

**University of Economics in Prague**

Faculty of Finance and Accounting

Finance and Accounting



MASTER THESIS

PENSION REFORM IN GEORGIA - HOW TO DO IT WELL

Author:	Natia Panchvidze
Supervisor:	Ing. Stanislav Klazar, Ph.D.
Academic Year:	2017

**Declaration of Authorship**

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature, and the thesis has not been used to obtain a different or the same degree.

The author grants to University of Economics in Prague permission to reproduce and to distribute copies of this thesis document in whole or in part.

Prague, date: 28.12.2017

-----

Signature

## Abstract

This research examines ways in which pensions and pensions system reform could impact the future economic development of Georgia. It analyses current pension structure and outlines how it could be used to develop a new structure with the goal to improve the financial position of the elderly and to provide means to achieve broader economic growth.

Existing pension system in Georgia includes state pension or PAYG (unfunded) pension program and non-state pension funds or voluntary pension schemes. Because of Georgia's fiscal constraints and aging population, there is a need for creating a mandatory savings pension System. The objective of the pension reform is to create a new system that requires automatic participation of formally employed individuals who earn monthly minimum of 500 GEL and who are between ages of 15 and 45.

As the paper focuses on the reform of Georgia's old age pension system, it examines the features, operations and functioning of a mandatory savings pension and analyses how Georgia's present and evolving future structure might resemble the World Bank's multi-pillar approach. Based on the current Georgia's economic, demographic and pension system the paper suggests that the introduction of a defined-contribution mandatory occupational system deserves consideration.

JEL Classification

C32, C38, C58, G11, G17

Keywords

Georgia, Pension Reform, Mandatory Savings Pension, Multi-Pillar Pensions, PAYG (pay-as your go), Retirement Income, Voluntary Non-state Pensions Funds

# Contents

Introduction.....	1
Chapter 1 – Theoretical Framework of Pension Systems.....	3
1.1 Objectives of pension systems .....	3
1.2 Types of pension.....	4
1.3 Vulnerability of pension systems .....	7
1.4 Multi-Pillar pension system .....	8
Chapter 2 –Pension System Reform.....	12
2.1 Understanding the need for reform - “Pension Crisis” .....	12
2.2 Theoretical explanation of pension reform .....	14
2.3 Options for pension reform .....	18
2.3.1 Individual Accounts .....	19
2.3.2 Coverage.....	24
2.3.3 Pension plan and pension fund governance.....	27
2.4 A Glimpse of Pensions Reforms in Europe.....	33
Chapter 3 – Georgia: Background.....	36
3.1 Population .....	36
3.2 Labor force.....	38
3.3 Basic economic indicators.....	39
3.4 Pension system .....	40
3.4.1 Review of pension system in the post-Soviet period .....	40
3.4.2 State Pension.....	41
3.4.3 Non-State Pension Funds – Voluntary Private Pension .....	46
Chapter 4 – Pension Development In Georgia.....	48
4.1 Methodology .....	48
4.1.1 Population growth.....	48
4.1.2 Average inflation and economic growth .....	49
4.2 Findings.....	50
4.2.1 State pension system development.....	50
4.2.2 Pillar II – Mandatory savings pension.....	53
Conclusions and Summary of Recommendations.....	56
References .....	58
Appendices .....	60
Appendix 1.....	60
Appendix 2.....	61
Appendix 3.....	62
Appendix 4.....	63

## List of Abbreviations

CEE	Central and Eastern Europe; Central and East European countries
CPI	Consumer Price Index
DB	Defined Benefit (Pension Scheme)
DC	Defined Contribution (Pension Scheme)
GDP	Gross Domestic Product
GEL	Georgian Lari
GEOSTAT	National Statistics Office of Georgia
GoG	Government of Georgia
IMF	International Monetary Fund
NBG	National Bank of Georgia
NDC	Notional Defined Contributions (Pension Scheme)
OECD	Organisation for Economic Cooperation and Development
PAYG	Pay As You Go (Pension Scheme)
WB	World Bank

## List of Tables

Table 1: Original model of pension policy in selected countries .....	3
Table 2: Defined-benefit versus defined-contribution pension schemes .....	6
Table 3: Three pillar pension framework .....	9
Table 4: Unfunded vs. Funded: Responsiveness to main risks .....	10
Table 5: Types of Individual Accounts .....	19
Table 6: Coverage - switching policies in selected pension reforming countries .....	26
Table 7: Main legal forms of pension funds .....	31
Table 8: A Glimpse of the pension system after reforms .....	34
Table 9: Analysis of Mandatory (Pillar 2) for selected CEE countries .....	35
Table 10: Dependency ratio (2013-2017).....	37
Table 11: Employment statistics .....	38
Table 12: Historical Basic Economic Indicators, 2011-2016 .....	39
Table 13: Projected Economic Indicators - GDP and CPI.....	40
Table 14: Persons receiving pension by gender, thousands.....	42
Table 15: Development of pension amount .....	44
Table 16: Old age pension amounts and replacement rates .....	44
Table 17: Pension expenditures (2015-2016) .....	46
Table 18: Voluntary Private Pension – Non- State Pension Funds .....	47
Table 19: Projected Economic Indicators - GDP and CPI.....	49
Table 20: Projection of pension amounts .....	50
Table 21: Projection of pension amounts .....	51
Table 22: Number of Old-age Pensioners (projection).....	51
Table 23: Pension Expenditures (projection, in million GEL) .....	52
Table 24: Pension Expenditures/GDP ratio (projection) .....	52
Table 25: Development of Pillar II (scenario 1) .....	53
Table 26: Development of Pillar II (scenario 2) .....	54
Table 27: Multi-pillar pension system in Georgia.....	56

## List of Figures

Figure 1: Life expectancy at birth: world and developed regions (1950-2015).....	12
Figure 2: Total fertility trajectories: world and developed regions (1950-2015).....	13
Figure 3: Framework of actor-centered institutionalism .....	17
Figure 4: Switching strategies form PAYG to funded element .....	25
Figure 5: Classification of private pension plan.....	28
Figure 6: Population of Georgia since 2002 (thousands) .....	36
Figure 7: Population by age, thousands (2007-2017).....	37
Figure 8: Number of Pensioners .....	42
Figure 9: Persons receiving pension package (old age), thousands .....	43
Figure 10: Pension distribution by gender .....	43
Figure 11: Total and old age pension expenditures (2009-2016).....	45
Figure 12: Population growth 2017-20150 (in thsds.).....	49





## Introduction

The paper looks at pension system and pension reform in Georgia. It recommends the introduction of a mandatory occupational pension scheme. Based on the country's economic and demographic indicators and its current pension system, the study makes conceptual recommendations of pension reform. The research focuses on funded private pension systems and considers the experiences of other countries' pension reforms.

