1990–2004

Source: ZUS (2007) and earlier years.

result of an additional inflow to old-age pension rolls of those who otherwise would continue working but were afraid of losing the right to retire after the change in the legislation. The initial decrease was followed by an increase in the average retirement age. From 2003 on, a reduction of average effective retirement age can be observed that could be related to the withdrawal of the right to early retirement after 2007 under the pension system reform of 1999. The drop in recent years may be particularly linked to the increased inflow of teachers exercising their right to early retirement.

In 2006 the average retirement age of persons who were granted old-age pensions was 56.6 years (57.9 for men and 56.0 for women). Only 26.6 per cent of men and 15.1 per cent of women retired at or above legal retirement age; the majority of both men and women retired earlier. As figure 11.6 shows, the retirement probability by age differs for men and women. For women, the dominant retirement age is 55, and more than 70 percent of women retiring in 2006 did so within the age bracket 55–59. This situation is related to the existing legal possibility of early retirement at age 55 if total work experience is more than 30 years (including periods of university education and child-care leave). As for men, about a fifth of those who retired did so at age 49 or earlier; these were miners, and to a lesser extent, teachers, who could retire after the required number of years worked in their profession (25 years and 30 years, respectively), without the age limit.

Almost half of all men retire at age 60–64. It can be assumed that these are men working in special conditions that allow early retirement or who are not able to continue working for health reasons.

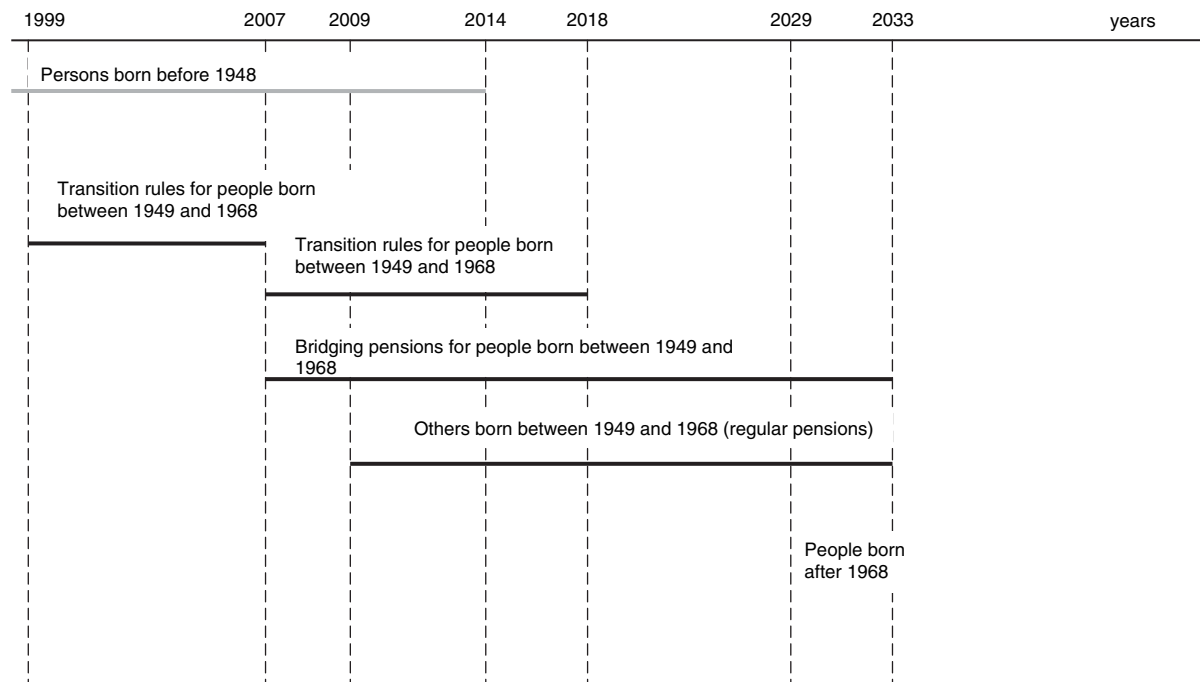
Figure 11.6. Age Structure of New Old-Age Pensions Granted in 2006, Poland

Source: ZUS 2007.

According to the current legislation, from 2009 on early retirement options will not be allowed.² The early retirement system should be replaced by bridging pensions granted to people working in special conditions and professions of special character, based on the new list (with eligibility, theoretically, medically verified). Yet government work on those pensions has gone on for the past eight years, and the system has still not been proposed. This illustrates that early retirement is one of the most sensitive political issues in Poland. In 2007 the government prepared a new proposal that is being discussed with the social partners, but it does not include the list of professions that would be covered by the system, so it is not possible to assess how many people will be covered by this new scheme. Figure 11.7 illustrates existing options for receiving either an early retirement pension or a bridging pension, depending on birth cohort.

To summarize, the evidence from Poland shows a direct link between current legal options for early retirement and the economic activity of older workers. The existence of numerous opportunities to receive a long-term benefit (early retirement pension, disability pension, or preretirement benefit) has an impact on the reduction of economic activity. As a result, a vicious circle forms: people exercise their opportunity to receive pensions, which leads to an increase in public expenditure and to an increase in the tax wedge that in turn reduces the demand for labor. Reduced demand for labor leads to reduced employment of older workers, who are perceived as people with potentially lower productivity.

Figure 11.7. Year of Reaching the Minimum Age for the Right to an Early Old-Age Pension or Bridging Pension



Source: Author's elaboration.

Note: Assumptions are for a retirement age of 60 for women and 65 for men; working age begins at age 20.

Lower employment in turn increases the pressure to maintain early retirement options in the social system.

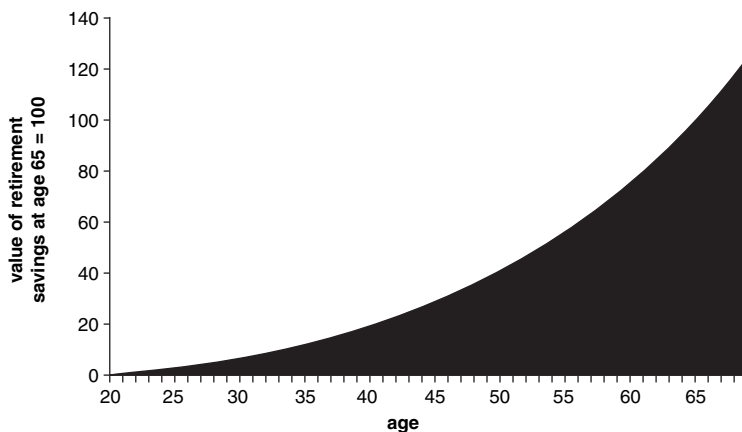
Potential Effect of the Pension Reform on Workers' Retirement Behavior

The reform of the old-age pension system introduced in 1999 is designed to break the vicious circle described above. It includes, first, abolition of any early retirement within the old-age pension system. Those covered by the new system will not be able to retire before the legal retirement age, set at age 60 for women and 65 for men. This rule, when fully implemented, will lead to the rapid increase in retirement ages that should be observed from 2009, when cohorts covered by the new system retire.³

The new system also has mechanisms that encourage extension of working lives. The new pension system is based on the defined contribution principle and is financed from two accounts: notional (pay-as-you-go) and funded. In both parts of the mandatory system, the pension level depends on two main factors: the value of the individual account and life expectancy on retirement age. As shown in figure 11.8, the accumulation of pension savings increases at the end of the working career, when the base for potential returns is highest. As the retirement decision is postponed, life expectancy also decreases. Thus, incentives to prolong working lives are quite strong.

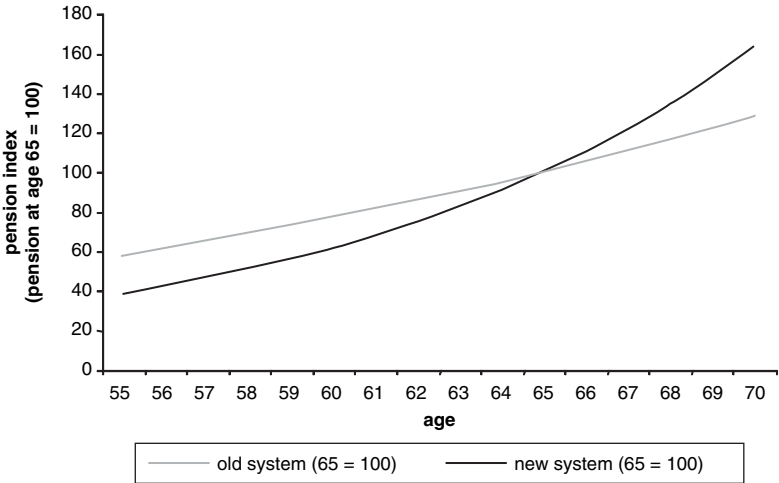
Figure 11.9 shows relative pension levels under the old and new pension systems in Poland, assuming that the pension granted to a 65-year-old

Figure 11.8. Accumulation of Pension Capital, Poland



Source: Author's calculations.

Figure 11.9. Changes in Pension Level Depending on Retirement Age, Poland



Source: Author's calculations.

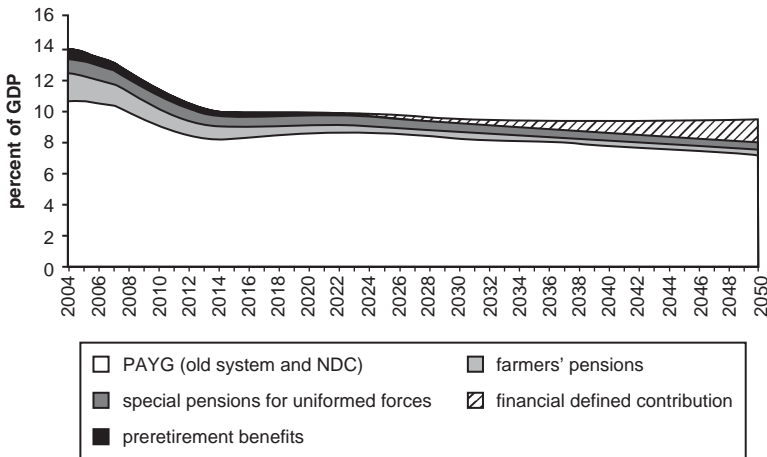
is 100 percent. The new system offers much lower benefits if the retirement decision is made before age 65, as well as significant increases of benefits if the retirement decision is made later. It can be hoped that the new system will lead to further extension of working lives in Poland.

Such a scenario depends on several assumptions. The first is that the initial reform scenario will not be further changed, allowing additional extension of the current low retirement age. The second is that people will react to incentives. This requires a systematic public education effort by the public authorities to enhance the “pension literacy” of the Polish population.

A pending challenge is the effort to equalize retirement ages for men and women. Poland is one of the very few countries in the EU with differentiated minimum retirement ages by gender. Despite several attempts by the government, at the time of the preparation of the new pension system as well as afterward, there was no political or social consensus for changing this.

Change in Retirement Age and Pension Expenditure

The way the new pension system is implemented in Poland will influence the level of inflow of new pensioners to the pension system and,

Figure 11.10. Projection of Pension Expenditure, Poland, 2004–50

Source: Economic Policy Committee, European Union, and Ministry of Labor and Social Policy, Poland, 2005.

Note: GDP, gross domestic product; NDC, notional defined contribution; PAYG, pay-as-you-go system. The projection does not cover changes introduced in the pension system between 2005 and 2007, including postponement of the possibility of early retirement from 2006 to 2008 and introduction of annual pension indexation with price level change plus 20 percent of real wage growth.

by the same token, the magnitude of pension expenditure. As cohorts covered by the new system approach retirement age, it is expected that there will be a very rapid change in the average age of the uptake of old-age benefits. Because there is no possibility of drawing a pension below retirement age after the transition period is over, we might expect that between 2008 and 2014 very few people will actually retire.

The effect of such projected developments on pension expenditure is illustrated in figure 11.10. The reduction of pension expenditure in relation to gross domestic product (GDP) between 2007 and 2014 can be mainly attributed to the increase in the effective age of retirement.

Conclusions

Among EU members, Poland ranks among those with the lowest labor market participation by older workers and the lowest effective retirement age. This is a legacy of past policies that were mainly aimed at reducing the pressures of the economic transition on the labor market.

Such policies, however, carry a high price that is still being paid today. The high tax wedge and the pushing out from the labor market of those age 50 and over are among the most important reasons for the very low

employment rate in Poland, where only slightly more than one out of two people of working age is actually employed.

The low employment rate and low retirement age of Polish workers are central challenges to labor market policy in Poland. The new pension system that will be fully implemented in a few years' time can support prolonged working lives, but that alone is not sufficient. Continuous efforts are needed to encourage workers in Poland to stay on the labor market longer than they currently do.

Notes

1. The Lisbon Strategy was adopted by the European Council in March 2000, against the background of the EU's lagging productivity as compared with that of the United States. It is an action and development plan consisting of an economic pillar to prepare the ground for the transition to a competitive, dynamic, knowledge-based economy; a social pillar designed to modernize the European social model by investing in human resources and combating social exclusion; and an environmental pillar that draws attention to the fact that economic growth must be decoupled from the use of natural resources.
2. In October 2007 the Polish parliament adopted a law that extended the possibility of early retirement until the end of 2008.
3. The initial assumptions of the pension reform were diluted by the extension of transition rules for early retirement for an extra year, as well as reintroduction of special early retirement pensions for miners. This change happened in 2005 before the parliamentary election, as a response to the demonstration of miners in front of the parliament building.

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CHAPTER 12

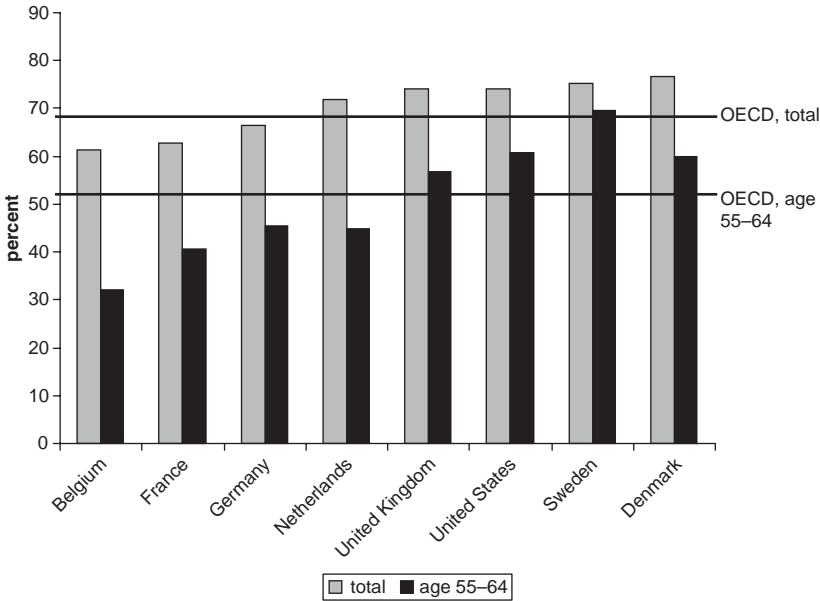
Turning Boomers into Boomerangs: Policies and Preferences with Regard to the Employment of Older Workers in the Netherlands

Ernst B. K. van Koesveld

A substantial part of the potential Dutch workforce remains untapped in the officially registered production process: the employment rate of older people (55–64 years) amounted to only about 45 percent in 2005. The Netherlands lags behind the current average in the Organisation for Economic Co-operation and Development (OECD) of 52 percent, and a 10 percent increase is needed to achieve the Lisbon target for all European Union countries of 50 percent in 2010.¹ By contrast, overall employment rates in the Netherlands are above average (especially in number of persons, albeit much less so in terms of hours worked). Overall employment rates are similar to those in Denmark, Sweden, the United Kingdom, and the United States, but the (net) participation of older workers is remarkably lower: 10–25 percentage points (figure 12.1). In the 60–64 age group, the discrepancy is even larger.

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Figure 12.1. Employment Rates, Netherlands and Selected OECD Countries, 2005

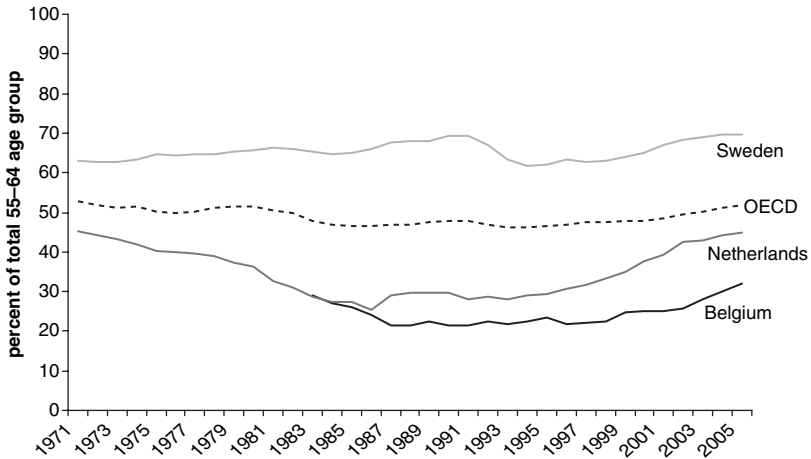


Source: OECD, *Employment Outlook*, 2007.

Note: OECD, Organisation for Economic Co-operation and Development.

Viewed over a longer period of time, employment of older workers is U-shaped, with a sharp decline in the years 1970–90, a near-stabilization in the first half of the 1990s, and a steep recovery in the past decade. The pattern holds for nearly all OECD countries, with the notable exception of Sweden, where employment rates have been steadily increasing over time. Although the Netherlands has been relatively successful in reversing the long-term trend, the improvement has had to come from a low base; the bottom of the U-curve was deeper than in other countries (figure 12.2). In other words, the country has done better in recent years but much worse in earlier periods. The expectation is that employment of older workers will continue to grow in the decades to come.

Trends in aggregate employment rates for older workers hide important gender and age disparities. With regard to the latter, the sharpest decline over time is registered for men age 60–64. (The official retirement age in the Netherlands is 65.) The curve for this subgroup is nearly L-shaped, with only a modest upturn in recent years. The employment rate for men

Figure 12.2. Employment Rates of Older Workers, Selected Countries, 1971–2005

Source: OECD, *Employment Outlook*, 2007.

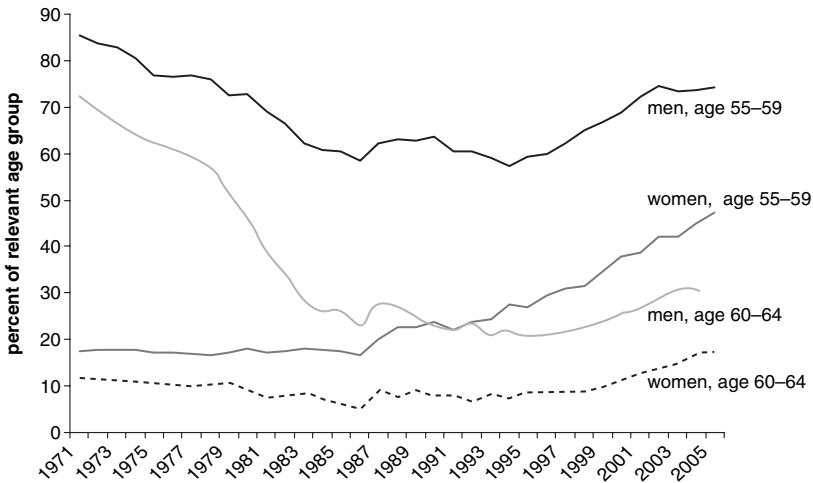
Note: OECD, Organisation for Economic Co-operation and Development.

age 55–59 has more or less been brought up to the average rate for men. The fact that the overall employment rate of older workers has nearly returned to its 1970 level is particularly attributable to the steep rise in the labor market participation of older women (see figure 12.3), which is largely a result of the steady increase in the employment of women at younger ages. In long-term projections, the process of catching up by women, driven by emancipation and individualization, remains the dominant factor. Men make only a limited contribution to employment growth, which is expected to arrive at U.S. or Swedish levels around 2020 and to stabilize thereafter (figure 12.4).

Policies with Good Intentions but Bad Outcomes

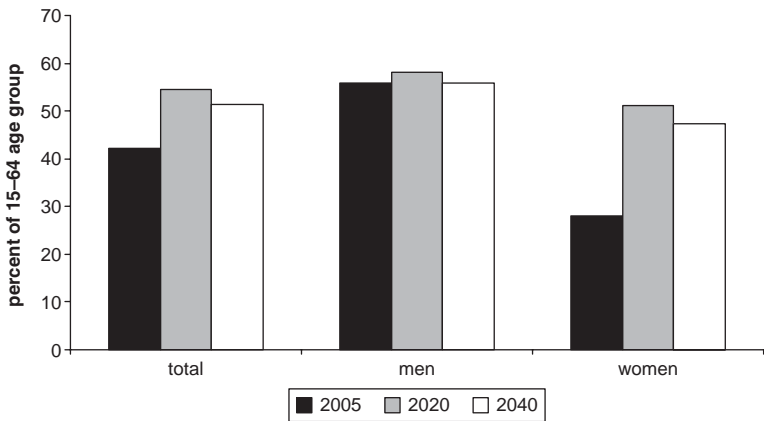
Government policies in the 1970s and 1980s that aimed at encouraging older workers to exit the workforce were based on the “lump of labor” fallacy—the idea that there is only a fixed amount of work to be passed around. The economic crises of the 1970s and the deep recession of the early 1980s drove youth unemployment rates sky-high, fueling fears of breeding a “lost generation,” with potentially large negative externalities. To enable new entrants to gain work experience, older workers were

Figure 12.3. Employment Rates by Age and Gender, Netherlands, 1971–2005



Source: Statistics Netherlands (CBS), <http://www.cbs.nl>.

Figure 12.4. Employment Rate Projections by Gender, Netherlands, 2005–40



Source: CPB 2004.

offered exit through attractive disability, unemployment, and early retirement schemes (VUT). The latter programs, growing to a total of 300 different schemes, were originally meant as a temporary measure. They were financed on a pay-as-you-go (PAYG) basis by a levy on the

gross wage bill, with part of the costs met by employers. VUT benefits were not linked to past contributions. To be eligible, employees only had to have reached a certain age and have worked for at least the last 10 years in the same sector. VUT schemes were tax favored by the government, applying the reversal rule used for occupational schemes: contributions were exempt, and benefit receipts were taxed.

In a time of economic distress, employers were generally willing, if not eager, to cooperate. To a large extent, government policies intentionally served the parallel interests of the social partners. There was no “conspiracy against the public,” but there was a third-party problem: taxpayers footed the bill for subsidizing the easy exit of a growing number of older workers, while the social benefits, in terms of lowering youth unemployment, turned out to be relatively small. In the early 1990s the implicit tax on continuing work from age 60 to age 65 had risen to 90 percent; working longer was hardly beneficial (OECD 2005). The effective retirement rate in the Netherlands dropped to below age 60.² A culture of early exit had been born.

In the longer term, however, the amount of work is not fixed; the lump of labor fallacy is precisely that—a fallacy. Ultimately, Say’s law holds, and labor supply determines labor demand. Indeed, the increased female participation has not led to a proportional decrease in employment rates for men but has strongly pushed up overall participation rates while supporting wage moderation. More specifically, cross-country comparisons show that participation by older workers and overall unemployment are negatively correlated: the employment of one group is not at the expense of the other (OECD 2006). This is important because today a higher employment rate of older workers is meant as a way of dealing with the rising costs of aging, both by lowering the demand for social security and public services and by broadening the tax base. Were there to be complete substitution, the financial sustainability problem would not be addressed. Indeed, the aging of the labor force is desirable, given the rising costs associated with the aging of the population.

Government policies not only affect people’s behavior given their preferences; they also have an effect on the preferences themselves, reinforced by social norms. In the 1970s and 1980s the Dutch government provided financial incentives for older workers to leave the workforce, sometimes supported by a moral appeal to make room for new generations. Graphically, this comes down to a shift *along* the labor supply curve. But since an increasing number of people responded by exiting the labor market, the number of those who continued working decreased steadily

and a new social norm was established: exiting early became the norm rather than the exception. This in turn led to a further crowding-out of intrinsic motivation and to additional exits from the workforce, representing a shift of the labor supply curve. Given the often coinciding interests of employers in both the public and private sectors, the employment rates of older workers hit a historical low of 30 percent in the early 1990s. The process may be labeled as a special type of “overshooting” of the welfare state that put the long-term sustainability of public finance at risk (Lindbeck, Nyberg, and Weibull 1999). The preference drift did not just occur among the older workers; it also fed into the expectations of younger generations, and the new social norm turned out to be persistent. All in all, there was a widespread culture of early retirement through collective arrangements.

Policies with Good Intentions and Good Outcomes

In the second half of the 1990s policies began to respond by curtailing pathways to early retirement and increasing incentives to work longer. In the 1997 Pension Covenant the government and social partners agreed to gradually replace existing PAYG early retirement schemes with capital-funded and actuarially neutral prepension schemes embedded in occupational pensions. The latter point implies that retiring early will entail a reduced pension and retiring later, an augmented one. Long transition periods were generally established during which part of the contributions were still PAYG-based, to support workers who would not have had sufficient opportunity to build up individual entitlements. In 2003 the implicit tax on prolonging work from age 60 to age 65, about 30 percent, was no longer exceptional from an international perspective.

Nearly two years later the government and social partners reached a Social Agreement that led to a further reduction in the implicit tax, to zero. Only those age 55 and over on January 1, 2005, were allowed to continue to benefit from existing early retirement schemes. The transition period will come to an end in 2015. For all subsequent age groups, tax deductibility of the VUT and prepension contributions was abolished as of January 1, 2006. Occupational pension schemes are now only allowed to aim for a retirement age of 63 (and never lower) for those with 40 years of contributions. By definition, younger generations paid for the transition costs, in addition to what they had been paying for the attractive exit routes in the past. At the same time, they benefited only modestly and indirectly from more employment and higher wages, and

in the short run only. The Social Agreement was heavily criticized by both younger and older generations.

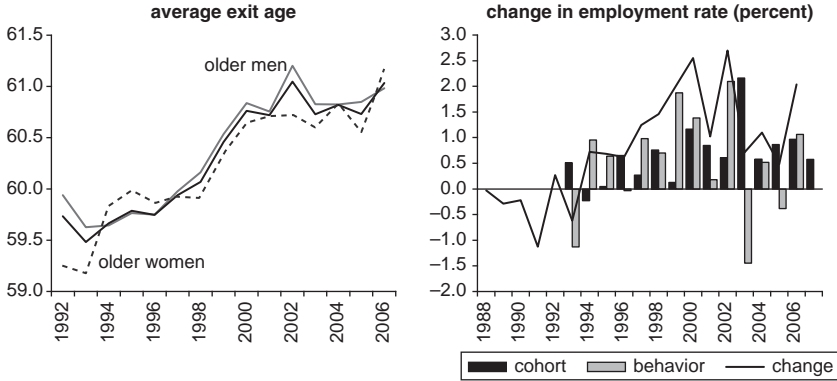
Another concession in the Social Agreement was the initiation of an individual life-course savings scheme. Beginning in 2006, people are able to contribute to and draw from the scheme throughout their lives—including at the end of a career—in a fiscally friendly manner. This would be attractive, in particular, for people with higher incomes. The actual use of the life-course savings scheme is below 10 percent. The present government intends to restrict the use of this new pathway to early retirement.

Finally, with an eye to the increasing costs of aging, many Dutch pension funds moved away from second-pillar pensions based on final pay to pensions based on career-average salary. This in itself reduces the pressure for higher wages at the end of people's careers and may help promote the employment of older workers.

The government also reduced the attractiveness of alternative exit routes, notably disability and unemployment schemes. Both were especially appealing to older workers, since benefits were wage related and duration increased with age. Over the past decades the government has made these schemes less attractive by applying less than full indexation of benefits, reducing the duration of benefits, requiring more checkups and reintegration efforts, abolishing the job-search exemption (introduced in 1982) for those age 57 and over, enforcing stricter guidance and rules with respect to the acceptance of new work, and passing a new law banning age discrimination.³ Although over half of the recipients of disability and unemployed benefits are still age 50 and over, inflows have declined toward average levels. There is, however, still a long transition period for phasing out unemployment pensions for people age 60–65. In light of these benefits and the age-related and high severance payments, one may still speak of an “unemployment tunnel.”

As a result of the shift in policies, the average exit age gradually rose from the low point of 59 years in 1993 to over 61 in 2006 (figure 12.5). The employment rate for older workers has nearly returned to its 1970 level, but, as noted, this is especially attributable to the aging of younger cohorts of higher-participating women. The change in employment rates can be decomposed into (a) cohort effects stemming from changes in the numbers of employed people reaching age 55, supposing there is no change in the participation of the underlying cohorts, and (b) behavioral effects that reflect changes in the exit behavior of those who passed age 55 while working, being the difference between total and cohort effects.⁴ In the years 2003–5 the cohort effect outweighed the behavioral effect because of the

Figure 12.5. Trend in Average Exit Ages and Change in Employment Decomposed, Netherlands



Source: Netherlands, Parliament (2004), and author's calculations.

greater numbers of employed women passing age 55 and because of more men passing this age as a result of a stricter disability regime. In 2006 both effects contributed equally to the rise in the employment rate. Over the past 15 years cohort effects appear to have dominated in the case of women, behavioral effects with older men.

The Labor Market for Older Workers: Supply and Demand Factors

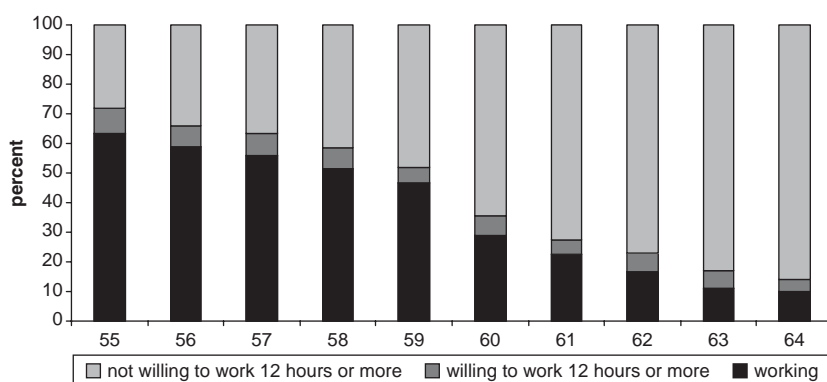
Empirical research suggests that past changes in implicit tax rates and standard retirement ages are likely explanations for a third of the trend in older males' workforce participation in OECD countries over the period 1969–99 (Duval 2004). Other supply-side factors include the profitability of alternative pathways, either through collective arrangements or by the (tax-favored) buildup of personal wealth, as well as a possible higher preference for leisure (influenced by government policies). Survey data indicate that 84 percent of unemployed older workers have voluntarily chosen to be inactive and have no intention of returning to the labor market. This percentage is strongly increasing in age (figure 12.6) and might partly reflect a discouraged worker effect. Nevertheless, a proportion of older people is still involuntarily unemployed. For this group, the probability of getting work is low, and search periods are long. These people still account for a significant proportion

of total unemployment costs; half of the long-term unemployed persons are age 55–64.

Preferences for early retirement remain strong among both older and younger workers. Various surveys suggest that the “desired” exit age lies far below the statutory age of retirement. More important, the “expected” retirement age, which reflects an implicit cost-benefit analysis, is still below age 65 and is independent of socioeconomic status (table 12.1). Especially for lower-income groups, it is hard to believe that this expectation will be fulfilled; in fact, the expectations may be based on past policies and practices. Successive surveys indicate a slow rise in the expected retirement age, which is consistent with the fact that a majority of respondents expects the statutory retirement age to rise over the next decades. Indeed, the financial challenge of aging is becoming more widely understood.

The reluctance of employers to hire or retain older workers partly reflects objective factors: the increase in the cost of employing people as they get older may not be matched by an increase in productivity. In the

Figure 12.6. Older Workers (55–64) and the Labor Market, Netherlands



Source: Statistics Netherlands (CBS), <http://www.cbs.nl>.

Table 12.1. Dutch Survey Results: People's Views on Their Retirement Age

<i>Socioeconomic status</i>	<i>Able to work</i>	<i>Expect to work</i>	<i>Want to work</i>
Low	61.6	62.4	58.5
Middle	62.6	62.4	58.4
High	65	62.3	59.4

Source: Remery et al. 2001.

past, wage systems built on seniority rather than individual performance may have made sense because an implicit contract that pays workers less than their value early in their careers and more than their value later may buy worker loyalty. With the aging of the workforce, this contract becomes less sustainable for companies.⁵ Moreover, lifetime jobs have become much less prevalent because of sector shifts and cultural trends. Empirically, the relationship between productivity and age appears to be flat or parabolic, while wages and age are positively correlated. At higher ages there is a degree of flattening of wages when people approach the end of the wage scale, although costs may increase further as a result of seniority advantages such as additional leave days.

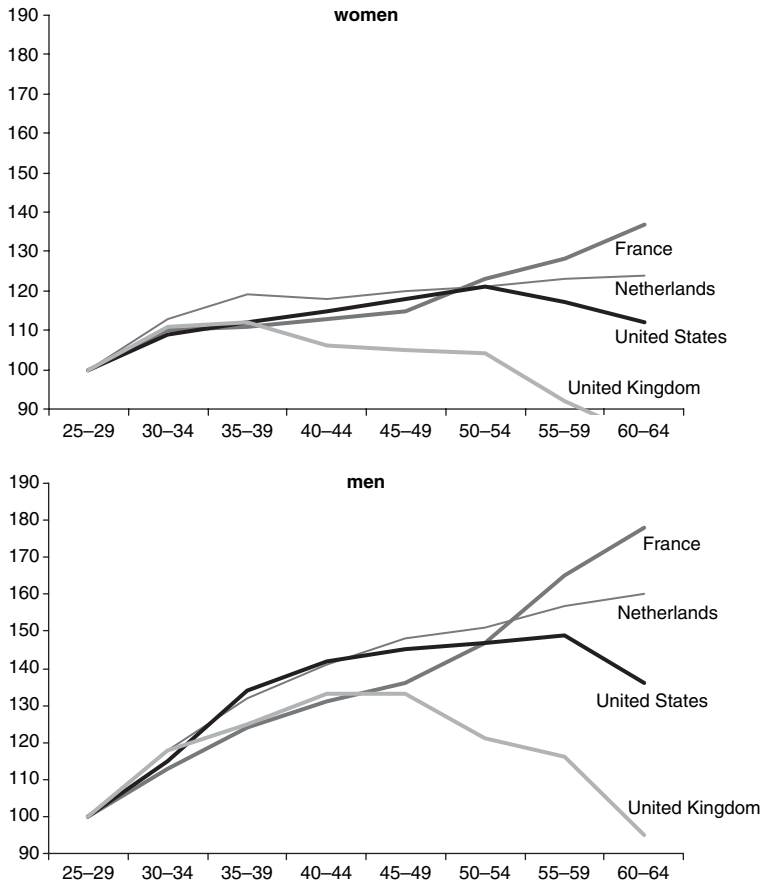
Surveys indicate that nearly three-quarters of employers expect labor costs to rise with the aging of the workforce, while only a small minority (less than 10 percent) expects productivity to rise. Strikingly, companies that currently employ older workers are more negative than others, suggesting there is truly a significant divergence between productivity and pay (Remery et al. 2001). Nevertheless, the age of maximum productivity seems to have increased from 40–45 years to above 50 years over the past decade. This may be attributable to training and the like but may also reflect a selectivity bias: those who keep working are probably more productive.

The average slope of the earnings profile in the Netherlands is moderate by international standards, while concealing important differences between socioeconomic groups. In countries such as the United Kingdom and the United States earnings profiles clearly show an inverted U-shape, but in countries such as Austria and France wages continue to rise strongly with age and even to accelerate in the final cohort (figure 12.7). On this account, the Netherlands finds itself on middle ground, but here again the selectivity bias might be strong.

It should be underlined that there is no such person as the “average older worker.” The OECD (2005) proposes that earnings profiles be corrected for compositional differences, that is, by skill level, job level, or type of industry. Indeed, highly skilled and better-paid workers are the ones who usually work to a later age. Filtering out this bias, the profile for low-skilled workers appears to be quite flat, with the oldest group earning only 12 percent more than the young-adult reference group (Heyma et al. 2004). This group comprises both workers who have remained active on the internal labor market of firms and workers who have recently found new work through the external labor market. By contrast, highly skilled workers, especially in the private sector, make substantial progress over

Figure 12.7. Age-Earnings Profiles by Gender, Netherlands and Selected OECD Countries, Early 2000

index: earnings, age 25–29 = 100

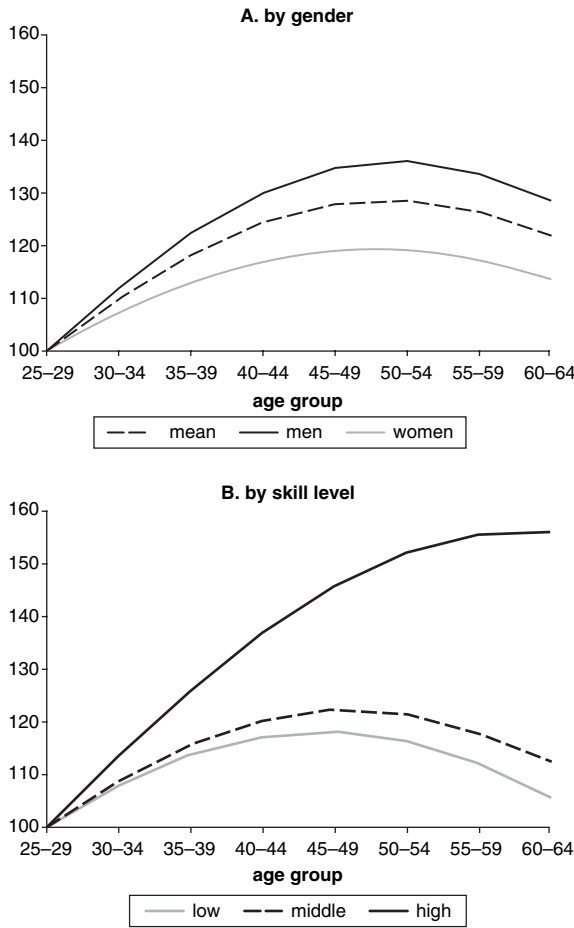


Source: OECD 2005.

their working lives and push up the average curve (figure 12.8). Generally, earnings profiles are flatter for women than for men.

Employers are also reluctant to hire or retain older workers for subjective reasons that are not based on direct observation of the workers concerned.⁶ Surveys indicate that older workers are considered to be ill more often, less flexible, less productive, less acquainted with information technology, and so on. Many employers therefore prefer to select younger people (possibly with some work experience), to extend working hours,

Figure 12.8. Average Earnings Profiles by Gender and Skill Level, Netherlands
index: average earnings-profile position, age 25–29 = 100



Source: Heyma et al. 2004.

Note: Estimations from an hourly wage regression based on single years of age, presented here using five-age-year averages.

or to buy labor-saving techniques, rather than to employ older workers. Only one out of five employers considers selecting older workers, in spite of the strong belief that the aging of the population will bring about structural labor shortages. Positive traits are also attributed to older workers—they are more loyal, more accurate, and more knowledgeable about the organization, and they have more extensive networks and better social skills. These kinds of skill are, however, not needed in all

jobs and may not be sufficient to dominate negative perceptions. In the Netherlands as elsewhere, age discrimination occurs.

The (external) labor market for older workers is thin and is characterized by strong insider-outsider problems. About 5 percent of the older population is actively looking for a job when unemployed; older workers account for less than 5 percent of total job mobility; fewer than one out of five employers recruits among older workers; and only 1 percent of the recruited personnel is age 55 and above. Moreover, the inflow of new workers is mainly confined to workers coming from another job, while the outflow of older workers is mostly a definitive exit. If older workers actively search for a new job, they risk losing a well-protected insider position for a potentially permanent outsider position. This holds even for periods of economic upswing; probabilities of obtaining work appear to be reasonably stable but at low levels over the economic cycle.

If older workers do find a new job through the external market, three out of five accept a lower wage. In contrast, demotion—the acceptance of a job at a lower level—within the same firm is rare, although one out of five wage agreements allows for it. Provisions regarding career switches for older workers are applicable to fewer than 1 out of 10 workers. As in other countries, this may be a matter of culture and of union power. People's overall earnings may be less if they decide to work less or partly pay for seniority privileges themselves.

The (internal) labor market is large and is not connected to the external labor market. This situation prevents an efficient allocation of labor. There are a few reasons why firms stick to insiders instead of employing outsiders. First, the incumbent older worker has a great deal of valuable firm-specific knowledge and experience. Potential new entrants often have to build up this knowledge and experience, and this may not be cost-effective and cost-efficient, especially given the remaining time-horizon of new entrants. Second, the selection of new entrants may disrupt the internal labor market, in which young workers are motivated by the prospect of earning more in the future (so-called efficient lifetime incentive structures). Recent empirical evidence provides some support for this hypothesis (Daniel and Heywood 2007). Third, and probably most important, firing workers is generally expensive in the Netherlands, especially where older workers are concerned. In general, the magnitude of the severance pay is partly dependent on the years attached to the firm and on a person's age. This implies a sclerotic labor market: both outflow and inflow are lower, leading to longer spells of unemployment for outsiders and higher wages for insiders.

Although there is a legitimate role for the government in setting a minimum level of employment protection, the current level for fixed contracts is high by international standards and may reflect a combination of government failures and capture by rent-seekers. So far, the Dutch government has been reluctant to reform the employment protection system, and the discussion on how to reform the system is continuing, in consultation with social partners. As a minor step toward more uniform protection against redundancy for different employee groups, the government has recently changed the rule allowing selective dismissal. The change implies a move from a “last-in, first-out” principle to the principle of dismissals that mirror the age composition of the firm’s workforce.

Market Failures and Government Policies

Even in the absence of government failures, the market for older workers would fail given the existence of externalities, information problems, and an uneven playing field.

1. In addition to the private benefits for employers and employees, higher employment of older workers has benefits for society at large in terms of lower social expenditures and a broader tax base. Yet the market does not take these externalities into account. Rather than stick to the current administrative procedures and arbitrary severance pay, the optimal policy response would be a firing tax, preferably in the form of experience rating in unemployment insurance.
2. Information asymmetries in the selection process lead employers to discriminate on the basis of previous statistical experience. The use of probation periods, intermediaries, and an objective system for registering people’s competences may be logical policy responses.
3. Age discrimination may undermine a level playing field: the market fails because of subjective preferences. The appropriate policy response is anti-age discrimination legislation, strictly enforced.

Given the externalities involved, it makes sense for the government to introduce tax deductions on the supply side, but the effect on the employment of older workers is limited and is counteracted by an opposite effect for the rest of the population. In 2002 the government introduced a specific tax reduction for older workers, increasing with age. The concession was gradually stepped up over time. Given people’s strong preferences, model calculations indicate that these measures

have only a limited effect on labor supply and employment. Since they are based only on age, they are simple to implement and administer, but at the same time they imply a considerable deadweight loss. Indeed, the group of older workers is far from homogenous, and a more targeted approach may be more cost-effective as well as more equitable. This is especially true because tax deductions have to be paid for, creating distortions in other segments of the labor market. Among the policy options are measures that reduce the profitability of pathways to early retirement, in particular by shortening the duration of unemployment pensions for older workers, as well as the attractiveness of an early withdrawal of flexible pensions. Such policy steps imply serious equity aspects; they would hit lower-income groups more than other groups that often have additional private funds.

Fiscal subsidies for hiring workers entail the same drawbacks as tax deductions for workers themselves. Such measures do not exist in the Netherlands at present. If fiscal subsidies are applied, there are good arguments for limiting their duration to a fixed period that is thought sufficient for a worker to demonstrate his or her productivity and capacity to increase it toward a normal real wage level. This would also reduce the deadweight loss and budgetary costs, although it may add to the administrative burden on employers and provide room for potential abuse. At present, employers enjoy an exemption of the fixed employers' contribution to disability insurance in the case of older workers that amounts to a 5 percent reduction in labor costs.

Shortly after 2000, when the labor market was tight, the Dutch government began to take concrete steps to change employers' negative perceptions of older workers, as well as employees' attitudes. A high-level task force (recently relabeled "Grey at Work") was established to raise awareness and spread good-practice solutions. It has made an inventory of age-aware human resources policies, supported pilot projects, and advised the government on measures to be taken. Virtually all collective arrangements, which are generally extended to all workers, contain special provisions for older workers, mostly in terms of adapted working time, fewer working hours, and more holidays. Some of these provisions have an uncertain future because of possible incompatibility with the new ban on age discrimination. Moreover, it should be noted that these provisions might lead to further divergence between labor costs and productivity. Some agreements also contain provisions with regard to special training for older workers, but research has not yet shown that training of older workers is effective. Increased midcareer training is probably more effective.

Table 12.2. Menu of Policy Options

Easy	Advocacy (active aging)
	Exchange of best practices
	Lifelong learning
	Positive fiscal incentives
	Reduction in seniority advantages
	Active labor market policies
	Curtailment of remaining early exit routes
	Reform of employment protection
Hard	Increase in retirement age

Source: Author.

Taken together, the impact of government policies may be limited in the short run, but the long-run effects may be greater as the policies influence people's preferences. As noted, preferences are strong, and the increase in employment rates for older workers is autonomously rising. Policy measures in addition to what has been done in the past, especially the curtailment of easy exits, may have only a modest effect in the short run. Nevertheless, these measures may further modify people's perspectives on working longer. They may also induce social partners to take further measures such as demotion at the end of one's career. Other options for further breaking through the culture of early exit are available:

1. A reform of the employment protection system, even if this reform is accompanied by a transition scheme for older workers. Recognizing the need to remain employable beyond a specific job, people will invest more in their own capabilities and productivity. Such a reform would also promote wage moderation, enhancing labor demand.
2. A gradually implemented increase in the mandatory retirement age, as in Germany, Sweden, and the United States. The retirement age of 65 was set in 1957, but today people live an average of more than five years longer, in better health. Equity concerns, in particular, have prevented the Dutch government from taking this measure, so far. Instead, the government has chosen to ease working after age 65 and to focus on the 55–64 age group. Time will tell whether this is sufficient to cope with the costs of aging.

Notes

The views expressed in this chapter are those of the author and do not necessarily represent those of the Ministry of Finance or the government of the

Netherlands. Special thanks to Erik-Jan van Kempen, Kim van den Berg, and Jasper de Jong for valuable comments and statistical support. All remaining errors are those of the author. Statistics are derived from the OESO database and may deviate from national sources.

1. For more on the Lisbon goals, see note 1 in chapter 11 of this volume.
2. In theory, the labor supply effects of implicit taxes on continued work are ambiguous. A rise in the implicit tax can be thought of as a lower “true wage”: the lower financial gain from postponing retirement reduces the opportunity cost of retiring earlier (negative substitution effect) but at the same time provides lower income for each future year of work, thereby inducing later retirement (positive income effect). There is overwhelming empirical evidence that the substitution effect dominates the income effect.
3. As of January 2006, a new disability insurance scheme offers employers more incentives to hire or retain partially disabled workers. These workers are also financially encouraged to remain in employment. The Social Agreement of 2004 set maximum sickness pay at 170 percent of previous earnings over two years; employers have to cover this pay, with the understanding that there be no topping up in collective wage agreements toward 100 percent in the first two years of sickness pay.
4. Mathematically it can be shown that only the behavioral effects determine the development of the average exit age.
5. With lifetime jobs, productivity and pay may differ at a certain moment in time but will be equal over the worker’s career. This is possible on the basis of wage efficiency/contract theories (wages are lower than productivity in the first phase but higher in the second) and human capital theories (wages are higher than productivity in the first phase but lower in the second, to encourage firm-specific investments in human capital). An alternative theory is that capital markets fail and young workers in effect borrow from the company for more spending in the next phase of their life cycle.
6. This form of (pure) discrimination should be distinguished from “statistical discrimination,” which implies that employers select new workers on the basis of “previous statistical experience,” such as data on productivity, of the groups these workers belong to. If this profiling method turns out to be effective, if there are no clear labor shortages, and if individual assessments are expensive, it is rational for employers to continue the practice.

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CHAPTER 13

Pension Reform and Financial Markets: Encouraging Household Savings for Retirement

Anita Tuladhar

Pension reform has been a central component of the policy agenda in many economies facing rapidly aging populations and an unsustainable public pension system. In Europe and Central Asia a number of countries have reformed the public pay-as-you-go system while introducing mandatory, individual-based pension accounts and voluntary supplementary accounts. These include Hungary (1998); Kazakhstan (1998); Poland (1999); Latvia (2001); Croatia, Estonia, and Bulgaria (2002); Russia (2003); and the former Yugoslav Republic of Macedonia (FYR Macedonia) and the Slovak Republic (2005). The reforms entail a shift of responsibility for old-age income from the public sector to households, through either longer working lives or higher financial savings. The experience of early reformers in emerging markets, however, shows that owing to low coverage and high costs, challenges persist in ensuring adequate savings and income security for retirement. High unemployment rates, low income levels, and low levels of financial market development in

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transition economies compound the problems. Given these challenges, a key question is how to encourage savings in pension assets in order to ensure old-age income security over the long run.

Against that background, this chapter examines factors affecting pension fund savings and reviews some policy implications. Drawing on available cross-country data on household balance sheets and pension funds, it examines the relationship of pension fund asset accumulation to some key factors that determine saving behavior. An empirical analysis based on pension fund data in Latin American countries, which have a longer history with pension reform, is used to assess more formally factors that contribute to the growth in pension fund participation and savings. Finally, on the basis of these findings, policy implications with respect to encouraging participation and savings in pension funds are outlined.

Household and Pension Fund Savings: Some Stylized Facts

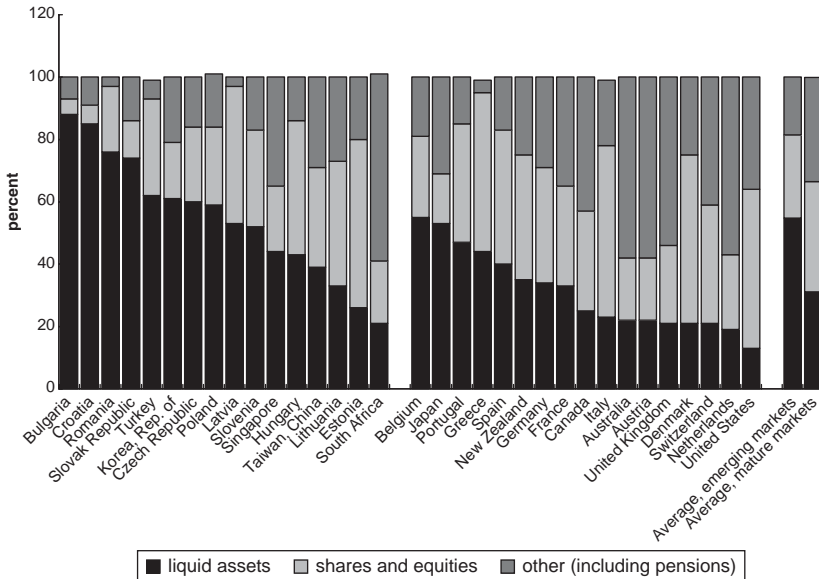
An examination of household balance sheet data suggests that retirement savings are generally low in emerging markets. Although the share of financial assets and nonfinancial assets such as home ownership in household wealth varies substantially across countries in mature as well as emerging markets (figure 13.1), survey data for some large emerging markets indicate a much smaller share of savings in financial instruments. Furthermore, in emerging markets financial assets are held predominantly in liquid assets, often in the form of bank deposits, with minimal shares in long-term retirement savings such as pensions and insurance reserves (Davies et al. 2006; OECD 2007). This tendency likely reflects the less mature state of financial market development and liquidity constraints for households that encourage precautionary savings in the form of short-term assets. Cross-country data on pension fund asset holdings as a percent of gross domestic product (GDP) also show that, compared with an average of 90 percent for member countries of the Organisation for Economic Co-operation and Development (OECD), non-OECD countries hold only 37 percent of GDP in pension fund assets; only in Chile, Malaysia, and Singapore do holdings rise above this threshold.

Factors Affecting Pension Fund Savings

Designing policies to encourage pension savings requires an understanding of the factors that contribute to saving behavior. The key variables that affect aggregate saving behavior will also, by and large, determine pension fund assets (see figure 13.2).

Figure 13.1. Composition of Financial Assets in Balance Sheets, Selected Countries, 2000

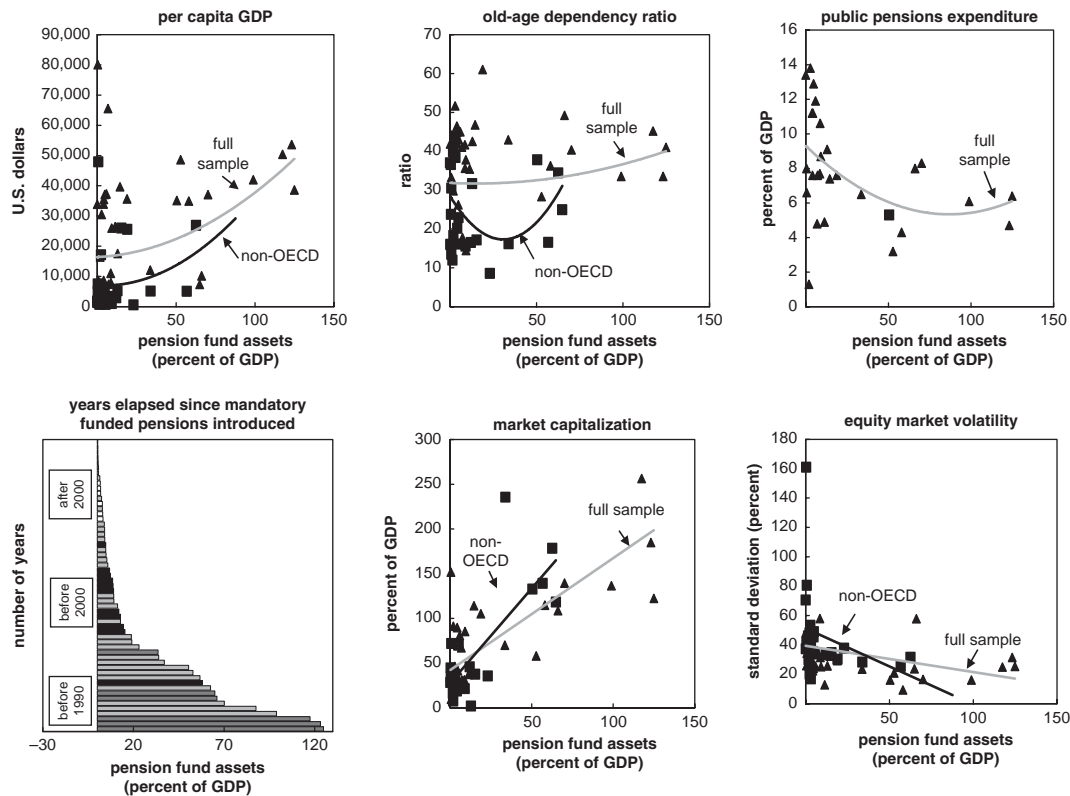
Percent



Source: Davies et al. 2006.

1. Income is positively related to savings, as suggested by both theory and empirical evidence. The permanent income hypothesis states that consumption is based on the level of permanent income and that transitory increases in income will translate into higher savings. Similarly, income growth translates into higher savings, especially if concentrated in higher-saving households. This positive relationship is also evident for total savings in pension fund assets.
2. Demographic variables such as dependency ratios affect saving behavior, as well. Under the life cycle hypothesis, savings peak during the working-age period and gradually decline with age as retirees begin to withdraw their accumulated savings to finance consumption. Theory thus predicts that old-age dependency ratios will be negatively related to savings. To the extent that most pension funds have not reached a payout phase, one could expect a high stock of accumulated retirement savings in aging societies, implying a positive relationship. Cross-country comparisons, however, do not show a distinct relationship between old-age dependency ratios and the stock of accumulated

Figure 13.2. Relationship between Key Economic Variables and Pension Fund Assets, Cross-Country Data, 2005



Source: Old-age dependency ratio, UN World Population Prospects database; pension fund assets, OECD, *Global Pension Statistics*; market capitalization, World Bank, *World Development Indicators*; equity market volatility: Bloomberg; public pension expenditure: OECD, *Pensions at a Glance*; per capita GDP: IMF, *World Economic Outlook*.

Note: GDP, gross domestic product; OECD, Organisation for Economic Co-operation and Development.

pension assets. Projected old-age dependency ratios and the expected change in these ratios also fail to show a strong positive relationship. Assuming that pension funds are still in an accumulation phase, this supports the view that retirement savings have not kept pace with the coming demographic shift.

3. The availability of alternative retirement income sources would imply less need for retirement savings. The literature shows that expected income through public pensions is a significant determinant of private pension savings, reducing the need for them (Feldstein 1980). The size of public pension expenditure, as well as the replacement rate in the public pension system, is negatively related to pension fund asset savings. This relationship holds if the generosity of the public welfare systems and other government transfers does not create incentives for earlier retirement and thus lower income and savings.
4. Reform of the pension system is a significant determinant of private pension fund savings. In Central and Eastern Europe (excluding the Baltic countries), pension fund assets grew at an annual average rate of 35 percent between 2000 and 2005, largely thanks to the introduction of the funded second pillar (UniCredit Group 2006). In Latin America pension fund assets under management have grown annually by 1 to 1½ percent of GDP over the past decade, in line with experience in the Group of Seven (G-7) high-income countries since 1980, with Chile averaging an annual growth of nearly 3 percent of GDP (Roldos 2004; Poirson 2007).
5. Financial market development is positively related to savings, especially in long-term financial instruments such as pension funds. The availability of financial instruments for investment and the existence of deep, liquid markets are important for investment by pension funds if market distortion is to be avoided. Empirical evidence points to a strong positive relationship between pension fund assets and equity and bond market development, with the direction of causality going from pension savings accumulation to growth in market capitalization. With the emergence of pension funds, the increased institutional demand for instruments plays a catalyzing role in financial market reforms and market development (Roldos 2007). Pension fund assets are also negatively related to market volatility. Pension funds, with their long-term investment horizon and relatively constant level of risk tolerance, perform a stabilizing role

in the market, while the diversification of the investor base and more sophisticated information and analysis facilitate price discovery, contributing to market stability (Walker and Lefort 2002).

Empirical Evidence on Pension Fund Participation and Savings

The experience of early reformers in Latin America can provide some useful lessons for understanding the factors contributing to pension fund asset accumulation in emerging-market countries. Using Federación Internacional de Administradoras de Fondos de Pensiones (FIAP) data for eight Latin American countries that implemented pension reforms at least a decade ago, empirical tests are performed to identify some key determinants of pension asset savings. Specifically, we test the factors that account for the increases in pension fund participation and in pension assets per participant. Using a fixed-effects panel data estimation methodology, we examine to what extent increases in pension fund participation are affected by fund performance, as measured by the annual returns on the fund, while controlling for structural factors such as years since the introduction of pension reform and increases in income and the unemployment rate. The equation is specified as follows:

$$\begin{aligned}
 d \cdot \log(\text{pension fund participation}_{i,t}) \\
 &= \alpha + \beta_1 \cdot (\text{annual rate of return}_{i,t}) \\
 &\quad + \beta_2 \cdot (\text{dummy for pension reform}_{i,t}) \\
 &\quad + \beta_3 \cdot d \cdot \log(\text{income per capita}_{i,t}) \\
 &\quad + \beta_4 \cdot d \cdot \log(\text{unemployment rate}_{i,t}) + \varepsilon_{i,t}
 \end{aligned}$$

where i = country and t = year. Countries included in the sample are Argentina, Bolivia, Chile, Colombia, El Salvador, Mexico, Peru, and Uruguay.

We find that the signs on the coefficients are as expected. Fund performance enters the estimation positively, but it is not significant at a 90 percent confidence level. Other structural parameters such as the dummy for reform are positive and statistically significant at a 90 percent confidence interval, suggesting that the increase in participants in the early years of reform was indeed driven by mandatory reforms. This result is robust to alternative specifications of the equation. The results also show that the unemployment rate increased in inverse proportion to participation, suggesting difficulties in obtaining

Table 13.1. Factors Affecting Pension Fund Participation*Fixed effects estimation; dependent variable, change in number of participants*

<i>Explanatory variables</i>					
Constant	0.06	0.05	0.04	0.42	0.02
Lagged dependent variable	-0.36	-0.44	-0.48	-0.48	-0.45
Annual rate of return	0.002	0.001	0.002	0.002	0.003
Dummy (reform years)		0.10	0.09	0.08	0.09
Change (unemployment rate)			-0.23	-0.19	-0.23
Income per capita				-0.05	
Change (income per capita)					0.04
Annual rate of return × D (income per capita)					0.004
R ²	0.16	0.26	0.31	0.33	0.33
F-statistic	1.02	1.67	1.93	1.88	1.68
<i>Sample (adjusted)</i>	<i>1984–2005</i>	<i>1984–2005</i>	<i>1984–2005</i>	<i>1990–2005</i>	<i>1990–2005</i>
Included observations after adjustments	22	22	22	22	22
Cross-sections included	8	8	8	8	8
Total pool (unbalanced) observations	59	59	59	59	59

Source: Author's calculations.*Note:* Estimates in bold represent values statistically significant at 90 percent confidence level.

coverage in transition countries where unemployment remains high. Although the rate of increase in participation seems higher in countries with lower per capita income, there is a positive relationship between the increases in income and in participation, but neither relationship is statistically significant.

Next, we explore the factors that affect the size of pension savings per participant. We examine the impact of pension funds' performance, measured again by the average annual rate of return, on pension fund asset increases, after controlling for increases in contributions stemming from a rise in the contribution rate and an increase in income per capita. We also include stock market return and government bond rates as proxies for the effect of portfolio gains in the pension fund.

$$\begin{aligned}
 & d \cdot \log(\text{pension fund assets per participant}_{i,t}) \\
 &= \alpha + \beta_1 \cdot (\text{annual rate of return}_{i,t}) \\
 &\quad + \beta_2 \cdot d \cdot \log(\text{income per capita}_{i,t}) \\
 &\quad + \beta_3 \cdot d \cdot (\text{contribution rate}_{i,t}) \\
 &\quad + \beta_4 \cdot (\text{stock market return}_{i,t}) \\
 &\quad + \beta_5 \cdot (\text{government bond yield}_{i,t}) + \varepsilon_{i,t}
 \end{aligned}$$

Table 13.2. Factors Affecting Pension Savings by Individuals*Fixed effects estimation; dependent variable, change in pension funds per participant*

<i>Explanatory variables</i>								
Constant	0.07	0.05	0.05	−0.18	0.10	0.06	0.07	0.08
Lagged dependent variable	0.04	−0.06	−0.03	−0.06	−0.19	0.07	0.14	0.08
Annual rate of return	0.014	0.02	0.01	0.02	0.01	0.01	0.01	0.01
Change (income per capita)			0.17			0.38	0.36	0.36
Fund contribution rate (net of fees)					−0.40			
Stock market return							0.00	
Government bond rate								0.00
R^2	0.47	0.58	0.58	0.58	0.47	0.54	0.82	0.54
F-statistic	4.97	5.43	5.63	5.47	2.25	5.67	13.5	3.97
<i>Sample (adjusted)</i>	<i>1984–2005</i>	<i>1984–2005</i>	<i>1984–2005</i>	<i>1984–2005</i>	<i>2000–2005</i>	<i>1984–2005</i>	<i>1996–2005</i>	<i>1993–2005</i>
Included observations after adjustments	22	22	22	22	6	22	10	13
Cross-sections included	7	7	7	7	7	7	5	7
Total pool (unbalanced) observations	54	51	51	51	33	54	33	45

Source: Author's calculations.*Note:* Estimates in bold represent values statistically significant at a 90 percent confidence level.

The estimation results show that fund performance positively influences growth in pension assets per participant. The relationship is significant at a 90 percent confidence interval and is robust to alternative specifications that control for increases in contributions as a consequence of higher income, as well as increased asset values resulting from higher returns in the equity and bond markets. Although the change in the contribution rate is also used, there is little variation in the underlying data, and the negative relation is influenced by the data in Argentina, where contribution rates decreased significantly but fund assets nevertheless continued to grow.

Challenges and Policy Implications

This examination of the cross-country data and preliminary quantitative estimates points to several challenges to private pension fund savings. Among the key structural challenges that limit pension fund coverage in transition economies are high unemployment rates and relatively low income levels. Pension savings are also low, probably reflecting a still-generous public pension system, a low level of financial sector development that limits investment opportunities, and low financial awareness and myopia regarding long-term savings needs. Improved performance of pension funds would increase the replacement rate at retirement and help encourage saving in pension fund assets. In addition to the factors considered above, the literature points to the possible impact of other variables, such as saving incentives in the tax structure and demographic factors.

Enhancing Coverage

Given the challenge of coverage of private pension funds in ensuring old-age income security, there will likely still be a need for a noncontributory social safety net for retirees, such as a minimum public pension or other means-tested benefit. For transition economies with high unemployment or substantial informal sectors, this provision will remain an important source of old-age income. Voluntary savings in pension funds are also an important channel for retirement income support in countries with relatively large informal sectors that would not participate in formal earnings-related schemes.

Role of Choice

For countries undergoing pension reform, the role of choice has an important bearing on enhancing coverage. Since investors tend to be myopic, greater emphasis on a mandatory requirement for pension fund

savings would help enhance coverage—although the extent to which private pension fund savings are mandated is constrained by the size of transitional deficits that would be generated by shifting contributions away from public pensions to the private funds. Even if private pension fund savings are voluntary, empirical evidence shows that the use of the default option is crucial for improving participation, as many participants tend to be passive investors. Accordingly, several countries are requiring automatic enrollment as a default option to improve participation, while giving the individual the choice of remaining in this default option.

Financial Awareness

Efforts to promote financial literacy and awareness are crucial for generating pension savings, and they are all the more important when investors are given the option of choosing a portfolio. Financial awareness programs are particularly beneficial for lower-income savers. To generate more awareness about the adequacy of retirement savings, accessible information, including simulation models to analyze potential net replacement rates at retirement, would be beneficial. Along with easy access to account information, transparency of pension fund performance through publication of investment results and financial statements would contribute to financial awareness and to greater confidence in and reliance on pension funds.

Enhancing Pension Fund Performance

Encouraging saving in private pension funds would require improvements in fund performance through stronger net risk-adjusted returns. We consider three main policy measures that would directly affect fund performance:

1. Regulations that constrain investment in an optimum portfolio. For example, regulators usually set quantitative investment limits on asset classes, taking into consideration the stage of development of local securities markets and foreign exchange requirements. Minimum guaranteed returns are also in place to limit excessive risky behavior.
2. Tax incentives on voluntary pension savings that directly increase the net return on pension savings.
3. Cost minimization through optimal industry structure and fee structures.

Optimizing asset allocation of pension funds. International experience shows that in many emerging market pension funds, a large share of pension fund assets is invested in government bond instruments and that equities and investment in foreign assets play a more limited role. This situation primarily reflects a lack of investment opportunities in the form of deep and liquid market instruments; indeed, many funds remain below the limits on equity investments. Given the limited domestic investment opportunities, the caps on foreign investments have been more constraining. Over time, as these caps have been raised, foreign investments by pension funds have grown. Recent studies have therefore advocated some gradual easing of investment limits, especially on foreign investments, to facilitate diversification gains. Easing of investment limits to enable life-cycle investing that allows the portfolio to be better tailored to the demographic profile of the investors is also being sought.

Regulations on guarantees of minimum returns play an important role in asset allocation. Most guaranteed minimum return requirements are set in relation to an industry benchmark, and this has led to a herding tendency in the pension industry. In some cases, the benchmark is set against a synthetic portfolio. There are other important parameters in assessing the criteria for achieving the minimum returns, such as the band relative to the benchmark, the period over which the return is assessed, and frequency of evaluation. Increased flexibility in these parameters, including setting of the benchmark and choice of synthetic portfolio, would help reduce the restrictiveness of the minimum return guarantees requirements and the associated suboptimal herding behavior.

In addition to these regulatory measures, government has a role in facilitating investment opportunities for the pension funds through public debt management and measures to strengthen capital market development. Public debt issuance should consider the need for longer-term instruments, especially those that can provide an inflation hedge. Debt issuance should also seek to establish liquid benchmark instruments that can facilitate deep markets. It is important to ensure that pension funds do not become captive markets for government financing, thus providing an avenue for cheap financing. Other measures to strengthen the capital market and boost the available supply of instruments include stepping up privatization and issuing corporate governance regulations to improve the supply of corporate equities and bonds.

Tax incentives. Tax incentives for voluntary savings are common policy tools used for encouraging voluntary retirement savings, although their effectiveness remains a subject of debate. The literature has not established

that tax incentives are very effective, particularly for lower-income individuals and those with constrained liquidity. Although there is no evidence of an increase in overall savings owing to these incentives, there is some mixed evidence of their impact on the composition of savings.

The effectiveness of tax incentives on the form of savings also depends on the substitutability of different saving alternatives, for example, if the individual is liquidity-constrained and needs precautionary savings, tax incentives may not be effective in shifting toward retirement savings. There is evidence that tax incentives do have strong distributional effects, with benefits accruing to older and richer individuals who face higher marginal tax rates. Furthermore, the fiscal costs of tax incentives are fairly significant.

Minimizing costs. Minimizing fees and costs is important for ensuring high net returns on the funds. The experience of the early pension reformers shows that over time industry structure has trended toward consolidation, reflecting a need to gain scale economies to keep costs low. Given the experience with the high costs of private pension funds, policy makers are faced with the challenge of maintaining a balance between competition in returns and maximization of economies of scale to reduce costs, especially given that high fixed costs adversely affect low-income savers with smaller accounts. To address these concerns, there is a need for centralization of basic services that offer scale economies, such as account management and collection—a state of affairs already extant in most Central and Eastern European countries. Policy makers also need to make due efforts to minimize costs from regulatory burdens, such as for reserves, reporting, and so on. Some countries have adopted competitive bidding for a few asset managers as a means of reducing costs, especially by keeping marketing costs low, and have resorted to institutional rather than retail markets. They have also sought asset-based fees rather than up-front fees focused on new accounts (James 2005).

Conclusions

In emerging markets, household savings for retirement in pension funds are relatively small but are growing rapidly. The accumulation of pension fund savings depends on a number of factors, including the introduction of pension reform, especially mandatory funded pensions, and fund performance. Macroeconomic and structural factors such as income growth and the unemployment rate also play an important role in determining

pension savings, while pension fund assets lead to significant development of the financial sector.

Based on these factors, the main policy implications for encouraging pension savings for retirement income include the need to

- Facilitate coverage and old-age income support through mandatory forms of saving, default rules, and other social safety nets
- Enhance net risk-adjusted returns through increasing flexibility for diversification gains
- Reduce costs by harnessing economies of scale and minimizing other burdens
- Promote investor protection and awareness through information and education.

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CHAPTER 14

Contemporary Issues and Challenges in a Supplementary Pension System: The Case of Slovenia

Aleš S. Berk

The weak financial position of many pension funds has highlighted the urgency of securing financial resources and improving risk management practices to meet retirement needs and has triggered a variety of reform efforts. Governments should seek to encourage and influence market developments in this area, and policy makers may have to reconsider appropriate mechanisms for risk sharing between the public, private, and household sectors (Groome, Blancher, and Ramlogan 2006). Fultz (2004) argues that time has been lost in new European Union (EU) member countries burdened with poorly designed solutions for addressing population aging. The frequent repeated proposals by pension researchers and practitioners are still the only practicable options and will require and reward greater attention by all EU member states. Despite the coming difficulties for social security pensions—a study by the European Commission (2006) concluded that many member states are risking serious fiscal imbalances in the decades to come—reform options have not yet been widely grasped (Davis 2002b).

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In Slovenia the current supplementary pension system, which was introduced at the beginning of the decade, does not offer a reasonable, sound, effective, or competitive means of saving for retirement. Despite welcome first steps taken in the funded pension system's infancy, administrative barriers and obstacles, coupled with rent-seeking behavior by financial institutions that were allowed to manage assets of pension funds independent of the financial system, are still predominant characteristics of the system.

The Bank of Slovenia (2006) reports that pension funds in Slovenia amount to a mere 560 million euros, representing about 2 percent of the country's gross domestic product (GDP). On December 31, 2005, about half of all employees were included in the supplementary pension system; of these, 210,775 were in mutual-type pension funds and 179,499 in insurance-like schemes. Roughly 165,000 civil servants were brought into the special closed-end fund ZVPSJU (Insurance Supervision Agency 2006; Securities Market Agency 2006) through one move that took place in 2004. Annual contributions per member are low and, coupled with poor strategic asset allocation, can by no means fulfill the expectations of the system's founders of at least partly closing the gap left by the first pillar. Because of lack of awareness and an improper saving vehicle, around 98 percent of contributions are financed by employers (Insurance Supervision Agency 2006).

Pension companies, insurance companies, banks, and the public pension fund facility *Kapitalska družba* are allowed to set and manage pension schemes.¹ The structure of pension companies' schemes, as well as those of insurance companies, is governed according to insurance legislation, while pension schemes offered by banks and the *Kapitalska družba* are regulated by mutual fund legislation. This distinction allowed the development of parallel financial vehicles with fractured and uncoordinated supervision, leading to discrimination between members. Contributions to the pension schemes offering insurance-type financial vehicles are treated differently in many ways from contributions to the mutual fund-like pension schemes. Differences run the gamut, affecting, for example, valuation and accounting rules, reserve provisions, reporting, treatment of assets transferred to other pension schemes (portability issues), and so on. Insurance-type products are, on grounds of transparency, fairness, and content, less suited for retirement provision. There is no transfer of insurance risk under such schemes, and benefits are not evenly allocated among members of a single pension scheme. No such

discrimination is possible under a mutual fund-like scheme. In addition, quantitative portfolio limits under the insurance legislation that follows the EU life insurance directive do not support reasonable asset allocation for pension purposes; for example, equities are seriously underweighted (European Parliament and Council 2002).

The main drawback of the entire private pension system is lack of competition, as only the aforementioned institutions may offer savings products for retirement saving. Despite good intentions in the design of the funded part of the pension system, its isolation from the logic of financial markets and institutions introduced a damaging legacy that will be hard to overcome in the near future. Boards of institutions providing pension schemes negotiate directly with boards of sponsoring enterprises. Given the low prevailing level of financial literacy, the current system does not encourage transparency and leaves room for unscrupulous practices. Beneficiaries cannot select pension vehicles but are told that the selected pension scheme provides optimal benefits. There is some competition among pension scheme providers, but because of the mandatory minimum return (guarantee) that is embedded in the system, competition is in the area of costs, not returns. Yet although cost efficiency is an important determinant of future beneficiaries' wealth, returns are much more important.

Minimum guarantees are deterring pension scheme providers from strategic asset allocations that would be reasonable for the beneficiaries. In the event that the provider of a pension scheme does not meet the minimum return, it must cover the difference from provisions created from its own capital. This encourages providers to adopt benchmark portfolio allocations that are designed in accordance with domestic government bonds.² Young members of the system, especially, thus bear high opportunity costs, as they are forced into allocations that yield sub-optimal rates of return (Berk and Skok 2005). In the long run, stocks are a far more suitable vehicle for long-term saving than are bonds; they provide higher returns and are in fact even less risky (Campbell and Viceira 2002; Siegel 2002). Because the benchmark is so designed as to include illiquid long-term government bonds with high interest rate risk, only a part of the return (40 percent) must be met. Such a regulation does not even foster professional bond portfolio management. It thus prolongs the stage during which pension providers develop parallel to the financial system and are not capable of competing with alternative saving vehicles (Berk, Musil, and Vovk 2006).³

Framework for the Future Development of Fully Funded Pensions in Slovenia

The efforts of designers of the future Slovenian pension system should be aimed at strengthening the voluntary funded pillar, since researchers offer many arguments in favor of such a system. Benefits, however, do not come about by themselves but are conditioned on the ability of legislators and regulators to create a simple and transparent environment that fosters fund management with the sole goal of creating the highest possible benefits for included members. A funded system is best suited for solving the unsustainable fiscal problems of old societies in the long run and can also benefit the financial system, as institutional investors are better able to defend shareholder rights in exerting corporate governance pressures to improve performance (Davis 2002b). Econometric analysis suggests that growth in institutional investors' share in domestic equity leads to higher productivity and dividends and to lower fixed investment than would otherwise be the case. Hence, apart from enhancing shareholder value as measured by dividends, institutions improve economic efficiency via increased productivity, which may be related to pressure on company managers to maximize profits. The downward pressure on fixed investment need not be perceived negatively, as it may amount to discouraging unproductive investment financed by retained earnings where corporate governance is weak (Davis 2002a). A funded pension system has benefits that extend throughout the financial system in terms of more stable financial markets; it also enhances incentives to save and thus provides sources of finance for new investments (Daykin 1999; Iglesias, chapter 16 in this volume). In Slovenia, where the government is committed to the privatization of certain enterprises, demand from pension funds would well match the supply of new stocks, if privatization were designed in such a way as to establish a diversified ownership structure. One very important implication of a developed financial system is that it reduces distortions in labor markets, which improves labor mobility, even across a wider economic area (Holzmann 2004). Moreover, it strengthens the asset management culture and lowers the cost of capital in the economy, resulting in higher economic growth (Vittas 2005).

The Slovenian pension system as a whole should therefore evolve through structural change. The role of the traditional first pillar, which is under serious demographic stress and is about to cause fiscal imbalances (European Commission 2006), should be diminished. The optimal solution

for Slovenia would be to erect a sound framework for providing funded pensions, which would foster a developed financial system and economic growth, in addition to addressing the pension-related problem of the aging Slovenian population. This framework has to foster professional asset management, competition, cost efficiency, simplicity, transparency, and regular reporting and enable flexible product design based on prudent investment principles. Assets should be exclusively valued according to market values (OECD 2006). The financial vehicle best equipped for this task would be a structure resembling that of a mutual fund—optimally, an umbrella fund that offers subfunds with different investment policies suited for various desired strategic asset allocations or for various age cohorts. Pension funds should provide fair and timely information to all beneficiaries (World Bank 2002; European Parliament and Council 2003; OECD 2005). The funded part of the pension system should include vehicles for the most affluent members of society; individual retirement accounts and managed individual pension portfolios would be ideal for the purpose. Through these, investors who are knowledgeable about the capital market can select investment vehicles from the pool of mutual funds, banking products, and securities traded in the market or can choose optimal asset allocation individually with their investment professionals—banks, investment companies, asset managers, and providers of pension systems.

Under such a system, investment policy is a crucial issue. It should at the very least identify the strategic asset allocation of the pension fund (the long-term asset mix over the main asset classes), the overall performance objectives of the fund, and the means of monitoring and, when necessary, modifying allocations and performance objectives in light of changing market conditions. The investment policy should include a decision-making mechanism for tactical asset allocation, security selection, and trade execution (OECD 2006). Even within an occupational pension system, asset allocation should be under the control of each individual member and not that of the corporate sponsor, meaning that pension assets have to be portable. Sponsors should only provide financing under an agreement about the provision of occupational pension financing for employees and exercise supervision (Berk, Musil, and Vovk 2006). They should, as well, take part in educating employees about long-term asset allocation.

Even though a well-constructed funded system could, in the long run, be the best hope for solving Slovenian society's pension problem, structural change of the system cannot be achieved in the short term (Williamson 2004a). In other words, it is not possible to channel contributions into the

funded pillars as the pensions of current retirees are being financed through a pay-as-you-go system. It is impossible to meet the incurred financial obligations of the traditional pay-as-you-go pillar without a smooth transition toward a more stable pension system structure.

For countries like Slovenia (that is, with its level of current and forecasted imbalances), what makes the most sense is to introduce a multi-pillar pension system with a strong notional defined contribution (NDC) component (Holzmann and Hinz 2005). NDC allows long-term sustainability with a high degree of simplicity and transparency, as well as of fairness. (It rests on actuarial pension determination with a low level of redistribution.) NDC provides incentives to work, creates and reinforces a sense of ownership, exposes the pension system to less political risk, and imposes only a limited administrative burden (Williamson 2004a, 2004b; Williamson and Williamson 2005). NDC is also beneficial for diversification reasons; it is exposed to macroeconomic and, to some extent, demographic risk but not to financial risk. Lindbeck and Persson (2003) stress that designers of a multipillar pension system characterized by actuarially fair pensions should take care to provide a minimum benefit, that is, to introduce a zero pillar (see Daykin 1999) to shield very vulnerable groups of society. Holzmann (2004) argues that NDC should represent the core of a sound pension system, with social pensions and supplementary funded pensions on its wings.

In Slovenia social pensions should be financed through contributions (dedication of a percentage of the gross payroll for redistribution of income), general taxes, and the portfolio of the *Kapitalska družba*.⁴ The contribution rate should be only a fraction of the current contribution rate of slightly less than 25 percent, which is already a burden for enterprises in terms of international competitiveness. Social pensions should be fully indexed to the growth rate of the economy. Such a system would not only relieve the burden on enterprises' competitiveness and solve fiscal imbalances but would also shield the Slovenian population from the risk of poverty while providing better opportunities to smooth consumption over time, since the risk to the pension system would be diversified and spread out.

A critical issue that must be taken into account when designing the future pension system is awareness raising (Fultz 2004). Slovenia's educational system does not cover issues of personal finance at all, leaving the average person unequipped for making financial decisions about the appropriate saving product to choose for long-term pension saving. Many are not even aware of the fact that each individual will have to

save for her or his own pension, although the professional press has frequently addressed that issue. The government should promote saving in the pension system and should provide preliminary forecasts about what a person can reasonably expect under the options available in the pension system. To effect this, sound financial vehicles that are integrated into the financial system and that offer a range of options to both corporate sponsors and individuals are necessary.

Tax Treatment of the Funded Pension System

Countries differ regarding the level of tax allowance—that is, the tax incentive to contribute to the funded pension system. In the search for an optimal tax allowance, it is reasonable to take into account the desired goals of the funded pension system, fiscal stance, and capacity. Supplementary pensions should at least be able to fill the gap left by the first pillar. It makes sense that countries also think about the subvention of savings that would otherwise be generated. This last point is important in considering the supplementary (individual) third-pillar tax allowance in a system that is extremely redistributive. Setting the tax allowance at a relatively high rate can lessen the redistributive effects, as the capacity to save in the third pillar is greater among employees with higher wages—who lose the most from the first pillar.

Two important things to keep in mind when setting the level of tax allowance are expected productivity growth and asset allocation. Productivity growth must be taken into account because over 40 years (the period during which an individual is assumed to be included in the supplementary pension system), society makes substantial progress. Consequently, in order to comply with economic reality, an individual's rate of return on assets must at least match productivity growth. It is certainly not sufficient for the rate of return just to match inflation; it should substantially exceed it. Here, asset allocation plays a crucial role. If someone starts to save in the supplementary pension system at age 27 and remains invested in equities until age 65, he or she would, on average, have generated 94 times the annual pension savings, in real terms (see table 14.1).⁵ If the investment were in bonds, the gain would have been only 30 times.

A hypothetical example will serve as an illustration. If Ana, who opened her pension account at age 27, wants to generate her pension assets in such a way as to be able to finance her pension at the level of 700 euros net after taxes (financed out of a pension account that is

Table 14.1. Future Values in Real Terms, Adjusted for Productivity Growth, of Annual (Gross) Pension Savings

<i>Age</i>	<i>Productivity growth = 2.5 percent</i>	
	<i>Stocks</i>	<i>Bonds</i>
27	1.04	0.99
28	2.11	1.96
29	3.21	2.92
30	4.36	3.87
31	5.55	4.81
60	65.67	27.26
61	70.67	27.90
62	75.97	28.52
63	81.59	29.14
64	87.55	29.75
65	93.86	30.35

Source: Dimson, Marsh, and Staunton 2002; IMAD 2006; author's calculations.

Note: Real return assumptions: stocks, 6 percent per year; bonds, 1.2 percent per year.

worth 217,000 euros when she is age 65), she needs an annual tax allowance of 3,300 euros.⁶ Her monthly annuity factor is 0.31 if she invests in stocks.⁷ If she invests in bonds, she needs far more: 7,200 euros per year. If she opens her pension account at age 32, she needs an annual tax allowance of 4,200 euros if invested in stocks and 8,000 euros if invested in bonds.

Table 14.2 shows that individuals who invest in stocks from an early age fare far better than individuals who save in bonds. That conclusion conflicts with the opinion of Slovenian providers of pension schemes, who still consider bonds an optimal vehicle for pension saving, partly for the benchmark reasons alluded to above.