Nowadays a key test of any society is the living standards of its older people, particularly the poorer among them. This includes their ability to participate in their community, therefore their relative income and access to health care as well as other services. Social protection of aging population depends on the financing of their consumption in old age. This directly depends on the accumulation of past resources, not only by themselves but also by the state, and its reflection in overall current income flows. Therefore the importance of pensions is well recognised. Yet, in practice pensions are often regarded as a huge cost, producing inadequate benefits. As such both, providers and beneficiaries are not satisfied with it. Generally, most governments are not able to cover the cost for providing a solid pension income. Clearly, Georgia faces a serious challenge in providing a sustainable pension system.

Over the past decade, Georgia has achieved notable economic development but still poverty remains an issue. At some degree government of Georgia tries to reduce the poverty by pensions and social security. The government's effort to expand pension benefits has put the increased pressure on government finances.

Currently there are state – pay-as-you-go (PAYGO) pension program and voluntary pension schemes in Georgia. Old-age pension is universal, meaning there is no link between contributions and benefits (individual pension amount cannot be differentiated) and therefore represents a huge concerns when assessing its long-term sustainability. Up to now, state pension has been working without serious funding problems, yet the public pension expenditures for old-age started to absorb bigger part of the state budget (17.5% in 2016). Pension expenditures is projected to increase even more as the Georgian demography is aging and the number of pensioners have been increasing every year. At the same time, most pensioners claim that amount of pension is not sufficient for covering minimum old-age consumption needs. Another voluntary pension schemes are not also in a position to achieve the objectives of pension system. There are no tax incentives for pension contributions in the non-state pension funds. Besides, participants can withdraw their savings at any time before the retirement. Because of these characteristics voluntary private pension scheme isn't designed in a way to create saving for retirement and thus doesn't have the ability to generate long-term savings. Overall, it's doubtful whether Georgian pension system fulfils the main objective of pension system:

to protect elderly against poverty after retirement and to help to maintain living standards after retirement.

There are two main factors that demand necessity of Georgian pension system reform: 1) State pension starting to be a heavy burden for Georgian budget and financial system; 2) Changing trend in demography and share of pensioners in a whole population is an actual problem. Correlation of employed persons and pensioners is almost equal.

Taking into account the current challenges of existing pension system in Georgia, the paper addresses the potential options for reform. Research tries to present the bases for creating a mandatory pension system and recommends automatic participation of those individuals who are between ages of 15 and 45 and are formally employed with minimum monthly wage of GEL 500 into the funded scheme. The funded pension scheme is not intended to replace current state and non-state pension programs. Rather, the intent is to create a Multi-Pillar Pension System in line to the World Bank Pension Models.

Pension reform can provide an important turning point in a country's economic progress in general. Likewise, pension reform in Georgia is expected to provide financial capital that can boost economic development and employment in the country.

Chapter 1 and Chapter 2 of the paper discusses theoretical background of pension and pension reform. Types of pension, its objectives and challenges are analysed, followed by the explanation of why pension reform is needed and what are the options for reform. Chapter 3 considers the pension environment of the Georgian economy, glance at its finances, demographics and existing structure. Chapter 4 outlines possible development of Georgian pension system.

# Chapter 1 – Theoretical Framework of Pension Systems

## 1.1 Objectives of pension systems

Pension plans have a long history; but over the last decade the importance of pension systems gained more recognition as their influence on nation's economic stability and as a security of aging population.

Civil society has and had a long time before the need of pension plans because of several reasons: Firstly, it's common in most traditional societies that old-age individuals or disabled people are being helped from their families and/or children. But unfortunately, not all individuals have children to care for them, nor having rich families to get adequate care, and thus facing high financial pressures. Secondly, as a trend of 21<sup>st</sup> century's high migration, very often community and family ties weaken and consequently children leave elderly without an adequate support and care. Finally, often individuals try to save, but because of the unsecure financial markets, savings suffer from fluctuations in price and other uncertainties due to disease, war, etc. Following from the above reasons, governments are often in charge of making some type of pension systems for social protection. The role of government here includes either direct support to pensions, known as a direct provider, or as a regulator/mandatory since it mandates the participation in pension plans furnished by employers or private pension providers (Schwarz, 2016).

First time when the government introduced support to pensions occurred in late eighteenth. It was Germany and Denmark that implemented first state pension system but however the purpose of each system was different. From the beginning German's world's first state pension system, designed by Chancellor Bismarck, enabled pensioners to continue enjoy the same standard of living to which they were accustomed during their working life (Blaich, 2010). In contrast Denmark introduced pension plan with the aim to help older people over age 60. The distinction between two systems can be found in their different aims: German system was a guarantee of income stability across one's lifetime, while Danish one focused on poverty relief during old age (see Table 1: Original model of pension policy in selected countries). However, if in the nineteenth century countries and their pension systems were focused on one of those aims, nowadays state pensions serve for both purposes.

*Table 1: Original model of pension policy in selected countries*

Social insurance (Bismarck)	Italy 1919	France 1932	U.S. 1936	Switzerland 1948	Germany 1989
Poverty prevention (Beveridge)	Denmark 1891	New Zealand 1898	UK 1908	Sweden 1913	Norway 1936

Source: Overbye, 1996

Policymakers and pension experts agree that the main objectives of pension systems are poverty alleviation and consumption smoothing – and in a broader sense social protection (Holzmann, 2005). According to Schwarz (Coudouel & Paternostro, 2006) pension systems are designed to: **provide an income** to those individuals who suffer a loss in earnings capacity through advanced age, the experience of disability, or death of a wage earner in the family, or in some cases to **facilitate direct transfers from the government** to these particular target groups, but in both cases the emphasis is on **providing a mechanism**, whereby an individual might insure himself against the loss of future earnings.