Stocks are statistically even less risky than bonds in the long run.⁸ Because governments are not prepared to bear inflation risk when issuing bonds, the bond asset class always carries some probability of incurred loss in purchasing power. That renders sovereign bonds risky, even though they are not exposed to credit risk. Stocks, by contrast, are tied to real assets and are thus less prone to inflation losses.

Impact of Strategic Asset Allocation Decisions

As is evident from what has been said above, strategic asset allocation plays an extremely important role in retirement welfare. Table 14.3 provides

Table 14.2. Monthly Annuity Factors Expressed in Terms of Annual (Gross) Pension Savings, Tax Allowances Required for Targeted (Net) Pension of 700 Euros for Individuals with Different Entrance Timing, and Total Pension Savings at Age 65

	<i>Productivity growth = 2.5 percent</i>			
	<i>Enrollment at age 27</i>		<i>Enrollment at age 32</i>	
	<i>Stocks</i>	<i>Bonds</i>	<i>Stocks</i>	<i>Bonds</i>
Monthly annuity factor				
Men	0.35	0.16	0.28	0.15
Women	0.31	0.14	0.24	0.13
Annual tax allowance, women	3,279	7,165	4,164	7,975
Pension savings at age 65	217,441	217,441	217,441	217,441

Source: Author's calculations.

Note: Assumptions: average personal income tax for the payout phase, 30 percent; interest rate in the payout phase, 1 percent per year; life expectancy, men, 82 years, women, 85 years.

additional examples of the yields expected under different asset allocation strategies. Results are stated for two productivity growth scenarios: zero (unrealistic, but useful for comparison) and 2.5 percent per year, the assumption used above.

The first allocation strategy is directed toward stocks. An individual remains invested in stocks during the whole of his or her active life and purchases a monthly annuity at age 65. The monthly annuity factor, expressed in terms of annual gross pension savings, is 0.50 for men and 0.43 for women. For an individual who decides to shift his or her asset allocation toward bonds in the last five years before retirement, the annuity factor is 0.35 for men and 0.31 for women. If an individual chooses bonds at the outset, the annuity factor amounts to 0.16 for men and 0.14 for women. In the event of a balanced asset mix, with 50 percent invested in stocks and 50 percent in bonds, and 100 percent in bonds in the past five years, the annuity factors are 0.23 and 0.20, respectively. If an individual chooses a variable annuity (a reasonable choice for less risk averse investors who have invested in stocks), the resulting annuity amounts to 0.74 times annual gross pension savings for men and 0.67 for women.

Table 14.4 carries the same message, but expressed in euro amounts. An individual is assumed to save 1,000 euros per year during her or his active period.

From tables 14.3 and 14.4 we can see that an individual is able to influence her or his pension welfare substantially and that equities are more suited to providing the desired benefits in old age.⁹

Table 14.3. Impact of a Strategic Asset Allocation on Monthly Annuity Factors Expressed in Terms of Annual (Gross) Pension Savings

Age	Productivity growth = 0				Productivity growth = 2.5			
	Stocks	Stocks ^a	Bonds	Balanced ^b	Stocks	Stocks ^a	Bonds	Balanced ^b
27	1.06	1.06	1.01	1.04	1.04	1.04	0.99	1.01
28	2.18	2.18	2.04	2.11	2.11	2.11	1.96	2.03
29	3.37	3.37	3.07	3.22	3.21	3.21	2.92	3.07
30	4.64	4.64	4.12	4.37	4.36	4.36	3.87	4.11
31	5.98	5.98	5.18	5.57	5.55	5.55	4.81	5.17
61	118.12	112.77	43.70	68.82	70.67	65.81	27.90	41.86
62	126.27	115.14	45.23	70.66	75.97	65.94	28.52	42.30
63	134.90	117.53	46.79	72.52	81.59	66.07	29.14	42.74
64	144.06	119.95	48.36	74.40	87.55	66.20	29.75	43.17
65	153.76	122.40	49.96	76.31	93.86	66.32	30.35	43.60
Annuity, men	0.82	0.65	0.27	0.41	0.50	0.35	0.16	0.23
Annuity, women	0.71	0.56	0.23	0.35	0.43	0.31	0.14	0.20
Variable annuity, men ^c	1.20				0.74			
Variable annuity, women ^c	1.10				0.67			

Source: Dimson, Marsh, and Staunton 2002; IMAD 2006; author's calculations.

Note: Assumptions: interest rate in payout phase, 1 percent per year; life expectancy, men, 82 years, women, 85 years.

a. Invested 100 percent in bonds in the last five years before retirement.

b. Invested 50 percent in stocks and 50 percent in bonds; invested 100 percent in bonds in the last five years before retirement.

c. Accumulation and payout phase, 6 percent annual yield.

Table 14.4. Impact of a Strategic Asset Allocation on (Net) Monthly Annuity Expressed in Terms of Annual (Gross) Pension Savings of 1,000 Euros
euros

	<i>Productivity growth = 0</i>				<i>Productivity growth = 2.5</i>			
	<i>Stocks</i>	<i>Stocks^a</i>	<i>Bonds</i>	<i>Balanced^b</i>	<i>Stocks</i>	<i>Stocks^a</i>	<i>Bonds</i>	<i>Balanced^b</i>
(Net) annuity, men	574	457	186	285	350	248	113	163
(Net) annuity, women	495	394	161	246	302	214	98	140
(Net) variable annuity, men	843				515			
(Net) variable annuity, women	771				471			

Source: Author's calculations.
Note: Calculation for an individual who entered the supplementary pension plan at age 27. Assumption: average personal income tax in payout phase, 30 percent.
a. Invested 100 percent in bonds in the last five years before retirement.
b. Invested 50 percent in stocks and 50 percent in bonds; invested 100 percent in bonds in the last five years before retirement.

Caveats

Before concluding, it is prudent to mention some potential threats in designing and implementing a supplementary funded pension system. First, because of the impact of strategic asset allocation, it is possible that under the uncompetitive and inefficient second pillar (characterized by poor product design and portability, high and nontransparent management fees, poor reporting and governance mechanisms, isolation from the financial market, and so forth.), the mandatory occupational pension pillar will not be satisfactory. It is highly probable that not only pension providers but also labor unions will offer bonds as an optimal pension asset class. Guarantees, attractive to the financially illiterate public but inefficient in the long run, may be put in place. Given their opportunity cost, guarantees should be available as an option rather than an obligation. If guarantees are obligatory, the younger generation in particular will encounter opportunity losses (Berk and Skok 2005; Berk, Musil, and Vovk 2006). An obligatory guarantee discourages saving in the third pillar, as it makes sense to save amounts that have already been subject to individual taxes elsewhere in the financial system and allocate them to reasonable and desired asset classes.

A second potential threat is introduced when pension funds in developing countries are allowed to invest in alternative asset classes such as hedge funds, private equity, and real estate. Alternative asset classes are beneficial in the portfolio management context, as they are uncorrelated with traditional assets (stocks and bonds) and thus provide scope for improvement of the risk-return relationship. If, however, governance mechanisms for such assets and investment products are not clearly stated, there is a threat of return manipulation and a risk that the pension provider, the investment manager, or the provider of such products will appropriate funds from the fund members' account. In Slovenia, for example, legislation on investment funds does not specify alternative investment funds. Until clear mechanisms are set, it is better to exclude those products as an eligible asset or product.

Third, individuals may be deterred from saving in a third pillar by the obligation to annuitize accumulated savings. Many pension system researchers and professionals argue that mandatory annuitization of accumulated retirement saving is ill-advised, at least as long as the first pillar (such as an NDC account) provides a pension that covers basic consumption (Holzmann 2004). The reason is that a mandatory lifetime annuity exposes an individual to a risk of inflexibility. If the government (first pillar) is able to provide pensions above minimum

living standards, there is no need to view pension savings as not being private property. By setting provisions for mandatory annuitization, the government protects the insurance industry, but not individuals who might be paying unfair prices for their annuities. A very important consideration is that mandatory annuitization can conflict with various life situations. For example, consider Ana, age 64, who has just received a report from her doctor saying that she is seriously ill. If pension savings are Ana's only lifetime savings, she will not be able to finance expensive medical treatments, even if she were more than willing to do so.

Finally, very important for the supplementary pension system is a proper benchmark for the guaranteed minimum rate of return, if one exists.¹⁰ The current benchmark in Slovenia is inefficient; it uses yields-to-maturity of Slovenian sovereign long-term bonds instead of holding-period returns; it employs return benchmarks from previous periods (which may, for reasons of monetary stance, be already inappropriate); and it applies an arbitrarily set guarantee threshold, 40 percent of the yield of the previous year. Such a benchmark is inappropriate in many ways, but above all, it does not send the right signal and does not foster use of professional asset management techniques by providers of pension schemes or their outsourced asset managers. The future benchmark should be known *ex ante* and should be unambiguous, marketable and liquid, and easily replicable. Providers of pension schemes should meet around 95 percent of the holding-period returns. Measurement periods should not be as short as they are under the current system.¹¹ Modified duration of the benchmark portfolio should not exceed three years and should include, to the extent possible, inflation-linked sovereign securities.

Conclusion

Hotly debated pension issues are on the agenda of a majority of modern societies as the population ages, causing demographic problems for the traditional pay-as-you-go pension systems that were put in place under different socioeconomic conditions. This chapter has discussed contemporary issues and challenges in creating a sound supplementary funded pension system in Slovenia. As the mere introduction of such a system cannot solve the problem optimally, the discussion has addressed reasonable possibilities for the development of a sound, efficient, and sustainable pension system that promotes economic

growth and prosperity, offers social protection to the poor, and provides appropriate incentives to save and to manage each person's pension. A precondition for such a pension system is a transparent and competitive supplementary funded pension system that offers portable and innovative products and provides sound governance mechanisms which establish sufficient trustworthiness. Because the Slovenian supplementary funded pension system was founded in parallel with existing financial markets, and because providers of pension options have lobbying power and follow rather short-sighted strategies, such a system will not emerge overnight.

Notes

1. Kapitalska družba DD is a joint-stock company whose sole founder and shareholder is the Republic of Slovenia. Kapitalska družba was established with the purpose of creating additional capital for pension and disability insurance by means of asset management. The legal basis for the incorporation of assets of the company was the privatization legislation. The adoption of the new pension legislation allowed Kapitalska družba to establish and manage mutual pension funds and pay pension annuities under the First pension fund and vocational pensions under the compulsory supplementary pension insurance scheme. For more information see http://www.en.kapitalska-druzba.si/about_kapitalska_druzba.
2. A secondary legislative act determines the calculation of the minimum yield that pension funds must meet on a monthly basis and thus implicitly provides a benchmark pension system for system providers to follow (Slovenia, Ministry of Finance 2005).
3. Mutual funds can be regarded as a close substitute for pension funds. Slovenian asset management firms have made great progress in the last four years as, under the EU directive on undertakings for collective investment in transferable securities (UCITS), competition from abroad has forced them to shape up their products. If pension legislation is not improved, even corporate sponsors may become aware that investment in long-term products that are not competitive is far less suited for providing good prospects for their employees.
4. Kapitalska družba was established with the goal of providing funds for the pension system, and it has assets at its disposal for this task; see note 1.
5. Future value is calculated by accounting first for productivity growth and then for real asset class return.
6. The calculation assumes a 1 percent real rate of return in retirement and a 30 percent marginal tax rate. Ana's life expectancy of 87 years is assumed according to Whitehouse (2007).

7. The monthly annuity factor is adjusted for inflation and productivity growth and expressed in terms of annual (gross) pension savings. For example, for every 1 euro that Ana saves per year, she can expect 0.31 euro per month when she is 65 and older.
8. The advantage for stocks emerges as soon as 18 years of saving. For details see Campbell and Viceira (2002); Siegel (2002).
9. For an illustration on risk in long-run investments, see Campbell and Viceira (2002) and Siegel (2002).
10. In Slovenia there is a minimum guarantee in the form of domestic sovereign bond yield. Other forms of guarantee are possible; see World Bank (2002).
11. The period should be extended to about two years but should be constantly monitored (World Bank 2002).

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CHAPTER 15

Designing a Regulatory Framework for Pension Reform and Development of Financial Markets: The Estonian Experience

Tõnu Lillelaid, Veiko Tali, and Thomas Auväärt

In June 1997 the government of Estonia approved a pension reform concept paper that set up the basis of the present pension system. This reformed pension system consists of three pillars:

- Pillar I, a public pension system based on pay-as-you-go (PAYG) financing. Pillar I was reformed in 1998. The main changes were related to individual accounting for contributions and the introduction of a benefit calculation formula partly based on contributions. A gradual rise of the pensionable age to 63 for both men and women was implemented at the same time.
- Pillar II, a mandatory individual funded scheme that was legislated in 2001 and started operating in 2002.

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- Pillar III, a voluntary funded scheme, legislated in 1998, that allows investments in either special pillar III insurance contracts or voluntary pension funds. Pillar III participation is encouraged by very favorable tax treatment of both contributions and benefits.

The three pillars taken together aim at providing people with secure old-age income insurance as, in combination, they neutralize demographic, investment, political, and other risks that jeopardize the individual pillars. The main aims in introducing pillar II were the following:

- To increase individual interest in and responsibility for the pension system
- To secure adequate old-age income protection and avoid reduction in the average replacement rate as a result of unfavorable demographic developments
- To protect the political and financial sustainability of the pension system by spreading the risks.

Main Features of the Second Pillar

The Estonian second pillar is a mandatory, defined contribution–based funded individual scheme. During the accumulation phase contributions are collected in special pillar II pension funds chosen by individuals. At retirement, pensions are paid, as a rule, in the form of annuities (provided by life insurance companies), but there are also options for payments from pension funds in case the annuity is too small or exceeds a certain limit.

The term “mandatory” is used to describe the second pillar even though it is required only for new labor market entrants—individuals born in 1983 or later—after they have reached age 18. Individuals born between 1942 and 1982 have been able to join the pillar II scheme on a voluntary basis. It should be emphasized that once a person has chosen to join the second pillar, the decision cannot be reversed.

The contribution rate to the second pillar is 6 percent of gross income. Of this, 4 percentage points are allocated from employer-paid social taxes, which total 33 percent of gross income. The remaining 2 percentage points are paid by the employee. Contributions are collected by the Tax and Customs Board. Collections can be allocated to only one pension fund at a time. Once a year, however, a person can start to make contributions to another fund or can switch funds,

changing all units of one fund to units of another. Pillar II pension fund assets are inheritable and can only be bequeathed to natural persons. Pillar II is subject to the deferred type of income taxation known as EET (for “exempt-exempt-taxed”). Under EET, pension contributions are exempt (deductible from income) for both employer and employee. Earnings in the pension plan are exempt and accrue without taxation. Withdrawals from the pension after retirement are taxed as ordinary income.

Pillar II is administrated by a central agency, the Estonian Central Depository for Securities (ECSD). The ECSD keeps account of individuals’ subscriptions to a funded pension. It registers the funded pension applications submitted, the contributions paid, the funds chosen, the pension fund units acquired, payments made, funds replaced, and other procedures related to the funded pension schemes.

Pension funds in Estonia are legally designed as a specialized type of contractual investment fund. Management companies that manage second-pillar pension funds can also manage third-pillar pension funds, as well as other investment funds and private portfolios. Assets of pension funds are held by depository banks. All main pillar II service providers, including the ECSD, are supervised by the Financial Supervisory Authority (FSA), which also registers pension funds and approves fund rules.

A moderate guarantee scheme has been established for protection of pension fund investors. It is triggered in case of the insolvency of a management company or of losses incurred because of breaches of pension fund management rules. The guarantee scheme does not provide protection against investment risk, but a person can choose between pension funds with different types of investment strategy.

The Second Pillar in Action

The Funded Pensions Act was passed by the parliament on September 12, 2001, and the first round of switching to the pillar II scheme started on May 3, 2002. Six fund management companies received licenses to manage pillar II pension funds, and 15 funds were registered; of these, 6 were conservative, 3 were balanced, and 6 were growth funds. By law, every fund management company (FMC) has to manage one fund that is limited to investment in fixed income instruments, that is, a conservative fund. In addition, an FMC may operate funds that invest in equities—up to 25 percent (balanced fund) or up

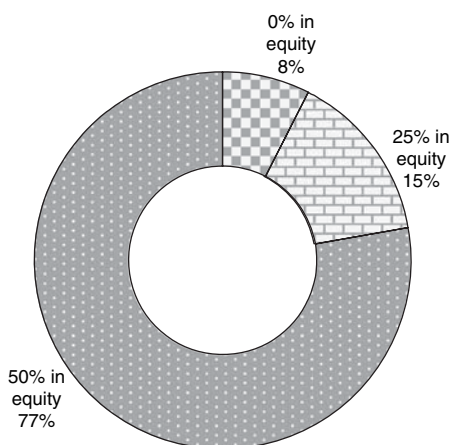
to 50 percent (growth fund). The maximum limit of equity investment allowed by law is 50 percent. Growth funds have proved the most popular type of fund among pillar II members, as is shown in figure 15.1.

At every stage of the pillar II implementation process, the number of persons opting to join the funded scheme has exceeded expectations. By the end of 2006 the scheme had 520,000 participants. Figure 15.2 shows the percentage of fund switching by year.

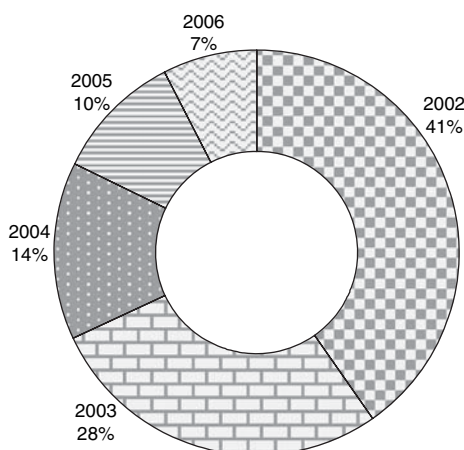
An individual (unit holder) has the right to exchange units of a pension fund for units of another pension fund and can, on submission of an application, begin to make contributions to a new pension fund once a year. In past years about 10 percent of pillar II participants have used this option, for the most part starting to contribute to a new fund while leaving existing units in the old fund (see table 15.1). Over 96 percent of participants who changed pension funds chose a growth fund as the new fund (table 15.2). This can be first of all explained by the higher investment returns of these types of fund.

Pillar II assets are growing rapidly (see figure 15.3); at the end of 2006 they amounted to 7.4 billion krooni, the equivalent of 0.5 billion euros, or 3.6 percent of gross domestic product (GDP). The pillar II investment management market is heavily concentrated. The largest fund management company, Hansa Asset Management, manages 53 percent of pillar

Figure 15.1. Proportions of Those Switching to Pillar II, by Type of Fund, Estonia



Source: Ministry of Finance, Estonia.

Figure 15.2. Proportions of Those Switching to Pillar II, by Year of Change, Estonia

Source: Ministry of Finance, Estonia.

Table 15.1. Number of Switchers in Pension Funds, Estonia, 2003–06

	2003	2004	2005	2006
Began contributing to new fund	8,119	31,965	40,056	35,129
Changed pension fund	n.a.	2,186	7,043	8,152

Source: Ministry of Finance, Estonia.

Note: n.a., not applicable.

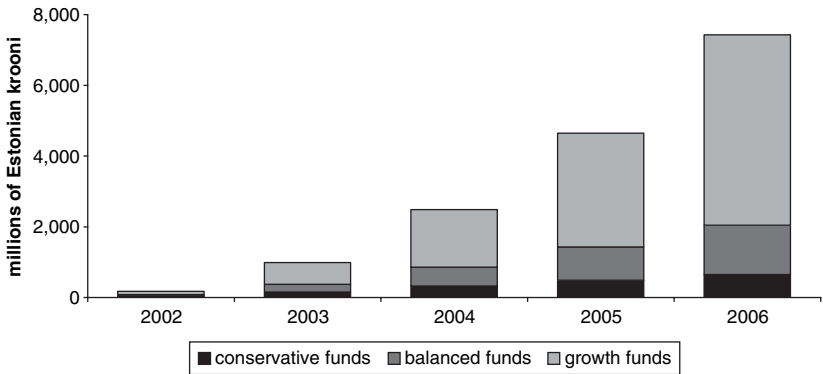
Table 15.2. Number of Persons Moving between Different Types of Pension Fund in 2006, Estonia

Type of new fund	Existing fund					
	Began contributing to new fund			Changed pension fund		
	Conservative	Balanced	Growth	Conservative	Balanced	Growth
Conservative	113	109	157	44	43	27
Balanced	236	140	388	123	51	81
Growth	2,489	3,804	27,693	1,354	1,624	4,805

Source: Ministry of Finance, Estonia.

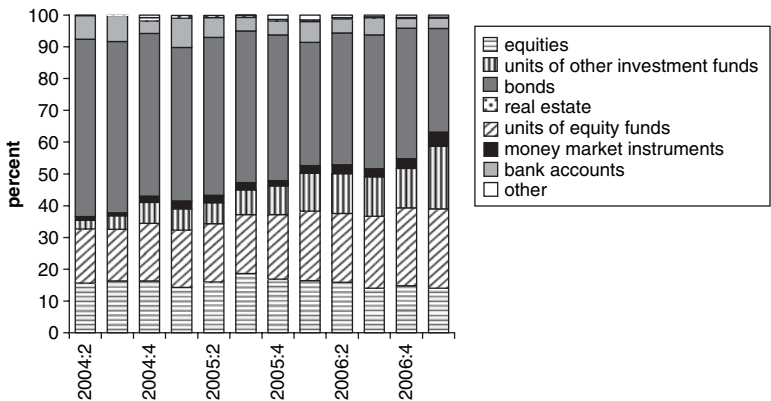
II assets, while the market share of the two smallest management companies is only 7 percent. There have been no big changes in the structure of the pension fund market since 2002. In 2005 two small management companies merged to reduce costs and increase reliability. Both fund

Figure 15.3. Pillar II Assets, by Investment Strategy, Estonia, 2002–06



Source: Ministry of Finance, Estonia.

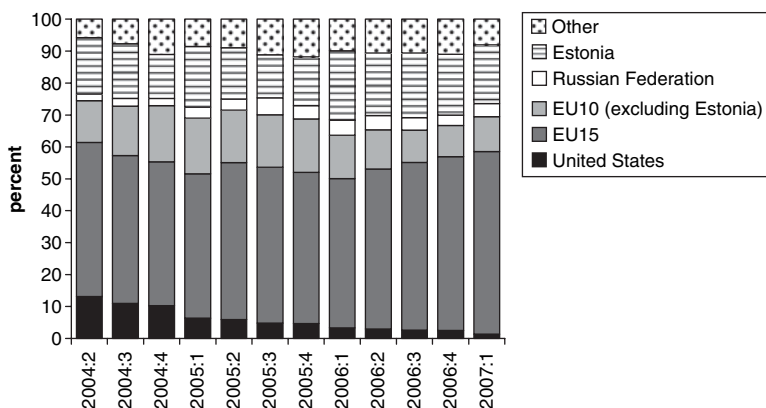
Figure 15.4. Pillar II Investments, by Asset Type, Estonia, End of Second and Fourth Quarters, 2004–06



Source: Ministry of Finance, Estonia.

management companies had three pension funds under management, and after the merger, all six were retained. The market share of this management company is currently about 5 percent.

Most pillar II pension fund assets are invested in bonds and other low-risk fixed assets, mainly because of limits set by law. The importance of investment in other investment funds is increasing slightly. As can be seen in figure 15.4, units of the other investment funds (except equity funds) are replacing investments in bonds, and units of the

Figure 15.5. Pillar II Investments, by Country or Region, Estonia, by Quarter, 2004–06

Source: Ministry of Finance, Estonia.

Note: EU10 refers to 10 countries admitted to the European Union in 2004. The EU15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

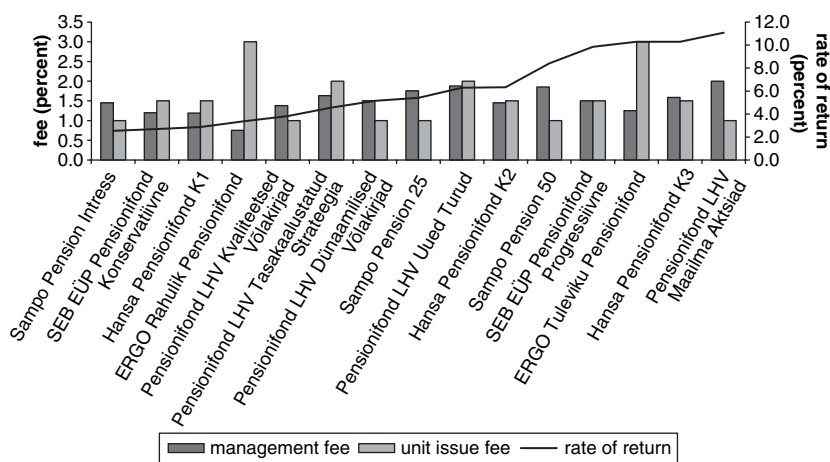
equity funds are replacing investments in equity. Regarding regional allocation (see figure 15.5), most of the fund assets are invested in “old” (pre-2004) European Union countries (the EU15). There is no obvious trend in investments in Estonia, but the proportion of investments in Estonia will likely decrease in the future because of the small size of the local financial market.

Pension funds can charge investors three types of fees: a unit issue fee, a unit redemption fee, and a management fee. Unit redemption fees and management fees have upper limits, set by law, of 1 and 2 percent, respectively. There has been no limit on unit issue fees since the beginning of 2007; before that, it was 3 percent. As is shown in figure 15.6, actual fees are usually lower than the limits.

The actual unit redemption fee for all funds is 1 percent. To promote transparency, all other fees, including depository fees, fees to the FSA, ECSD fees, and contributions to the guarantee scheme, are paid by pension fund management companies. Only transaction expenses can be deducted from the assets of the fund.

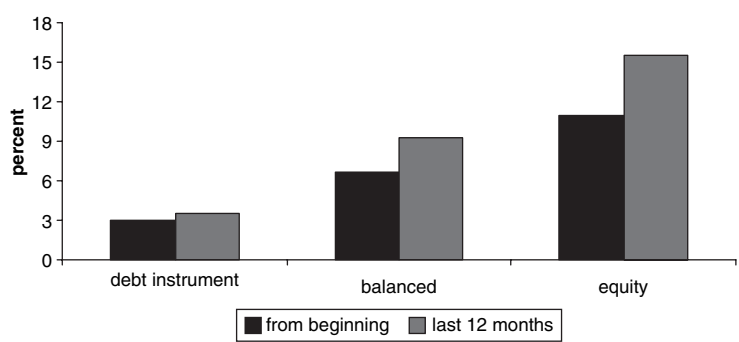
The investment returns of a pension fund depend on the fund’s investment strategy (see figure 15.7). Since 2002, the real rate of return for conservative funds has averaged around 0 percent per year, but for growth funds it has been 6–8 percent per year.

Figure 15.6 . Fees and Nominal Investment Returns of Pension Funds, Estonia



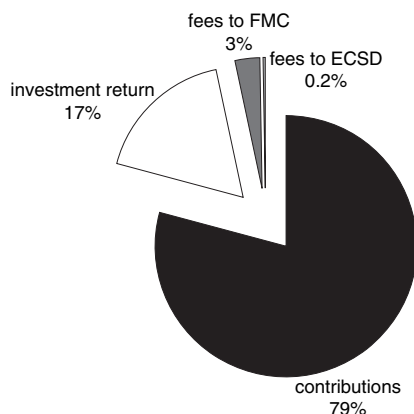
Source: Ministry of Finance, Estonia.

Figure 15.7. Investment Returns of Different Types of Pension Funds, Estonia



Source: Ministry of Finance, Estonia.

The accumulated cost of the pillar II system is currently approximately 3 percent of total assets (see figure 15.8); this includes revenues of the FMC (costs of custody services, supervision, etc.) and the ECSD. Data on the cost to the Tax Board (for collecting contributions and making transfers to the ECSD) and on administrative costs to employers are unavailable.

Figure 15.8. Pillar II System Costs, Estonia, Cumulative, 2002–06

Source: Ministry of Finance, Estonia.

Note: ECSD, Estonian Central Depository for Securities; FMC, fund management company.

Changes in the Regulatory Framework since 2002

The pillar II regulatory framework has remained basically the same, but some changes have been made since 2002. In 2004 the new Funded Pensions Act was passed. The law was revised mainly because of the passage of the new Investment Funds Act; the contents of both laws were restructured. The principal changes in pillar II rules under the new law were as follows:

- After 2010 persons born before 1983 may no longer join pillar II. Initially, it had been possible to join pillar II on a voluntary basis until 2022, but the period was curtailed because of very high switching activity in the beginning.
- Self-employed persons can now contribute to pillar II.
- Contributions to pillar II can also be made from parental benefits, which are paid until 1.5 years after the birth of a child. The contribution rate in this case is 1 percent.

Regulations restricting the investment of pension funds in venture capital and real estate funds were eased starting with the beginning of 2007. Investment limits for real estate and for real estate funds were increased from 10 to 40 percent and for venture capital funds, from 30 to 50 percent. The changes were instituted to encourage the activity of these types of funds in Estonia and to encourage longer-term investment

behavior by management companies. Currently, only about 0.3 percent of pillar II pension fund assets are invested in real estate.

The Impact of Pension Reform on Financial Markets

The Estonian financial market is characterized by the dominant position of the banking sector, the high level of foreign ownership and concentration, and the relatively advanced level of services (Internet banking, etc.). The principal indicators are presented in table 15.3.

Leading Features of the Estonian Markets

The last decade of the twentieth century was a period of dramatic economic restructuring and turbulence for Estonian financial markets. For example, the number of banking institutions fell by a factor of 6 in seven years, from 42 to 7, excluding foreign branches. Two institutions now account for nearly 78 percent of market share, as measured by assets. The same degree of consolidation has taken place in insurance, which, like banking, is today predominantly foreign owned, by

Table 15.3. Main Indicators, Estonian Financial Market, 2000–06

	2000	2001	2002	2003	2004	2005	2006
Number of private banks, including foreign branches	7	7	7	7	9	13	14
Concentration C2 (percent)	83.5	83.3	82.8	81.8	81.3	80.1	77.6
Banks' return on equity (percent)	8.4	20.9	20.3	20.0	22.8	23.5	25.5
Banks' capital adequacy (percent)	13.2	14.4	13.4	12.5	11.5	10.7	10.8
Foreign ownership in banks' share capital (percent)	84.0	85.0	86.7	85.7	89.8	93.1	94.4
Real sector debt as percent of GDP	34.7	38.3	42.9	50.6	57.6	73.3	94.1
Interest rate on housing loans, end of period (percent)	11.0	7.7	6.8	5.0	3.6	3.4	4.7
Insurance premiums as percent of GDP	1.6	1.8	1.9	2.3	2.2	2.3	2.2
Investment funds' assets as percent of GDP	1.7	3.1	4.1	6.3	7.5	10.6	13.3
Stock market capitalization as percent of GDP	34.4	26.6	33.5	40.5	50.8	28.5	34.6
Change in stock exchange index (percent)	10.1	4.7	46.8	34.4	57.1	48.0	28.9

Source: Ministry of Finance, Estonia.

Note: C2, market share of two largest banks by assets; GDP, gross domestic product.

Swedish financial market participants. The assets of branches of foreign credit institutions and credit institutions controlled by nonresident financial groups make up 98 percent of the total assets of banks operating in Estonia.

The growth of the Estonian financial sector's consolidated assets has accelerated considerably since the beginning of the new century, exceeding nominal economic growth several times. Following Estonia's accession to the European Union, the provision of financial services increased significantly, leading to heightened competition.

As noted, Estonia's financial sector is very much dominated by banking; the securities market has remained small. Today, however, both pension reform and EU enlargement have stimulated the market. In the investment services sector a trend is noticeable in which investment funds and insurance products are replacing deposit savings (see table 15.4).

Despite the high concentration of the banking market, competition is still intense, and the number of market participants has even increased slightly during the past few years. At the end of 2006 there were seven locally licensed credit institutions and seven branches of foreign credit institutions operating in Estonia. The active operation of branches of foreign credit institutions in the loan market has had an effect on the distribution of market shares in recent years.

The Tallinn Stock Exchange (TSE), founded May 31, 1966, is the only regulated securities market in Estonia (see table 15.5). The TSE and the

Table 15.4. Debt and Investments of Private Persons, Estonia, 1999–2006

percent of GDP

	1999	2000	2001	2002	2003	2004	2005	2006
Private persons'								
loan stock	6.6	7.2	8.5	10.7	14.5	20.0	28.8	39.7
Private persons'								
savings deposits	5.9	7.1	7.5	7.2	6.6	7.3	7.9	9.0
Investment fund								
assets, excluding								
pension funds	1.4	1.5	2.8	3.4	4.6	5.7	7.7	9.2
Pension fund assets	0.0	0.0	0.0	0.2	0.8	1.8	3.0	4.1
Individual portfolios	0.5	0.7	1.1	1.4	2.2	3.5	6.1	8.1
Unit-linked life								
insurance	0.0	0.1	0.0	0.0	0.1	0.2	0.4	0.5

Source: Ministry of Finance, Estonia.

Note: GDP, gross domestic product.

Table 15.5. Investments in the Tallinn Stock Exchange, by Country, 1996–2006
percent

<i>Country</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>
Estonia	66.9	65.0	34.9	27.0	23.6	22.5	19.4	19.7	17.2	45.3	52.6
Finland	11.7	12.4	12.8	5.5	5.1	7.0	6.8	7.1	5.7	7.5	3.2
Latvia	0.1	0.6	0.5	0.2	0.1	1.0	0.8	0.9	0.3	0.5	3.6
Luxembourg	0.0	0.4	3.1	1.5	0.2	1.1	1.7	1.8	4.3	5.5	5.5
Sweden	5.6	3.9	29.7	38.6	45.4	45.4	48.8	52.8	54.3	26.5	19.9
United Kingdom	1.3	3.2	2.1	3.8	5.4	7.7	7.1	7.5	8.3	3.3	5.2
United States	2.3	1.8	3.4	12.5	8.4	7.5	8.4	6.6	6.3	4.7	3.3
Others	12.1	12.7	13.5	10.9	11.8	7.8	7.0	3.6	3.6	6.7	6.7

Source: Tallinn Stock Exchange.

Estonian Central Register of Securities belong to the international OMX Group, and since 2004 the TSE has been a member of NOREX, the Nordic and Baltic stock exchange alliance.

In general, foreign ownership and cooperation arrangements with other stock exchanges have had a positive impact on liquidity and have fostered the integration of the Estonian securities market into European markets. Unlike the situation in other countries, government debt securities have not been one of the driving forces of capital market development, mainly because of conservative fiscal policies. (Central government debt is currently only about 1.7 percent of GDP.) The securities market in Estonia therefore consists primarily of an equity market, and the debt market has developed only because of the issuance of corporate debt instruments. The market volume of this debt is modest, and the market is mainly a primary one with private placements. The secondary market is weak and is not liquid.

Preconditions for Reform

The design of pension reform should take into account the existing level of development and the structure of the financial services industry and markets. Important preconditions for the successful implementation of (mandatory) funded pension reform are a comprehensive regulatory framework, sufficiently capable supervisory structures, and functioning market infrastructure. Market participants themselves should be capable of executing their mission and ready to do so. It is also crucial to take into account the level of experience and the financial education of those who will be the members of the mandatory scheme and will be making vital decisions, including these related to their personal investment risk.

From an institutional point of view, it is critical to have a strong supervisory authority capable of protecting the interests of pension scheme members. In Estonia in 2001, just before the implementation of pillar II, three separate financial supervisory inspectorates, for banking, securities, and insurance, were merged to create the Financial Supervision Authority (FSA). The establishment of an integrated financial supervisory authority was a fundamental and successful reform that was a prerequisite for enhancing the effectiveness of supervision and ensuring its consistent quality in all parts of the financial sector. The reform included major changes in the financing of supervisory activities—the FSA's budget is fully financed by the financial industry. The integration of all supervisory functions into the FSA allowed for the systematic control, without risk of supervisory arbitrage or dispersion of responsibility, of all

actors in the pillar II scheme, including management companies, the ECDS, depository banks, stock exchanges, life insurance companies, and public issuers.

Minimum critical market infrastructure (a central depository and a stock exchange) was formed in the mid-1990s—the ECSD in 1994, and the TSE in 1996. In 1998 the Deposit Guarantee Fund was established. The Estonian financial sector has undergone a significant transformation since the end of the “asset price bubble” of 1996–97 and has become considerably stronger since the Asian and Russian crises. Mainly during the late 1990s, the banking and insurance sectors were consolidated and restructured. Weaker players disappeared, and the financial sector became dominated by subsidiaries of large and experienced Scandinavian financial groups, mostly banks. The first management companies and investment funds were established in 1994–95 and pension funds, in 1998.

The Impact of Pension Reform on the Development of the Financial Sector

Implementation of funded pension schemes can have an important effect on the development of the financial sector, as well as on the real economy. It is possible to strongly influence the future structure of the financial services industry and the development of capital markets through the design and implementation of the regulatory framework for funded pension reform. With the Estonian experience in mind, the following propositions can be formulated:

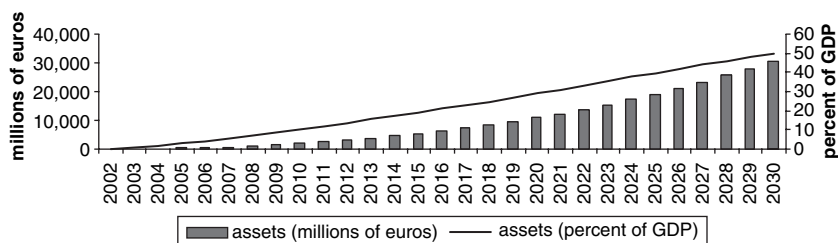
- The earlier the funded pension reform is implemented, when compared with the relative stage of development of the financial sector, the stronger should be the impact of pension reform on further development of the financial sector.
- The higher the relative level of potential financial flows mobilized by the new pension scheme, the greater the impact on the financial sector. This aspect is especially important during the first phase of pension reform and depends mainly on the contribution rate and the extent of participation in the scheme.
- In connection with the first two propositions, it seems obvious that the impact of the implementation of pension reform is higher in smaller countries. Even there, however, the magnitude of pension funds will have to exceed a critical mass. Restricting investments by pension funds to local markets can, of course, increase capital market impacts, but such a solution is not reasonable or sustainable for very small countries.

When designing the regulatory framework for the mandatory funded pension scheme, it is important to keep in mind the longer-term impact of pension reform on the financial sector. Ideally, the pension reform should be designed in a way that enhances the development of financial markets and the positive restructuring of the financial sector. A reform so designed should help bring about conditions favorable for realization of the aims of the pension reform itself. Taking into account the critical importance of the long-term impact of pension reform, it is essential that the regulatory framework be designed in such a way that it can be adjusted if mismatches appear or conditions change. Estonian experience has shown that the possibilities of redesign can be seriously restricted because of the optional character of the switch to pillar II. Voluntary switchers to pillar II—in this case, 75 percent of total participants—have (legally) justified expectations that all key conditions of the scheme will remain unchanged or, if not, that they will be able to switch back.

Estonia's pillar II scheme is characterized by a medium-size contribution rate (6 percent) and a high level of voluntary switching to the system. The second pillar was introduced in 2002 after the main restructuring of the Estonian financial sector at the end of the 1990s. Consequently, the impact of pillar II on financial market development could be significant primarily in the longer term and if there is a high level of switching. As noted, switching to pillar II has been very popular; approximately 54 percent of eligible persons have exercised that option. This allows us to expect that pillar II pension fund assets will continue expanding rapidly, growing from 3.9 percent of GDP in 2008 to perhaps 50 percent around 2030 (see figure 15.9). At the same time, the ratio of banking assets to GDP is already 126 percent and is growing. This means that the impact of pillar II on the financial sector in the future will increase considerably but will still be weak compared with that of the banking sector.

Other main features of the pillar II regulatory framework are the following:

- Regulatory frameworks are differentiated between the accumulation phase (pension funds) and the payment phase, mainly annuity contracts. During reform preparations, several alternatives were discussed, including parallel provision of insurance and fund products during both phases.
- There is no requirement for specialized service providers designated only for provision of pillar II products. Pension fund managers can manage all types of investment funds and private portfolios. The same

Figure 15.9. Assets of Mandatory Pension Funds, Estonia, 2002–30

Source: Projections by the Ministry of Finance, Estonia.

Note: GDP, gross domestic product.

principle is applicable to life insurance companies. This open approach was chosen with the purpose of creating a critical mass of asset volumes attractive to capable and reliable service providers under conditions of small market size.

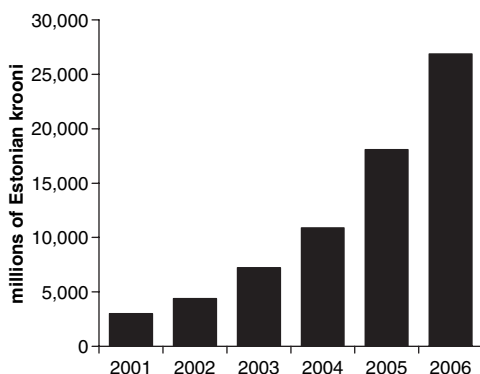
- Pillar II pension funds are specially designed collective investment schemes—that is, contractual investment funds managed by licensed management companies. Assets of pension funds are kept separately by depository banks with certain fiduciary responsibilities. The net asset value (NAV) of pension funds is calculated and published on a daily basis, and all transactions take place according to NAV.
- Investment regulations are based on quantitative limits, including diversification rules, self-investment restrictions, instrument-based restrictions (50 percent maximum for equity investments, 10 percent maximum for nonlisted securities), and country-based restrictions. There are no country-based limits for investing in instruments of members of the European Economic Area (EEA) or the Organisation for Economic Co-operation and Development (OECD). The currency matching rule is 70 percent, but it is not applicable to euros. It was judged neither reasonable nor sustainable to create artificial regulatory advantages for the (small) Estonian market. Local instruments should be attractive in themselves.
- Absolute or relative return guarantee mechanisms are not applied as they are in several other countries of Central and Eastern Europe (CEE). The guarantee scheme covers only operational risk, as described above. At the same time, every management company is obliged to manage at least one conservative pension fund. One management company can manage several pillar II pension funds, but the investment policy of each fund should be different. As noted, switching is allowed.

After six years of experience, we can distill the preliminary results and lessons of pillar II reform from the point of view of the development of financial services and capital markets.

One of the main positive and “planned” results of reform was the real boom of the asset management and investment funds industry. Prospects for regular fresh inflows to, and rapid increase of, pillar II assets created a stable basis for forming a capable and competitive asset management sector. As can be seen from figure 15.10 and figure 15.11, investment fund assets have increased almost 10 times during the past six years. The growth has been fostered mainly by the rapid increase of equity funds and mandatory (pillar II) pension funds. By the end of 2006 there were eight fund management companies in Estonia. During 2006 the number of investment funds registered in Estonia increased to 46, including 18 equity funds (14 in 2005), 15 mandatory pension funds (15), 7 voluntary pension funds (7), and 6 debt funds (8). Total assets managed by fund management companies grew rapidly, reaching 2 billion euros by the end of 2006, of which 1.7 billion euros originated from managed investment funds and 0.3 billion euros from client securities portfolios.

Developing a strong and qualified asset management industry has made the Estonian financial services sector more diversified. There are also clear signs of the formation of a regional asset management competence center in Tallinn, specializing mainly in investing Scandinavian money in instruments of CEE countries. Concentration in the asset management sector remains high, but positive trends toward increase of

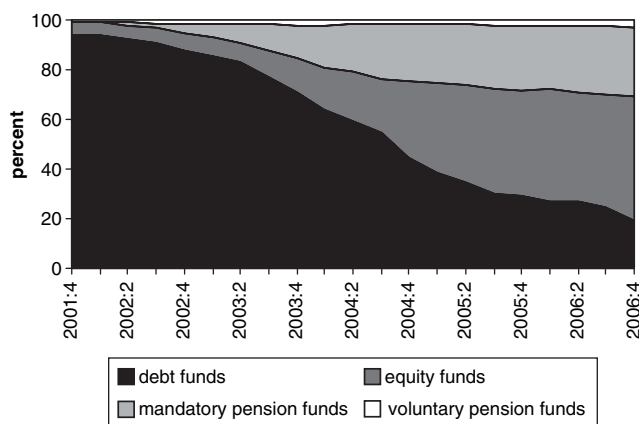
Figure 15.10. Investment Fund Market, Estonia, 2001–06



Source: Ministry of Finance, Estonia.

Note: 1 euro = 15.65 krooni (May 24, 2008).

Figure 15.11. Investment Fund Asset Shares, Estonia, End of Second and Fourth Quarters, 2001–06

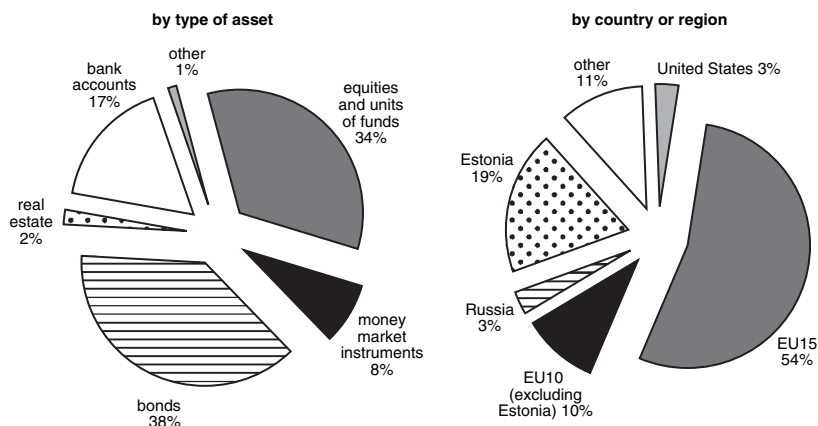


Source: Ministry of Finance, Estonia.

competition are visible. Recently, a new (that is, independent from big financial institutions) management company was established, and two new ones are likely to be launched.

Some other preliminary results and lessons related to the impact of the pillar II regulatory framework on the development of financial markets are as follows:

- Quantitative investment limits are likely to be too restrictive and inadequate to the aims of the second pillar. In particular, some instrument-based limits such as the equity limit need to be reconsidered and modified.
- The investment strategy of pillar II asset managers is not sufficiently oriented toward long-term results. This short-term outlook is in part encouraged by daily comparison of fund results, to the detriment of a long-term perspective.
- There are concerns about the degree of competition in the pillar II pension fund sector. The number of pillar II pension funds has remained the same (15) as in 2002, and the number of pillar II asset managers has decreased from 6 to 5. Fees paid to managers have been virtually unchanged since the outset.
- The effect of pillar II on the development of the domestic capital market has been moderate. The corporate bond market has not flourished as expected, although this situation may change. There is a lack of new

Figure 15.12. Pillar II Investments, by Asset Class and by Country or Region

Source: Ministry of Finance, Estonia.

Note: EU10 refers to 10 countries admitted to the European Union in 2004. The EU15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

long-term instruments and new issuers. As can be seen in figure 15.12, domestic assets account for about 19 percent of pillar II pension fund assets. This level is significant, but approximately one-third of this amount is indirectly invested outside Estonia.

Current Issues and Further Development of Pillar II

During 2008 it is planned to amend and correct the regulatory framework for pillar II. Topics under discussion are mainly related to the payment phase, investment restrictions on pension funds, and fee structures.

The biggest challenge is to complete the regulatory framework for the payout phase, which will start in 2009. The basic features of the payout phase were already stipulated in law in 2001. According to the existing law, the main payout modality is a compulsory lifetime annuity. Insurers are required to apply a unisex mortality table. There has been discussion as to whether all insurers should use the same table or whether there could be partial competition with certain restrictions. Insurers are allowed to offer only base (insurance) products for policyholders. (Joint products are allowed, but they have to meet the requirements of the base product.) A guaranteed period may be stipulated so that the beneficiary

or beneficiaries specified in a contract are entitled to payments made pursuant to the contract if the insured dies during the guaranteed period.

Other hotly debated issues related to the payout phase are

- The possibility of recalculating benefits in case of renewal of mortality tables
- The possibility of, and conditions for, switching between insurers or among different products
- Transparency of insurers' expenses and fee structure (exit, entry, and so forth.)
- Whether to use guarantee schemes, and what would be the scope of such schemes
- Conditions for using a programmed withdrawal option instead of a lifetime annuity.

With respect to the accumulation phase and investment regulations, the proposals to increase the equity investment limit (from 50 to 75 percent or higher) and to remove some other restrictions are under discussion. For voluntary pension funds (pillar III) the equity limit is already 100 percent. The main reason for considering an increase in the equity limit is the higher long-term rate of return from equities. Current statistics, although short-term, indicate that the six pension funds with the highest returns are equity based. About three-quarters of investors prefer such funds (see figure 15.1).

Another intensely debated issue is the structure of pension fund fees. Currently, there are three types of fees: entry, exit, and management fees. As illustrated in figure 15.6, comparison to determine which funds have the lowest fees is very difficult. To improve transparency, it is proposed that only exit and management fees be charged. In certain cases, such as when an investor is close to retirement, the exit fee could be removed as well. In addition, pension funds would have to use regressive management fees, depending on the volume of assets. Investors would then receive the advantage of scale effects of the pension fund, as fund owners do.

CHAPTER 16

Linking Pension Reform and Financial Market Development: The Experience of Latin America

Augusto Iglesias P.

Beginning with Chile in 1980, 10 Latin American countries have carried out reforms to their pension systems that include the creation of mandatory programs based on personal accounts. Pension funds in the region already amount to US\$229 billion and, in most cases, are important actors in local capital markets (see tables 16.1 and 16.2).

Ensuring the efficient investment of these resources is decisive for the success of the reforms. One point of difference in the annual average life-time personal account yield means a difference of over 25 percent in the amount of the final pension.¹ So far, the aim of the reforms appears to have been achieved, since the yield of the funds has been high, compared with the initial assumptions (see table 16.3). This result is explained mainly by the fact that the pension funds of many Latin American countries have benefited from periods of considerable appreciation in the value of their assets, including debt—in particular, public debt—that accompanied their respective economic reform processes, especially in the 1990s.

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Table 16.1. Pension Reform, Latin America

<i>Country</i>	<i>Year of reform</i>	<i>Type of system</i>	<i>Number of members</i>	<i>Contributors</i>
Argentina	1994	DC/IA + PAYG	11,307,715	4,563,768
Bolivia	1997	DC/IA	1,002,986	473,861
Chile	1981	DC/IA	7,683,451	3,956,992
Colombia	1994	DC/IA	7,010,287	2,943,940
Costa Rica	2000	DC/IA + PAYG	1,542,151	—
Dominican Republic	2003	DC/IA	1,436,694	755,436
El Salvador	1998	DC/IA	1,437,474	538,370
Mexico	1997	DC/IA	37,408,828	13,926,954
Peru	1993	DC/IA	3,882,185	1,350,775
Uruguay	1995	DC/IA + PAYG	723,267	415,016

Source: Author's compilation; FIAP (International Federation of Pension Funds Administrators), "Estadísticas de afiliados," December 2006; FIAP, "Estadísticas de cotizantes," December 2006; Data for Members and Contributors are for December 2006.

Note: —, not available; DC, defined contribution; IA, individual account; PAYG, pay-as-you-go.

Table 16.2. Pension Funds in Capital Markets, Latin America

<i>Country</i>	<i>Pension funds, 2006 (millions of U.S. dollars)</i>	<i>Pension funds as share of GDP, 2015</i>	<i>Pension funds as share of market capitalization</i>	<i>Percent of public debt in pension fund portfolio</i>
Argentina	29,203,857	30.9	14.5	6.5
Bolivia	2,298,629	43.5	171.8	37.0
Chile	88,631,780	89.7	65.8	64.6
Colombia	19,347,175	24.7	40.6	—
Costa Rica	1,061,185	10.0	3.9	0.7
El Salvador	3,469,774	—	69.4	13.0
Mexico	68,290,750	26.0	37.1	14.7
Peru	14,413,201	28.1	39.8	3.0
Uruguay	2,585,893	13.3	962.5	7.6

Source: Palacios 2003; FIAP (International Federation of Pension Funds Administrators), "Fondos administrados," December 2006.

Note: —, not available; GDP, gross domestic product.

Prospects for the future, however, are not equally auspicious. In the long term, success in investment management depends on adequate diversification of portfolios, and Latin American pension funds are not currently fulfilling this condition. On the contrary, most of them are concentrated in a few asset classes, in a few issuers (mainly, the government), and in their respective national economies (see table 16.4). This situation is explained by unsuitable regulations that have restricted investment in equity instruments and international investments, and by the limited development of local capital markets (see figure 16.1).

Table 16.3. Annual Rates of Return to Pension Funds, Latin America, 1997–2006*percent; based on current U.S. dollars, adjusted for inflation*

<i>Country</i>	<i>Average annual rate of return</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>
Argentina	–0.69	14.40	–2.12	18.12	3.92	–10.36	–45.23	11.10	4.33	4.62	13.98
Bolivia	5.18	—	3.40	7.06	3.66	8.34	5.23	7.16	5.14	3.96	2.85
Chile ^a	7.27	4.51	–1.09	14.53	3.98	5.72	2.68	11.90	9.10	5.70	17.04
Colombia ^b	9.88	—	—	—	—	—	—	9.37	10.40	13.23	6.63
Costa Rica	7.35	*	*	*	—	—	—	10.80	2.82	4.71	11.32
El Salvador	5.14	*	—	14.09	7.92	7.65	2.41	4.75	2.28	1.46	1.20
Mexico	8.82	—	0.82	29.85	12.24	19.47	–3.33	6.24	1.57	7.76	8.45
Peru	17.75	—	—	—	—	—	—	21.24	5.58	18.43	26.82
Uruguay	10.68	—	—	—	—	—	—	31.83	3.58	0.12	9.78

Source: FIAP (International Federation of Pension Funds Administrators), “Rentabilidad real anual,” December 2006.*Note:* —, not available; *, years in which the respective system was not yet in operation.

a. Weighted average of all five types of portfolio.

b. Annual rate of return is estimated for triennial periods.

Table 16.4. Portfolio Composition of Pension Funds, Latin America, by Issuer and Asset Class, 2006*percent*

<i>Country</i>	<i>Issuer</i>					<i>Asset class</i>	
	<i>Public debt</i>	<i>Foreign</i>	<i>Private sector</i>	<i>Banks</i>	<i>Other</i>	<i>Fixed income</i>	<i>Stocks and mutual funds</i>
Argentina	55	10	14	20	1	83	16
Bolivia	75	3	10	11	1	98	0
Chile	13	32	27	27	0	48	52
Colombia	47	14	20	18	1	77	22
Costa Rica	64	12	2	22	0	97	3
Dominican Republic	0	n.a.	2	98	0	100	0
El Salvador	76	5	0	15	4	96	0
Mexico	73	6	17	2	2	90	7
Peru	19	9	44	28	0	51	49
Uruguay	87	n.a.	4	8	1	98	0

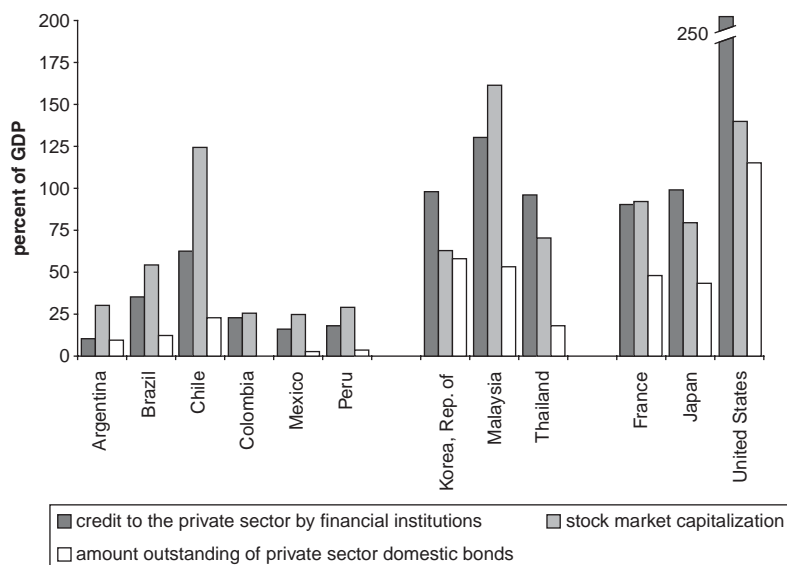
Source: FIAP (International Federation of Pension Funds Administrators), "Marcha Sistema Pensiones 2006," May 2007.

Note: n.a., not applicable.

The aim of this chapter is to identify the problems that have been faced by reforming countries when designing pension fund investment regulation. In addition, and on the basis of the experience of Latin American countries, we identify the imperfections in the capital markets that impose the greatest costs for the development of the new funded pension systems. We realize that each country's situation contains unique elements and that the strategies chosen have had different degrees of success. Consequently, it is likely that our comments do not exactly represent the situation of any specific country. At the same time, there are elements common to the various situations, and their identification will make it possible to draw valuable lessons for those countries that are beginning to implement a structural pension reform.

Interactions between Pension Reform and Capital Market Development

There is a large literature exploring the links between pension reform and the development of the capital market.² The two general conclusions that

Figure 16.1. Domestic Financial Sector Development, Selected Countries, End 2004

Source: De la Torre, Gozzi, and Schmukler 2007.

Note: GDP, gross domestic product.

are most relevant for our discussion are, first, that the existence of efficient, developed capital markets, although not a necessary condition for embarking on pension reforms, is a prerequisite for their success in the long term (at least as long as regulations do not allow all the pension funds to be invested abroad) and, second, that the accumulation of pension funds can have positive effects on the development of the capital market.

Capital Market Development and Pension Funds

The development of capital markets is associated with an increase in the asset classes available, in the number of issuers, and in the volume of transactions (deeper and more liquid markets). As a result of economies of scale, the growth in the size of the market makes it possible to lower the costs of information for participants, reduces trading costs, and helps to develop more efficient systems for executing transactions and for securities custody. There is also a positive relationship between the degree of development of capital markets and the quality of corporate governance practices.

So from pension funds' perspective, the development of capital markets increases the opportunities for portfolio diversification (in the local market); avoids distortion of the markets concerned that would be caused by concentration of their demand in just a few instruments; makes it possible to lower investment management costs; and it contributes toward lowering supervision costs.

However, many pension reforms in Latin America have been carried out in circumstances where country capital markets showed limited development because of such constraints as interest rate controls; price controls on securities intermediation; tax regulations that penalized the funding of projects through the market as well as investments in financial securities; legal restrictions on developing financial assets that are index-linked to inflation; restrictions on international movements of capital; bad corporate governance practices; lack of reliable and timely information; weakness in the banking sector; high concentration in the financial sector; and lack of efficient systems for carrying out transactions and custody. In those cases where such limitations have been opportunely removed, costs for pension funds have been kept low. However, when improvements in capital market regulations have not been synchronized with pension fund growth, pension reforms have run into trouble.

The Impact of Pension Reform on Capital Markets

This section examines in greater detail the effects that pension reforms can have on the development of capital markets. There are four main outcomes: larger capital markets, improved regulations, greater transparency, and better corporate governance practices. Each is discussed in turn below.

The larger size of the capital market. The size of capital markets will grow as financial savings increase. In turn, financial savings can grow both because of an increase in total savings and of a change in the composition of total savings. The impact of structural pension reform on saving levels in the economy depends to an important extent on the strategy used to pay the unfunded social security debt of the—until then prevailing—pure public pension systems, and on the degree of substitution between internal and external savings. However, even if the reform does not have significant effects on the total level of savings, it can affect the volume of savings intermediated through the capital markets and the composition of those savings. In particular, it is to be expected that the accumulation of pension funds will have a positive

effect on the level of trading in the capital market. In addition, together with the expansion of the size of the market, new funding possibilities emerge. The aim of pension fund investment is to maximize the long-term return on social security savings, since this enables the members of the system to count on more capital when the moment comes to purchase a pension. Life insurance companies that sell life annuity pensions to pensioners of the new social security systems need to invest their reserves in financial assets with duration similar to that of the flow of pensions that they have to pay out over time. Consequently, the appearance of pension funds encourages the demand for long-term financial instruments, thereby creating the conditions for the development of that specific market. In fact, this is the main explanation for the growth in bond markets seen in some countries in the region after pension reform.

Improvement of regulations in the financial market. The pension funds' demand for financial instruments can be a force that drives legislators and authorities into introducing changes in the laws and regulations specific to the capital market. These changes include modification of the tax system as it applies to the issuance and acquisition of financial instruments; improvements in trading mechanisms ("stock exchanges"); and changes in bankruptcy laws and other regulations that provide protection for investors.

Greater transparency in the capital market. Almost without exception, the participation of pension funds in the capital markets of the countries in the region has been accompanied by a gradual but steady increase in the quality and timeliness of the information available to investors. This is explained by the demand that arises from the pension funds themselves for better financial information and also by the interest of the various issuers in meeting the requirements imposed by the pension funds as a condition for investing in their respective securities. The development of risk-rating systems for financial instruments and the increasing number of independent entities and analysts providing information on issuers, and the much improved and complete information provided by the issuers themselves are specific manifestations of this phenomenon.

Better corporate governance practices. The participation of pension funds as shareholders or bondholders may also serve to improve corporate governance standards of the companies in which they invest. As in the

previous case, this is a result both of the direct demands made by the pension funds on the managers and controllers of such companies, and of a decision on the part of the issuers themselves to create conditions that make it attractive for the pension funds to invest in the securities that they issue. At the same time, the development of pension funds may help legislators and regulators recognize the importance of reinforcing the various mechanisms designed to protect investors. This leads to the creation and improvement of regulations aimed at minimizing the risk of conflicts of interest and strengthening the rights of minority shareholders and the holders of debt instruments issued by the companies.

The changes outlined above have three possible repercussions:

1. The growing size of the capital market generates *incentives for financial innovation* because it facilitates the development of new institutions such as custodians, centralized clearing mechanisms, and electronic trading systems that, given the high levels of investment required, are unlikely to emerge in smaller markets.
2. Development of the pension funds could lead to *a decrease in the cost of capital* because the greater size of the market makes it possible to reduce the average issuance costs of financial instruments. In addition, as noted above, the pension funds (and the life insurance companies that sell life annuities) are long-term investors that may demand lower liquidity rewards for their investments. Moreover, pension fund administrators are prepared to tolerate greater short-term volatility in the returns on their investments, compared with other investors, because their aim is to maximize the return on the pension savings accumulated during the entire working life of their members.
3. *Improvements in the quality of investment decisions* are to be expected, since pension fund administrators are professional, specialized investors who can develop considerable ability in collecting and analyzing market information. In addition, via the pension funds individuals gain access to investment portfolios that would be extremely difficult (or significantly more expensive) for them to constitute individually. These two effects, added together, contribute toward improving the quality of the country's capital allocation.

Ensuring that the Growth of Pension Funds Reinforces Capital Market Development

As long as the volume of contributions going to pension funds is significant (which requires that the rate of contributions and the pension funds system coverage rate should be significant), the accumulation of pension funds brings with it the promise of faster capital market development. However, in order for this promise to become a reality, it is necessary for at least two conditions to be met. The first condition is that the regulation of the funds' investments allows the respective portfolios to be adequately diversified. The second is that the authorities are able and willing to modify (improve) capital market regulations as necessary.

Although the creation of pension funds may provide the boost that the capital market needs in order to develop, it is not in itself sufficient to guarantee this process. Only when there is the political willingness (and clarity of ideas) required to eliminate the regulatory and legal obstacles that limit the growth of the capital market and to ensure that the investment process has an efficient legal framework will it be possible for the positive interactions that exist between pension fund accumulation and financial market development to become a reality.

In Latin America, just as there are countries (Chile, in particular) in which both conditions have existed together—that is, regulations on pension fund investments that allow at least a basic degree of diversification, and an ongoing process of improvement in capital market regulation—so is it also possible to identify other experiences in which both circumstances have been absent. The striking differences in the results of the reforms in the two polar cases should therefore not come as a surprise.

Challenges to the Design of Pension Fund Investment Regulations

All the reforming countries, without exception, have adopted strict quantitative regulatory models for pension fund investments. This means, on the one hand, that pension funds can only be invested in instruments that are expressly authorized and, on the other, that the investments are subject to portfolio diversification rules set by law (see table 16.5).

As we have seen, in many cases these rules have not been correct. The most significant errors have been the prohibition on investing in equity securities, the prohibition on investing abroad, the obligation to invest a certain minimum percentage of the portfolio in public debt securities,

Table 16.5. Diversification Rules for Pension Fund Portfolios, Latin America: Limits by Asset Class
percent of pension fund

<i>Asset class</i>	<i>Argentina</i>	<i>Bolivia</i>	<i>Chile</i>	<i>Colombia</i>	<i>El Salvador</i>	<i>Mexico</i>	<i>Peru</i>	<i>Uruguay^a</i>
Fixed income								
Public debt	n.d.	100.00	50.00	70.00	n.d.	n.d.	40.00	60.00
Central government	50.00	n.d.	n.d.	n.d.	50.00 ^b	40.00	30.00	n.d.
Local government and decentralized institutions	30.00	10.00 ^b	n.d.	n.d.	50.00 ^b	n.d.	n.d.	n.d.
Central bank	n.d.	n.d.	n.d.	n.d.	30.00 ^b	30.00	30.00	n.d.
Banking sector	n.d.	60.00	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Deposits and bonds	30.00	50.00 ^b	50.00	32.00	40.00	40.00	40.00	30.00
Mortgage bonds	40.00	50.00 ^b	50.00	40.00	60.00	40.00	40.00	30.00 ^c
Corporations	n.d.	45.00 ^b	n.d.	n.d.	n.d.	n.d.	n.d.	40.00 ^d
Bonds	40.00	n.d.	45.00	30.00	40.00 ^b	30.00	40.00	n.d.
Convertible bonds	60.00	n.d.	10.00	n.d.	20.00 ^{b,e}	5.00 ^f	n.d.	n.d.
Commercial paper	20.00	n.d.	10.00	13.00	n.d.	n.d.	25.00	n.d.
Securitized assets	n.a.	30.00 ^b	n.d.	20.00	20.00	n.d.	10.00	n.d.
Stocks and mutual funds								
Stocks	70.00	40.00 ^b	40.00	30.00	20.00 ^e	5.00 ^f	35.00	n.d.
Mutual and investment funds	30.00	15.00	25.00	5.00	20.00	0.00	15.00	n.d.
Foreign investments								
Financial assets	20.00	10.00	16.00	10.00	n.a.	n.a.	7.50	n.a.
Currency coverage	10.00	n.d.	20.00	n.d.	n.a.	n.a.	n.d.	n.a.
Other authorized investments	30.00	5.00 ^b	1.00	30.00	40.00	5.00	12.50	n.d.

Source: FIAP (International Federation of Pension Funds Administrators) and PrimAmérica Consultores data.

Note: n.d., not defined; n.a., not applicable.

a. Maximum 60 percent in assets not issued by the public sector.

b. Maximum possible limit.

c. Instruments issued by the BHU (Banco Hipotecario de Uruguay).

d. Maximum in debt issued by corporations with variable interest rate.

e. Sum of stocks and convertible bonds cannot be more than 20 percent.

f. Sum of stocks and convertible bonds cannot be more than 5 percent.

and the fixing of too low maximum investment limits for certain types of assets. These imperfections in portfolio diversification rules derive from two main causes.

First, in Latin American countries the new funded pension systems meant an important break with social security tradition, and in many cases the regulators were not prepared to face the new reality when introducing the reforms. In addition to their lack of experience, there was a certain distrust as to private administrators' ability to meet the challenge of managing pension funds successfully. As a result, investment regulations were not designed on the basis of the proposals of portfolio theory. Instead, the regulators appear to have decided to follow an ad hoc strategy of gradually liberalizing restrictions as they advanced along the learning curve and as their opinions changed with regard to the conditions of the markets. But if a strategy of this type is not to have considerable costs, the regulators must actually be capable of recognizing changes in the environment and must also have great flexibility in order to modify the regulations at the appropriate time. The problem has been that in some cases these conditions have not been met, and pension fund investments, after years of operation, are still in a straitjacket that implies increasing costs in terms of risk and yield.

Second, it has been difficult to isolate the pension funds from political interference. Although with the reforms considerable progress has been made toward solving this problem (which was one of the main causes of the failure of traditional pension systems in the region), in some cases the design of the investment rules has been influenced by considerations that have been in contradiction with the aims of the respective pension programs. The clearest evidence of this problem is found in the obligation to invest in public debt, to which pension funds are subject in some countries; in the prohibition on investing abroad; and in the constant pressure to invest in assets putatively "of social interest."

Another important problem that arises from the regulation of pension fund investments in Latin America has been the uniformity of portfolios. In most countries pension fund managers are authorized to offer their members only one type of fund (or portfolio). Although this restriction might have limited consequences while all the members are young and far from retirement age, it becomes more significant as the systems mature and include workers who are at very different stages of their life cycle and who have widely differing preferences as regards investment. Only Chile, from 2002, and more recently Peru and Mexico, have authorized pension fund administrators to offer different portfolios better suited to the needs of different stages in the life cycle.

Conclusion

The accumulation of pension funds may have a significant impact on the development of capital markets and thereby on economic growth and the welfare of individuals. For example, a study of the Chilean case (Corbo and Schmidt-Hebbel 2003) estimated that during the period 1980–2001 almost 5 percent of the growth of GDP is explained by the impact of the pension reform on the capital market.

The magnitude of these effects, however, has not been equal in all the countries that have embarked on social security reform. The differences are explained mainly by the characteristics of pension fund investment regulations in each country. Some countries have forced the funds to invest mostly in government debt securities, which has prevented the development of the market for other financial instruments. In others, investment of the pension funds in equity securities has been prohibited or severely restricted. This, together with preventing companies from benefiting from a possible reduction in the cost of capital, has removed a force that could help produce significant improvements in the quality of corporate governance. In still other countries the regulations have prevented pension funds from contributing toward the development of markets for derivative and risk capital instruments.

The development of the capital market is a necessary condition for the success of a reform based on the accumulation of pension funds. Nevertheless, a reform of this type is possible even if at the outset the capital market is not sufficiently developed. Care must be exercised in these circumstances that regulation of the pension funds' investments does not prevent the development of the market for specific financial assets and that it allows some (significant) degree of international diversification. In addition, the changes required in the legislation of the capital market will need to be implemented in time so the capital market would be able to react opportunely to demands coming from pension funds.

These are difficult challenges for the regulators of the new pension systems. Some countries are not taking maximum advantage of the contribution that the pension funds can make to the development of their respective capital markets and to economic growth. They need to improve pension fund regulations by authorizing investment in instruments that are prohibited today and by liberalizing certain investment limits, thereby allowing the funds to structure more efficient portfolios. Moreover, they must accompany these changes with adjustments to their taxation systems and to capital market regulations. These reforms will

directly benefit pensioners and will have positive consequences on economic growth and the welfare of the whole population.

Notes

1. The estimate is for the case of a man who starts working at age 25 and retires at age 65, with an average contribution density of 85 percent. The pension includes a survivorship benefit for a widow three years younger. The average real annual base investment return is 5 percent.
2. See, among others, Iglesias (1997); Catalan, Impavido, and Musalem (2000); Walker and Lefort (2002).

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CHAPTER 17

Preparing the Financial Market for an Aging Population: The Case of the FYR Macedonia

Zorica Apostolska

Social and economic changes in the former Yugoslav Republic of Macedonia (FYR Macedonia) at the beginning of the 1990s were unfavorable for the Macedonian pension system and gave rise to financial difficulties in operations, particularly in the regular payment of pensions. Increasing life expectancy translated into a rising number of pensioners, and adverse developments in the economy increased the number of pensioners while reducing the number of active contributors. These factors impaired the long-term solvency of the pay-as-you-go (PAYG) Pension and Disability Insurance Fund (PDIF). Actuarial projections revealed that the system would experience a rapidly increasing deficit.

Preparation and Implementation of Pension Reform

Although implementation of the country's reformed pension system did not start until 2005, it was preceded by many years of preparation. The key aspect was government commitment to reform, as evidenced by

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- Formation of the Pension Steering Committee and an actuarial analysis unit.
- Establishment of a Ministers' Council consisting of the minister of labor and social policy, the minister of finance, the governor of the Central Bank, the president of the Securities and Exchange Commission, the director of the Agency for Supervision of Fully Funded Pension Insurance, and the director of the PDIF. The main duties of the council are to make key policy decisions and to control overall strategy for the implementation of pension reform.
- Establishment of a working group for operational and technical issues.

During the overall process the FYR Macedonia received strong support and assistance from the World Bank.

Structure of the Reformed Pension System

As mandated by the Social Insurance Law of 2000, the reform followed a standard three-pillar approach, with a mandatory reformed PAYG system (pillar I), a mandatory fully funded system (pillar II), and a voluntary fully funded system (pillar III). Pillar I, which is financed on a PAYG basis, provides defined pensions according to a predetermined formula, in addition to providing disability and survivors' pensions and a minimum social pension.

Pillar II consists of a new, fully funded pension insurance scheme, mandatory for contributors employed for the first time after January 1, 2003, and voluntary for contributors employed before January 1, 2003.

Pillar III, which is in the process of being established, is, like pillar II, fully funded, but it is to be open for membership on a voluntary basis.

Expected Outcomes

It is expected that the pension system reform in the FYR Macedonia will provide long-term stability, an important element of social insurance. This will lead to security in acquiring rights from pension and disability insurance. Some aspects of the new system carry over principles from the old system: the compulsory nature of pension and disability insurance, dependence of rights on duration and scope of contributions paid in, social justice, and conformity to the conventions and recommendations of the International Labour Organization (ILO). The new system is compliant with the national constitution, according to which all citizens have the right to social security and social insurance. Advantages for the individual include greater security, risk diversification, and enhanced

transparency. Broader benefits will include solvency of the pension system, increased national savings, increased investment, economic growth, and a more efficient labor market.

Features of Pillar II

In the pillar II system, every member has an individual account in which his or her assets are registered. As with savings, there is a direct link between contributions and future pensions. Investment returns, after the costs of fund operations, are fully allocated to individual members. The future pension will depend on accumulated assets and life expectancy at retirement. It is important to emphasize that pension saving is long term; assets increase gradually, but continuously. Accordingly, when the contributor is young, accumulated assets are low, but when the contributor reaches retirement age, accumulated assets will be substantially higher.

An important characteristic of pillar II is that it is privately and competitively managed; the contributions paid in are invested by pension management companies. In this way, economic goals determine investment strategy, encouraging the maximization of the overall return in the best interest of members. Diversification of investment risks, including international diversification, is another important feature of the system.

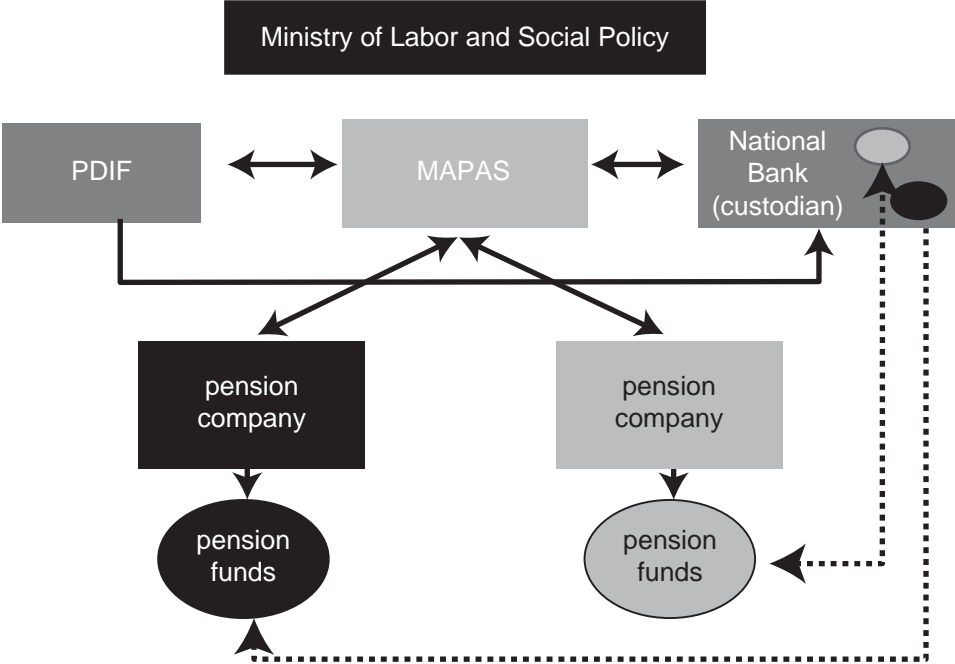
All contributors employed before January 1, 2003, were given the option to decide whether to enter pillar II and into which of the two available pension funds they wanted their pillar II contributions deposited. All newly employed contributors were required to join pillar II, their choice being limited to which of the two pension funds they preferred. Pillar II members have the right to transfer assets from one pension fund to another. The reformed pension system is mainly designed for young employees and employees who had worked only a few years before entering the two-pillar pension system. For older employees and employees with many years of service, there were strong reasons to remain in the monopillar system, taking into account that in the new system they would have less time to accumulate assets in their accounts before retirement.

The total contribution rate is 21.2 percent of gross wage; of this, 65 percent goes to the first pillar and 35 percent goes to the second pillar.

Figure 17.1 shows the main institutional players. They are

- The Ministry of Labor and Social Policy, which is responsible for creating and implementing the policy on pension and disability insurance and for supervising the legality of operations with respect to this insurance.

Figure 17.1. Institutional Players in the Reformed Pension System, FYR Macedonia



Source: Author.
Note: MAPAS, Agency for Supervision of Fully Funded Pension Insurance; PDIF, Pension and Disability Insurance Fund.

- The Agency for Supervision of Fully Funded Pension Insurance (MAPAS), the regulatory and supervisory body that protects the interests of pension fund members and stimulates the development of fully funded pension insurance. MAPAS reports to the national government.
- Pension management companies—joint stock companies founded by financial institutions with capital and experience whose sole activity is management of pension fund assets.
- The National Bank, which for the first five years of the reform will serve as the custodian of pension assets, keeping these assets in an account separate from those of the pension company.
- The Pension and Disability Insurance Fund (PDIF), which undertakes centralized collection and allocation of contributions and gathers relevant data for members of the selected pension funds and companies.

Pillar II fund managers are legally obligated to regularly (at least once a year) inform their members in written form about their individual accounts: dates of contribution payments and transfers during the relevant time period, fees charged, the conversion of contributions and transferred assets into accounting units, and balances. Also at least once a year pension companies submit to their members data on the overall asset value and the pension fund assets invested in each type of asset, including data on the issuers and brokerage fees. Pension companies also publish yearly a prospectus that contains information on the composition of the company's board, the main investment principles, fees, net assets, realized return, and so on.

Legal Status of Pension Fund Managers

Pension companies are joint stock companies established and operating in accordance with the Trade Company Law and the Law on Mandatory Fully Funded Pension Insurance. The sole activity of the pension companies is the management of pension funds, representing them before third parties and in other activities related to management of the fund.

A pension fund is an open-ended investment fund whose establishment and operation are in accordance with the Law on Investment Funds, unless regulated in a different manner by the Law on Mandatory Fully Funded Pension Insurance. A pension fund is to consist of assets derived from contributions made by pension fund members and the returns on investment of those contributions. It is owned by its members, whose individual ownership rights are determined by the assets in their accounts. The assets of the pension fund are to be fully separated

from those of its managing pension company. This asset segregation is of extreme importance in order to provide a high level of security of the assets.

For the initial period of 10 years, one pension company can establish and manage only one pension fund. During the early stage of the system's establishment, it is envisaged that only one pension fund per pension company will be allowed. In later stages—conditions permitting, and depending on financial market development—a larger number and the greatest variety of pension funds will be allowed.

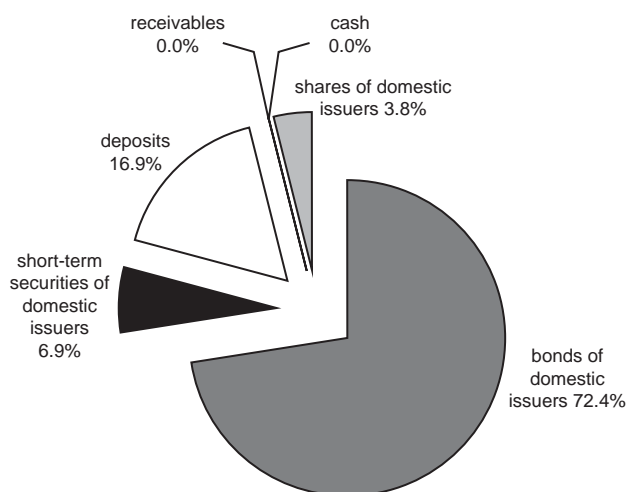
Because of the size of the financial sector and the expected number of members in the new pension system, it was important to limit the number of participants in the pension market at the start. On April 4, 2005, MAPAS licensed, for 10 years, two pension management companies through public tender:

1. Akcionersko drustvo za upravuvawe so penziski fondovi Nov penziski fond Skopje, which manages with Nov penziski fond—Otvoren penziski fond. The founders are Nova Ljubljanska Banka DD, Ljubljana, Slovenia, which represents 51 percent of the pension company capital, and NLB Tutunska Banka AD, Skopje, FYR Macedonia, with 49 percent. The initial capital is 2.0 million euros.
2. KB Prvo drustvo za upravuvawe so penziski fondovi AD Skopje, which manages with KB Prv otvoren penziski fond—Skopje. The founders are Prva pokojninska Druzba DD, Ljubljana, Slovenia, which represents 51 percent of the pension company capital, and Komercijalna Banka AD, Skopje, FYR Macedonia, with 49 percent. The initial capital is 1.5 million euros.

Asset Portfolio

The membership process started in September 2005, and in January 2006 pillar II contributions began to flow into fund management companies. Figure 17.2 illustrates the pension funds' investment portfolio as of December 31, 2006.

Usually, fully funded pension systems apply proactive controls and qualitative and quantitative limits on investments. The law and the secondary regulations prescribe investment objectives and principles, the quality of instruments in which pension assets can be invested, the investment limits with regard to instruments and issuers, prohibited investments, and so on. The main principles of pension fund investment, by law, are security of assets, diversification of investment risk,

Figure 17.2. Pillar II Asset Portfolio, FYR Macedonia, December 31, 2006

Source: Agency for Supervision of Fully Funded Pension Insurance.

and maintenance of adequate liquidity with the aim of maximizing the return in favor of the pension fund's members. The law and the secondary regulations prescribe that pension fund assets can be invested in bank deposits and certificates of deposit, bonds and other securities, shares, and commercial notes in the FYR Macedonia and in the countries of the European Union, Japan, and the United States. To obtain adequate diversification among different types of investment, the law prescribes the maximum proportions of a company or asset and a type of instrument in which the pension fund assets can be invested. To prevent investment in instruments unsuitable for pension fund investing, it prohibits investments in unlisted shares, bonds, and the like that cannot be immediately valued and in several types of commodity that have uncertain valuation, such as antiques and works of art.

The contributions paid into the pension funds, net of fees, are immediately invested. The total return is assigned to the pension fund—that is, to the individual accounts of pension fund members. Once a month the pension companies charge a management fee as a percentage of total assets. In addition, the pension funds are charged brokerage fees on every transaction with the pension fund assets. The valuation of pension fund assets is determined daily on the basis of the market value of each asset or on the basis of the depreciated value of the asset if the instrument is kept until maturity or its market value cannot be determined. The value

of the pension fund assets increases as a result of the accumulated contributions, the investment return, and the increase in asset value, or it decreases as a consequence of contribution payments, decline in asset value, or payout of pension benefits.

Pillar III

Pillar III is still in the formulation stage. The objectives of the pillar III reform are

- To provide higher income after retirement to individuals covered by the first and second pillars and to those who are willing and able to set aside additional assets for the sake of higher material security
- To provide higher retirement benefits to persons not covered by the mandatory fully funded pension insurance, including unemployed spouses, long-term unemployed persons, and those employed on projects, in foreign missions, and so on
- To provide the preconditions for establishment of occupational plans in the process of harmonization of the Macedonian social security system with that of the European Union.

Conclusion

With hindsight, what were the main obstacles in preparing the financial market for pension reform, and how were they addressed? At the beginning of the pension reform, the financial and capital markets were underdeveloped, with low absorptive power and not enough instruments to invest in. Commercial banks did not perform a custodial function. In such circumstances, an important question is, what comes first, introduction of pension funds, or financial market development? There is a mutual link: on the one hand, the introduction of pension funds requires, at the least, a competitive and liquid market, some minimum of available investment instruments, legislation, and regulation and, on the other hand, the introduction of pension funds puts new assets on the market and provides an incentive for new instruments.