As useful shorthand, the primary objective of pension system is economic security in old age, achieved through consumption smoothing, insurance, poverty relief and redistribution (Barr & Diamond, 2009). These 4 key objectives can be divided as individual/household and public objectives. From the viewpoint of individuals and families, income security in old age based on a mechanism for smoothing consumption and a mean of insurance, while for poor individuals, transfers provided to them are the major means of survival.

## 1.2 Types of pension

Pension system provides support for elderly, considering redistributive and social elements. Support mechanism includes contributory and non-contributory pension systems. While contributory systems support participants who qualify for benefits, non-contributory pension system support mainly informal sector workers, who aren't under social security system coverage or people whose earnings leave them with lower pension benefits.

Contributory pension systems are described according to either the relevant financing mechanism or the benefit structure (Schwarz, 2016). Both mechanisms are of two types and therefore consist of pay as you go (PAYG) and fully funded pensions (financing mechanism) or defined-benefit and defined-contribution pensions (benefit structure).

- PAYG systems usually are run by the state. The state taxes working population to pay for the pensions of the retired generation. Current workers who pay contributions now, receive promise from the government that it will pay benefits in the future once they achieve retirement age. A major implication of a PAYG system is that it relaxes the constraint that the benefits received by any generation must be matched by its contributions, redistributing and sharing risks across generations (Barr & Diamond, 2009).
- Fully funded pension systems are based on savings. Current worker's contributions are invested in assets to finance benefits in the future. In such schemes individuals' investments and return are accumulated in system's fund to finance pension payments for the same individual upon retirement.

- Defined-benefit (DB) mechanism determines pensions according to worker's wage history and his length of service. Under this system benefit provided is certainly specified as pensions received is usually a function of income expressed as a percentage of income per year of contribution (Schwarz, 2016). Therefore in DB scheme, benefit calculation rules are pre-determined, whereas the contribution rate differs each year as to collect necessary revenues to finance the benefits.

According to Barr and Diamond (2009), DB systems can be structured in several different ways but the main design feature is how wages enter the benefit formula. Pension can be based either on final salary system where benefit depends on a person's final few years or final year wage or alternatively on worker's lifetime average wage.

- Defined-contribution plan or so-called funded individual account determines pensions according to the amount of contributions and investment earnings that are accumulated in person's pension account at his retirement time. Since DC system doesn't promise any specific benefit and pensions depend on the money in the account, it's the contribution rate that is fixed and amount of benefit varies.

As concluded by Myles (2002) in defined-benefits schemes contributions are a dependent variable, whereas in defined-benefits schemes benefits are a dependent variable. Both systems are associated with several risk factors but the question is who is bearing risk: governments and employers or workers. Schwartz (2006) notes that despite not so clear difference in practice, in DB systems government and employers bear risk while in DC systems workers do bear risk themselves. DB schemes, which are typically associated with pay-as-you-go mechanism, face a considerable risk of not receiving pre-determined promised benefits. Revenues are not certain because benefit greatly depends on wide social-economic factors like democratic changes, economic performance, labour market characteristics. Changes in these parameters make countries quite often unable to pay pensions on a timely manner imposing severe consequences on the life of retirees. In contrast DC systems, which are generally fully funded sort, provide government guarantee minimum pensions and somehow mitigate the risks that individual workers may face such as future rates of return or duration of working and retirement period.

As Leppik (2006) states, the two – defined-benefit and defined-contribution principles are just alternative ways to achieve financial equilibrium of the pension scheme. By modifying financial side in DB system and benefit side in DC system, financial balance can be achieved. However in practice there are many examples when both sides of pension schemes have been modified over time and as

Table 2: Defined-benefit versus defined-contribution pension schemes, demonstrates, defined-benefit as well as defined-contribution plans may be financed either through pay-as-you-go or fully funded schemes.

*Table 2: Defined-benefit versus defined-contribution pension schemes*

	Pay-as-you-go	Funded
Defined-Benefit	Benefits are pre-determined, financing is to be secured. Current revenues finance current benefits.	Benefits are pre-determined, contribution rate may fluctuate. Collected revenues are invested to finance future benefits.
Defined-Contribution	Contributions are pre-determined, benefits depend on (either individual or total) contributions made into the scheme. Current revenues finance current benefits.	Contributions are pre-determined, benefits depend on contributions, plus (or minus) any interest. Collected revenues are invested to finance future benefits.

*Source:* Created by author based on Leppik, 2006

Usually Defined-Contribution plans are fully funded and managed privately, yet pay-as you-go schemes may also have built on the principles of DC, like as Notional defined-contribution, or non-financial defined-contribution (NDC) scheme. The initial objective of such plan was to reduce fiscal instability of traditional pension systems. Proponents of NDC argued that system addresses the drawbacks of both funded and unfunded pension schemes, therefore represents the best alternative. Two main principles strengthened the argument: (i) as NDC plans maintaining PAYG finance and thus share defined-benefit schemes' principles, notional accounts avoid transaction cost, which is main obstacle for funded pension reform; (ii) under this system notional accounts track pension contributions and the balance, that also earn a rate of return, serves as a basis for calculating benefit. Therefore, pension based not only on contributions but also on returns like in DC plans and avoids problems of traditional public pension system. Sweden was the first country that created and implemented NDCá scheme with first payments in 2001. Years later few other countries including Italy, Poland and Latvia have also introduced same plans.

Current literature on pension systems devotes paramount attention to the strengths and weakness of two alternative financing methods – PAYG versus funded. Debates on which scheme is a better choice go far beyond of this research paper, yet author agrees with Barr (2010) stating that “there are two (and only two) ways of seeking security in old age: It’s possible first to store current production or alternatively to claim on future consumption”. First method guaranties consumption in old age but on the other hand it’s costly, doesn’t consider future changes in taste or constraints, therefore includes risk of uncertainty and finally don’t apply to such necessary services like medical service. Because of given deficiencies of first option, another and only way for maintaining security in old age is to claim on future production. But what are the ways in which individual can do this? Only two ways exist: either to save during working age or to get a promise from children or government that you would be given goods after retirement. These two broad ways are basics for all

pension systems. Funded and pay-as-you-go schemes are just different ways to claim on future production. Funded systems based on asset accumulation while PAYG systems based on promises.