The key to readying the financial market for pension reform in the FYR Macedonia was preparation by the Ministry of Finance and the Central Bank of a strategy for the development of a government securities market. One objective was to create financial instruments adequate for the needs of institutions emerging from the pension system reform. Another was to finance the transitional deficit. A significant step was

that the start of contribution flows to the second pillar was connected by law with the first continuous issuance of government bonds, in November 2005; contributions began in January 2006. Also important was the decision to solve the custodianship issue by assigning the custodial role to the Central Bank for the first five years of the system.

In addition to improved financial sustainability of the pension system and greater security for pensioners, the pension reform is expected to contribute to financial market development by boosting the demand for a wider range of financial instruments, motivating the development of new financial instruments, upgrading regulation and supervision, and promoting the development of an annuities market. Most broadly, financial deepening should improve the quality of investment in the FYR Macedonia and ultimately accelerate economic growth.

Note

The original text by Zorica Apostolska referred to the country as the “Republic of Macedonia.” Because the World Bank’s official designation of country names was followed throughout this book, the “Former Yugoslav Republic of Macedonia” replaced that name.

PART III

Panels and Country Statements

CHAPTER 18

Guidance Notes for the Policy Panels

Robert Holzmann

Each of the three policy panels began with opening statements by four country delegates; each country initiated at least one panel discussion. The opening statements, limited to five minutes, were to respond to the questions listed below. Each minister or governor was invited to speak to one or several of the questions. First interventions among the countries were meant to react to these statements and be focused on one or two points to initiate a discussion. The interventions were not to exceed 2 minutes, to allow for a dialogue among participants for the remaining 30 minutes.

Questions for the Panel of Ministers of Finance on the Pension Reform

1. What do the ministers of finance see as the key policy approaches to be pursued in their countries or in the region in order to deal with fiscal pressures (current and future) resulting from population aging? Such approaches might include

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- Lowering benefits or increasing contributions to public pension systems, or supplementing contributions with other budget revenues
 - Strengthening the link between contributions and benefits in pension systems
 - Increasing the availability of and reliance on either mandated or voluntary funded pension benefits
 - Creating market-based incentives for later retirement and overall labor force participation
 - Introducing automatic stabilization provisions that adjust pensions to demographic changes to remain within specified fiscal parameters without requiring political interventions.
2. What do the ministers expect from labor market and financial market policies, to support the pension reform process and outcomes? How do the ministers intend to support the achievement of such reforms?
 3. What institutional arrangements do the ministers see as most conducive to achieving a pension reform that is effectively integrated with the complementary reforms needed in the labor and financial markets? Such arrangements could include a national pension reform council with membership that includes key policy makers and stakeholders, a reform proposal developed through an interagency working group within the government, or other approaches.

Questions for the Panel of Ministers of Labor and Social Affairs on the Related Labor Market Reform

1. What do the ministers of labor and social affairs see as the key policy approaches in labor markets that are needed to support pension reform proposals? How can these be coordinated with related policy imperatives such as lowering unemployment, increasing labor force participation, and facilitating later retirement? Potential approaches might include
 - More emphasis on benefit reforms that remove work disincentives and render pension schemes more neutral with regard to labor supply and retirement decisions
 - More emphasis on training and lifelong learning in order to improve employability of old workers and thus increase their chances of remaining employed at higher ages

- More emphasis on changing employer attitudes, facilitating more flexible work environments (such as shorter work hours in old age), and improving employment services for old workers
 - More emphasis on high employment and lower unemployment at a policy level.
2. What actions do the ministers believe are required by the ministry of finance or other policy makers and stakeholders, including social partners, in order to facilitate pension, labor market, and financial market reforms?
 3. What institutional arrangements do the ministers see as most conducive to achieving a pension reform that is effectively integrated with the complementary reforms needed in the labor and financial markets? Such arrangements could include a national pension reform council with membership that includes key policy makers and stakeholders, a reform proposal developed through an interagency working group within the government, or other approaches.

Questions for the Panel of Central Bank Governors on Related Financial Market Reforms

1. What do the governors see as the key policy approaches in the financial markets needed to establish funded (mandated, voluntary, or both) pension systems that are most likely to successfully deliver their social policy objectives? Such approaches might include
 - Enhancing competition among providers of retirement income products to reduce costs and fees and improve returns
 - Placing greater emphasis on improved institutional governance structures and on facilitating the development of diverse retirement products
 - Extending regulation and supervision to include requirements for specified products, or limiting the characteristics of permissible products to manage risks
 - Relaxing controls on foreign investment of private pension funds in order to achieve high returns and diversify risk
 - Developing programs to increase private savings and financial literacy.
2. What actions do the governors expect from the ministry of finance and other policy makers, in order to facilitate labor market and financial market reforms?

3. What institutional arrangements do the governors see as most conducive to achieving a pension reform that is effectively integrated with the complementary reforms needed in the labor and financial markets? Such arrangements could include a national pension reform council with membership that includes key policy makers and stakeholders, a reform proposal developed through an interagency working group within the government, or other approaches.

CHAPTER 19

Pension Reform: Broad Context and Perspective

Opening Statement, Panel on Pension Reform

Gonzalo C. Capriolo

Given the dimensions of the challenge of population aging and its macroeconomic impact, it would be difficult to point out any single country that has not already changed or modified its pension system. In many cases, however, reformed pension systems are not meeting the objectives of ensuring long-term financial sustainability and adequacy of pensions (European Commission 2006). This means that in many countries reformed systems still fail to eliminate the contingent liabilities for governments (see, for example, chapter 7 in this volume, by Augusztinovics and Köllő). Countries in Southeastern Europe with newly reformed pension systems may in the future face similar challenges of ensuring the adequacy and sustainability of pension systems. Thus, countries' overall experience with pension system reform suggests that pension reform is an ongoing endeavor and that its success depends not only on its design but also on its consistency with other important arrangements and institutions underpinning the way the societies function.

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This chapter addresses broad issues that should be taken into account when reforming pension systems—and when reforming reformed pension systems.

Ensuring Consistency between Pension Reform, the Social Model, and Economic and Demographic Characteristics

An important dimension to consider when confronting pension reforms is that they are not made in a vacuum but in the context of a complex set of existing inter- and intragenerational social, labor, and financial contracts. Moreover, changes in pension systems are made against different age structure profiles, stages of economic and financial development, and labor market structures and performance. These characteristics to a large extent limit the possibilities for alternative design of pension arrangements and can affect their relative success and sustainability if they are not properly taken into account.

When addressing pension system reform, it is important to clarify that what is at stake is the reform of a collective insurance system whose aim is not the redistribution of income among individuals but, rather, the provision of income irrespective of the individual's current income, based on his or her own contributions in the past. Pension insurance and its benefits (income transfers on retirement) are usually based on an individual's historical earning records. From this perspective, a system facilitates the individual's own income replacement at the time of retirement. There are, to be sure, systems that grant a basic provision irrespective of income from earnings (for example, in Denmark, the Netherlands, and, to some extent, the United Kingdom). This basic provision is usually topped up by mandatory occupational pensions. Even in these cases, it can be argued that the primary role of the public pension system is still to insure against the contingency of insufficient savings—not to carry out redistribution. Nevertheless, there are systems that include certain redistributive features, such as a limit on maximum pensions or access to minimum pensions when income contributions fail to reach a given level.

The primary function of a pension system is to ensure income on retirement. Pension systems are only part of a complex set of arrangements enabling individuals to smooth out their income throughout their lives. With the evolution of societies, insurance against lack of income for survival in old age has been formalized in contracts with different degrees of risk sharing and different pool sizes. In many European societies (inspired by Bismarck) the shift has been from an informal risk-sharing

arrangement in which at least three generations lived together, ensuring smooth income through life, into one in which the arrangement became formal and mediated by the state in the form of a pay-as-you-go pension system. Such a system diversified dependence on family risk to a broader risk-sharing arrangement with universal pooling within a country. Now the movement seems to be toward government-sponsored arrangements where the degree of risk pooling is lower and individuals rely only on their own individual insurance and assume their own risk.

The change in pension system insurance has been facilitated by the state, with its power to compel risk sharing, and by the development of financial markets. The degree of unbundling of risk pooling, or resistance to it, in systemic pension changes seems to be rooted in idiosyncratic factors, attitudes toward risk, and the degree of social cohesion. The attitude toward risk unbundling might be also motivated by incorrect perceptions as to the income redistributive possibilities of pay-as-you-go pension systems and the nontransparency of the system's financial possibilities, given the declining state of demographic profiles.

The incorrect perception of a pay-as-you-go system as having a predominant income redistributive function may arise because a pay-as-you-go pension system is usually part of a universal social system in which intraindividual transfers of an insurance nature over the life cycle constitute the bulk of transfers and the backbone of the system. This system contrasts with welfare systems with a strong targeting element, where the emphasis is on interpersonal transfer at a given point in time. Furthermore, countries with large intraindividual redistribution over each individual's life cycle are usually associated with high aggregate social spending. In such countries relatively low public social spending of an intraindividual redistributive nature is sufficient to generate considerable interindividual redistribution of yearly income (Ståhlberg 2007).

Bringing transparency to the possibilities of pension system benefits facilitates reaching and preserving an "optimal" degree of risk pooling. The key issue is that risk pooling can be attained only given reform measures that require a broad consensus. To achieve this, it is important to clarify which elements of pension systems are of a social insurance nature and which correspond to a welfare system. Reaching consensus over reform also depends on the credibility of the system, which is in turn reflected in the degree of compliance with mandatory contributions. In countries where systems still enjoy credibility, the need to unbundle risk pooling is not perceived as pressing compared with, for example, countries whose systems practically collapsed and where a pension reform was perceived

as part of a broader transition reform agenda. In credible systems, payroll taxes (that is, pension contributions) are not perceived largely as taxes and thus have limited distortionary effects on incentives.

Progress in reforming a pension system and in determining the degree of pension risk unbundling involves making the risks the pension system covers explicit and addressing them appropriately. Because reform of a pension system necessarily involves changing part of a complex system of universal interindividual transfers and the legal arrangements supporting them, it is important to assess their interaction and to ensure overall consistency.

Pay-as-you-go systems still deliver pension benefits, but the adverse demographic effects caused by increased longevity and the decline of fertility rates will lead to unsustainability, starting at the end of the next decade. The adverse changes in demographic variables require an appropriate and immediate policy response to ensure an adequate level of future pensions. Prolonging the working life can deal with the increase in longevity, while diversifying the sources of retirement income can help offset the drop in fertility rates. Concrete policy responses include prolonging retirement age, streamlining incentives for retirement, and creating room for partially funding pensions within existing levels of pension contributions. In countries that rely more on funded pension schemes, the issue already is how to ensure coverage and systemic soundness.

Dealing with incentives for retirement may seem straightforward, but a careful assessment should be made as to where the incentive should be placed: on the final pension, or on wages. This is particularly relevant in light of the predominant type of labor market contract in an economy (for example, seniority system, permanent contracts) and in view of fiscal implications.

Countries in Europe have different degrees of financial system development and face different challenges in the labor market. With transition costs determined by demographic profiles, these are the two key issues to address when transferring risk to individuals and determining the scope of reforms. In particular, the institutional setting should allow managers of private pensions to deliver a return higher than wage growth. Coverage should be universal, which can be facilitated by an appropriate financial return on pensions and, in particular, by encouraging labor market participation and reduction of the informal economy. For those countries belonging to the European Union (EU), EU-wide integration of financial markets and improvement of the functioning of national markets can increase average rates of return and improve risk

diversification. Such financial market reform is relatively straightforward to implement and deliver, as opposed, for example, to labor market reform, where policy implementation can be very demanding and costly.

Countries have embraced different approaches to labor market reform, and the approaches and their implementation have faced different circumstances (for example, following economic crises in Denmark and the United Kingdom caused by adverse global supply shocks in the 1970s and early 1980s, often compounded by domestic policy mistakes). Labor market reform seems also to exhibit a consistency with the degree of pension risk already transferred to individuals and with the financial possibilities that this process provides to the state to underpin a given labor policy. Table 19.1 shows government expenditure on labor market policies and relative labor market performance indicators. Expenditure on labor market policy is broadly consistent with the degree of pension risk transfer and, of course, with the social model and specific labor market problems. When pursuing labor market reform, policy makers must ensure consistency between the possibilities of pension risk transfer and

Table 19.1. Labor Market Indicators, Selected Countries

	<i>Expenditure on labor market policy as percent of GDP, 2005</i>	<i>Employment rate, 2006</i>	<i>Unemployment rate, 2006</i>
Denmark	4.0	77.4	3.9
Germany	3.0	67.2	8.4
Netherlands	2.9	74.3	3.9
Finland	2.6	69.3	7.7
Sweden	2.3	73.1	7.0
France	2.3	63.0	9.4
Spain	2.0	64.8	8.5
EU15	2.0	66.0	7.4
Ireland	1.3	68.6	4.4
Italy	1.3	58.4	6.8
Poland	1.2	54.5	13.8
Slovenia	0.7	66.6	6.0
Hungary	0.6	57.3	7.5
Greece	0.5	61.0	8.9
Latvia	0.5	66.3	6.8
United Kingdom	0.3	71.5	5.3

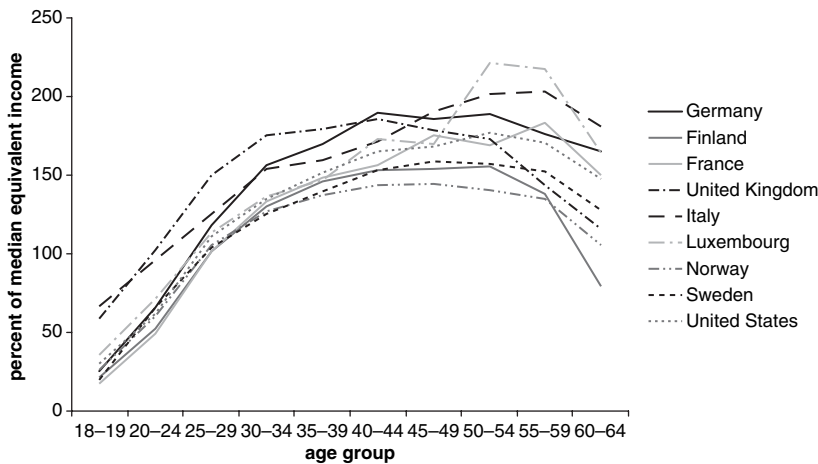
Source: European Commission 2006; for Slovenia, Ministry of Finance, Slovenia.

Note: EU15 refers to the 15 countries of the European Union before the 2004 expansion: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

the constraints this imposes on the overall fiscal expenditure necessary to underpin different reforms.

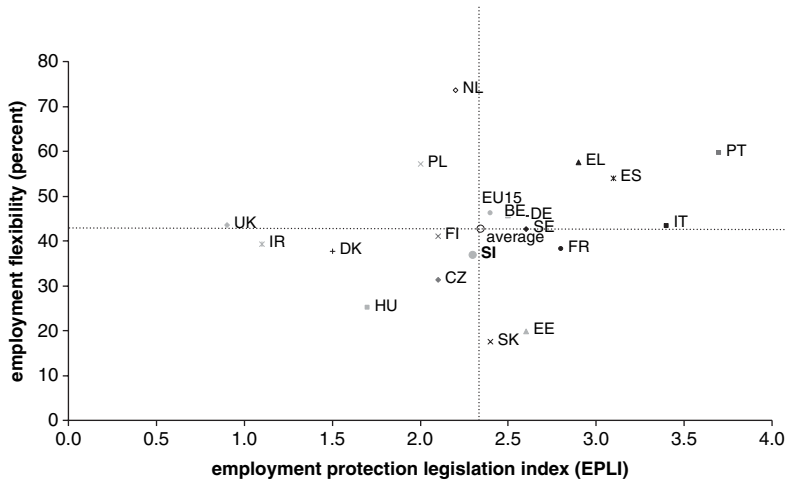
Reforming a pension system in countries that rely on a pay-as-you-go arrangement by transferring risk to individuals touches on the intergenerational agreement (the “handshake” across generations), as well as on the underlying supporting contracts. Social systems that rely on intergenerational income transfers as a means of smoothing income throughout the life cycle, including pension and educational expenditure, are underpinned by supportive labor contracts, earning profiles, and even, one may argue, by the degree of progressivity of personal income tax systems. In these countries the slope of earning profiles across different age groups tends to be relatively steep and exhibits a high degree of age-related earnings progression, as evidenced in France, Germany, Italy, and Luxembourg (figure 19.1). In France and Italy earnings appear to reach their maximum just before retirement (age group 55–59), but in most countries earnings tend to peak at ages 50–54. The underlying labor contracts usually reward seniority; there tends to be a predominance of fixed-term contracts and stronger employment protection legislation (figure 19.2). Progressive personal income tax systems also help smooth income throughout the life cycle. Before joining the labor market, young

Figure 19.1. Average Amount Earned by Those with Positive Earnings, by Age Group, Selected Countries



Source: Dang et al. 2006.

Note: Earnings include employment and self-employment incomes. They are measured at the individual level and expressed as a percentage of median normalized household income. See text for further details.

Figure 19.2. Labor Market Flexibility, Selected Countries

Source: Eurostat database; Institute of Macroeconomic Analysis, Slovenia.

Note: The employment protection legislation index is composed of collective dismissals, negotiation procedures, dismissal criteria, and severance pay amounts. Employment flexibility is the share of flexible employment forms (self-employment, fixed-term employment, and part-time employment) in total employment. EU15 denotes the 15 countries of the European Union before the 2004 expansion (see note to table 19.1). Country abbreviations are as follows: BE, Belgium; CZ, Czech Republic; DE, Germany; DK, Denmark; EE, Estonia; EL, Greece; ES, Spain; FI, Finland; FR, France; HU, Hungary; IR, Ireland; IT, Italy; PL, Poland; PT, Portugal; SE, Sweden; SK, Slovak Republic; UK, United Kingdom.

individuals receive social transfers. After joining it, they usually have lower salaries and pay lower taxes for some time, as they get experience. As they age and build up expertise, their labor income increases, and so does the tax paid, thus underpinning the intergenerational system of social transfers.

Countries with a relatively advanced degree of pension risk transfer to individuals—that is, in which individuals rely on personal funded pension schemes (see table 19.2)—tend to have less stringent employment protection legislation (figure 19.2) and thus flatter earnings structures across age groups. In these countries that have reduced or eliminated intergenerational transfers associated with pension income, the key issue is to ensure coverage of the system, particularly in mandatory programs (table 19.2).

Irrespective of the system, fostering participation in the labor market is critical for ensuring sustainability. In countries relying on the “intergenerational handshake,” this aim is pursued through the universal intragenerational transfer system, which also results in low incidence of poverty. In

Table 19.2. Coverage Rate and Type of System, by Country

Country	Type of statutory scheme	Type of supplementary scheme	Coverage rate (percent)	
			Statutory pensions	Occupational and voluntary pensions
Netherlands	DB	DB	100	91
Sweden	NDC and DC	DB	100	90
Denmark	DB	DC	100	78
Germany	DB	DC	NA	70
United Kingdom	DB	DB	100	56
Ireland	DB	DB	100	52
Belgium	DB	DC	68	40–45
Italy	DB and DC	DC	100	11.4
Austria	DB		100	
Cyprus	DB		86	
Czech Republic	DB		100	
Estonia	DB and DC		100	
Finland	DB		100	
France	DB		NA	
Greece	DB		NA	
Hungary	DB and DC		100	
Latvia	NDC and DC		100	
Lithuania	DB and DC		83	
Luxembourg	DB		92	
Malta	DB		NA	
Poland	NDC and DC		77	
Portugal	DB		82	
Slovak Republic	DB and DC		NA	
Slovenia	DB		100	
Spain	DB		89	

Source: European Commission 2006.

Note: DB, defined benefit; DC, defined contribution; NDC, notional defined contribution; NA, not available. Coverage rates refer to the coverage of the workforce; in some cases (notably for occupational and voluntary pensions), this can refer to the coverage of the employees in the private sector.

other systems it is pursued through alignment of tax and benefit systems and targeted means-tested benefits. Thus, the experience of countries that chose systems with a high degree of risk unbundling—that is, low or nonexistent transfer of pension income for retirement—indicates that other contractual and institutional arrangements also have to be aligned to ensure consistency. Furthermore, it implies that reforms have to be implemented in areas other than pensions alone. One of the key issues when reforming pensions is therefore consistency in policy setting, sequencing of reforms, and the appropriate pace of reforms.

Besides consistency with the overall policy setting, another issue is the constraint that the demographic profile and its worsening impose on the reform. Countries that have previously diversified income sources for retirement have a relative advantage in this regard. In these cases the challenge is different; it concerns charges, discontinuity in contributions, investment strategies, investment performance, fund annuitization, provider incentives, and regulation (Blake 2007). The scope for reform in countries that rely primarily on pay-as-you-go systems is heavily constrained by the demographic profiles. Progress toward diversification of income sources by, for example, fostering transition to compulsory savings in defined contribution schemes within the existing level of pension contributions is limited by the size of the associated transitional deficits. A combination of policy measures that include prolonging retirement age, putting in place incentives for delaying retirement, and designing reforms that create some room for private saving seems the way forward (for example, Swedish and German pension reforms). In proceeding in that direction, careful attention should be given to the social insurance and welfare assistance dimensions.

It has been asserted that reform is an ongoing task. But it is important to start the process. Delaying reform has costs in terms of putting off savings and thus forgoing the stream of financial returns needed to offset the decline in replacement rates or to reduce the need for prolonged working lives. Addressing these costs by means of diversifying pension income requires fair burden sharing among contemporaneous generations. It affects not only the current unsustainable pension benefits but also the future lower benefits. Creating room for savings within the current level of pension contributions requires a view on the sustainable systems' overall replacement rate. This touches on the benefits of current pensioners and longer working lives for existing and future generations.

Delimiting the Role of the State: Using Resources Effectively and Efficiently

Another important element in a pension reform is to define the role of the state and its obligations. As the issue involves reform of state-sponsored pension insurance, system reforms have to ensure both adequacy of pensions and sustainability. Many pension systems or reformed systems in EU countries still fail to meet one or both criteria (European Commission 2006). The breaching of the criterion of financial sustainability is very obvious, as estimated in the progression of future expenditure associated

with pensions and other age-related expenditures (table 19.3). What is less obvious is the hidden financial effect on sustainability of pension systems associated with inadequacy and insufficient coverage of pensions. In these cases the contingent liability status for the state arising from low pension benefits or low system coverage does not disappear. Thus, pension reforms have to meet two criteria: provide adequate pensions in the long run (with replacement rates above the line of risk of poverty) and ensure fiscal sustainability. A comprehensive and fair assessment of the financial sustainability of a state-sponsored pension system (including private compulsory contributions) therefore has to

Table 19.3. Indicators of Sustainability and Adequacy of Pensions, Selected Countries

Country	<i>Change in statutory pension expenditures, 2004–50</i>	<i>Gross replacement rate (GRR), all pensions</i>		<i>Change in GRR (percent)</i>	<i>Contribution rate used</i>
		2005	2050		
Austria	–1.2	64	69	5	22.8
Belgium	5.1	43	47	4	50.5
Cyprus	12.9	46	57	11	16.6
Czech Republic	5.6	61	53	–8	28.0
Denmark	3.3	49	64	15	13.6
Estonia	–0.1	33	36	3	22.0
Finland	3.1	57	52	–5	21.6
France	2.0	66	49	–17	20.0
Germany	1.7	43	48	5	23.5
Greece	—	105	94	–11	20.0
Hungary	9.9	66	77	11	26.5
Ireland	6.4	67	67	0	30.0
Italy	0.4	79	80	1	39.6
Latvia	1.5	61	55	–6	20.0
Lithuania	3.7	31	42	11	26.0
Luxembourg	7.4	91	91	0	24.0
Malta	–0.4	72	53	–19	30.0
Netherlands	3.5	71	69	–2	21.0–22.0
Poland	–4.6	63	36	–27	36.9
Portugal	9.7	75	70	–5	34.8
Slovak Republic	4.1	49	50	1	24.0
Slovenia	8.3	68.6	53	–15.6	24.3
Spain	7.1	91	85	–6	28.3
Sweden	0.6	68	56	–12	30.9
United Kingdom	2.0	66	69	3	34.6–38.4

Source: European Commission 2006; Ministry of Finance, Slovenia.

reveal the replacement rates, benchmark them to relevant indicators, and assess the risks to which they are subject.

In determining the role of the state in a pension reform, it is important to define and disentangle the elements of social insurance from those of welfare assistance. This in turn can streamline labor incentives and improve contribution coverage. Blurring the link between contributions and benefits in pay-as-you-go systems as part of reform efforts can only hinder the outcome of reforms. Making this distinction is, for example, the underlying philosophy of notional defined contribution systems, in which individual accounts are credited with notional interest.

The main characteristic of social insurance programs is that they are mandatory or induced by fiscal subsidies (Feldstein 2005). This implies that government involvement takes different forms: underwriting the potential contingent liabilities of the system by compelling participation; supplementing individual contributions; or favoring certain groups of individuals. As mentioned above, one of the main aims of reforming a pension system is to bring about transparency with respect to the insurance and welfare elements. To ensure the overall integrity and consistency of the system, the state's financial backing should also correspond to these two elements. Transparency in turn contributes to ensuring that scarce intertemporal resources are used efficiently and effectively within and across taxpaying generations. This is particularly relevant with regard to the use of fiscal incentives for motivating voluntary savings outside what is strictly the universal insurance system. The issues at stake are (a) relatively poor effectiveness in encouraging voluntary saving by low- and middle-income individuals and the opportunity cost associated with not using these resources to support the sustainability of the mandatory system or to reduce public debt, and (b) the lack of power to increase overall savings rather than simply influence the composition of savings—an effect for which there is ample evidence.

Tax incentives for voluntary saving include tax deductions for contributions, the deferral of taxes on account earnings, and government matching of contributions. Evidence from the United States indicates that the first two approaches have not enticed low- and middle-income families to contribute much to such accounts (Duflo et al. 2005). With regard to the effect of matching contributions in encouraging savings, the literature is not conclusive. It points out that savings tend to match the amount provided by the state, which again leads to the issue of the opportunity cost of these resources vis-à-vis the sustainability of mandatory pension insurance. In the case of low- and middle-income families,

however, U.S. data show that the matching contribution incentive is not very strong, either. The evidence suggests that the primary beneficiaries of tax incentives are high-income earners and that tax incentives have strong distributional effects. To ensure that scarce public resources are used effectively and efficiently, the use of tax incentives should be limited to compulsory social insurance.

The importance of the effective use of scarce resources as part of a broad strategy for dealing with the demographic challenge of population aging is even more evident, taking into account that the state has to preserve human capital and foster labor market participation. A key task in this regard is to encourage lifelong learning to deal with increased longevity. It is equally important to increase the educational level and skills of the workforce and of new generations, which should enhance employability and the individual's own responsibility and will contribute to uninterrupted participation in pension schemes.

A key element in a strategy of effective unbundling of pension risk pooling is to foster financial literacy. This requires transparent (i.e., regarding return, risk, and cost), well-functioning pension markets, including provision of well-designed universal products. A well-functioning pension product market constitutes the best incentive for individuals to save.

Conclusions

Pension reforms have to maintain consistency with the stage of and changes in the complex texture of intergenerational transfers and contracts characterizing all social systems. Such systems are built on the preferences, values, and risk attitudes of the population involved. The pace of reforms and their success are heavily influenced by these factors. Similarly important in setting the scope of unbundling pension risk sharing and the success of reform are the demographic structures themselves, the stage of development, and the functioning of the labor and financial markets.

For countries relying on pay-as-you-go systems, pension reform might imply a partial or total dismantling of one of the key insurance mechanisms underpinning the social model based on intergenerational income transfer. For these countries the issue is whether to maintain the degree of broad social risk pooling supported by the set of intergenerational insurance transfers through alternative policy instruments or simply to change to a model in which welfare assistance is the dominant feature. Failure to conceptualize these changes in a comprehensive manner and

pursuing unarticulated piecemeal reforms in various areas could result in worse outcomes.

The issue is far more complicated than the rational conscious choice between policies and the pursuit of consensus on it. This is because the demographic effects of population aging are already here and growing worse. For many countries this implies that a total risk unbundling from the pool of the entire population toward individuals is financially unfeasible. For these countries the option seems to be ensuring consistency between the degree of pension risk unbundling, reforms in other key areas, and pension financing. In these cases, pursuing labor market reforms similar to those of countries whose pension systems already rely on private savings and in which labor market participation is underpinned by large social transfers could lead to inconsistency and add to already unsustainable long-term fiscal pressures.

The aim of pension reform is to ensure adequate income on retirement while at the same time ensuring long-term financial sustainability. The role of the state is fundamental in handling the demographic challenge. Its success depends on introducing transparency regarding the financial possibilities of the pay-as-you go system, delimiting its insurance function from welfare assistance, and defining the role of the state with regard to these functions.

The state has a key role in facilitating policies to deal with the challenge of the aging of the population—a development that places an extra burden on already scarce public resources. This is why the state should foster consistent reforms that correspond particularly to the degree and possibilities of unbundling pension risk to individuals. Similarly, in light of the important financial requirements associated with preserving and improving human capital to cope with the challenge of aging and provision of pensions, the use of scarce financial resources to buttress pension entitlements should, at most, be restricted to the compulsory system.

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CHAPTER 20

Aging Populations and the Scope for Adjustment in the Slovenian Labor Market

Opening Statement, Panel on Labor Market Reform

Alenka Kajzer

An aging population is a reality that policy makers must take into account immediately. The share of the population over age 65 will increase substantially by 2050 in almost all countries of the European Union (EU). This implies economic and financial consequences: an increase in age-related public expenditures, and the decline of the potential growth rate of gross domestic product (GDP). The Institute of Macroeconomic Analysis and Development has identified the following challenges facing a society with rising longevity: (a) the need to create a comprehensive family policy and social strategy, which will increase fertility; (b) changes in social security systems; (c) changes in health care; (d) changes in the pension system; and (e) labor market adjustments (Javornik 2006).

Projections of age-related expenditure show that the long-term sustainability of public finances is jeopardized in many EU countries.¹ Labor

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market adjustment can substantially contribute toward holding pension expenditures in check.

The Slovenian population is aging, a challenge that the country must face. This chapter examines the consequences of an aging population and the challenges with which the labor market is faced as it attempts to adjust to this longevity. The first part presents the demographic situation, projections, and the estimated consequences of Slovenia's aging population. The second part examines the situation and development of the Slovenian labor market. We conclude with an identification of "reserves" in the Slovenian labor market that may be used to boost the employment rate and create room for the labor market to adjust to the aging population.

Demographic Projections and Estimated Consequences of Slovenia's Aging Population

The demographic situation in Slovenia is characterized by a low birthrate and increased life expectancy. As a result of the falling number of births and a declining mortality rate, the age structure of the population has changed. The proportion of children has decreased in relation to the population of working and pensionable age. So far, this process has been slow because of the relatively large demographic losses suffered in both world wars, and Slovenia still lags behind the EU average in terms of the share of the elderly in total population. This issue may, however, become critical as soon as the coming decade, when the more numerous generations born after World War II enter the ranks of the elderly and the contingents of children and people of working age start to shrink owing to low birthrates in the period after 1980. The ratio between the working-age population (15–64 years) and the old population (65 years and over) is projected to deteriorate from the current 5:1 to 4:1 by 2013. After 2020, it may drop to below 3:1, and after 2040, to below 2:1 (table 20.1).

Population aging will bring about a substantial increase in age-related public expenditure for pensions, health, and long-term care. Age-related public expenditure is expected to increase from 19 percent of GDP in 2005 to 25–29 percent by 2050. The estimations of the increase depend on variations in demographic projections and expectations about the employment rate of older workers. Projections of age-related expenditure, presented in table 20.2, assume a substantial increase in the employment rates of the elderly population. For example, the employment rate of the population age 60–64 is assumed to more than double by 2020. Such a

Table 20.1. Main Demographic Characteristics of the Slovenian Population, 1985 to 2008 and Projections to 2050

<i>Indicator</i>	<i>1985</i>	<i>1995</i>	<i>2005</i>	<i>2010</i>	<i>2020</i>	<i>2050</i>
Population (thousands)	1,973.2	1,987.5	2,001.1	2,016.2	2,016.5	1,897.1
Age structure (percent)						
0–14	22.2	18.4	14.3	13.5	13.5	12.9
15–64	67.8	69.3	70.4	70.0	65.8	55.9
65 or older	10.1	12.3	15.5	16.5	20.6	31.2
Old-age dependency ratio	14.9	17.8	22.0	23.5	31.4	55.8
Fertility rate	1.72	1.29	1.26	1.27	1.46	1.50
Life expectancy (years)						
Men	67.9	70.8	74.1	73.9	76.1	79.8
Women	75.9	78.3	81.3	81.2	82.8	85.2
Net migration (thousands)	3.5	2.5	6.4	5.9	5.3	6.7
Infant mortality rate	13.0	5.5	4.1	4.4	3.7	2.7

Source: Statistical Office, Republic of Slovenia. http://www.stat.si/pxweb/Database/Dem_soc/05_prebivalstvo/07_05197_projekcije/07_05197_projekcije.asp.

substantial increase in the employment rate of elderly workers cannot be easily achieved. Slovenia will have to carry out an “active aging” policy.

The aging of the population will also affect potential GDP growth. Carone et al. (2006) present the results of long-run labor productivity and GDP growth rate projections (to 2050) for the 25 EU countries as of 2004 (EU25), using a production function methodology. Although the projections reflect an assumption of no policy change, they are a good indication of likely developments if past trends persist into the future. The projections indicate a significant slowdown in potential GDP growth rates (see table 20.3).

Labor Market Developments and the Situation in Slovenia

An overview of developments in the past 10 years shows that the labor market situation in Slovenia has improved (Kajzer et al. 2006). The unemployment rate was reduced in the 1996–2006 period, and the employment rate of the population age 15–64 rose by 6 percentage points. At the same time, the youth (age 15–24) employment rate stayed at almost the same

Table 20.2. Estimates of Age-Related Public Expenditures in Slovenia
percent of GDP

	2005	2010	2020	2030	2040	2050
Total age-related expenditures	18.8	17.4	17.6	20.3	23.4	25.5
Pensions	10.9	10.3	10.2	11.9	14.0	15.4
Health care	6.3	6.2	6.4	7.2	7.9	9.4
Long-term care	0.9	1.0	1.1	1.4	1.7	2.0

Source: Slovenia 2006.

Table 20.3. Estimations of Potential Growth Rate in Slovenia and the European Union
percent

	2011–20	2021–30	2031–40	2041–50
Slovenia	2.8	2.1	1.3	1.0
EU25	2.2	1.5	1.2	1.7
EU15	2.1	1.4	1.2	1.3

Source: Carone et al. (2006), 39.

Note: EU25 refers to the 25 countries of the European Union following the 2004 expansion. EU15 refers to 15 countries of the European Union before the 2004 expansion: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

level on account of the higher rate of participation of young people in education. Employment rates of other age groups rose. The most notable increase was recorded for the employment rate of older people, thanks to the pension reform.

The structure of employment shows an increase in the share of the service sector in the past 10 years. Slovenia still significantly lags behind the EU average, however, in the share of people employed in services that have the potential to offer employment to older and less educated workers, notably health care, social work, and household services. The proportion of people employed in manufacturing remains relatively high, particularly in low-technology industries.

The increase in the employment rate for highly skilled people seen in 1996–2006 and its high level compared with the EU average indicate that education is a significant determinant of the situation in the labor market. Education is also an important underlying factor in the differences in earnings that are observed. Calculations of wages by educational level show that the relative earnings of high-skilled workers rose in 1998–2002 regardless of the sector of employment. Vodopivec (2004, 306) identified the increase in returns to education as the most dramatic change in the labor market in the transition in Slovenia. The returns to

more educated workers increased steadily for all groups, with the highest increases for tertiary education.

The labor market situation in Slovenia is now relatively favorable. Slovenia is among the countries in the EU with a below-average unemployment rate and an above-average employment rate. During the past 10 years the employment rate has risen, while unemployment has declined. Nevertheless, several problems persist: the proportion of the long-term unemployed remains high, as does unemployment among unskilled, unemployed people and young people, and the employment rate of elderly workers is very low.

Scope for Improvement of Labor Market Performance in Slovenia

The employment rate of the population age 15–64 in Slovenia was 66.6 percent in 2006 (table 20.4), which places Slovenia above the EU15 average of 66.0 percent. The employment rate is, however, substantially below the rates in Denmark (77.4 percent) and the Netherlands (74.3 percent), both of which employ the “flexicurity” model, and in the United Kingdom (71.5 percent).

Detailed analysis of the Slovenian labor market shows that Slovenia has scope to increase the employment rate of the older and young populations. In 2006 the youth unemployment rate amounted to 13.9 percent and was substantially higher than the average unemployment rate. To reduce youth unemployment, active labor market programs should be more oriented toward youths, and intensive employment counseling at public employment offices should be provided to registered unemployed youths.

Table 20.4. Main Labor Market Indicators, Slovenia
percent

<i>Indicator</i>	<i>1996</i>	<i>2000</i>	<i>2006</i>
Unemployment rate	6.9	6.7	6.0
Youth unemployment rate	17.5	16.3	13.9
Share of long-term unemployed in number of unemployed	49.7	61.4	49.1
Employment rate, age 15–64	61.6	62.8	66.6
Employment rate of elderly, age 55–64	19.1	22.3	32.6

Source: Eurostat.

http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=STRIND_EMPLOI&depth=2.

Measures within the educational system to decrease dropout should be also instituted. Strong employment protection may have a negative effect on the employment prospects of youths in Slovenia and should be reconsidered.

Low Employment Rate of Older Workers

The employment rate of older (age 55–64) persons was 32.6 percent in 2006, among the lowest in the EU. This low rate results largely from early retirement and high structural unemployment, which particularly affect older unemployed persons, but partly from the early retirement wave seen in the early 1990s.

To increase the employment rate of older workers, Slovenia should create an active aging policy. Such a policy should include (a) adjustments in the pension system (increasing incentives to work longer and offering flexible retirement), (b) measures aimed at reducing the occurrence of occupational diseases and improving safety at work, (c) programs for improving work conditions, and (d) measures that will increase the involvement of the elderly in education and training.

The pension reform significantly affected the exit rate from the labor market and, consequently, the employment rate of the elderly, and its main features therefore deserve to be presented here. The reform of the Slovenian pension system was enacted at the end of 1999 and became applicable in 2000.

In compulsory insurance, the conditions for retirement were tightened. The full retirement age for women was raised, and the required insurance period was prolonged. With a minimum of 20 years of paid insurance, men can now retire at age 63 and women at age 61. The minimum retirement age was raised from 53 to 58. The new retirement criteria are being applied gradually.

Once the criteria for retirement are fulfilled, staying active is rewarded, while early retirement results in lower pensions. After a person reaches age 63 (for men) or 61 (for women), the pension is raised by 3.6 percent for the first year of his or her staying active beyond this age, by 2.4 percent for the second year, and by 1.2 percent for the third year. The accrual base is raised by a further 1.5 percent each year. The criteria for the accrual of pensions began to apply immediately, while the already granted rights remain at the achieved level.

The average age of new recipients of old-age pensions rose by 2 years and 10 months for men and by 3 years and 4 months for women in the period 1996–2006. The increase in the retirement age was encouraged by the enforcement of the pension reform in 2000; the age rose by 2 years

and 3 months for both men and women in the period between 1999 and 2006. The pension reform has already produced some results, but further adjustments in the system are needed to cope with the aging population.

Part-time employment for elderly workers is still not as common as in the older EU member states, especially for women. To increase part-time employment among older workers, options for combinations of part-time employment and retirement should be changed. According to the present regulations, the prerequisites for part-time retirement are so strict that they do not enable a graduated exit from the labor market. The Slovenian pension system is poorly adapted to flexible forms of employment and work, especially with respect to employment and the elderly.

Conclusion

Demographic changes require changes in the labor market. In a relatively short time, Slovenia will have exhausted the possibilities for filling new job positions with younger persons whose unemployment is currently a problem. At the same time, an increase in the employment rate is one of the key objectives whose fulfillment will determine the economic growth and social stability of a society with a fundamentally altered ratio between the active and dependent populations. Under present conditions, pensions and other financial (as well as nonfinancial) benefits for the elderly cannot remain at recent relative levels. It is essential to increase work activity, especially among the young and the elderly. The state should create opportunities for, and focus social regulation on, providing conditions for earlier and later work activity.

The normative conditions for increasing and extending the work activity of the elderly are already in place in Slovenia, but the health and working conditions necessary for its full implementation are still absent. The occasionally poorer performance of elderly workers is often a cause of covert and overt displacement of the elderly from their jobs. For many elderly people, retiring is a way out of trouble at work; if different conditions were in place, along with different attitudes toward their needs, the elderly could continue working. What is needed, then, is additional incentives (beyond the mere extension of the required years of service for retirement) and conditions to help young people enter the labor market and the elderly to stay active longer.

Slovenia should encourage earlier work activity by young people, who now get jobs relatively late, one factor being the duration of their studies. The implementation of the Bologna Declaration is expected to contribute

to the shortening of studies, but it is also necessary to frame measures for increasing the efficiency of tertiary education. Greater cooperation between educational establishments and companies and greater influence of companies on curricula would contribute toward earlier employment and reduction of imbalances in the labor market. The second major factor is the existence of parallel labor markets such as student work. In addition to measures that have already been planned and adopted, it might make sense to reform student work through the introduction of “mini-jobs” for which lower social security contributions are paid. One measure in the active employment policy that is aimed at reducing unemployment among young people is the reimbursement of social security contributions for employers who hire young unemployed people or first-time job seekers, but it would also be worthwhile considering additional measures to help first-time job seekers.

The employment of the elderly could also be raised through the greater use of part-time employment, as a means of gradually leaving the labor market, and the development of certain services, especially social services. This would create employment opportunities even for less educated and older women, whose employment rate is very low. Economic policy makers should consider encouraging the development of employment in personal household services and long-term care.

Considering the current situation in the labor market, Slovenia will not achieve the Lisbon Strategy goal for older workers (50 percent employment in the 55–64 age group) unless it conducts an active aging policy to combat the culture of early retirement, induce people to work longer, and increase participation of older workers in lifelong learning.

Note

1. The preparation of projections of age-related public expenditure was initiated by the European Commission. Pension expenditures were prepared by the member states themselves, using their own models. They were presented to a working group during the testing procedure (open method of coordination).

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CHAPTER 21

Reforming the Slovenian Pension System: Some Guidelines and Intergenerational Distribution Issues

Opening Statement, Panel on Financial Market Reform

Jan K. Grobovšek and Damjan Kozamernik

The current Slovenian pay-as-you-go (PAYG) pension system is now widely held to be unsustainable in terms of its long-term funding. The aging of the population is dramatically reflected in rising pension and health expenditure projections. Recently, Verbič, Majcen, and van Nieuwkoop (2005) found that the public deficit would increase by about 10 percent of gross domestic product (GDP) by 2050, according to current projections. The International Monetary Fund (IMF 2006) calculates that the intertemporal fiscal gap (the necessary current annual structural adjustment in the public balance) will reach 10.2 percent of GDP, while Genorio (2005) places it at around 9.5 percent of GDP. This

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assessment is similar to that of the latest Stability Program (Slovenia 2006), which calculates that the needed adjustment in the public budget currently stands at about 6.1 percent, or 7.5 percent of GDP, depending on the implementation of a pension indexation adjustment. This situation of long-term unsustainability calls for reforms, in particular of the pension system. The pension system can be reformed in various ways: by increasing the retirement age, with a supplement to the PAYG system in the form of capitalized pensions; by increasing pension contribution rates; or by decreasing pension generosity—for example, by slowing pension growth relative to wage growth. None of these options seems to gather unanimous support, and some might generate sizable distortions in the economy.

In this chapter we examine two ways of reforming the Slovenian pension system: an adjustment of the retirement age, and an adjustment of the private saving rate. Both are constrained to maintain the current pension-to-net-wage ratio of roughly 70 percent, on average. We use a simple and illustrative variant of a framework that, for instance, the European Commission proposes to implement for assessing the long-term sustainability of public finances, given a country's demographic trends and long-term projections of the institutional setting, productivity, and other relevant economic variables. In our analysis we assume an unchanged contribution rate, an average wage that increases with average productivity, an average pension that increases with average wages, and no change in the ratio of public debt to GDP. Given the simplicity of our approach, our results must be seen as rough in quantitative terms, but they do provide some qualitative insights, especially regarding distributional impacts, that will raise policy concerns.

Our simulations indicate that over the course of the next 50 years the average effective retirement age should increase by almost 10 years if that is the only pension system parameter to be adjusted. It is well understood that increasing the retirement age improves the sustainability of the pension system, both by reducing the number of pensioners and by increasing the number of persons at work who contribute to funding the system. The equilibrium of the pension system requires the effective retirement age to increase more or less linearly from the current 59 years to around 64 years by 2030 and to more than 68 years by 2050. But the older workers kept on the job may be less productive than the average worker, generating lower additional pension contributions. Taking that into account, the average retirement age has to increase even faster and further, going beyond 70 years by 2050.

The second option examined is to spur (or enforce, if necessary) individual saving, to complement the PAYG system with a capitalized pension scheme. In a sense, this additional saving relates to the second and third pillars of the pension system. In this exercise we examine the saving effect by computing the saving rate necessary for each retirement cohort to reach the 70 percent pension-to-net-wage ratio, where the fixed PAYG part of the pension is constrained by ensuring that PAYG and capitalized pensions add up to the 70 percent pension-to-net-wage ratio of previously retired cohorts. We show that under our working hypotheses it is unlikely that this option is viable for cohorts retiring in the short to medium run. The saving horizon for these cohorts is much too short for them to build up pension capital yielding sufficient revenue to compensate for the falling PAYG ratio of pension to net wage. Indeed, some of the cohorts retiring in forthcoming years would need to save more than their current labor income, while the cohorts retiring in roughly 10 years would need to save half of their income. From the long-term perspective, for those more than 30 years away from their retirement, this might be a viable option, with a required saving rate varying from around 5 to 15 percent, depending also on the real rate of return on pension capital and the length of the saving horizon.

In the next section we present the analytical framework we used and the scenario showing the projections if no reform is implemented. The subsequent two sections compute, respectively, the adjustments in the retirement age and the saving rate needed to simultaneously ensure sustainability and maintain the 70 percent pension-to-net-wage ratio. Since it is hardly likely that the reform will rely on only one dimension, the conclusion discusses how to put our findings in a wider context of a sensible pension reform design.

The Framework and the Unsustainability of the Current System

The current Slovenian state-financed PAYG system is not sustainable in the medium to long term. Long-term projections (see, among others, Genorio 2005) show that without a thorough reform of the current system, public deficits and the corresponding public debt could grow to absurdly high figures that would sooner or later require a radical change. In this section we present the projections based on our computations, which are very much in line with previous findings.

Our projection exercise over the 2005–50 period is based on several exogenous assumptions, most of which are presented in table 21.1. An

Table 21.1. Projections of Key Social and Economic Parameters, Slovenia, 2004–50**A. Labor market**

<i>Indicator</i>	<i>Percent</i>
Participation rate	
Age group	
15–19	17.4
20–24	61.0
25–29	86.5
30–34	94.3
35–39	94.5
40–44	93.0
45–49	88.9
50–54	77.6
55–59	46.2
60–64	16.0
65–69	12.7
70–74	7.1
75 and older	4.4
Unemployment rate	
All ages	5.5

B. Financial market

<i>Indicator</i>	<i>Percent</i>
Real rate of return on pension funds	3.0
Real yields on government bonds	2.5

C. Productivity growth rate

<i>Period</i>	<i>Percent</i>
2004–10	3.3
2011–20	3.1
2021–30	2.8
2031–40	2.1
2041–50	1.8

D. Demography

<i>Change in total population, by period</i>	<i>Percent</i>
2004–10	0.9
2011–20	0.1
2021–30	–0.5
2031–40	–2.0
2041–50	–3.3
Average life expectancy	
Overall	80.2
As share of population over age 60, by year	
2005	20.6
2020	27.6
2035	34.1
2050	38.1

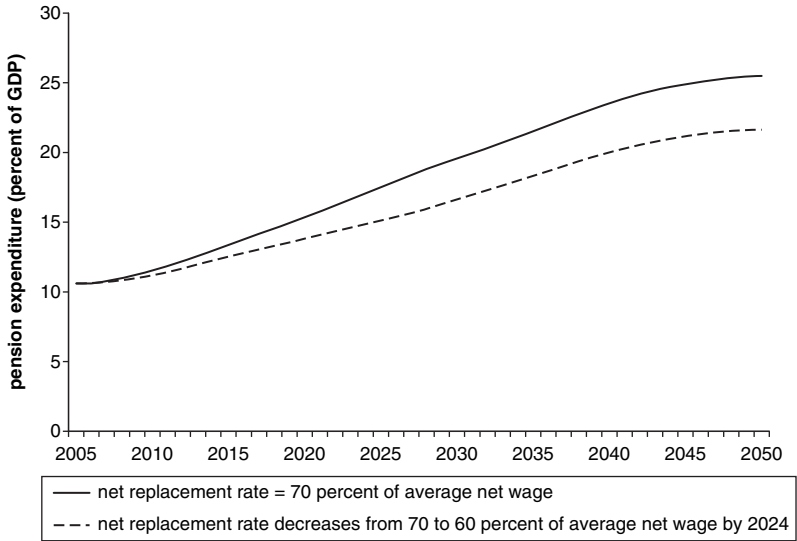
Source: For labor market and demographics, Eurostat; for productivity, Carone et al. 2006.

increase in immigration—in particular of the prime age group—could potentially reverse both the decreasing trend in the size of the active population and the increasing trend in the share of the elderly, as could an increase in the fertility rate. Yet the number of immigrants required would be enormous, and basing projections on the convenient assumption of a radical increase in fertility is imprudent. We therefore ignore these possibilities and extrapolate from currently available Eurostat projections. Another crucial parameter is the labor force participation rate. Slovenia's labor force participation rate in the 30–50 age group is among the highest in Europe and cannot significantly increase, which is why we keep it constant over the projection horizon. We also keep constant the participation rate of persons below 30, which is low in Slovenia but is not expected to rise considerably because of prolonged schooling. The participation rate of the population above 50 is kept constant in the baseline scenario, but variants of it are introduced in the next section. Productivity growth rates are taken from Carone et al. (2006), whose projections for productivity growth rates are based on assumptions about labor supply, as well as physical and capital accumulation. Any changes to these assumptions are likely to significantly alter productivity growth rates, but these rates have only a very minor effect on the (un)sustainability of Slovenia's current pension system (see also Tuladhar and Egoumé-Bossogo 2006). This is because pension growth is indexed to wage growth, and any changes in productivity, and thus wages, are reflected in the pension indexation.

Slovenia's pension system is PAYG, where pension benefits are individually linked to former pay over a designated interval and eligibility depends on the individual's age and his or her years of service. Individuals are also subject to a system of rewards and penalties designed to provide incentives to postpone retirement. We largely abstract from these details and posit that, on average, all individuals retire at age 59 except for those who remain active and that earlier retirement is not possible. This assumption is based on the current average age of retirement of just below 59 years (56 years and 2 months for women, 58 years and 11 months for men).¹

In figure 21.1 we project how pension expenditures would increase under the assumption that the effective retirement age remains at the current level of about 59. Pension expenditures would rise from a little more than 10 percent of GDP in 2006 to more than 25 percent if the net replacement ratio between average pensions and net wages remained at the current level of about 70 percent. The current pension system, however, would generate a gradual reduction of the net replacement rate to

Figure 21.1. Projected State Pay-as-You-Go Pension Expenditure as Share of GDP, with No Change in Average Effective Retirement Age, Slovenia, 2005–50



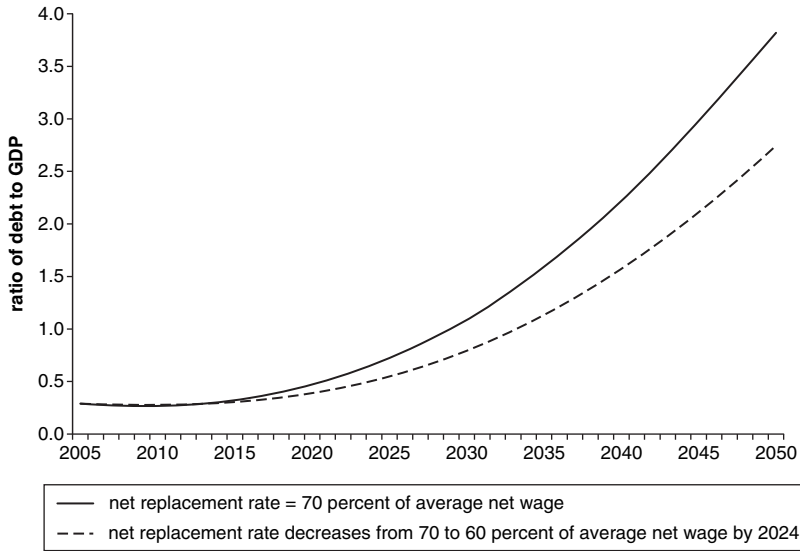
Source: Eurostat; author's calculations.
Note: GDP, gross domestic product.

about 60 percent of the average net wage by 2024. Under these circumstances, pension expenditure would still need to increase to a substantial 22 percent of GDP over the next half-century. In both cases pensions are indexed to net wages after 2024.

If the government decided to finance this additional expenditure by taking on debt, public debt would explode, as shown in figure 21.2. The decrease in the net replacement rate would clearly have a positive impact, but it would not halt the exponential growth of public debt. A completely debt-financed transition that would need to be paid for by subsequent generations beyond our projection horizon is hence not a viable option.

Alternatively, the current system could be financed through an increase in tax revenues. Despite the assumption of a decrease in the net replacement rate from 70 to 60 percent of the average net wage over the next 20 years, the additional tax burden is projected to grow to substantial levels. Assuming that it is borne only by workers, figure 21.3 shows that over the projection period net wages would decrease by about a quarter compared with the baseline in which there are no tax hikes.²

Figure 21.2. Projected Ratio of Public Debt to GDP, with No Change in Average Effective Retirement Age, Slovenia, 2005–50



Source: Eurostat; author's calculations.

Note: GDP, gross domestic product.

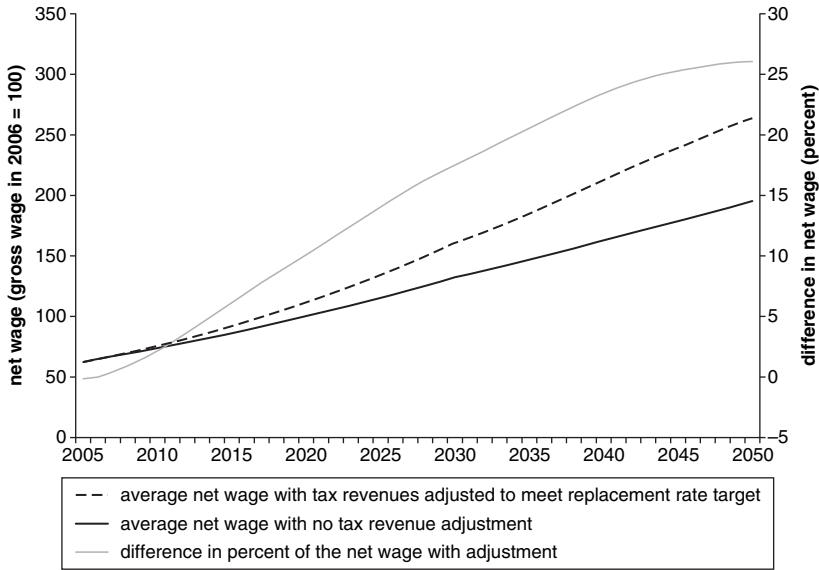
Our scenarios do not consider endogenous effects on labor supply. The effect of such a large tax increase on labor supply, in terms both of hours worked and of participation rates, could be substantial and might have the potential to seriously undermine the system's sustainability. In addition, the perceived intergenerational fairness of this system could easily be called into question.

In order to mitigate the problem of burden sharing, upcoming generations of retirees will need to bear more of the future cost of their retirement. They can do this either by working longer or by saving (privately or through a separate capitalized state fund), as described in the next two sections.

The Retirement Age Adjustment

One way to design a sustainable PAYG pension system is to increase the average effective retirement age. This measure has a twofold budgetary advantage: it lowers the cost of pensions while increasing the revenue to finance it. It is also "fair" if one views retirement as insurance against the

Figure 21.3. Projected Net Wage, with No Change in Average Effective Retirement Age, Slovenia, 2005–50



Source: Eurostat; author's calculations.

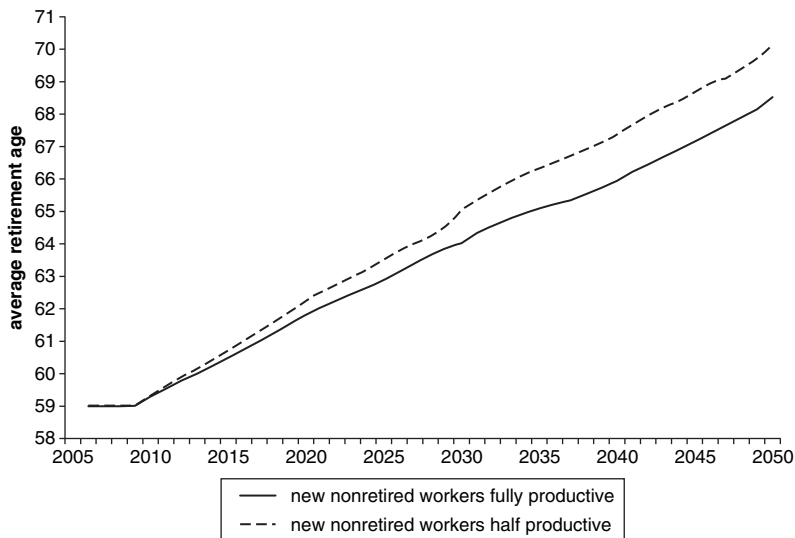
risks of old age. As workers' longevity steadily increases and their health relative to any given age improves, the insurance payout should arrive at a later stage, that is, when the risks associated with old age kick in.

Here, we simulate the increase in the average effective retirement age of each cohort that is necessary to keep pension expenditures more or less constant as a share of GDP and to maintain the net replacement ratio between state-financed PAYG pensions and net wages for each cohort at 70 percent. To do this, we assume that the labor force participation rates of the population 50 and over, which in Slovenia are the lowest in the EU (see IMF 2006), can be increased significantly over the course of the next half-century. We stipulate that participation rates of the 50–54 age group can be potentially raised to 90 percent from the current 77.6 percent; those of the 55–59 group from 46.2 to 85 percent; those of the 60–64 group from 16 to 80 percent; those of the 65–69 age group from 12.7 to 75 percent; and those of persons 70 and over to 70 percent. This is admittedly an ad hoc assumption, but it is plausible because it sets the potential participation rates roughly in line with the likely evolution of the physical capacities of workers.

We make two important assumptions on the revenue side of public finances. First, the ratio of debt to GDP is kept constant at 27.3 percent throughout the period 2007–50. This assumption, coupled with keeping government revenues and non-pension-related expenditures unchanged at the 2006 level throughout the projection, generates a slight surplus of revenues over expenditures until 2010 (up to about 0.4 percent of GDP). As early as 2010 the remaining budget for new retiring cohorts is not sufficient to pay out pensions worth 70 percent of net wages. Second, we assume that apart from lowering the costs of pension expenditures, workers who remain active instead of retiring increase GDP and hence augment the bulk of pension revenues and expenditures, but only within the assumed exogenous ratio of pension expenditures to GDP. (We abstract from the possibility of using all additional tax revenues stemming from extra labor supply for the financing of pension expenditures.)³

Figure 21.4 summarizes the necessary increase in the average retirement age. Two things stand out. First, under the assumption that the additional labor supply is just as productive as the average worker in the economy, the average retirement age would need to rise by more than nine years to guarantee today's net replacement rate. Second, the necessary

Figure 21.4. Projected Average Retirement Age of Cohorts Necessary to Keep Net Replacement Rate Equal to 70 Percent of Average Net Wage, Slovenia, 2005–50



Source: Eurostat; author's calculations.

increase is quite linear. Given that the pool of nonactive workers shrinks significantly after the retirement age is increased by five years, the linearity of the increase implies that although fewer additional workers are needed in the second half of the projection horizon (see figure 21.1 for comparison), the average effective retirement age still keeps growing at an almost unaltered pace. This implies that the very significant increase of about nine additional years of work could be considerably lower if the burden of supplementary financial needs were not borne entirely by an ever smaller pool of workers potentially able to participate.

The upper line in figure 21.4 shows the necessary increase in the average retirement age under the assumption that any additional active workers who would have retired under previous conditions have only half the productivity of average workers who are active in the baseline scenario. Two things again become apparent. First, in spite of the enormous difference in productivity levels between the additional workers in the two simulations, the adjustment difference is not large. This suggests that, at least given our assumptions, the major budgetary gain from later retirement comes not from additional revenues but from the cost decrease associated with a smaller number of pensioners. Unsurprisingly, the difference grows larger in absolute percentage terms as the additional pool of nonactive workers declines. This difference would naturally become even larger, relatively as well, if the productivity levels of additional workers fell further with increasing age, which is plausible.

It is not the ambition of this exercise to speculate about the most likely average productivity level of these additional workers. Psychological and economic evidence suggests that the productivity-age profile is concave and that the age-related productivity decrease can become acute during periods of rapid technological upgrade.⁴ It also has to be borne in mind that most economic studies, especially those undertaken at the firm level, suffer from selection bias, as only workers choosing to remain active are considered. For simplicity, we assume the productivity of individuals in their 60s to be less than average productivity, but definitely more than one-half the average. Whatever their productivity is, however, we see that a significant increase in the average retirement age is needed to keep today's net replacement rates financed by the current PAYG system. Furthermore, it is apparent that the necessary retirement age increases linearly toward the end of the projection horizon, although the extra expenditure needs rise only at a decreasing rate. This discrepancy becomes all the greater if the productivity levels of the additional "nonretirees" increasingly lag average productivity levels.

We can infer from the above that relying entirely on increases in the retirement age to safeguard the PAYG-financed fixed ratio between average pension and net wages can be inefficient. For one thing, there are immediate problems concerning the demand for elderly workers, especially given seniority-based pay scales. Another obstacle, closely associated with the latter issue, is the unwillingness of many (indeed most) elderly workers to remain active. An increase in the average retirement age of about a decade can hardly be implemented without the use of many carrots and sticks. As the government is likely to run out of carrots, in the form of pecuniary incentives, it will increasingly have to make use of sticks—further increases in the minimum statutory retirement age. Needless to say, these are politically difficult to implement. But even beyond this political-economic problem, it is questionable to what degree it would make sense to raise the retirement age ever further beyond a limit, given that the marginal benefit of ever-older workers is likely to decrease substantially.

The Private Saving Rate Adjustment

If the retirement age is not adjusted, can we rely on capitalized pensions to fill the funding gap and maintain the relative purchasing power of pensioners? The difficulties related to an exceedingly high retirement age point to a need to create more resources to deal with the challenges of aging populations; that is, to build up more savings beforehand. In the following projection we try to calculate roughly the amount of additional savings individual cohorts would need to accumulate in order to top up their pensions to the same net replacement rate of net wages that pensioners receive today. PAYG pension expenditures in terms of GDP points remain identical to those in the preceding section, with public debt again fixed at 27.3 percent of GDP.

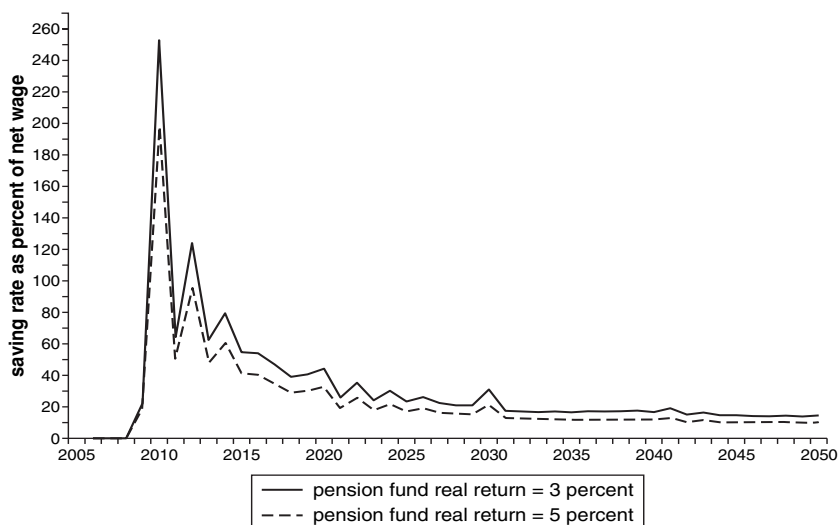
Broadly, retirement savings can be separated into different types, depending on the vehicle and motivation. Saving vehicles can include any sort of saving that individuals undertake and are in a position to cash in or use during retirement, ranging from housing to capital investments, or they can be explicitly geared to the purpose of retirement in the form of a funded pension scheme. In parallel, retirement savings can be motivated either voluntarily or involuntarily, according to some degree of (usually government) coercion.

In the following projections we make no assumptions whatsoever about the existing private saving provisions of current and future generations, not

even the ones that are explicitly invested in pension funds, and we rule out the possibility that individuals have already fully adjusted their saving behavior to the aging of the population and the associated PAYG constraints. Rather, these projections examine the effect of a surprise and ad hoc government decision to fix pension revenues and expenditures, index existing pensions to wage growth, and pay out new retirees' pensions each year according to how much the budget permits. The average age of retirement remains 59 years, at which point retiring cohorts will need to have saved up enough to top up their state pension to 70 percent of the average net wage. The resulting "necessary" saving rate can be viewed as voluntary and earmarked entirely as a cash flow during retirement or could stand for the part of retirement saving that by law must be deducted into a funded pension scheme, which is usually termed the second pillar. Either way, this projection does replicate the crucial feature of fully funded pensions, which is that each individual draws returns exclusively on his or her own savings and that beyond the existing PAYG funds there are no intergenerational distributions.⁵

The upper line in figure 21.5 depicts the necessary saving rate under the assumption that pension funds earn a real return of 3 percent a year.⁶

Figure 21.5. Theoretical Yearly Saving Rate as Share of Net Wage of a Cohort Retiring at a Given Date (at Age 59) to Maintain a Combined Pension of 70 Percent of Average Net Wage, Slovenia, 2005–50



Source: Eurostat; author's calculations.

As the figure shows, generations retiring sometime after 2030 (workers who today are age 35 or younger) have plenty of time to accumulate enough retirement savings, so that their necessary additional savings starting from 2006 should amount to a relatively modest 10–12 percent of their net wages. In other words, these generations have enough time to plan ahead. The situation is very different for older generations wishing to retire earlier. In particular, generations due to retire in the decade after 2010 would now have to save at rates that at best are completely unrealistic and at worst impossible (that is, exceeding net wages). It is not viable in this setting to rely on private, fully funded savings to fulfill our three *ex ante* constraints: a constant ratio of public debt to GDP, a net replacement rate of 70 percent of the average net wage composed of PAYG and private pensions, and an average effective retirement age of 59 years.

Note that the 2010 peak in this exercise comes about because the PAYG system runs out of money in that particular year, given the commitment to finance fully the previously retired cohorts. It turns out that in addition to the short saving horizon, this cohort also has a particularly (unreasonably) low PAYG coverage that primarily results from the nonsmoothness in demographic projections. The results ought to be therefore taken as illustrative rather than as quantitatively fully reliable for the cohorts retiring in the short run. More interestingly, PAYG revenue falls progressively over time, from around 60 percent of pension revenue to around only a third of pension revenue, and stabilizes there after roughly 2030 (not shown in the figure). Again, we keep the relative purchasing power of all pensioners constant to productivity and wage levels in the economy.

The lower line in figure 21.5 shows how a more efficient use of the accumulated saving, with real returns on pension funds equal to 5 percent per year, does not qualitatively improve the viability of relying on saving adjustments to yield a suitable retirement pension. A better financial return certainly substantially lowers the saving requirement of future generations, but this only really matters to generations due to retire in the second half of our projection horizon. For generations retiring earlier, a better return represents no more than a trivial decrease in the massive savings they would have to put aside. We can summarize the difference between the 3 percent line and the 5 percent line by concluding that financial returns do, of course, matter critically to the quantitative design of the second and third pillar. For generations retiring after 2040, it is a crucial difference whether they should put aside each year 5 or 10 percent of their net wages. Yet financial returns make no substantial difference to the very unequal intergenerational burden sharing of this setup.

Many countries that did switch to the fully funded system in fact used it implicitly or explicitly to finance their PAYG activities. In our basic setup this would by and large amount to redistributing the savings of the generations retiring in the second half of the projection horizon to the generations retiring in the first half. This, however, obviously goes counter to the underlying philosophy of a fully funded system. In figure 21.3 one can see that the current PAYG system, if left unreformed, would imply a huge tax increase. This is intolerable precisely because individuals do not feel they benefit directly from their contributions. Individuals are presumably more eager to save when their savings suit their own retirement purposes, and even more so when they are given the choice to opt for their own means of retirement. True second and third pillars are hence such that benefits are tightly linked to contributors. Governments can then hardly rely exclusively on private savings to top up the future PAYG system. They would need to find additional resources for the generations that will not have had the time to save up adequately.

Conclusion: Think about a Wise Combination of Options

To conclude, we consider how our findings can be applied in the practical implementation of pension reforms. We believe that any pension reform is likely to involve a combination of different options available to policy makers.

The immediately apparent feature of the above results appears to be a strong complementarity between increases in the retirement age and additional savings (capitalized pensions). If implemented separately, each would generate potentially high welfare costs to some retirement cohorts, including a significantly higher retirement age for the cohorts far from their retirement date and extremely high saving rates for cohorts close to it—for some cohorts, even exceeding by far their remaining revenue stream. A combination of the two could involve a gradual lengthening of the retirement age to deal with the current system's shortcomings in the first half of the horizon period. In the second half, the system could start relying increasingly on additional saving provisions, which would limit the necessary average retirement age. It is important to note that in such a framework timing is essential and that cohorts retiring in the second half of the projection horizon would have to start putting aside additional savings right away. This is, of course, a very rough guide to what might be the optimal pension reform combination, and its final parameterization should rely on a more elaborate welfare analysis. In any case it is important to note that too rapid a switch

to a fully funded system has the drawback of making the transition generation pay twice.⁷

In promoting an increase in the capitalized share of the overall pension receipts, one must ensure that the financial market is adequately prepared. To increase welfare, the financial markets must (be reformed to) allow for efficient intergenerational consumption smoothing, besides contributing to the long-term sustainability of public finances. This involves ensuring adequate saving incentives, proposing adequate compulsory or voluntary saving arrangements, possibly introducing tax incentives for savings, improving financial literacy and access to information about expected life-cycle revenue streams, and so on. If investment does to some extent depend on the level of saving in the economy, the financial system should be geared to channel additional savings toward productive investment to boost domestic productive capital and increase long-term production levels. This raises several issues: Are there enough adequate financial securities to invest in, or does the additional demand stemming from savings increase their prices and decrease their return? How likely it is that pension saving will increase the aggregate saving in the economy? Might it just crowd out other types of saving? Finally, one should be aware that capitalized pension systems present risks. Although over long horizons riskier assets are fairly likely to yield a higher return, their short-to-medium-term fluctuations on the world financial markets may be largely nondiversifiable. A risk that can be diversified, however—since capitalized pension systems are typically regulated—is the risk of portfolio performance relative to the market risk, and it is essential to take into consideration how to implement such a diversification efficiently. The heterogeneity of outcomes for different individuals of the same cohort can be quite important, as shown by Daniel Barr (2007) in the Swedish case. This risk is often neglected in macroeconomic analysis, as it cancels out in the aggregate.

Are there other reform options? Increasing the burden of taxation is a possibility that one wants to avoid because of the potentially strong distortionary effects on the economy. In any case, in order to guarantee a smooth transition from the PAYG system to a mix of PAYG and full capitalization, the government will almost certainly need to make use of transitory lending and borrowing in practice, and it can only do so when it has enough fiscal leeway. Second, the relaxation of the indexation of pensions to wages would go a long way toward relieving the system by lowering not only pension expenditure but also pensioners' relative purchasing power over their retirement horizon. The problem of loss of relative purchasing power is even more acute in light of the

fact that pensioners' consumption baskets are likely to be biased toward services—a feature that lowers pensions' purchasing power even when their growth is proportional to wage growth in nominal terms. Nevertheless, the ratio of pension to net wage is a matter of social preferences, and a lower rate than the one we assumed in this chapter would be welcome as a measure of sustainability only if it arose from a consensus.⁸ At any rate, it is crucial that a long-term reform be set in place as soon as possible to provide to individuals who are currently working adequate information about their likely pension profile so that they can intertemporally optimize their work and saving behavior.

Notes

1. Mesecni statični pregledi [Monthly statistics overview], Institute for Pension and Disability Insurance of Slovenia (May 2007), <http://www.zpiz.si/src/msp/200705/index.html>.
2. In a general equilibrium setting this means that the productive factor labor (not capital) finances the PAYG system, as only workers benefit from its receipts.
3. Allowing for all extra revenues to be spent on retirement would lower the necessary increase in the average effective retirement age, but it would also be less "prudential" in the sense that it does not leave any spare room for additional costs linked to population aging, such as rising health costs. It would also preclude the possibility of setting up preferential tax treatments as an incentive for individuals to retire later.
4. See, among others, Skirbekk (2003), for psychological evidence of cognitive abilities and aging, and Hellerstein, Neumark, and Troske (1999) for economic support.
5. This being a small, open economy, the saving rate is thought to be independent of investment rates. Additional saving hence does not affect capital accumulation or the size of GDP, and it does not affect the government's ability to levy social security contributions. Naturally, there is also an abstraction of endogenous labor supply decisions that may arise, especially if the government decides to impose the additional saving, which would effectively lower take-home pay.
6. The real bond yield that we use is 50 basis points lower, 2.5 percent.
7. See, for instance, Boldrin et al. (1999) for a fruitful discussion.
8. We believe one should not hesitate to think about innovative instruments for increasing the pension revenue or labor market adjustments to smooth the transition between work and retirement. Examples include promoting part-time jobs instead of full retirement, setting up efficient schemes of benefits and penalties to alleviate incentives for early retirement, and proposing

financial instruments that would swap housing (for example) for a pension rent so as to forgo some bequests in exchange for a higher pension rent.

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CHAPTER 22

Statement of the Ministry of Labor and Social Welfare, Federation of Bosnia and Herzegovina

Zehra Novo-Omanović

After the disintegration of the Socialist Federative Republic (SFR) of Yugoslavia and the creation of new states, pension systems were fully established in each of these states, including Bosnia and Herzegovina, with all their elements based on the pension and disability insurance system of the SFR Yugoslavia. Further development and changes in each of these pension systems have led to essential differences among them. In the period from 1992 to 1995, there were two social insurance institutions that were essentially based on the (somewhat extended) pension and disability insurance system of the SFR Yugoslavia.

Pursuant to annex 4 of the Dayton Peace Accord for Bosnia and Herzegovina, which constitutes the country's constitution, social welfare falls entirely within the competence of the two autonomous entities, the Federation of Bosnia and Herzegovina (FBH) and the Republic of Srpska, except that in the FBH social welfare functions are divided between the

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entity and its constituent cantons. Thus, Bosnia and Herzegovina does not have a unified pension and disability system. The main role of the national level is the coordinating role of the Ministry of Civil Affairs of Bosnia and Herzegovina in performing activities and tasks in the sphere of social welfare policy. Another national-level role is the signing of social insurance contracts, as a form of coordination among countries in the sphere of social insurance, in which the entities also participate.

Pension and disability insurance in the FBH is regulated by the Pension and Disability Insurance Act (*Official Gazette of the Federation of BH* 29/98, 49/00, 32/01, 73/05, and 59/06), which came into effect on July 30, 1998. This act is based on the principles of mutuality, generational solidarity, and the compulsory nature of pension and disability insurance (pay-as-you-go system). The risks covered by this insurance are old age, disability, death, and physical incapacitation. The rights arising from these risks include the rights to old-age pension, disability pension, survivors' pension, and disability allowance. This act also provides the possibility of voluntary insurance for persons who do not have compulsory insurance.

The act substantially reduced the rights and benefits that the pension system offered earlier. It did so by eliminating the rights to social benefits that were traditionally a part of the pension system: home care and assistance, the right to a protective pension supplement, the right to reduced working hours and the right to personal income compensation related to reduced hours, the right to disability allowance, and the right to occupational rehabilitation.

A reform of parameters has been carried out. The requirements for entitlement to old-age pension have been made more severe: the age limits for women (55) and for men (60) have been raised to 65 for both sexes, requiring not less than 20 years of service for benefit eligibility at retirement age, or 40 years of service regardless of age. Determination of the pension base has also undergone changes. Since 2005 the pension base has been gradually increasing every year and will continue to do so until 2015. Thus, as of 2015 the pension base will be determined on the basis of the average salary for all 40 years of insurance or on the basis of the total number of years of service. This means that in 2008 the pension base will be equal to the monthly average of the salaries earned in 23 years of insurance; in 2009, it will be 25 years; and so on until 2015.

In addition, the percentage of the pension base for establishing the amount of the old-age pension has been gradually reduced from the

original 85 percent. Since 2005, it has been a maximum of 75 percent of the pension base.

In order to achieve financial sustainability and stability of the pension and disability insurance system, changes have been made in pension harmonization so that pensions are now harmonized on the basis of the funds collected monthly for payment of pensions.

The goal of all the above restrictions was to make the pension and disability insurance system financially viable.

Although a reform of parameters was carried out in the preceding period, a systemic reform—to ensure long-term financial viability of the pension system, greater stability, wider coverage, and the possibility of introduction of new forms of pension insurance—is yet to come. The government of the FBH has established an Expert Group for Pension System Reform consisting of experts from various fields that are directly or indirectly linked with the pension and disability insurance system. These are, primarily, those who work directly on the pension system, then those from the Ministry of Finance, the Tax Administration, the securities market, the stock exchange, the academic community, and so on. All of them will use their knowledge and experience to contribute to finding the most adequate solutions for pension and disability insurance in the FBH.

The Draft Strategy of the Reform of the Pension System in the Federation of Bosnia and Herzegovina was adopted by the government on May 23, 2007, and January 23, 2008, and by the House of Representatives of the federation's parliament on January 30, 2008, as a starting point for the reform of the pension system. The strategy will be discussed in a public debate, after which the baseline for the future reform of the pension system in the federation will be established.

Depending on political will, it would be good if further steps included regulation of the minimum rights from this insurance on the level of Bosnia and Herzegovina in a unified way, or their harmonization in order to enable labor market mobility as part of the integrated economy of Bosnia and Herzegovina.

The proposed directions of reform in the document have been adapted to the macroeconomic situation in Bosnia and Herzegovina and its entities, as well as to the country's economic development and the development of the financial market and the labor market.

The goals of the pension reform in the FBH are the widely known ones of fighting poverty, ensuring long-term financial viability and stability

of the system, bringing more insured individuals into the pension system, improving and strengthening the system of public financing, facilitating the accession of Bosnia and Herzegovina to the European Union, restoring the trust of insured individuals and beneficiaries in the pension system, and creating a strong pension fund that will meet the needs of clients.

CHAPTER 23

Statement of the Ministry of Finance, Republic of Srpska

Snježana Rudić

The Republic of Srpska pension system is financed on a defined benefit, pay-as-you-go (PAYG) basis. Its main parameters are given in table 23.1.

A special feature in the Republic of Srpska is that the system has a special mechanism for adjusting pension levels in order to prevent deficits from emerging. This mechanism, introduced by law in 2001, ensures that aggregate pension expenditures are equal to aggregate pension system revenues, which consist of contributions and other revenue sources. The contribution rate is equal to 24 percent of net salary. To compensate for the lower contribution rate, the budget provides the pension system with a substantial amount of financial support.

The pension reform committee in the Republic of Srpska is focused primarily on the creation of second and third pillars, but committee members are not overlooking PAYG reform options that could strengthen the pension system. To boost replacement rates, the average retirement age should be increased gradually to 65 by closing any channels that allow individuals to retire at an earlier age. This reform does not increase the PAYG system's rate of return, but it does focus PAYG

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Table 23.1. Main Pension System Parameters, Republic of Srpska

<i>Parameter</i>	<i>Provisions</i>
Retirement age	Age 65 (men), 60 (women), with 20 years of contribution as of 2006 ^a Any age, with 40 (men) or 35 (women) years of contribution
Accrual rate	2.25 percent for the first 20 years; 1.5 percent for next 20 years; 0 beyond 40 years
Replacement rate	45 percent replacement rate with 20 years of contribution; 1.5 percent accrual rate with 20–40 years of contribution; maximum 75 percent with 40 years of contribution
Pensionable base	Net wages earned since 1970, excluding 1992 and 1993, revalued with historical average wage growth
Indexation postretirement	Indexed to average wage growth but subject to system revenue constraint
Eligibility for disability pension	Contributions made for one-third of the working life from age 20 to age of disability; no requirement if work injury Disability defined as inability to work at previous job
Level of disability pension	50 percent (men), 57.5 percent (women), for up to 20 years; 1.25 percent (men), 1.16 percent (women), for subsequent years, with maximum of 75 percent Automatic maximum irrespective of years if work injury
Eligibility for survivors' pension	Age 45, incapacity, or caring for a child in case of widow Age 55, incapacity, or caring for a child in case of widower Children age 15 or younger and to age 26 if full-time students or lifetime if incapacitated
Level of survivors' pension	70 percent of contributor's entitlement for one person; 80 percent for two; 90 percent for three; 100 percent for four or more
Contribution rate	24 percent of net wage
Benefit contribution	Based on lifetime salary

a. Although the law indicates that retirement provisions are equal for men and women, women have the option of retiring at age 60, or at any age with 35 years of contributions, and most do so. The benefit formula is the same as for men, so women who retire earlier receive lower benefits on the basis of having accumulated fewer years of service. There is, however, no actuarial reduction for the earlier retirement provision.

resources on the population age 65 and older, who are likely to be more vulnerable to poverty than the population age 55–64. The benefit formula defined by the current law could be terminated because it has not been applied consistently over time and because the formula generates replacement rates that are not consistent with present economic realities.

(For this reason, article 162 of the 2001 law is necessary to ensure fiscal balance.) The benefit formula could be replaced in the future by a German point system or a notional defined contribution system. The German point system, which is relatively simple and leaves little room for manipulation, could restore sanity and fairness to the valuation of pension rights.

Proposals to move toward a funded system, to be included as an integral part of the pension system (second pillar) or as a voluntary supplement to the existing scheme (third pillar), will be carefully evaluated. Successful implementation of a second pillar would involve the government's covering the pension expenditures of current pensioners and soon-to-be pensioners from its own resources while all or some of the contributions from current workers are diverted to individual private pension fund accounts. Privatization proceeds are a source of potential resources for covering this transition, but they are typically available for only a period of two to three years, while the transition period during which the government has to cover pensioners and pension rights typically lasts 20 to 40 years, depending on how the reform is designed. Third-pillar development is a priority area. Drafts of legal requirements have been prepared and will be introduced in 2008.

A second area of concern to pension reformers is the state of the financial markets, in particular the availability of financial market instruments, regulatory and supervisory capacity, and macroeconomic stability sufficient for the issuance of long-term instruments. Without these financial market and macroeconomic preconditions, the funded pension system will not provide adequate pensions. In the Republic of Srpska the banking system is well developed, and the regulatory agency follows Basel principles. Security market institutions (stock exchange, central registry, security commission as the regulator, and so on) are relatively well developed. The Republic of Srpska, however, faces a lack of financial instruments, as, despite the existence of a regulatory framework, no government bonds are issued. The insurance system is the least developed component of the financial market, and there is only one life insurance company. The local currency, the convertible mark, is fixed to the euro via a currency board.

Reform efforts aside, it is clear that the first-pillar public pension system will have to pay less generous benefits in the future. Reforms that enhance the financial market structure will allow individuals to save additional resources for themselves to augment the reduced pensions that the public system will pay, if they so desire. These reforms need to

involve improvements in the full range of financial market instruments, including housing finance, since ownership of housing relieves the elderly of a major expense. The marketing of unregulated pension products while the financial market structure is evolving can often result in substantial losses to unwitting savers, making it more difficult to rely on products like these for some portion of retirement savings in the future. The government is strongly encouraged to create the legal and institutional framework that can ensure development of a healthy nonbank financial sector, including a pension product market, rather than allow unregulated schemes to proliferate.