When debating on different ways of financing, it's important to consider distributional aspects of each choice. Real policy challenge arises not from population aging or from economic difficulties but from the choice of how to allocate retirement costs within and between generations. If for example government will increase pensionable age and postpone retirement, the welfare losses more likely will affect disproportionately to those people with low income and shorter life expectancies.

In addition, Barr (2010) also outlines the case when funded pensions are more desirable. He suggests policymakers to answer following main question before deciding to move toward funding:

1. Is funding system improving welfare? This should be achieved either through the enhancement of output or by providing desirable redistributive effects.

As a summary, countries have choice between funded and unfunded, defined-benefit and defined-contribution schemes to design pension system. Even though policymakers try to outline one single best system, there are several reasons why such unique system doesn't exist. First of all, different countries have different views on how to address pensions' multiple objectives; poverty relief and distributional aspects are among those preferences. Secondly, countries institutional capacity as well as political processes makes different choices feasible. Finally, albeit no countries system is perfect, there can be found several numbers of different structures that work

### **1.3 Vulnerability of pension systems**

Pension schemes face uncertainty of future and also are vulnerable to different external risks. Scholars make distinction between the two because with risk, probability of outcome is somehow estimable and risk can be coped by insurance. Unfortunately, the same isn't true for uncertainty. In a world of uncertainty like everything else, neither pension scheme can give certainty, therefore all pensions face common shocks.

Macroeconomic and demographic shocks have already received considerable attention in the literature. For the time it can be said that the consensus achieved on the fact that all types of pensions – pay-as-you-go and funded are affected by demographic and economic trends. Yet different factors influence pensions in different ways. For pay-as-you-go schemes, “the total effect of different economic and demographic influencing factors combine in an indicator of system dependency ratio, which is the ratio of pensioners to employed persons contributed to the system” (Leppik, 2006). Factors such as decreasing employment, low wage growth or inflation have adverse effects on output and prices. Output shocks have influence on PAYG scheme by shrinking the contribution rate and on funding by reducing the value of financial assets. However inflationary shocks, which belong to purely monetary phenomenon, adversely affect mainly on funded than PAYG schemes. The same

seems to be true for demographic shocks that also affect all pension types: PAYG systems are affected in terms of contribution rate and funded systems are affected through inflation and/or through deflation of assets in pension funds.

If above discussed shocks have adverse influence on all pension schemes, private funded pensions face further risks. Even in the world of certainty and in the existence of effective government, individual pensions funds may still be managed badly. This called management risk that could arise either through incompetence or fraud. One more or less testified method against management risk is monitoring and regulation of funds that may protect consumers. If regulations make difference and funds will manage with high competence and probity, another risk like investment and annuity market risks may arise. Pensions face risk of pension portfolio performance. This is unavoidable because accumulations are held in the stock market and therefore are affected by market fluctuations. Finally, defined-contribution schemes face annuities risk, because under the mechanism, annuities depend on remaining life expectancy after retirement and on expected interest rate over those years. Because both variables are uncertain, probability of market risk annuities are high and deserves considerable attention.

Understanding the major risks of pension systems gives possibility to outline options that can mitigate those risks. In a situation, where pension schemes are concerned with demographic and economic challenges, a key test is a creation of sustainable design in which parameters of pension scheme take into account those changing trends and wouldn't require sudden political adjustments. For mitigating those risks, several countries invented and implemented NDC pensions that use a defined-contribution vocabulary within PAYG system and are related adjustment of benefits for life expectancy and demographic trends. Additionally according to Barr (2010) aging crisis can be eliminated by: increasing contributions, reducing benefits or increasing retirement age. Furthermore, for private pensions strengthening of regulations and insurance for funds is an alternative response.

One of the strategies to address uncertainties is to share risks differently, in other words to create a pension scheme that diversifies risk. Such strategy refers to multi-pillar pensions system that includes several sub-schemes, each based on different principles.

## **1.4 Multi-Pillar pension system**

Three pillar approach, as a mechanism of old age security, was introduced by World Bank in 1994. Strategy of such system was to address the “challenge of demographic trends that undermine fiscal sustainability and government policies that are subject to political pressure” (Andrews, 2006). World Bank's famous textbook – Averting the Old Age Crisis (1994) argued that multi-pillar system could meet those challenges with creation of:

1. Mandatory taxed-financed public program for alleviating poverty



2. Mandatory funded, privately managed program for savings
3. Supplementary voluntary option for more social protection

According to those different programs, World Bank Model is based on three pillars: The first - publicly managed, unfunded, defined benefit pillar simply based on income-redistribution idea and focus on a minimal poverty reduction role. The second - privately managed, funded, defined contribution pillar based either on personal savings or occupational plans. This mandatory pillar closely links benefits to contributions and carries out income-smoothing or saving function. These characteristics additionally give possibility to boost capital accumulation as well as development of financial market. The third – voluntary private pillar that also based on personal and occupational savings plan is designed to provide additional protection for people who want more. Table 3: Three pillar pension framework, makes summary of multi-pillar pension system.

*Table 3: Three pillar pension framework*

I Pillar	Mandatory	Public	Unfunded (PAYG)	Defined-Benefit	Redistribution and differed earnings
II Pillar	Mandatory	Private	Funded	Defined-Contribution	Individual or occupational saving plans
III Pillar	Voluntary	Private	Funded	Defined-Benefit or Defined-Contribution	Individual or occupational saving plans

*Source:* Created by author based on World Bank, 1994

Many scholars recognize the advantages of multi-pillar system over a single pay-as-you-go pension scheme. For example, Robert Holzmann (1999) argues that the system “allows a distinction to be made between poverty reduction and income replacement goals; it builds risk diversification into a country’s provisions for retirement income support; it minimizes the burden of fiscal transition while preserving many of the economic gains of the fully-funded approach; and it brings to the reform discussion some clear gains for younger workers and those who are facing labor income losses from globalization”. Ferrera (Rhodes, Ferrera, & Hemerijck, 2000) also notes that “the advantage of private and occupational pensions vis-à-vis public pensions lies in the fact that contributions are perceived as part of private consumption rather than as part of the tax wedge and thus are likely to generate fewer work disincentives than contributions to public social insurance schemes. By the same token, mixed system also allows for a more targeted assignment of the various redistributive and insurance functions of the welfare state and are thus less likely to generate distributive conflicts than is the case for pension systems which combine these functions within one tier”.