The public pension system will continue to require substantial resources from the government in the medium term under whatever configuration of structural reform is eventually enacted. The government focuses its energies on reforms to this system, which can then create the fiscal room for a more substantive future reform, while it also constructs the legal and institutional structure under which the financial markets can develop.

CHAPTER 24

Statement of the Ministry of Labor and Social Policy, Bulgaria

Goran Bankov

In 2000 a new pension system was established in Bulgaria. The traditional pay-as-you-go (PAYG) pillar has been complemented, and a three-pillar pension model has been created by the introduction of the mandatory and voluntary funded tiers. Moreover, in 2006 we transposed all the directives concerning occupational pension schemes, implementing them in our third pillar of the pension system. In recent years we have worked toward improving the flexibility of the Bulgarian pension model in order to bring it into conformity with changing labor market needs.

Given the recent developments of the Bulgarian pension system and the situation in the labor market, the approach should be based on

- Policies aimed at stimulating economic activity and increasing the overall employment rate. These would include policies to reduce unemployment and to integrate into the labor market persons currently outside the labor force, including “discouraged workers.”
- Policies aimed at reducing “gray” (undeclared) employment and thus increasing the revenues from contributions.

- Policies aimed at ensuring the adequacy of remuneration in order to increase employees' motivation to participate in the insurance system, including the voluntary pension schemes.

Bulgaria has been working successfully in these three directions, and already the first results are in place: continuing economic growth has created 194,000 new jobs in the last two years, and the expectations are that this trend will continue. Because of compulsory registration of labor contracts with the National Revenue Agency registers, more than 150,000 employees have emerged from the gray sector. Finally, the employment rate among older workers (55–64) has increased from 20.8 to 39.6 percent since 2000.

In our opinion, the approach to further pension reform implementation should include policies in the following spheres:

- *Benefit reform in order to remove work disincentives.* The new first-pillar (PAYG) pension formula has already introduced a closer link between the pension amount, the amount of contributions, and years of contribution. As of 2007, a new amendment entered into force according to which persons entitled to a pillar I pension who continue to work after the retirement age without receiving a pension payment will earn 1.5, not 1.0, years of contributory credit for each extra year worked.
- *Training and lifelong learning.* In Bulgaria these programs have been implemented under the operational program Human Resource Development, financed under European Social Funds regulations. But efforts should not be limited to professional education. Measures are also needed to remove the obstacles faced by employers in hiring older workers and to integrate the older unemployed into the labor markets. Regarding the first, labor legislation concerning additional payments for service and professional experience has been changed and the so-called transferability of the seniority bonuses has been removed. Regarding the second, two programs have been elaborated as part of the active labor market measures: the Support for Retirement program, and economic incentives for employers who hire older workers (over age 50 for women, and over age 55 for men).
- *Improving employment services for older workers.* This measure is badly needed because older workers are among the vulnerable groups in the

labor market and the success of employment services depends on individual circumstances.

- *Increasing employment and reducing unemployment.* The National Action Plan on Employment for 2007 has three priorities: increasing economic activity and the employment rate, integrating vulnerable groups into the labor market, and providing education and training to facilitate the transition to a knowledge-based economy.
- *Improving the employability and adaptability of young people in order to facilitate their transition from education to work.* The Ministry of Labor and Social Policy initiated the Career Start program, which gives young unemployed persons (below age 29 and with higher education) an opportunity to start their careers in public administration. Several measures also provide employers with economic incentives for hiring young unemployed persons, including those with severe disabilities. There are special measures aimed at labor market integration of young people leaving supervised schools and education of youth without parental care.

In Bulgaria no specific requirements toward particular stakeholders or ministries have been imposed. It is only necessary to ensure that consensus about the priorities in different policy spheres exists and that mutually interacting and coherent policies are applied. That approach was taken by the Bulgarian government last year when the tripartite Pact for the Economic and Social Development of the Republic of Bulgaria to the End of 2009 was signed. It identifies the principles, challenges, priorities, and goals of state policy in all important fields.

The Ministry of Labor and Social Policy is working in close cooperation with the Ministry of Finance on issues concerning pension reform as part of the macroeconomic and public finances stability policy. We believe that the approach successfully put in place in 2006 reflects a common understanding about the future development of pension policy. A separate budget account was created as part of the fiscal reserve, and the funds accrued in it will be used to support the public pension system in case of demographic pressure. Now that the necessary interinstitutional agreement has been reached, this separate account will be transformed into an independent Demographic Reserve Fund with its own management. Also, together with the Ministry of Finance we share the responsibilities concerning the functioning of the funded pension schemes and especially with regard to their investment policy.

At the beginning of the pension reforms in 2000, the relevant structures were established—the National Social Insurance Institute, responsible for administration of the PAYG pillar, and pension insurance companies, responsible for administration of the fully funded schemes in the second and third pillars. The pension companies are supervised by the Financial Supervisory Commission.

New proposals for further reforms in the area of pensions are usually elaborated by interinstitutional working groups. The draft laws are to be approved by the National Tripartite Cooperation Council, consisting of representatives of the government, the organizations of employers, and the employees.

CHAPTER 25

Statement of the Ministry of Finance, Croatia

Ivana Maletič

In Croatia as elsewhere, the aging population receives a great deal of attention. Moreover, Croatia has some specific issues to address that are the consequence of recent war events. These issues have to do with the reconstruction and development of the war-affected areas and the growth of overall pension expenditure, given that as a result of the war a great number of new pension beneficiaries entered the system. These new pensioners are war veterans and persons who exited the labor force directly or indirectly because of the war, often through one or another retirement scheme.

Pension system trends in Croatia are quite unfavorable. In 1990 there were 3.0 persons employed per pension beneficiary, whereas already in 1999 there were only 1.4 persons employed and hence paying contributions for each pension beneficiary. This unfavorable ratio persists to the present day. If we look at social contributions, on one side, and expenditures for which contributions are earmarked, on the other, a significant gap can be seen. For example, in 2006 pension expenditure amounted to 28.1 billion Croatian kuna, while earmarked contributions totaled 16.9 billion kuna. At the same time, total health expenditure

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financed by earmarked contributions of 15.4 billion kuna amounted to 17.5 billion kuna. The gap between the contributions and the associated expenditure has to be covered by the budget from regular revenue sources. Bad as these trends are, they would be worse yet had Croatia not embarked on pension reform in 1999.

The main characteristics of these reforms are an increase in the statutory minimum age for regular and early retirement; increasing penalties for early retirement; more stringent qualifying conditions for disability pensions; a gradual widening of the period used for the pension calculation from the best 10 years to the entire working career of the individual as of 2010; equalized determination of pension related to past service for men and women; and introduction of a pension indexation formula based half on wage growth and half on inflation.

These reforms have already contributed to the sustainability and the financial stabilization of the system. The system dependency ratio has been stabilized at 1:1.4, and the share of pension expenditure in gross domestic product (GDP) is decreasing, from 11.6 percent of GDP in 2003 to 11.1 percent of GDP in 2007. Nevertheless, the new model for pension determination has led to a decrease in the pensions of the new pensioners in comparison to the pensions realized before 1999. To tackle this issue, in July 2007 the Croatian parliament passed the Act on Supplement to Pensions whose implementation will contribute to the reduction of the above-mentioned differences. The parliament also adopted amendments to the Pension Insurance Act that enabled an increase in disability pensions, early retirement pensions, and minimal pensions from 2008. The fiscal effect of the two legal acts amounts to 0.35–0.40 percent of GDP in the medium term. In the meantime, the government continues to build the institutional and legal framework necessary to improve the pension system based on individual capitalized savings.

The pension reform that started in 1999 introduced a three-pillar system comprising the first PAYG pillar and the second and the third pillars, which consist of individual saving accounts. The first two pillars are mandatory, while the third is optional. Joining the second pillar was mandatory for those below age 40 and voluntary for those age 40–50. Hence, most future pensions will be paid out from the first two pillars, where the contribution for each beneficiary from the second pillar will depend on the amount of contributions, returns from investments, and the actuarial parameters used by pension insurance companies to determine annuities (life expectancy, etc). Financial market development will contribute to enhanced returns from investments and will hence

increase the pensions that it will be possible to pay each beneficiary in the future. The process of legislative alignment with the European Union (EU) *acquis* in this area will set uniform and internationally comparable rules to be followed, providing stability and transparency to the financial market system.

The labor market contribution to the pension reform is more difficult to describe, as it can be assessed only by making some long-term assumptions and predictions. As far as the participation rate is concerned, it is expected that economic agents will stick to their current behavior pattern; that is, participation rates by age and sex will remain unchanged. With such an assumption, a decline in the overall participation rate can be expected after 2010 based on the increasing number of persons in older age groups. The unemployment rate is predicted to fall to around 7 percent by 2010 (from 11.2 percent in 2006), which is assumed to be the structural rate of unemployment and is expected to be stable in the long run. Taken together, long-term demographic projections, participation rate assumptions, and real GDP assumptions imply an increase in productivity per worker.

Based on these assumptions, a moderate decrease in pension insurance contributions can be expected in the next 5 to 10 years, while stabilization is envisaged in the long run. The main reason behind the decline in the 5-to-10-year period is the gradual increase in the number of persons paying contributions to both mandatory pension pillars. The expected stabilization of pension insurance contributions in the long run is the result of the assumed increase in real wages per worker, equal to productivity growth, where the contribution rate is assumed to be a constant proportion of the wage.

Increases in productivity and declines in unemployment do not occur in a policy vacuum. Characteristics of the Croatian labor market with respect to the flexibility of the legal framework do not differ considerably from EU standards. As part of its long-term strategy of basing its development on knowledge and investment in human capital, Croatia has initiated reforms of the educational system, backed up with the reform of the national qualification framework, to enable much faster change from one occupation to the other. In an effort to increase the correspondence between the labor market and the educational system, decentralization of employment services is being conducted to bring these services closer to regional development agencies.

The government does not foresee that tax increases will act to increase the cost of work. Tax policy, including the social contribution

system, will be oriented toward further alignment with the *acquis* and simplification of the overall system in the effort to diminish the motives for gray-economy activities. New jobs are created as the result of the economic growth resulting from an increase in private investments fostered by the continuing improvement in investment and in the entrepreneurial climate.

Continuing efforts aimed at improvement of labor market conditions will bring about an increase in the number of persons employed, a reduction in the number of unemployed persons, and improvement in the employability of different working groups of the population. All this will result in the strengthening of the base for pension contribution payments, providing long-term stability to the overall pension system.

CHAPTER 26

Statement of the National Bank, FYR Macedonia

Dimitar Bogov

After a long preparation period, the pension reform of the former Yugoslav Republic of Macedonia entered its implementation phase in the first half of 2005, with the creation of the compulsory pillar II pension system. Since January 2006, 35 percent of pension contributions have started to be channeled into the pillar II system. Here is our view on certain aspects of the reform, with 17 months' worth of hindsight. It must be emphasized that such a period may, in fact, be too short to serve as a basis for firm conclusions. Nonetheless, the reform can furnish this panel with some points for further discussion.

It was decided to have only two privately managed pension funds to manage pillar II assets for the first 10 years. This was justified by the small number of expected members of the compulsory funded pension scheme. Allowing the existence of such a duopoly, however, has created rent-seeking behavior by the private pension funds:

- They collude in setting fees.
- Their main income comes not from asset management fees but from an up-front fee on monthly contributions—an arrangement that is less transparent to clients.

Dimitar Bogov is Vice Governor, National Bank, the former Yugoslav Republic of Macedonia.

- There is no incentive to compete for subscribers through better service and higher yields.
- There is no incentive to attract highly skilled staff. (The first certified financial analyst was hired only recently.)
- There is no need to take risks on the market. At the end of the first year approximately 96 percent of the funds were invested in domestic sovereign securities and bank deposits; only 4 percent were invested on the domestic equity market, compared with the allowed upper limit of 30 percent; and there was no investment abroad, although the allowed limit is 20 percent.

Based on our experience, then, if the goal is to create a competitive market that will contribute to the development of financial markets, it is necessary to allow the existence of at least three compulsory funded pension funds, regardless of the size of the market. This will lead to lower fees and higher returns for beneficiaries.

Once a regulatory framework has been established and tested with pillar II, pillar III should be introduced as soon as possible. In the FYR Macedonia pillar III is to be implemented next year. It would be advisable not to limit the number of funds and to let the market assess the profitability of the business. Of course, supervisory capacity has to be appropriately strengthened for the increased volume of work.

In the FYR Macedonia investments of the funded pension funds are by law subject to certain limitations. For example, the 20 percent of funds that may be invested abroad may be invested only in the European Union (EU), the United States, and Japan. The limit of 20 percent is generally considered not to be an obstacle, in light of the current level of know-how in the pension funds. Once the pension funds are staffed with investment analysts and risk managers, however, both quantity and country limits could be reconsidered.

In the reformed pension system, the National Bank will play a custodial role for the two pension funds until 2010. The main rationale behind this decision was to increase the credibility and soundness of the second pillar in its initial stage. This solution, however, has had several adverse effects:

- It is only an additional temporary obligation for the central bank, which has no incentive to allocate sufficient resources to it.
- Commercial banks will not develop custodial services until 2010.
- The measure therefore does not contribute to the development of the financial industry.

It is thus highly advisable to remove custodial services for the pension funds from the central bank as soon as possible and to offer this function to the financial industry on a competitive basis.

Private savings in the FYR Macedonia have been growing by 25–30 percent per year over the course of the past three years. In light of high economic growth, we expect this trend to continue. The available financial services, however, are still traditional. The main reason is lack of know-how. Savings are mostly invested in bank deposits. Lately, individual investments in equity on the stock exchange have begun to grow, but because of lack of investment advisors and investment funds, individuals are exposed to uncalculated risk. The development of the domestic financial industry inevitably depends, ultimately, on the availability of local skilled financial analysts, investment analysts, and risk managers.

CHAPTER 27

Statement of the Ministry of Finance, Moldova

Oleg Hirbu

Pension system reform was initiated in the Republic of Moldova in 1999 with the adoption of the Pension System Reform Strategy. It was then that the laws on the public social insurance system, as well as new pension legislation, were developed. These laws established the principles and the methods by which the social insurance system, and specifically the pension system, were organized.

Pension policy in Moldova is the responsibility of the Ministry of Social Protection, Family and Children. The payment of pensions, however, is managed by the National Social Insurance Agency within the state social insurance budget, which is a part of the national public budget. For this reason, pension reform is a fiscal as well as a social issue. Annually, at the stage of preparing the medium-term expenditure framework, the impact of modifying the medium-term social contributions rates is estimated. At the same time, according to the legislation in force, the state social insurance budget deficit is covered by the state budget. Therefore, the financial sustainability of the state social insurance budget is of concern to the Ministry of Finance.

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The main approaches used within the reform are

- Attaining a close correlation between the pension benefits and contributions. In this regard, it was decided to introduce individual accounting of social insurance contributions. Starting in 2004, the process of redistributing the social insurance share between the employee and the employer was initiated by gradually increasing the share paid by the employee.
- Eliminating benefits and privileged conditions and promoting the unification of the pension system by integrating the pensions of favored categories of employees into the public social insurance system. The method for establishing pensions for workers in the agricultural sector was also revised.
- Creating a legal basis for private pension funds functioning on the basis of voluntary contributions, providing for an additional pension to the pensioner. In Moldova this element is still in its initial stages.

Pension reform should be considered in the context of financial and labor market policies. At present, the working-age population is in decline. Absent an increase in the statutory retirement age, which is currently 57 for women and 62 for men, there will be a tendency for the number of new pensioners to increase as a result of the current demographic situation. The ratio between the working-age population and the number of pensioners is decreasing, signifying that employees' financial burden for financing pensions will increase. Also working to raise the cost of pensions is the indexation, since 2004, of pensions to wages. The rising burden of pension financing could be addressed by creating new employment and reducing the migration of the labor force abroad. The Ministry of Finance contributes to these goals by promoting fiscal policy measures aimed at stimulating investment in the economy.

CHAPTER 28

Statement of the Central Bank, Montenegro

Nikola Fabris

The implementation of pension reforms has become a necessity in the past few decades, gaining importance in the developed world but perhaps more so in the developing world. Pension system reforms in developing countries are made more difficult by underdeveloped financial markets and inflexible labor markets—two dimensions that must define the priorities of pension reform implementation.

The existence of competition among pension funds, both public and private, is of great importance for the successful implementation of a country's pension reform. Competition reduces expenses and leads to the development of new retirement saving products. It is advisable, however, in the initial reform stages (that is, during the introduction of voluntary pension funds) to limit the range of retirement products. This is because those who manage voluntary pension funds lack sufficient knowledge and experience and because the financial market itself is still underdeveloped. Having fewer retirement products is expected to bring about lower risks in managing a pension fund's assets. Reducing these risks is of vital importance, as they affect pension revenues and a country's overall social situation. In addition, restricting retirement

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products is important because it facilitates regulation and supervision of pension funds.

Pension fund regulation and supervision must be very strong, but it should be taken into account that the responsible institutions are likely to have low capacity. Therefore, it is advisable to make their work easier. The development of specific retirement products should be the result of continuous work on the part not only of the newly established institutions offering these products but also of the institutions in charge of their regulation and supervision. Individuals requiring specific retirement products may acquire them either from domestic or foreign insurance companies offering other retirement products as well. In such cases the risk lies with the individual, while policy makers should be concerned about the interest of all citizens—a situation most easily brought about by a gradual development of retirement products, of pension funds, and of their regulators and supervisors.

For pension funds to achieve their primary objectives in the context of an underdeveloped domestic financial market, they should be allowed to invest abroad, so long as they respect the investment safety principle. Although these investments may provide superior returns, they do not contribute to the development of the domestic securities market and the national economy. Nevertheless, pension funds should not and must not be forced to invest in the domestic market, especially if it does not offer sufficient diversification of high-quality, liquid, and reliable securities. In the long term, as the domestic market develops, pension funds should act as a major source of capital. To accomplish this, it is necessary to bring about conditions favorable to the development of the domestic capital market, not only in regulatory and institutional terms but also with respect to issue of and trade in new securities.

Only when favorable financial market conditions are established should a country reduce employers' contributions and coordinate reforms on the labor market. These may exert undue pressure on a pension system that has yet to undergo sufficient reform. Also to be kept in mind is the inadequate financial literacy of employees during the early stages of reform. Another threat is that, given a low standard of living, in accordance with the theory of consumption employees may opt for consumption instead of saving.

To summarize, the establishment of voluntary pension funds should be accompanied by development of the domestic capital market and improvement of the population's financial literacy. Only after these initial steps have been taken can labor market reforms commence and a

stimulating, business-friendly environment be created. For an adequate synchronization of reforms, it is necessary to put together suitable councils or working groups consisting of representatives from the ministry of finance, the ministry of labor and social affairs, regulators of the capital market, and the central bank.

CHAPTER 29

Statement of the Ministry of Labor, Montenegro

Mileva Todorović

To remove numerous weaknesses from the pension system that was in place in Montenegro until December 31, 2003, and to financially stabilize it, the government of Montenegro decided, in cooperation and consultation with the World Bank, to use the concept of a multipillar pension system. The subsequent reform consisted of

- Reforming the existing pay-as-you-go (PAYG) pillar I system based on intergenerational solidarity
- Introducing mandatory individual fully funded savings (pillar II)
- Introducing voluntary individual fully funded savings (pillar III).

With the adoption of the new law on pension and disability insurance (pillar I) in September 2003 and its implementation, effective from January 1, 2004, the restructuring of existing mandatory insurance is in place, as is a normative framework for the introduction of mandatory, fully funded insurance (pillar II) and voluntary insurance (pillar III).

Mileva Todorović is Deputy Minister of Labor and Social Welfare, Montenegro.

Consequences of the new law's application include the following:

- Pillar I pension expenditures decreased from about 13 percent of gross domestic product (GDP) before the reform to 9.4 percent in 2006.
- The contribution base increased from 51.5 percent of overall income in 2003 to 67.7 percent in 2006 as a consequence of a higher employment rate and a decrease in "gray" economy activity.
- The annual number of new pension beneficiaries, especially new disability pensioners, has shown a negative trend.

In December 2006 the parliament adopted the Law on Voluntary Pension Funds (pillar III), effective from July 1, 2007. These pension funds will contribute to the new quality of the capital market and of investments and, via a system of voluntary insurance, will provide a higher degree of material and social security for the elderly than provided by mandatory insurance alone. Also, thanks to the implementation of a multipillar pension system, the future obligations of the state toward mandatory public insurance will diminish.

The government of Montenegro adopted the national employment strategy for the 2007–10 period with the aim of reforming the labor market in line with the European Union (EU) association process. Priority goals are

- Growth in employment of 2.5–3.0 percent per year (0.5 percentage point more than in 2003–6)
- Decrease in the unemployment rate to 8–10 percent (from 14.7 percent in 2006)
- Decrease in work and employment on the black market. (It is estimated that between 25,000 and 30,000 people are engaged in such activities.)

To stimulate employment of those who experience special difficulties in finding a job (disabled persons, people who have been on the list of the State Employment Service for more than five years, persons whose skills have been made obsolete by transition, and so forth), the government in April 2006 adopted a regulation on tax incentives for employment of certain categories of unemployed persons. This regulation also encourages seasonal employment and employment in public works.

Reducing the mandatory social contribution rate, as well as the administrative burden of social insurance, will stimulate economic growth and encourage formal sector employment. Reducing the contribution rate and consolidating record keeping, payment collection, and oversight in a single institution, the Department of Public Revenues, will lead to more efficient collections and a reduced economic burden.

CHAPTER 30

Statement of the Ministry of Finance, Romania

Steluta Nedelcu

Romania faces serious demographic challenges with regard to the sustainability of its pension system. Between 1990 and 2005 the number of workers per pensioner declined from 3.4 to 0.8, and the trend is expected to continue in future years. Labor force participation rates are another challenge. In 2006 the labor force participation rate for the population of working age (15–64 years) was 58.8 percent, while for the 55–64 age group the rate was 41.8 percent, and for the category over age 64 it was only 14.2 percent.

Starting in 1995, the pillar I public pay-as-you-go (PAYG) pension system experienced several deficits, requiring support by transfers from the state budget. One reason for the increased deficits in the public pension system was the rapid growth of the number of pension beneficiaries in the 1990s. The number of beneficiaries in the public pension system rose from 3.4 million in 1990 to 6.2 million in 2002, when the maximum level was reached.

Poor compliance is another source of pressure. Out of a potential 15.6 million people of working age, only 5.3 million currently contribute to the public pension system (that is, pillar 1). Of the 5.3 million, a large

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number (especially individual employees) pay only a fraction of their actual earnings in pension contributions. One serious problem continues to be nonregistered self-employed persons and farmers.

Pension System Reform: Main Features

The pension system in Romania has undergone numerous reforms over recent years, aimed at improving the sustainability of a system confronted with population aging. The modified system has three components: pillar I, pillar II, and pillar III.

Pillar I is the public pension system, which is compulsory and is financed on a PAYG basis. Pillar I gives the right to receive a pension when the retirement age is reached, following a full contribution period whose duration is stipulated by law.

In addition, the law provides for an early pension or an early partial pension for a period of up to five years before the official retirement age is reached, based on a pro rata pension right. Early pensions, or early partial pensions, are recalculated when the retirement age is reached for people who meet all the legal requirements and are entitled to a pension for full length of service. The retired who receive pensions for full length of service but continue to work and contribute to the system after having reached the official retirement age receive an increased pension recalculated on an annual basis.

In 2006 public pension beneficiaries numbered 5.8 million out of a total 6.0 million retired workers. The difference of 235,000 consists of pensioners retired from the Interior Ministry, the Defense Ministry, the Romanian Intelligence Service, and the Justice Ministry. For these groups, pensions are paid directly from the state budget, based on a different pension formula. The pensions of independent farmers, which had previously been paid from the state budget, were included, as of 2006, in the social security budget. Reductions in the number of beneficiaries, together with the transfer of some benefit programs to other funding sources, markedly improved the pillar I component's finances in that year.

The pillar I system is financed from social security contributions paid by both employers and employees. The employers' contribution rate is established based on the work category and in 2007 stood at 19.5 percent for the normal work conditions category, while the individual contribution rate is 9.5 percent, making for a total social security contribution rate of 29 percent.

Pillar II consists of the development of an obligatory system of individualized pension accounts managed by private investment companies.

Pillar III is analogous to pillar II but consists of voluntary contributions of the insured to different pension funds or insurance companies specialized in the field.

Reform Measures

According to the program of the government of Romania, a consistent package of legal measures has been applied in the social security field as of 2005. These measures are focused on three main objectives:

- Carrying out financial consolidation of the public pension system and ensuring appropriate revenues to the retired within the system
- Rebuilding pillar I by eliminating a number of noncontributory pension rights and outsourcing a number of benefits previously supported from the social security budget
- Introducing new financing and management alternatives such as privately managed capitalized pensions aimed at ensuring a secure and decent revenue to future pensioners.

Pillar 1

The reform of pillar I is aimed at creating a more equal distribution and tightening the link between contributions and benefits, which has had the effect of improving the level of pensions. At the same time, the continuing focus is on the improvement of the system's long-term sustainability. To allow pensioners to enjoy the benefits of economic growth, government policy calls for an increase in pensions by approximately 30 percent between 2004 and 2008. This has been accomplished by increasing the factor by which average gross salary is translated into pensions, in addition to which gross salaries have themselves been growing. To this end, in 2005 the pensions established according to the legislation in force before April 1, 2001, were recalculated.

The main features of the new system are as follows: the standard retirement age will gradually increase by 2014 to 60 years for women (from 57) and 65 years for men (from 62). During the same period of time the minimum contribution period will increase for both men and women from 10 years to 15 years. A new calculation formula has been introduced based on a scoring system that takes into account lifetime contributions. The previous method was to calculate the pension based

on income during a limited period. The revised calculation method consists of cumulating the monthly revenues and turning them into scoring points, with the average number of points being multiplied by the value of the pension point as established by law.

An essential element of PAYG system reform is the outsourcing, as of 2006, of a number of benefits that were transferred to the health system (for example, temporary sick leave and leave to care for sick children). Elevated social contribution rates have been a constant concern of the Romanian government. Thus, the social security contribution rate for the employer was reduced from 22 percent in 2005 to 19.75 percent in 2006 and to 19.5 percent in 2007, and it is scheduled to be reduced to 18.0 percent by the end of 2008.

In order to sustain pillar I while simultaneously reducing contribution rates, implementing pillar II, and increasing pensions, it became necessary to adopt a number of measures aimed at making up for the expected negative impact on the revenues of the social security budget. Such measures, envisaged for 2008, include removing the ceiling on contributions, taxing average gross income rather than average gross salary, and introducing new obligatory categories of taxpayers (sole associates, managers, and directors).

In addition, a substantial positive influence will be driven, over the next period of time, by improved macroeconomic indicators, the increased average gross salary, and a higher number of employees. There will also be efforts to improve collection of the current amounts owed by employers and of arrears.

Pillar II

The reform of the pension system in Romania provided for the introduction of a compulsory funded pillar II. As of January 1, 2008, this pillar offers the opportunity for a supplementary pension in addition to the public system pension, which means that pensioners are to receive additional revenues. Pillar II reform is being implemented by reducing the individual pillar I contribution rate and transferring the resulting amounts to privately managed individual accounts. The 2 percent share of the social contributions payable by employees under age 35 is to be channeled to the privately managed pension funds. For employees between ages 35 and 45, this contribution is optional. The amounts channeled to the privately managed pension funds will increase gradually over a period of eight years, by 0.5 percentage points per year, until they

reach 6 percent. Management will be by commercial firms established exclusively for the purpose of managing the pension funds.

Pillar III

Provisions that came into effect at the beginning of 2005 regarding occupational pension schemes proved impossible to operate for a number of reasons, not the least of them being incompatibility with European legislation. Therefore, these were converted to optional individual pension schemes. According to current estimates, around 500,000 persons were expected to join pillar III funds during their first year of operation (2007). Pillar III pensions may be drawn at age 60. As with pillar II, the details regarding the calculation and the payment of the pension have not yet been completed.

CHAPTER 31

Statement of the Ministry of Finance, Serbia

Marko Lisica and Vladimir Malbašić

Policy makers in Serbia are identifying appropriate reform paths for the Serbian pension system in line with the most recent research and international evidence. Measures implemented so far include extensive parametric reforms of the mandatory public pillar I pay-as-you-go pension system and the establishment of a voluntary, private, tax-favored pillar III pension system. Because of extremely high transition costs, a pillar II (mandatory funded) pension system has not been introduced. Also, as a result of high coverage of the public pension system (and social safety net systems, to a certain extent), the option of a flat old-age benefit has not been seriously considered.

As fertility has dropped, from a total fertility rate of 1.7 in 1995 to 1.5 in 2005, and life expectancy has risen, from 66.2 for men and 70.0 for women in 1971 to 70.0 for men and 75.4 for women in 2005, the average age of the Serbian population has increased from the low 30s in the 1970s to 40.6 in 2005. This change has had the natural effect of putting pressure on the pay-as-you-go pension system.

In the years before 2000, the employees' pension fund was not in deficit, but its finances were hardly sound. Contribution rates (32 percent)

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were high, pensions were regularly underpaid (in the period from 1995 to 2000 only once, in 1996, were all 12 monthly payments made), and the fund was financed from other fiscal and nonfiscal sources.

In 2002 extensive parametric reforms of the mandatory public pension system were implemented. These reforms included an increase in the retirement age by 3 years (effective immediately, without a transition period), linkage of pension benefits to lifetime contributions instead of 10 years of best average salary, imposition of stricter disability pension qualifying rules, and introduction of benefit indexation according to the Swiss formula (50 percent wage growth, 50 percent inflation) in order to gradually decrease the high replacement rate of over 70 percent in 2002. In addition, the contribution rate was reduced from more than 32 percent before 2001 to 22 percent in 2004.

In 2005 further parametric reforms were conducted to make the public pension system less generous. These included a further increase in retirement age by two years, with a four-year transition period, and a gradual indexation of pension benefits to inflation only, also with a four-year transition period. These parametric reforms improved the fiscal balance of the pillar I pension system and reduced the replacement rate from over 90 percent before 2000 to less than 60 percent in 2007.

As noted, the introduction of a funded pillar II is not regarded as an attractive option. The main reason lies in the high transition costs associated with it. If pillar II were to be introduced in Serbia in 2008 according to the most common parameters found in other countries (for example, only workers under 40 initially being allowed to participate, with contributions equal to 7 percent of gross wages) the initial transition costs would equal 0.9 percent of gross domestic product (GDP) and would gradually rise to a maximum of 1.8 percent of GDP in 2033. Transition costs would then start to decline and would disappear in 2048. In all, transition costs would run for 40 years (2008 to 2048) and would total more than 50 percent of average Serbian GDP realized in the referenced period—that is, more than 50 billion euros in accounting terms, or over 30 billion in 2006 constant-price euros, assuming 2 percent annual euro inflation.

Other obstacles to a hypothetical pillar II introduction include shallow financial markets and lack of investment opportunities, as well as lack of disability and survivors' insurance under pillar II. Disability and survivor pensioners account for more than half of current public pensioners in Serbia.

Pillar III development, by contrast, has been a priority area. Legal measures required for pillar III introduction were adopted in 2005, and

the required regulatory framework was established in 2006. At the moment, six private pension funds are licensed and operating in Serbia, and another four are in the process of being approved.

Employees' monthly contributions of up to 3,000 Serbian dinars (45 euros, or close to 10 percent of the average monthly gross salary in Serbia) into voluntary, private pillar III pension funds are tax exempt. Although Serbian pillar III tax incentives might look modest compared with tax incentives employed by some countries in the region, one should note that pillar III pensions in Serbia are essentially subject to the "exempt-exempt-exempt" tax regime; that is, they are tax exempt at all stages—the contribution stage, the investment stage, and the payout stage. Voluntary, private pillar III pension funds are experiencing vibrant growth, which is expected to continue into future years.

What does the future of pension reform in Serbia hold? We anticipate further pillar I parametric reforms in order to achieve a fiscally affordable yet socially acceptable public pension system. Such reforms will entail further reductions in the generosity of pensions, incentives for late retirement, and automatic stabilization mechanisms. The pillar III system will develop further, with broader public participation, development of new funded retirement mechanisms, and deepening of the life insurance industry and the savings and investment fund industries.

CHAPTER 32

Statement of the Ministry of Finance, Slovenia

Andrej Šircelj

Future fiscal pressures arising from population aging constitute a potentially severe problem in Slovenia. Currently, the pay-as-you-go (PAYG) pension system is undergoing parametric changes that were introduced with the 1999 pension reform, to which the government is planning further modifications. In addition, changes to the third-pillar legislation are under consideration with a view to improving the quality of services, fostering transparency, and encouraging private savings. We are aware that further systemic changes are needed to ensure fiscal sustainability and, at the same time, adequacy of pensions.

Slovenian policy makers have been cautious with regard to pension reform and its fiscal impact. One of the key concerns in the past was accession to the European monetary union and the medium fiscal stress deriving from systemic reforms beyond the important parametric changes in the PAYG system. Now the reformed European Union (EU) fiscal framework allows for temporary deviations from fiscal targets (specifically, a four-year transitional period for fully taking account of the fiscal impact of pension reforms) when implementing pension reforms that contribute to long-term fiscal sustainability. Systemic changes, however,

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need to be carefully designed to ensure appropriate burden sharing among existing and future pensioners. Similarly, the changes should avoid the reemergence of contingent liabilities for the government once a reform has been passed, as a result of poorly chosen system design. Such a risk can hinder credibility and possibilities for further reform.

At the core of the reform of pension systems in the region are payroll taxes and the consistent use of tax revenue within a consistent pension framework. Pension contributions deducted from the payroll can be wrongly perceived as a tax. To dissipate this incorrect perception it is important to ensure transparency regarding the links between pension contributions and benefits. This should be the case in any reform. Obviously, it is preferable to carry out a reform within the existing levels of payroll tax rates. However, everything depends on the degree of transparency and burden sharing between generations. Similarly important is the appropriate use of tax revenue or tax expenses. Tax allowances can be perceived in some cases as part of the solution. Before introducing them, however, one must look at their consistency with the overall pension design and assess who are the beneficiaries and what is the likely impact of the allowances. This is relevant, taking into account that financial resources are already scarce and their opportunity cost is very high.

It is also difficult to foresee a sustainable reform, from a financial and social point of view, without changes in pension benefits. This implies a need for intergenerational consensus among existing and future pensioners about burden sharing. The key question is how to create room within the current level of payroll taxes and pension benefits for funding pensions of individuals who are currently in the labor force and the newcomers to the labor market who will to a large extent bear in the future the heavy burden of low fertility rates and greater longevity.

The answer to this question, and the key to facilitating reform, lies in providing transparency about PAYG system benefits and possibilities, thus strengthening the link between contributions and benefits. This is a crucial element in reform inasmuch as transparency can be established only if it is accompanied by reform measures that help diversify sources of income on retirement and clarify elements both of social insurance and of the welfare (that is, social assistance) system. To this end, a shift to a notional defined contribution system or to other forms of automatic stabilization provisions that adjust pensions to demographic changes without requiring political interventions can be helpful. In considering such changes, attention needs to be paid to the magnitude of the resource distribution and the risk implications. Such an alternative, when compared

with a partial shift to a defined contribution scheme, has advantages in terms of both risk and cost. In any case, this type of systemic change has to be considered within a pension reform framework that delivers adequate and sustainable replacement rates.

It is difficult to foresee adequate replacement rates in the future without increased prefunding of pension benefits. The fiscal impact, however, has to be carefully assessed, as does the burden sharing among generations. Because such changes pertain primarily to social security, if they are implemented, their universal coverage should be ensured. Similarly, system design has to ensure that funds are managed efficiently and in a sound manner. Well-functioning and competitive financial markets are an important precondition in both the accumulation and deaccumulation phases of the pension. Another key precondition is financial literacy. The absence of educated individuals can hinder reform and provision of adequate income on retirement.

Extending working lives and enhancing labor participation are the other key ingredients in reforming the pension system. Changes in the PAYG parameters can contribute to these ends, as can provision of financial incentives. Labor market reforms aiming at increasing labor participation can also contribute to fiscal sustainability. Lifelong learning strategies are crucial in this endeavor, as they aim at continuously equipping the labor force with the necessary skills to maintain employment and labor participation. One must be careful in the design of supporting fiscal incentives, however, as they can involve the use of scarce resources or entail reduction in government revenue—for example, as a consequence of reduction in social security contributions.

Labor market reforms can help make the overall economy resilient to changes in the economic environment but can also contribute to the challenge of coverage in funded systems—a fact that should be borne in mind when designing changes. Consistency of pension, labor, and tax reforms should provide certainty as to expected income on retirement, encourage the desirability of work, and ensure sustainability of the system in a labor market increasingly integrated into the EU.

Most likely, the best way to proceed in the reform process is to involve the stakeholders and provide the public with broad information about the challenges and their likely solutions. In particular, the population should be acquainted with existing and future benefits. A prerequisite for reforms in this case is a well-conceived set of policy measures, for which the present forum may be helpful.

CHAPTER 33

Statement of the Ministry of Labor, Slovenia

Romana Tomc

The issue of the growing number and proportion of older people within the population as a whole is a pertinent theme in all societies, especially those with a rapidly aging population, such as Slovenia.

Slovenia is aware of its unfavorable demographic structure and the low level of employment among older people. In 2007 the average employment rate among the age 55–64 group in Slovenia was 30.7 percent, which is 12 percentage points below the European Union (EU) average of 42.5 percent. The average for women was considerably lower. The reason for such low employment levels in this age group can be found in relatively early retirement, particularly the high number of early retirements at the beginning of the 1990s. The average retirement age (58.1) is increasing, but it is on average still almost two years lower than in the EU.

With the aim of increasing employment levels among older people, the Ministry of Labor, Family, and Social Affairs is drawing up a National Strategy of Active Aging. This strategy sets the following priorities:

- Raising the age of labor market exit
- Developing integrated programs for the employment of older persons
- Establishing policies for active aging and lifelong learning.

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The retirement age in Slovenia is the result of a pension reform that came into effect in 2000 and that had an important influence on when people left the workforce and, consequently, on the employment level of older people. With this reform, stricter conditions for retirement were adopted in the mandatory insurance system. The full retirement age for women was raised, and a longer insurance period was required. These changes are, of course, being gradually phased in. With the fulfillment of retirement conditions, continuation in active employment is rewarded, and retirement before the full retirement age results in a lower pension.

The beneficial effects of these measures are seen in

- An increase in those entitled who have postponed their claim for an old-age pension
- A further rise in the average age of retirement (an increase of 2.2 years between 1999 and 2005)
- Relatively steady and balanced movements in the number of pensioners and of the active population
- The preservation of the ratio of those insured to those receiving a pension.

Further development of the pension system in Slovenia will have to continue to pursue the goal of lengthening the period before benefits are being paid and providing suitable incentives to facilitate this.

One measure for discouraging early retirement and facilitating flexible retirement, as well as deferred retirement, is the encouragement of atypical employment suitable for older people, such as partial retirement while working part-time. The existing pension system enables this kind of retirement in such a way that only the minimum conditions for acquiring an old-age pension are specified. Regulations in labor legislation also follow this principle.

Permanent learning and training are of paramount importance for the improvement of opportunities on the labor market. The special importance and role of lifelong learning will be defined in the Strategy for Lifelong Learning, being drawn up by the Ministry of Education and Sport. The strategy will focus on raising awareness that, through learning, individuals increase their self-confidence and develop creativity, entrepreneurial skills and knowledge, and other skills and qualifications needed for active participation in economic and social life. On the basis of this strategy, special incentives will be created for companies that invest in the education and training of their employees, in

particular those whose jobs may be under threat because of their low educational level.

We recently completed lengthy negotiations with the social partners on the amendments to the Employment Relationships Act. Changes to the legislation pertaining to labor, which will come into effect at the beginning of next year, will enable greater flexibility of employment, with the introduction of new forms of atypical employment and the extension of already existing forms.

In conclusion, labor and pension legislation can help encourage people to stay in employment longer, but without a change in attitudes, the legislation will not succeed. A positive attitude toward education, suitable working conditions, and an ethical attitude toward older people are crucial here.

Index

Boxes, figures, notes, and tables are denoted by b, f, n, and t.