Stated arguments along with many others demonstrate that multi-pillar system can truly offer greater retirement income security through risk diversification that allows higher rates of return. However

answer on one of the important question whether the system is sustainable or not still remains unambiguous. Debates continue on the advantages of multi-pillar system in coping various external risks. Many authors (Holzmann 1999, Ferrera 2000, Fox and Palmer 2001) suggest that such system provides better security because it spreads political and systemic risks between public (unfunded) and private (funded) schemes. Furthermore, due to high concentration on pre-funding, multi-pillar pension mechanism is more likely to be more robust against demographic changes. Table 4: Unfunded vs. Funded: Responsiveness to main risks, below makes distinction between the responsiveness of unfunded and funded schemes against different external risks and shows how multi-pillar approach balances better long-term economic, demographic or political risks.

*Table 4: Unfunded vs. Funded: Responsiveness to main risks*

	Unfunded Schemes	Fully Funded Schemes
<b>Macroeconomic Risks</b>		
Negative output shocks	Lower revenue, but effects on individuals can be mitigated	Possible effects on financing which cannot be mitigated
Unemployment	Lower revenue, but effects on individual can be mitigated	No effect on financing, but concerned individual receives future lower benefits
Low wage growth	Lower revenue, but effects on individual can be mitigated	No effect on financing and current benefit level
Financial crisis (depression, war, hyperinflation, natural disaster)	Possible lower revenue, but effects on individual can be mitigated	Accumulated stock reduced or even eliminated
Low rates of return	No direct effects on financing and benefits	No effects on financing but lower benefits
<b>Demographic Risks</b>		
Higher dependency ratio	Deteriorating financing	No direct effects on financing and benefit level
Lower labour force	Higher wages and future benefit levels	Lower returns and future benefit levels
<b>Political Risks</b>		
Contract change	Easy	Difficult
Responsiveness to short and long term budget constraints	High	Low

*Source: Holzmann, 1999*

While the theory strongly supports to multi-pillar approach, recent history on pensions outlines several drawbacks that are worthwhile to consider when evaluating system as a whole. First of all, while most of the claimed economic gains of multi-pillar system are associated with the fully funded mechanism, providing better security, it still remains vulnerable to weak governance and corruption. Funded scheme faces considerable management risk and Polish experience demonstrates that the problem of national accounts' management may arise easily, especially at the initial stage. Secondly, macroeconomic benefits of stated approach aren't warranted in practice. Many economists argue that

there is not so much sufficient empirical evidence that switching to funded pensions will support economic growth. Last but not least, the main benefit of multi-pillar system in terms of risk reduction through diversification can be lessened with countries' practical example that investments in privately funded pillars are not that much diversified. Barr (Barr & Diamond, 2009) notes that risk diversification "holds only if those risks are negatively correlated, or at minimum, are orthogonal to each other". Therefore, this risk-spreading argument is more complex in practice and couldn't say to be ultimately right. While can't argue obviously on private pensions' risk reduction mechanism, at least it's certain that they don't introduce additional risks.

## Chapter 2 –Pension System Reform

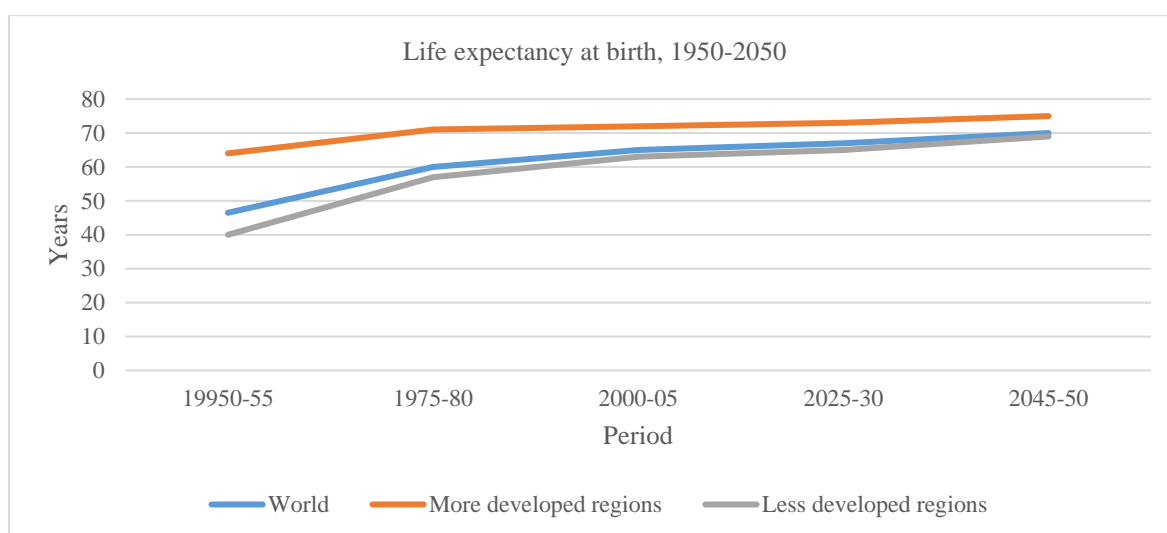
### 2.1 Understanding the need for reform - “Pension Crisis”

The “aging crisis”- an amalgam of “pension crisis” is the problem that isn’t a sudden surprise, nor wholly bad news. The problem, large increase in spending on pensions and medical care, is the result of long-term trends of longer lives, lower birth rates, earlier retirement, and better medical care. Why does those trends amount to crisis? The answer mainly lies in the political difficulty of adopting pension and health care system to those underlying economic and demographic realities.

According to World Bank (2006) the need for pension reform has become pressing as demographic aging has strained pension systems around the world, leading to large expenditures, large deficits, and high contribution rates.

Arguably demographic changes like declining mortality and declining fertility are main reasons for so-called the “aging crisis”. Life expectancy has been rising for a very long time and is projected to continue to rise. According to the United Nations’ World Mortality Report (2015) the number of years that a newborn is expected to live increased by 24 years in last 60 years. The trend is that people are living longer or often considerable longer in most countries. Figure 1: Life expectancy at birth: world and developed regions (1950-2015) shows that, over the last five decades, life expectancy increased globally by almost 20 years, from 47 to 66.0 years during 1950-2005 and it is projected to increase globally by 10 years reaching 72 years over the next 50 years.

*Figure 1: Life expectancy at birth: world and developed regions (1950-2015)*

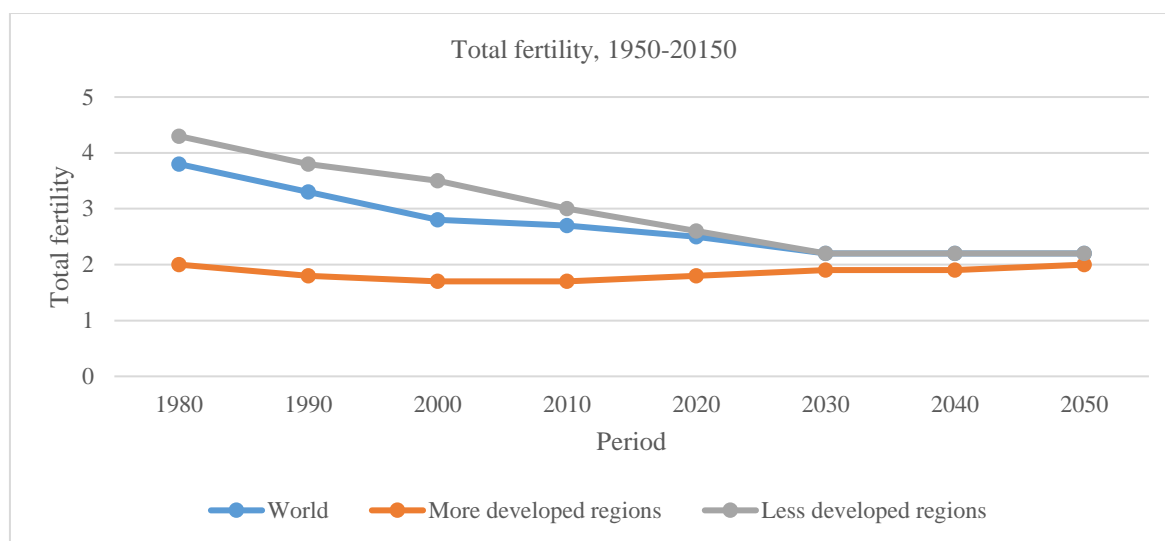


*Source:* United Nations, 2015

Along with increased life expectancy, second long term trend is a decline in the number of children that average woman has during her lifetime as shown in Figure 2: Total fertility trajectories: world and developed regions (1950-2015). As noted by United Nations Population Division (United

Nations, 2015), in last 40 years fertility has declined by more than 20 per cent in most developing countries.

*Figure 2: Total fertility trajectories: world and developed regions (1950-2015)*



*Source:* United Nations, 2015

These trends toward longer life and lower fertility result in a growth in the old-age dependency ratio that is one of the important indicator when it comes to the assessment of aging impact on budgetary expenditure, particularly on its pension component. Old age dependency ratio is a ratio of inactive elderly (65+) over total employment (20-64 or 20-74). And as it projected by United Nation (United Nations, 2010) that by 2050, older people will outnumber the younger for the first time in the world's history, accordingly economic old age dependency ratio is also projected to rise significantly. For the countries of EU, projection is that dependency ratio will rise from around 40% in 2015 to 74% in 2060 (employed aged 20-64).

These developments have major implications for public-policy system (i.e. social protection system). Rising pension spending can be named as one of the challenges posed by demographic changes. As average age at death is decreasing and more and more people living longer beyond pensionable age, the costs of pensions rise and as a proposition in logic, rise disproportionately. As an example, if we assume that country's population retires at the age of 65 and dies on their 67<sup>th</sup> birthday, a one-year increase in life expectancy would increase pension cost by 50%.

Given this context, countries faced the following scenario: as the costs of social programs were increasing, the contributions and taxes required to finance benefits will also have to increase, or benefit levels would have to be reduced, or in case of inactivity deficits would increase, or there will be some combination of these. Many OECD countries have already undertaken a wide range of pension reforms, including changes in benefit formulas, changing the indexation of pensions in

payment, linking pensions to higher life expectancy, increasing the role of private provision, as well as reforms designed to increase incentives for later retirement.

While the budgetary and demographic pressures are considered as major impetus for a pension reform, socioeconomic changes like increasing female labour participation and changing family structures would be named also as another driving force for adjustments in old age security system. According to The World Bank (2012) since 1980, the female participation rate has increased sharply over time, or in other words, at every level of per capita income, more women are now engaged in economic activity outside the home than ever before. However, this change was little reflected in the pension benefit structure, since the benefit rules was still indicated the traditional picture of a working husband and a housewife who needs his widow's pension for security in old age. But as the eligibility of such a pension becomes difficult because of rising divorce rate, gender neutrality need to be ensured. Consequently, countries require moving in the direction of establishing individual rights for spouses and thus the individualization of pension rights.

In summary, countries all around the world needed pension reform for two basic reasons: increased budgetary pressures (cause by demographic changes) and contemporary socioeconomic changes.

## **2.2 Theoretical explanation of pension reform**

Previous chapter about pension “crisis” clearly shows countries need to adapt their pension system in accordance to demographic trends. Government challenges, such as their inability to finance their pension commitments and the need to create sustainable pension systems, lead countries toward the change expressed as a move from pay-as-you-go component to privately managed funded component.