A

Adequate and Sustainable Pensions (EC), 55

adjustment of benefits, 45–46

affordability, factor of, 4

age discrimination, 120, 123ⁿⁿ12–13

Agency for Supervision of Fully Funded Pension Insurance (MAPAS, FYR Macedonia), 265, 266

aging population

See also specific countries and regions

CEF and, 47–48

decline of abilities in, 113

in EU, 291

fiscal implications of, 3–7, 11^f, 11–12

growth and welfare implications of, 106–10, 107^f

health improvements in, 117–18, 123ⁿ9

pension reform and, 9, 16

in Southeastern Europe, 128–29

Albania

CEF group and, 43

contribution rate in, 46^f, 47

labor force participation rates in, 128

retirement age in, 45, 45^f

alternative class assets, 220

annuitization of accumulated savings, 220–21

antidiscrimination legislation, 120

Antolin, P., 108, 109

Apostolska, Zorica, 261

Argentina

clearinghouse approaches in, 15

pension fund asset accumulation in, 200–203, 201–2^t

pension reform and financial market development in. *See* Latin America

Asia and Pacific region

See also specific countries

old-age dependency ratio (ODR) in, 11

pension reform in, 14

asset allocation of pension funds

in Estonia, 233–34^f, 235–36, 242, 243

in former Yugoslav Republic of Macedonia, 266–68

in Latin America, 255–57, 256^t

mutual funds, 210, 213, 222ⁿ3

optimization of, 205, 207, 215–20, 217–19^t

“asset price bubble” of 1996–97, 240

Auerbach-Kotlikoff-type (OLG-GE) model, 74

Augustzinovics, Maria, 89
 Australia, life expectancy in, 122*n*2
 Austria
 coordination of pension schemes in, 15
 demographic adjustment factor
 in, 56*b*
 earning profile in, 186
 labor market participation, comparison
 with, 130–31, 131–32*f*, 134, 139
 multipillar pension schemes in, 19
 unemployment-cum-retirement
 accounts in, 15
 wages determination system in, 119
 Auväart, Thomas, 227

B

Bajuk, Andrej, 3
 banking system development, 21
 See also financial market reforms
 Bank of Slovenia, 210
 Bankov, Goran, 327
 Belgium
 employment protection legislation
 (EPL) in, 119
 wages determination system in, 119
 benchmarks for guaranteed minimum rate
 of return, 221
 Berk, Aleš S., 209
 Bismarckian-type pension system,
 13, 278
 Bogov, Dimitar, 335
 Bolivia, pension fund asset accumulation
 in, 200–203, 201–2*t*
 Bologna Declaration, 297–98
 Bontout, Olivier, 51
 Bosnia and Herzegovina
 CEF group countries and, 43
 contribution rate in, 46*f*, 47
 EU accession of, 322
 indexation of pensions in, 46
 labor force participation rates
 in, 128
 old-age dependency ratio (ODR)
 in, 12
 pension and disability insurance
 in, 320
 pension reform in, 44*t*, 45*f*, 320–22
 population data for, 47
 Statement of the Ministry of Labor and
 Social Welfare, 319–22

Bovenberg, A. Lans, 27, 120
 Brazil, retirement and old age views in,
 115*b*
 Brookings Institution, 134
 Buddelmeyer, H., 117
 Bulgaria
 CEF group countries and, 43
 contribution rate in, 46*f*, 47
 individual pension and voluntary
 supplementary accounts
 in, 195
 labor force participation rates in,
 110, 128
 multipillar pension schemes in, 19
 pension reform in, 44*t*, 45*f*
 Statement by Ministry of Labor of,
 327–30
 Burtless, Gary, 17, 127

C

Canada, retirement and old age views
 in, 115*b*
 capital markets
 See also financial market reforms; *specific
 countries and regions*
 development of, 23
 efficiency and soundness of, 5
 transparency in, 253
 Capriolo, Gonzalo, 277
 Casey, B., 141
 Census data, 47
 Center of Excellence in Finance (CEF)
 group countries
 members of, 43
 overview of reforms in, 43–49
 responses to pressures in, 44*t*, 44–48,
 45–46*f*
 third pillar in, 48
 Central and Eastern Europe and the
 Baltic (CEB)
 See also specific countries
 cost controls in, 206
 financial sector in, 20–21
 funded pensions in, 19
 old-age dependency ratios (ODRs)
 in, 12
 savings in, 19, 20*f*, 199
 Central Bank (FYR Macedonia), 268
 centralized contribution collections, 15
 child care, 37–38, 116*b*

- Chile
 financial market development and
 pension reform in, 247, 255, 257, 258
 pension fund assets in, 196, 199, 200–203, 201–2t
 pension system and reform in, 4, 247
 unemployment-cum-retirement accounts in, 15
- China
 old-age dependency ratio (ODR) in, 11
 retirement and old age views in, 114, 115b
- Chlon-Dominczak, Agnieszka, 163
- clearinghouse approaches to pension reform, 15
- Colombia, pension fund asset accumulation in, 200–203, 201–2t
- contribution rates, 45–47, 46f
- corporate governance practices, 253–54
- costs and fees for pension funds
 in Estonia, 233–34, 234f, 246
 minimization of, 204, 206, 207
- country innovations in pension reform, 14–15
- country statements. *See* Statements; *specific countries*
- Croatia
 CEF group countries and, 43
 clearinghouse approaches in, 15
 contribution rate in, 46f, 47
 individual pension and voluntary supplementary accounts in, 195
 labor force participation rates in, 128
 labor market in, 332, 333
 multipillar pension schemes in, 332
 pension reform in, 44t, 45f, 332–34
 pension system trends in, 331–32
 Statement of the Ministry of Finance of, 331–34
- Czech Republic
 employment protection legislation (EPL) in, 119
 labor force projection in, 110
 multipillar pension schemes in, 19
- D**
- Danish Rational Economic Agents Model (DREAM), 152
- Dayton Peace Accord, 319
- defined benefit design option for pensions, 14
- defined contribution funded schemes, 56b
- demand-side incentives, 143–45
 mandatory retirement, 143–44
 targeted employment subsidies or tax reductions, 144
- demographic profile
 constraint of, 56b, 285
 pay-as-you-go (PAYG) systems and, 56b, 280, 285
 problems obtaining, 47
 in Romania, 349
 in Slovenia, 73–87, 292–93, 293t, 307–11, 361
 social policy approaches and, 28–30
- Demographic Reserve Fund (Bulgaria), 329
- Denmark, 149–62
 basic provision of benefits in, 278
 economic projections under current welfare arrangements, 151f, 152–55, 154f
 labor market participation rates in, 150f, 159–60, 160f, 295
 labor market reforms in, 281
 North Sea oil revenues and, 161n7, 161n14
 pillar II in, 153
 retirement age in, 67
 retirement reform in, 155–59, 157f
 tax burden in, 150
 time-inconsistency problems in, 159–60
- Deposit Guarantee Fund (Estonia), 240
- disability pensions, 45, 193n13
- Dolenc, Primož, 105
- Dormont, B., 118, 123n9
- Draft Strategy of the Reform of the Pension System in the Federation of Bosnia and Herzegovina, 321
- E**
- early retirement schemes (VUT, Netherlands), 180–81, 182
- EC. *See* European Commission
- Economic Policy Committee's Working Group on Aging, 63
- ECSD. *See* Estonian Central Depository for Securities

- education and employment, 38
See also lifelong learning
- El Salvador, pension fund asset
 accumulation in, 200–203, 201–2*t*
- employment protection legislation (EPL),
 119, 283, 283*f*
- Employment Relationships Act (Slovenia),
 365
- Estonia, 227–46
 individual pension and voluntary supplementary accounts in, 195
 pension reform and development of
 financial markets in, 236*t*, 236–39
 features of, 236–39, 237–38*t*
 financial sector development,
 240–45, 242–45*f*
 guarantee mechanisms, 242
 impact of, 236*t*, 236–45
 multipillar pension schemes, 227,
 228, 245
 pension fund portfolio, 22
 preconditions for reform, 239–40
 regulatory framework changes since
 2002, 235–36
 second pillar development in, 224,
 228–35, 230–35*f*, 240, 241–42,
 244–45, 246
- Estonian Central Depository for Securities
 (ECSD), 229, 239, 240
- European Commission (EC), 54–55, 56*b*,
 209
- European Council, 54–55
- European Social Funds, 328
- European Union (EU), 51–72
See also specific countries
 accession to, 322
 aging population in, 4, 291
 EU15 defined, 70*n*1
 EU25 defined, 70*n*1
 growth rate in, 293, 294*t*
 health of older workers in, 118
 labor force projections in, 108
 labor market changes and projected
 impacts in, 55–58, 57*f*
 contribution of part-time work,
 56–58, 57*f*
 direct transition from employment to
 retirement, 58, 59*f*
 life expectancy in, 52–53, 61
 life insurance directive of, 212
 minimum income schemes of, 65–66
 new reform issues in, 64–69
 compulsion vs. incentives, 66–68, 67*f*
 equity and poverty, 64–66, 65*f*
 social and financial sustainability, 69
 working longer and private pensions,
 66–68, 67*f*
- old-age dependency ratio (ODR) in,
 11–12, 53
- open method of coordination (OMC)
 in, 15, 52–55
 coordination framework for pension
 reform, 54–55
 method of, 54–55
 pension challenge, 52–53*f*,
 52–54
- pension reform in, 10, 54, 209
- Polish labor market participation rate
 compared, 164–67, 165–66*f*
- retirement projections in, 108
- risks of divergence between member
 states, genders, and qualification
 levels, 58–64, 60–61*f*
 expenditures and public finances,
 63*f*, 63–64
 projected impacts on longer working
 lives, 61–64, 62*f*
 trends in pension expenditures,
 63*f*, 63–64
- state's pension reform role in, 285
- statutory schemes, key reforms of,
 55, 56*b*, 61, 64
- sustainability in, 291
- Expert Group for Pension System Reform
 (Bosnia and Herzegovina), 321
- ## F
- Fabris, Nikola, 341
- family responsibilities and work, better
 reconciliation of, 31–38, 116*b*,
 120–21, 160*n*2
- Federation of Bosnia and Herzegovina. *See*
 Bosnia and Herzegovina
- fertility rates
 in CEF, 48
 decline in, 31, 108
 in Denmark, 161*n*9
 in Serbia, 355
 in Slovenia, 291, 305
- financial literacy and awareness, 5, 204,
 207, 214–15
- financial market reforms, 19–23, 20*f*

- See also specific countries and regions*
- CEF and, 48
- diversification and growth of pension funds, 21–23, 199–200
- household savings for retirement. *See* retirement savings plans
- panel of central bank governors and, 275–76
- payout phase, 23
- pension reform and, 195–208, 280–81
- readiness of financial sector, 20–21, 22*f*
- in Slovenia, 301–17
- in Southeastern Europe, 43–49
- Financial Supervision Authority (FSA, Estonia), 229, 239–40
- Financial Supervisory Commission (Bulgaria), 330
- Finland, demographic adjustment factor in, 56*b*
- fiscal imbalances as driver for pension reform, 13
- Fischer, Georg, 51
- flexible work arrangements, 35–36, 117
- “flexicurity” model, 295
- foreign banks, presence of, 21
- former Yugoslav Republic of Macedonia, 261–69
- CEF group countries and, 43
- contribution rate in, 46*f*, 47
- individual pension and voluntary supplementary accounts in, 195
- labor force participation rates in, 128
- multipillar pension schemes in, 19
- old-age dependency ratio (ODR) in, 12
- pension reform in, 44*t*, 45*f*, 261–68
- asset portfolio, 266–68, 267*f*, 336
- expected outcomes, 262–63
- legal status of pension fund managers, 265–66, 335–36
- pillar II, 262, 263–65, 264*f*, 267*f*, 335, 336
- pillar III, 268, 336
- structure of reformed pension system, 262
- private savings in, 337
- Statement of the National Bank of, 335–37
- France
- demographic adjustment factor in, 56*b*
- earning profile in, 186
- employment protection legislation (EPL) in, 119
- growth rate in, 108
- guaranteed income in, 112
- implicit tax on remaining at work in, 116–17
- intergenerational income transfer in, 282, 282*f*
- labor force projections in, 109
- labor participation rate in, 117
- productivity of older workers in, 113
- retirement age in, 110
- retirement and old age views in, 115*b*
- Friedberg, L., 117
- Fultz, E., 209
- Funded Pensions Act of 2001 (Estonia), 229
- Funded Pensions Act of 2004 (Estonia), 235
- fund management company (FMC, Estonia), 229–32, 234, 243
- FYR Macedonia. *See* former Yugoslav Republic of Macedonia
- G**
- generational (GA) accounts model, 74
- generosity of pension, 140–41, 141*f*
- Germany
- demographic adjustment factor in, 56*b*
- employment protection legislation (EPL) in, 119
- growth rate in, 108
- intergenerational income transfer in, 282, 282*f*
- mandatory retirement age in, 192
- multipillar pension schemes in, 19
- retirement age in, 67, 110
- globalization, effect of, 13, 150
- Gonand, F., 108, 109
- gradual retirement, 35
- “gray” (undeclared) employment, 327–28
- Grey at Work (Netherlands), 191
- Grobovšek, Jan K., 301
- Group of Seven (G-7), 199
- Gruber, J., 141–42
- guidance notes for policy panels, 273–76
- H**
- “handshake” across generations, 282
- Hansa Asset Management, 230–31

- harmonization, emerging trend
 - toward, 15
 - health of older workers, 117–18, 123*n*9
 - Herzegovina. *See* Bosnia and Herzegovina
 - Hirbu, Oleg, 339
 - Holzmann, Robert, 9, 273
 - Hong Kong, retirement and old age views
 - in, 114, 115*b*
 - household savings for retirement. *See* retirement savings plans
 - HSBC view of retirement survey, 114, 115*b*
 - human capital
 - cycle of early retirement and depreciation of, 30–31
 - empowering workers to become less dependent on corporations, 32
 - importance of, 29
 - insuring while protecting incentives to maintain, 31–32
 - investment in, 120–21, 160*n*2
 - over life cycle, 27–28
 - women and, 28
 - Hungary, 89–104
 - employment rates across age and educational attainment groups in, 89–93, 90–92*f*
 - individual pension and voluntary supplementary accounts in, 195
 - multipillar pension schemes in, 19, 95–96
 - pension promises until 2020, 97–100, 98*f*, 99*t*, 100*t*
 - pension reform of 1998, 94–97
 - policy analysis of, 101–2
 - retirement, effect of increased, 93–94, 94–95*f*
 - in Denmark, 151, 155–56, 157, 159–60, 161*n*12
 - in Hungary, 94
 - in Slovenia, 77, 81–83, 83*t*
 - India, retirement and old age views in, 115*b*
 - Institute for Pension and Disability Insurance (IPDI, Slovenia), 75, 84–85
 - Institute of Macroeconomic Analysis and Development, 291
 - intergenerational contract, 30, 74
 - intergenerational income transfers, 282, 282*f*
 - International Labour Organization (ILO), 128, 262
 - International Monetary Fund (IMF), 76, 301–2
 - Investment Funds Act (Estonia), 235
 - IPDI. *See* Institute for Pension and Disability Insurance (Slovenia)
 - Italy
 - coordination of pension schemes in, 15
 - implicit tax on remaining at work in, 116–17
 - intergenerational income transfer in, 282, 282*f*
 - labor participation rate in, 117
 - multipillar pension schemes in, 19
 - NDC scheme in, 14
 - retirement projections in, 108
 - retirement savings plans in, 68
 - unemployment-cum-retirement accounts in, 15
- J**
- Japan
 - employment protection legislation (EPL) in, 119
 - growth rate in, 108
 - health of older workers in, 118
 - labor force exit in, 139
 - labor force projections in, 108, 109–10
 - life expectancy in, 122*n*2
 - retirement and old age views in, 114, 115*b*
 - seniority bonuses, effect on retirement in, 119
- I**
- Iceland, life expectancy in, 122*n*2
 - Iglesias P., Augusto, 247
 - ILO. *See* International Labour Organization
 - IMF. *See* International Monetary Fund
 - immigration, effect of, 305
 - implicit tax on remaining at work, 17*f*, 17–18, 116–17, 123*n*8, 141–42, 193*n*12
 - indexation of pensions
 - in CEF countries, 45–46
 - in Croatia, 332

Joint Reports on Social Protection and
Social Inclusion (EC), 55, 56*b*

K

Kajzer, Alenka, 291
Kapitalska družba (Slovenia), 210, 214,
222*n*4
Kazakhstan, individual pension and
voluntary supplementary accounts
in, 195
Kidrič, Dušan, 43
Koesveld, Ernst B. K. van, 177
Köllő, Janos, 89
Korea
employment protection legislation
(EPL) in, 119
implicit tax on remaining at work
in, 117
labor participation rate in, 117
seniority bonuses, effect on retirement
in, 119
unemployment-cum-retirement
accounts in, 15
Kosovo, population data in, 47
Kozamernik, Damjan, 301

L

labor market reforms, 144–45
approaches to, 281*t*, 281–83
demand-side incentives, 143–45
mandatory retirement, 143–44
targeted employment subsidies or
tax reductions, 144
Europe and, 4
extension of working life, difficulty of,
110–14, 111*f*
desire for early retirement, 111–12,
185–88
employers' reluctance to employ
older workers, 112–14
growth and welfare implications of aging
population and, 106–10, 107*f*
higher old-age participation rates on
employment of young, impact on,
16, 193
incentives to work longer and workplace
choice, improvement of, 114–18,
115–16*b*
assessment of, 280
EU and, 66–68
financial incentives to work,
improvement of, 116–17
flexible work arrangements, 117
improvement of health of old people,
117–18, 123*n*9
labor force exit, 139–41, 140*t*, 141*f*, 167
labor force participation rates in, 10, 16,
128–34, 129*f*
lifelong learning, strengthening of,
18–19
longer life spans and, 105–26
maintaining and creating demands for
elderly workers, 18–19
mobility and, 19, 212
number of jobs, misconceptions on,
16–17
older workers, 16–17
employability of, 5, 17–18, 120–21,
328–29
health improvements of, 117–18,
123*n*9
inducements for employment of,
18–19, 118–21
productivity of, 18, 113–14, 118
reluctance to employ, 112–14, 116*b*,
185–86, 187–88
removal of institutional obstacles
and, 118–20
panel of ministers of labor and social
affairs and, 274–75
payroll taxes and, 6
pension reform and, 4, 5–6
public policy to increase labor force
participation, 10, 16, 127–47,
283–84
Austria and Switzerland comparison,
130–31, 131–32*f*
European perspective, 128–34,
129*f*, 133*f*
incentives for, 4–5
supply-side incentives, 134–43
push and pull factors in labor market
withdrawal, 115, 116*b*
in Slovenia, 291–99
slowing exit from labor force, 134–45
in Southeastern Europe, 43–49
supply-side incentives, 134–43
early retirement, reducing incentives
to accept, 17*f*, 17–18, 114–18,
138–43, 140*t*, 141–42*f*, 146*n*3, 328

- in pension system, 135–37
 - unemployment insurance incentives, 137–43
 - younger workers and, 140*t*, 189
- Latin America, 247–59
 - See also specific countries*
 - pension fund asset accumulation in, 199, 200–203, 201–2*t*
 - pension reform and capital market development, 248–50*t*, 250–55, 251*f*
 - challenges to design of pension fund regulation, 255–57, 256*t*
 - corporate governance practices, 253–54
 - financial market regulations and, 253
 - impact of, 252–54
 - pension funds and, 251–52
 - quality of investment decisions, improvement in, 254
 - transparency in, 253
 - population aging and pension reform in, 9
- Latvia
 - demographic adjustment factor in, 56*b*
 - individual pension and voluntary supplementary accounts in, 195
 - NDC scheme in, 14
- Law on Investment Funds (FYR Macedonia), 265
- Law on Mandatory Fully Funded Pension Insurance (FYR Macedonia), 265
- Law on Voluntary Pension Funds of 2006 (Montenegro), 346
- layoffs and older workers, 113, 168
- learning, lifelong. *See* lifelong learning
- Libby, J., 118
- life courses. *See* social policy approaches to risks over life cycle
- life expectancy. *See specific countries and regions*
- lifelong learning, 18–19, 29, 114, 120, 328, 363
- lifetime jobs, 186, 193*n*5
- Lillelaud, Tõnu, 227
- Lindbeck, A., 214
- Lisbon Strategy, 164, 176*n*1
- Lisica, Marko, 355
- Lithuania, pension fund portfolio in, 22
- “lump of labor” fallacy, 16, 144–45, 179, 181

- Luxembourg
 - implicit tax on remaining at work in, 116–17
 - intergenerational income transfer in, 282, 282*f*
 - labor participation rate in, 117

M

- Macedonia. *See* former Yugoslav Republic of Macedonia
- Majcen, Boris, 73, 301
- Malaysia, pension fund assets in, 196
- Malbašić, Vladimir, 355
- Maletić, Ivana, 331
- manufactured or voluntary risks, 31
- MAPAS. *See* Agency for Supervision of Fully Funded Pension Insurance (FYR Macedonia)
- Martins, J.O., 108, 109, 118
- matching contributions, 287–88
- mental illness and disability, 31
- Mexico
 - pension fund asset accumulation in, 200–203, 201–2*t*
 - pension reform and financial market development in, 257
 - retirement and old age views in, 115*b*
 - “MILES” approach for job creation, 17, 24*n*3
- minimum income schemes, 65–66
- Ministers Council (FYR Macedonia), 262
- Ministry of Finance (Bulgaria), 329
- Ministry of Finance (FYR Macedonia), 268
- Ministry of Finance (Moldova), 339
- Ministry of Labor, Family, and Social Affairs (Slovenia), 363
- Ministry of Labor and Social Policy (Bulgaria), 329
- Ministry of Labor and Social Policy (FYR Macedonia), 262, 264*f*
- Ministry of Social Protection, Family and Children (Moldova), 339
- mobility, 19, 212
- Moldova
 - CEF group countries and, 43
 - labor force participation rates in, 128
 - pension reform in, 44*t*, 45*f*
 - Statement of the Ministry of Finance of, 339–40

Montenegro
 CEF group countries and, 43
 contribution rate in, 46*f*, 47
 financial market reform in, 342–43
 labor force participation rates in, 128
 labor market reform in, 346
 old-age dependency ratio (ODR) in, 12
 pension fund regulation in, 342
 pension reform in, 44*t*, 45*f*, 341–47
 pillar II and III in, 345
 population data in, 47
 Statements
 of the Central Bank, 341–44
 of the Ministry of Labor, 345–47
 Mourre, G., 117
 Mulligan, C.B., 136
 multipillar pension schemes, 14, 15*f*, 19,
 214, 262
 Munnell, A. H., 118
 mutual funds, use in pension schemes, 210,
 213, 222*n*3

N

National Action Plan on Employment
 (Bulgaria), 329
 National Bank (FYR Macedonia), 265, 335
 National Bureau of Economic Research
 (NBER), 134
 national denied contribution plans, 56*b*
 National Revenue Agency (Bulgaria), 328
 National Social Insurance Agency
 (Moldova), 339
 National Social Insurance Institute
 (Bulgaria), 330
 National Strategy of Active Aging
 (Slovenia), 363
 National Tripartite Cooperation Council
 (Bulgaria), 330
 NBER (National Bureau of Economic
 Research), 134
 NDC. *See* notional defined contribution
 systems
 Nedelcu, Steluta, 349
 net asset value (NAV) of pension funds,
 reporting of, 242
 Netherlands, 177–94
 basic provision of benefits in, 278
 employment protection legislation
 (EPL) in, 119
 employment rate in, 178–79*f*, 295
 implicit tax on remaining at work in,
 116–17
 labor market for older workers, supply
 and demand factors and, 184–90,
 185*f*, 185*t*, 187–88*f*
 labor participation rate in, 117
 life expectancy in, 122*n*2
 market failures and government policies
 in, 190–92, 192*t*
 policies curtailing early retirement and
 incentives to work longer in,
 182–84, 184*f*
 policies encouraging older workers to
 exit workforce in, 179–82, 180*f*
 sickness and disability pathway in, 112
 wages determination system in, 119
 New Zealand
 life expectancy in, 122*n*2
 opt-out options in, 15
 Nieuwkoop, R. van, 301
 noncognitive skills, importance of, 29–30
 nonfinancial defined contributions (NDC)
 schemes. *See* notional defined
 contribution (NDC) systems
 NOREX, 239
 North Africa, pension reform in, 14
 North America. *See specific countries*
 Norway
 employment protection legislation
 (EPL) in, 119
 labor force exit in, 139
 life expectancy in, 122*n*2
 notional defined contribution (NDC)
 systems, 14, 48, 214, 325
 Novo-Omanović, Zehra, 319

O

ODRs. *See* old-age dependency ratios
 OECD. *See* Organisation for Economic
 Co-operation and Development
 OECD countries
 age discrimination in, 120
 female labor force participation in, 28
 implicit tax rate in, 116–17
 labor force exit in, 139–40, 140*t*
 labor force participation in, 131, 133*f*,
 133–34
 life expectancy in, 107–8
 pension fund assets in, 196
 replacement rate in, 140, 141*f*

- Oeppen, J., 108, 122*n*2
- old-age dependency ratios (ODRs), 11–12, 14, 53, 63, 108, 161*n*9, 197
- OMC (open method of coordination). *See* European Union (EU)
- OMX Group, 239
- open economy model, 6
- opening statements
- aging populations and scope for adjustment in Slovenian labor market, 291–99
 - pension reform, broad context and perspective on, 277–90
 - reforming Slovenian pension system, guidelines and intergenerational distribution issues, 301–17
- open method of coordination (OMC). *See* European pension reform
- opt-out options, 15, 68, 69
- Orazem, P., 113
- Organisation for Economic Co-operation and Development (OECD)
- See also* OECD countries
 - on better working conditions and longer work life, 117
 - early retirement review by, 112
 - on earning profiles, 186
 - on employment protection legislation (EPL), 119
 - on improving employability of older workers, 120
 - lower income groups and private pensions study by, 62
 - pension reform and, 9, 14
 - on productivity of older workers, 113
 - on supply-side incentives, 134
 - on wages determination systems, 119
- overlapping-generations general equilibrium (OLG-GE) model, 74, 152
- P**
- panels, policy. *See* policy panels; *specific topics*
- parental benefits, 35, 235
- See also* family responsibilities and work, better reconciliation of
- part-time employment
- European pension reform and, 56–58, 57*f*, 65
 - flexible work arrangements and, 117
 - in Slovenia, 297, 298, 364
 - social policy approaches to risks over life cycle and, 35
- pay-as-you-go (PAYG) systems
- adjustment of, 4
 - Center of Excellence in Finance (CEF) group countries and, 44
 - clarification of benefits under, 5–6
 - demographic factors and, 56*b*, 280, 285
 - in EU, 53–54
 - in FYR Macedonia, 261, 262
 - intergenerational contract and, 30
 - labor market reform in, 327
 - longer working life and, 34–35
 - longevity and, 38–39
 - in Montenegro, 345
 - in Netherlands, 180–81, 182
 - pension reform in, 5–6, 281, 288–89, 327–30
 - redistribution and, 279
 - in Romania, 349, 350, 352
 - in Slovenia, 74–75, 301–7, 306*f*, 310–15, 359–61
 - in Srpska, Republic of, 323–24
 - supply-side incentives and, 135
 - taxation and, 6
 - transparency and, 5
- payout phase, financial market reforms and, 23
- PDIA. *See* Pension and Disability Insurance Act of 1999 (Slovenia)
- PDIF. *See* Pension and Disability Insurance Fund (FYR Macedonia)
- Pedersen, Lars Haagen, 149, 152
- Pelgrin, F., 118
- Pension and Disability Insurance Act of 1999 (Bosnia and Herzegovina), 320
- Pension and Disability Insurance Act of 1999 (PDIA, Slovenia), 74, 75, 76–79, 86
- Pension and Disability Insurance Fund (PDIF, FYR Macedonia), 261, 265
- Pension Covenant of 1997 (Netherlands), 182
- pension fund managers, 265–66, 280
- pension funds, 6, 14, 21–23, 204–6
- See also* financial market reforms; *specific countries and regions*
- pension generosity, 140–41, 141*f*
- Pension Insurance Act (Croatia), 332
- pension management companies, 265–66

- pension reform
 - See also specific countries and regions*
 - design and, 4, 6
 - drivers for, 12–14
 - international reform trends and lessons, 14–16, 15f
 - options for, 10, 12–14
 - overview, 9–26
 - panel of ministers of finance and pension reform and, 273–74
 - panel on, 277–90
 - consistency between pension reform, social model, and economic and demographic characteristics, 278–85, 281t, 282–83f, 284t
 - role of state, 285–88, 286t, 289
 - population aging and fiscal implications for pension schemes, 11f, 11–12
 - Pension Steering Committee (FYR Macedonia), 262
 - Persson, M., 214
 - Peru
 - pension fund asset accumulation in, 200–203, 201–2t
 - pension reform and financial market development in, 257
 - pillars II and III, 14, 15f, 20, 199
 - See also multipillar pension schemes; specific countries*
 - Poland, 163–76
 - changes in retirement age and pension expenditure, 174–75, 175f
 - clearinghouse approaches in, 15
 - demographic adjustment factor in, 56b
 - early retirement option in, 167–73, 168–72f
 - individual pension and voluntary supplementary accounts in, 195
 - labor force projection in, 110
 - labor participation by older workers in, 164–67, 165–66f
 - multipillar pension schemes in, 19
 - NDC scheme in, 14
 - pension reform on workers' retirement behavior, potential effect on, 173–74, 173–74f
 - policy panels
 - on financial market reform, 275–76, 301–17
 - guidance notes for, 273–76
 - on labor market reform, 274–75, 291–99
 - on pension reform, 273–74, 277–90
 - policy setting, consistency of, 284–85
 - population data. *See* demographic profile
 - Portugal, coordination of pension schemes in, 15
 - privatization, 95, 212, 325
 - productivity of older workers, 18, 113–14, 119, 305
 - public debt issuance, 205
 - public policy to increase labor force participation. *See* labor market reforms
 - push and pull factors in labor market withdrawal, 115, 116b
- R**
- readiness of financial sector, 20–21, 22f
 - real estate investment by pension funds, 235
 - replacement rates, 6, 123n8, 140–41, 141f, 285–87, 310, 361
 - Republic of Korea. *See* Korea
 - retirement
 - age of, 53, 66–68, 67f
 - in Bosnia and Herzegovina, 320
 - in Denmark, 67
 - falling, 110–11, 111f
 - in Hungary, 102n5
 - in Netherlands, 182, 183–84, 184f, 192
 - in Poland, 164
 - in Slovenia, 75–77, 296–97, 302, 307–11, 308–9f, 364
 - delayed, 10, 285
 - in Denmark, 67, 155–59, 157f
 - different countries' views of old age and, 115b
 - early retirement
 - in CEF group countries, 16
 - cycle of early retirement and depreciation of human capital, 30–31
 - in Denmark, 155–56
 - desire for, 111–12, 185
 - in Netherlands, 180–81
 - options for financing, 112
 - in Poland, 167–73, 168–72f
 - reducing incentives to accept, 116b, 138–43, 140t, 141–42f, 146n3
 - in Slovenia, 74–75
 - younger labor market participants and, 16

mandatory, 143–44
 retirement earnings test, 136–37, 142–43
 retirement savings plans
 current level of pension contributions and, 285
 household savings for retirement
 asset allocation of pension funds, 205, 207, 215–16, 217–19*t*, 220
 challenges and policy implications for private pension fund savings, 203–6
 cost controls, 206, 207
 coverage enhancements, 203
 factors affecting, 196–200
 facts on, 196, 197*f*
 financial awareness and, 204, 207
 incentives for voluntary pension savings, 204, 205–6
 pension fund participation and savings, 198*f*, 200–203, 201–2*t*
 pension fund performance, 204–6
 role of choice and, 203–4
 incentives for, 4–5
 older population and, 122*n*3
 pension reduction and, 10
 population aging and, 109
 strategies for, 287–88
 taxation and, 6–7
 voluntary private savings and, 6–7
 voluntary supplementary pension accounts, 195
 revalorization of pension base, 77
 risk pooling, 279–80, 288
 Romania
 CEF group countries and, 43
 contribution rate in, 46*f*, 47
 demographic challenges of, 349
 labor force participation rates in, 128
 multipillar pension schemes in, 19
 old-age dependency ratio (ODR) in, 12
 pension reform in, 44*t*, 45*f*, 350–53
 Statement of the Ministry of Finance, 349–53
 Rudić, Snježana, 323
 Ruhm, C., 117
 Russia
 individual pension and voluntary supplementary accounts in, 195
 labor force projection in, 110
 old-age dependency ratio (ODR) in, 11
 population aging and pension reform in, 9

S

Sala-i-Martin, X., 136
 second pillar. *See* pillars II and III
 SEE. *See* Southeastern Europe
 self-employed persons, 235
 seniority bonuses, 119, 123*n*11
 Serbia
 CEF group countries and, 43
 contribution rate in, 46*f*, 47
 labor force participation rates in, 128
 old-age dependency ratio (ODR) in, 12
 pension reform in, 44*t*, 45*f*
 pillar III, 355–57
 population data in, 47
 Statement of the Ministry of Finance of, 355–57
 Singapore, pension fund assets in, 196
 SIOLG 2.0 model, 74
 Šircelj, Andrej, 359
 Slovak Republic
 individual pension and voluntary supplementary accounts in, 195
 multipillar pension schemes in, 19
 pension fund portfolio in, 21–22
 Slovenia
 CEF group countries and, 43
 contribution rate in, 46*f*, 47
 demographic projections and pension system, 73–87
 developments in pension system, 74–80
 results of simulations, 80–85, 81–83*f*, 84*t*, 85*f*
 educational level and employment in, 294–98, 305
 financial market reform in, 315
 growth rate in, 293, 294*t*
 labor market adjustment and aging population in, 291–99
 demographic projections and, 292–93, 293*t*, 307–11, 361
 improvement of labor market performance, 295*t*, 295–97
 labor market developments, 293–95, 294*t*, 305
 low employment of older workers, 296–97, 298
 layoffs in, 113
 multipillar pension schemes in, 19, 74, 78–83, 85, 86, 220, 313
 payroll taxes in, 360

- pension reform in, 44*t*, 45*f*, 301–17
 - framework and unsustainability of
 - current system, 303–7, 304*t*, 306–7*f*
 - options, 314–16, 359–65
 - private saving rate adjustment, 302, 303, 311–14, 312*f*
 - retirement age adjustment, 302, 307–11, 308–9*f*
- productivity of older workers in, 113–14
- Statements
 - of the Ministry of Finance, 359–61
 - of the Ministry of Labor, 363–65
- supplementary pension system, 209–25
 - alternative class assets, 220
 - annuitization of accumulated savings, 220–21
 - asset allocation of pension funds, 215–20, 217–19*t*, 222*n*4
 - framework for future development of
 - fully funded pensions in, 212–15, 222*n*3
 - guaranteed minimum rate of return
 - benchmarks, 221, 223*n*10
 - guarantees, 220
 - structure and drawbacks of, 210–11
 - tax treatment of funded pension
 - system, 215–16, 216*t*
 - threats in design and implementation
 - of, 220–21
 - tax treatment of funded pension system, 216*t*
 - wages determination system in, 119
 - welfare effects, analysis of, 80–81, 81*f*
- Social Agreement of 2004 (Netherlands), 182–83, 193*n*3
- Social Insurance Law of 2000 (FYR Macedonia), 262
- social insurance vs. welfare assistance, 287
- social policy approaches to risks over life
 - cycle, 27–40
- challenges, 30–32
 - cycle of early retirement and depreciation of human capital, 30–31
 - empowering workers to become less dependent on corporations, 32
 - insuring human capital while
 - protecting incentives to maintain human capital, 31–32
 - intergenerational contract,
 - maintaining, 30
 - investments in younger generations,
 - maintaining, 31
 - demographic trends and, 28–30
 - life-course perspective, 27, 32–33
 - career and family, reconciliation of, 32
 - division of tasks to combine work
 - and family, 32–33
 - seasons of life and, 33
 - policy recommendations, 33–39
 - flexibility of working time over life
 - course, 35–36
 - inclusive labor markets, 36–37
 - in-work benefits for parents, 37–38
 - longer working life, 34–35
 - public support from old to young,
 - shifting of, 38–39
- Social Protection Committee (SPC, EU), 61
- Southeastern Europe (SEE)
 - See also specific countries*
 - aging population in, 128–29
 - fertility rate in, 12
 - funded pensions in, 19
 - funded pillars in, 19
 - labor force participation rates in,
 - 128–34, 129*f*
 - comparison with Austria and
 - Switzerland, 130–31, 131–32*f*
 - European perspective, 131, 133*f*, 133–34
 - old-age dependency ratio (ODR) in, 12
 - pension, labor market, and financial
 - market reforms in, 43–49
 - population aging and pension reform in, 9
 - ration of savers to dissavers in, 19, 20*f*
 - readiness of financial sector in, 20–21
 - responses to pressures, 44*t*, 44–48, 45–46*f*
- Spain
 - employment protection legislation
 - (EPL) in, 119
 - replacement rate in, 141
 - wages determination system in, 119
- Sri Lanka
 - health of older workers in, 118
 - labor force projection in, 110
- Srpska, Republic of
 - contribution rate in, 47
 - Dayton Peace Accord and, 319
 - financial market reform in, 325
 - pension system and reform in, 323–26, 324*f*
 - pillars II and III in, 323, 325
 - Statement of the Ministry of Finance, 323–26

Stability Program (Slovenia), 302

Statements

Bulgaria, Ministry of Labor, 327–30

Croatia, Ministry of Finance, 331–34

Federation of Bosnia and Herzegovina,
Ministry of Labor and Social
Welfare, 319–22

former Yugoslav Republic of Macedonia,
National Bank, 335–37

Moldova, Ministry of Finance, 339–40
Montenegro

Central Bank, 341–44

Ministry of Labor, 345–47

Romania, Ministry of Finance, 349–53

Serbia, Ministry of Finance, 355–57

Slovenia

Ministry of Finance, 359–61

Ministry of Labor, 363–65

Srpska, Republic of, Ministry of Finance,
323–26

state's role in pension reform, 285–88,
286*t*, 289

subsidies, 144, 191

Suhrcke, M., 118

supply-side incentives, 134–43

See also specific countries

early retirement, reducing incentives to
accept, 138–43, 146*n*3

in pension system, 135–37

unemployment insurance incentives,
137–43

Support for Retirement Program

(Bulgaria), 328

sustainability, 47, 68, 80, 285–87, 286*t*,
289, 291

Sweden

clearinghouse approaches in, 15

demographic adjustment factor in, 56*b*

implicit tax on remaining at work
in, 117

labor force exit in, 139

labor participation rate in, 117

life expectancy in, 122*n*2

mandatory retirement age in, 192

NDC scheme in, 14

retirement age in, 110

Swiss indexation, 94, 102*n*2

Switzerland

labor force exit in, 139

labor market participation, comparison
with, 130–31, 131–32*f*, 134, 139

life expectancy in, 122*n*2

Synthesis Reports on Adequate and
Sustainable Pensions (EC), 55, 64

T

Tali, Veiko, 227

Tallinn Stock Exchange (TSE), 237–39,
238*t*, 243

Tax and Customs Board (Estonia), 228
taxation

Croatia and, 332–33

deductions for pension contributions,
153–54, 287

Denmark and, 150, 153–54

of funded pension system, 215–16,
216*t*

incentives and, 68, 204, 205–6, 287

pay-as-you-go (PAYG) systems, 6

payroll taxes, 6, 360

Poland and, 167–68, 175

private pension schemes and, 6–7, 68,
79–80

progressive income taxes, 282–83

Slovenia and, 81–82, 306–7, 360

social security tax on earned income,
141–42

strategies for pension reform and,
287–88

targeted employment subsidies or tax
reductions, 144

value-added tax, 81–82

VUT deductibility in Netherlands, 182

third pillar. *See* pillars II and III

Todorović Mileva, 345

Tomc, Romana, 363

Trade Company Law (FYR Macedonia), 265

training, on-going. *See* lifelong learning
transparency, 5, 253, 279–80, 288, 360

Tuladhar, Anita, 195

U

Ukraine, multipillar pension schemes in, 19

unbundling of risk pooling, 279, 284,
288, 289

unemployment benefits

early retirement and, 112, 116*b*

as incentive, 137–43

retirement accounts with, 15

unfunded pensions, 14

United Kingdom

- Age Positive campaign of, 120
- basic provision of benefits in, 278
- earning profile in, 186
- employment rate in, 295
- labor market reforms in, 281
- opt-out options and, 15
- pension systems in, 4
- retirement age in, 67, 110
- retirement and old age views in, 115*b*
- retirement savings plans in, 68
- seniority bonuses in, 123*n*11

United States

- age discrimination prevention in, 123*n*13
 - baby boomer retirement in, 122*n*5
 - early retirement in, 139
 - earning profile in, 186
 - flexible work arrangements in, 117
 - health of older workers in, 118
 - implicit tax on remaining at work in, 117
 - labor force participation in, 117, 143
 - labor force projections in, 108
 - mandatory retirement age in, 144, 192
 - matching contributions in, 287–88
 - older workers in, 112–13
 - pension and federal health program reform in, 10
 - productivity of older workers in, 113
 - ration of savers to dissavers in, 19, 20*f*
 - replacement rate in, 141
 - retirement and old age views in, 115*b*
 - retirement earnings test in, 142–43
 - satisfaction of life in retirement, 112
 - tax incentives for pensions in, 287–88
- Uruguay, pension fund asset accumulation in, 200–203, 201–2*t*

V

- value-added tax, 81–82
- Vaupel, J.W., 108, 122*n*2
- Verbič, Miroslav, 73, 301
- Vodopivec, Matija, 114–15
- Vodopivec, Milan, 105, 113, 294
- voluntary absence from labor market, 31
- voluntary early retirement pension (VERP) scheme (Denmark), 155–56, 161*n*12
- voluntary schemes, 6–7, 15
- voluntary supplementary pension insurance, 78–83, 83*f*, 86

VUT. *See* early retirement schemes (Netherlands)

W

- wage determination system, flexible, 118–19
- Ward, M., 117
- welfare assistance vs. social insurance, 287
- welfare model. *See* Denmark
- Wise, D.A., 141–42
- women
 - labor force participation
 - Austria and Switzerland, 131
 - human capital and, 28
 - OECD countries, 133*f*, 133–34
 - pension reform and, 13
 - trends in, 122–23*n*6
 - labor force projections for, 110
 - labor market participation, 179, 179*f*, 181, 184
 - part-time work and, 56–57
 - poverty and, 66
 - retirement age of
 - CEF group countries, 44, 45, 45*f*
 - EU, 53
 - Hungary, 102*n*5
 - Poland, 167, 169, 174
 - Slovenia, 76
- work-age paradox, 30–31
- World Bank
 - FYR Macedonia and, 262
 - Montenegro and, 345
 - Slovenia and, 76
- Wu, R., 113

Y

- Yoo, K.Y., 108, 109
- younger workers
 - early retirement and, 16
 - education in Slovenia and, 294–98, 305
 - higher old-age participation rates and, 140*t*, 144–45
 - intergenerational contract, 30, 74

Z

- ZVPSJU fund (Slovenia), 210

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Around the world, pension reform remains at the center of public debate. Its social, fiscal, and macroeconomic implications confront policy makers, practitioners, and academia with challenging questions. Pension systems in aging societies—in need of reform and further stressed by the pressures of globalization—require parallel reforms of the labor market and effective lifelong learning, not only to promote working longer, but to ensure that people can actually do so. At the same time, the working population should be motivated to contribute to pension schemes and prepare for old age. Diversifying the spectrum of risks in a multipillar pension scheme with mandated and voluntary, funded and unfunded, pillars should allow more flexibility in individual retirement decisions and help address reduced public generosity. But diversifying risk on a major scale requires a well developed financial market and calls for reform.

At the initiative of the Center of Excellence in Finance (CEF), a conference entitled “International Forum on Pension Reform: Exploring the Link to Labor and Financial Market Reforms” was held in Bled, Slovenia, June 7–9, 2007. High officials from ministries of finance, labor, and social affairs, and central banks presented their country statements on vision and progress in pension, labor, and financial sector reforms. Invited experts explored various reform needs of pension systems and of labor and financial markets. *Pension Reform in Southeastern Europe: Linking to Labor and Financial Market Reforms*, gathers that important discourse in one place.

The discourse has continued, and many papers in this collection have been updated since the conference and a few new ones have been included. Expressing views and open discussion in search of best answers on how to move forward in order to succeed was the most important goal of the conference, and of this volume as well. These proceedings should be helpful to policy makers in Southeastern Europe and other parts of the world who are planning pension system, labor, and financial market reforms in their countries.



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