Closer inspection on pension reforms reveals that two reform styles have been emerged: parametric and paradigmatic styles. Parametric reform involves significant changes in the parameters of the pension system, while basic structure of the system remains the same. Options include changes in one or all three subgroups of parameters that pensions rely, these are: contribution parameters (e.g. contribution rates, wages which are subject to contributions); benefit parameters (e.g. accrual rate, indexation of pensions, minimum pension); eligibility conditions (e.g. retirement age). Based on those parameters, parametric reform may seek to increase revenues and reduce expenditures of PAYG pension by increasing retirement age, raising contribution rates, modifying pension indexation, curtailing privileges of special groups, etc. Such a reform may also include development of voluntary private pension funds through providing tax advantages, organizational assistance or other means. Countries like France, Germany, Czech Republic, Austria, and Greece are famous for their parametric reforms.

In contrast, systemic reform introduces totally new type of pension system that may replace or complement old system. This type of reform relates to change in paradigm in which pension system operates and therefore typically, entails shifting from the only PAYG pillar to multi-pillar system. Deep changes in pension provisions are a result of the introduction of a mandatory funded pension pillar, along with a reformed PAYG pillar and the expansion of voluntary pension schemes. Radical reforms, including implementation of funded pillar were first introduced in the Netherlands and in the United Kingdom in 1980's, followed by Italy and Sweden that reshaped PAYG with NDC system and also Sweden with a shift to its third pillar. Since then, already in 1990s, more countries like Hungary, Poland and Latvia, made pension reforms based on multi-pillar principles.

Categorization of pension reforms into parametric and paradigmatic is suitable with Hall's categorization of policy changes. Hall (1993) generated the framework for analysing the macroeconomic policy changes and outlined a process of first, second and third order changes:

1. change of settings of policy instruments, while the overall goals and instruments of policy remain the same;
2. change of instruments of policy as well as their settings, even though the overall goals and instruments of policy remain the same;
3. change of policy instruments as well as their settings in accompany with a switch of goals behind policy (i.e. changes in all three components of policy).

Hall's three orders of policy changes can be used as a helpful tool in the area of pension policy, since the approach clearly differentiate different impact that a reform may have depending on the changes of instruments or on the overall logic. According to Pallier (2000) a first order change, referred as a change in the settings or level of policy instruments, could imply adjustments in the level of pensions or contribution rates. As it's argued, those adjustments typically don't change general principles and logic in the pension system. The second order change involves introduction of new pension policy instruments, such as new calculation rules, eligibility rules or new kinds of benefits. Such changes usually referred already discussed parametric pension reform in pension literature. Finally, the third order change entails a paradigm shift. Such reforms may change policy instruments as well as alter the underlying policy goals. Hall's definition of paradigm shift is well compatible with significant changes in pension system parameters, such as changes in pension's financing mechanism (i.e. shift from pay-as-you-go financing to pre-funding or defined-benefit to defined-contribution schemes) or in the organization of the management of the system.

In studies of pension reforms, there are plenty of arguments that support paradigmatic reforms and therefore justify countries choices to introduce funded scheme or multi-pillar system. As it may conclude, in the beginning of the 20<sup>th</sup> century, there was a trend toward paradigmatic pension reform

rather than parametric one. Holzmann (1999) summarizes all the benefits of paradigm reforms and notes that adopting those more radical reforms results from the policy conclusions including that individual accounts have desirable work and compliance incentives; funding can increase a nation's savings and investment under the right fiscal conditions; and funded accounts can accelerate the development of capital market institutions and efficiency in capital allocation, therefore leading to higher growth. Holzmann also states that those assumptions are more attractive for Central and Eastern European countries that highly prefer having pension system conducive to growth. Their relatively underdeveloped financial markets and scarcity of savings suggest that mandatory funded pillar would be more beneficial for them. However, it seems inevitable that EU countries also will have to move beyond parametric reforms.

Despite the tremendous need for reform, reform progress itself highly varies among countries. The way countries design their second pillar components are different and usually depend on the objectives they consider most important. Scholars agree that introduction of compulsory funded component is associated with complex challenges that countries should meet before implementation. Among others, challenges include development of financial market, capacities to successfully manage and supervise funds and importantly to meet and deal transaction costs. These constraints and countries economic feasibility lies behind the differences in pension reform approach. When analyzing different approaches to explain pension reforms, the focus is usually on the questions like: "what triggers a policy reform and what is conditioning the choice of a particular reform design"(Leppik, 2006).

Pierson (2000) summarizes path dependent processes in three distinct phases. Those three stages in a temporal sequence are: (1) the initial "critical" juncture, when events trigger movement toward a particular "path" or trajectory out of two or more possible ones; (2) the period of reproduction, in which positive feedback reinforces the trajectory initiated in phase one; and (3) the end of the path, in which new events dislodge a long-lasting equilibrium. Following from the concept of path and its life cycle approach, important feature can be observed: path dependence entails resistance to change but doesn't exclude change. Yet, historical institutionalism affirms that those changes are strongly influenced by previously chosen path.

Males (2000) and Pierson (2001) suggest that pension policy is a prime example of path dependent social processes. Muller (Muller, 2003) supports the idea and notes that, "frequently, the success of reform strategies depends on earlier policy choices and the policy feedback resulting from them". Well-illustrated example of that is Bismarckian (PAYGO earning related defined-benefit) pension model, in which pension rights earned by the insured may cause lock in effects and opportunity costs and as a result generate high transaction costs. Size of those entitlements, or as it usually referred - implicit pension debt, is influenced by the coverage and maturity of pension system. The hypothesis is supported by the fact that the region of Eastern European Countries with almost 100% coverage,

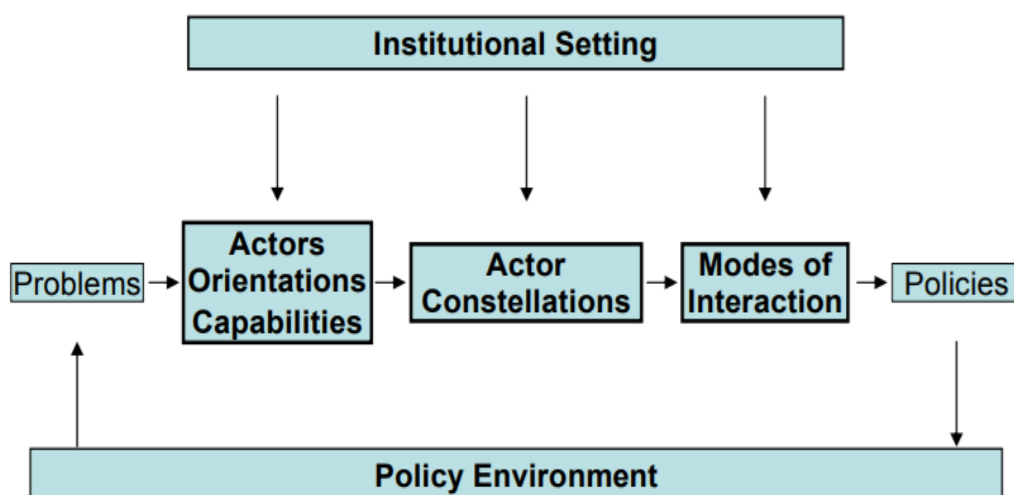


followed to the mixed reform path (e.g. Poland and Hungary). Argentina and Uruguay reformers opted the same path since their high pre-reform coverage. In contrast, Bolivian reformers supported radical pension privatization because of smaller implicit pension debt and relatively younger population.

As a summary, from the perspective of historic institutionalism, Central and Eastern European countries remained on Bismarckian pension model because of the role of path dependence, “socialist and pre-war systems were employment based, while high fixed-costs, determined by large inherited PAYG defined-benefit schemes arguable prevent radical policy shifts” (Leppik, 2006).

The second theoretical framework – actor-centered institutionalism emerged in the 1990s and Müller (1999) was first who applied this approach in the analysis of reform dynamics. Basic theoretical framework of actor-centered institutionalism is depicted in Figure 3: Framework of actor-centered institutionalism.

*Figure 3: Framework of actor-centered institutionalism*



*Source:* Scharpf, 1997

Scharpf’s (1997) explanatory framework suggest that analyses have to be started with the identification of the set of interactions that produces the policy outcomes that are to be explained. It should be followed by identification of the actors who are involved in the policy process and therefore generating specific policy outcomes. Notably actors operate in a specific socio-economic and institutional context and as policy outcomes are usually determined by more than one actor, it’s necessary to analyse: (i) the actor constellations – (ii) modes of interaction of certain constellation denoted as “negotiated agreement”. Likewise, in case of actors, interaction modes are also shaped by institutional rules.

With the help of above described framework Muller (1999) tries to explain policy choices and processes by identifying relevant actors who decide a certain course of action. He claimed that structural factors determine which actors will be involved in the process of pension reform and also at what extent. For example, as for structural setting, (i) financial situation of existing PAYG system influences to the urgency of reform as well as determines which intergovernmental actor along with Welfare Ministry may participate in the process, and (ii) degree of external debt influences whether or not external factor (for example World Bank) will participate in pension reform. Following from those actors' perceptions and proceed actor constellation affects the choice of pension privatization.

Müller's this actor-centered institutionalism framework was applied in Hungary, Poland and Czech Republic's pension reform cases and they show that in CEE, government with two ministers, the Welfare<sup>1</sup> and Finance ministers along with World Bank as an external factor triggered radical paradigm change in pension system. In case of Hungary and Poland, World Bank played an important role in providing conceptual, technical and strategic know-how to the reformers, therefore later the role of the World Bank in shaping pension reforms and this analysis has become a separate study-line under the actor-centered institutionalism approach.

Chlon-Dominczack and Mora (2003) conducted survey in 25 different countries (involving reformers of multi-pillar system and non-reformers) addressed the questions of what triggers the pension reform and what are preconditions for paradigmatic reform. They found out that age structure of the population is no mandatory precondition causing radical pension reform. Holzmann (2005) also agrees and notes that demographic context have little influence on the reform design. This seems to confirm Muller's (2003) hypothesis that demographic factor influence but not actually determine a particular policy choice. One more area of agreement between above mentioned studies relates to the size of physical deficit in pension systems and its confirmed that higher deficit with high probability leads countries to implement reform in their pension system.

## **2.3 Options for pension reform**

This chapter is focused on the second pillar and the issues related to the establishing of mandatory private pension system as well as critical functions required during the implementation process. Besides the chapter reviews world experience in pension system and outlines important lessons learned from other systems.

---

<sup>1</sup> The "Welfare" Ministers may refer to the Ministry of Social Affairs, Ministry of Labor, etc. It's called differently in different countries.

### 2.3.1 Individual Accounts

Governments around the world have already introduced and are considering the introduction of individual accounts as part of the mandatory pension system. Trend toward including individual retirement accounts as a supplement to or a substitute for public PAYG pension system continues unabated. To date, more than 30 countries already established individual accounts in their pension system: Nine Latin American countries (Chile, Peru, Mexico, El Salvador, Uruguay, Colombia, Bolivia, Argentina and Nicaragua), socialist countries in Europe (Hungary, Latvia, Poland, Estonia, Croatia, Romania, etc.) as well as Asia's leading giants - Singapore and Hong-Kong can be named as part of the trend.

The International Social Security Association (2003) classifies an individual account as an arrangement in which capital belonging to an individual person accumulated from mandatory or voluntary contributions is recorded so that it may be withdrawn in the case of certain specified future contingencies. Individual accounts are invariably provided on a defined contribution basis and should be either mandatory (employees are required to contribute in an account) or voluntary (employees have an option to choose individual account, but yet may not waive of the whole social security system of which the individual account is part). Individual accounts should be designed in a variety of ways depending of the combination of (i) benefit type, (ii) financing and (iii) management components. Table 5: Types of Individual Accounts shows eight possible such combinations with specific countries' examples and identifies that only 2 cases haven't found in practice: fully funded and publicly managed defined benefit plans and unfunded, privately managed defined contribution schemes.

*Table 5: Types of Individual Accounts*

Type of Benefit (DB. DC)	Publicly Managed (GM)	Privately Managed (PM)
Defined Benefits (DB)		
Unfunded (UF)	Germany, France (basic scheme)	France (supplementary scheme)
Fully Funded (FF)		Netherlands (supplementary)
Defined Contribution (DC)		
Unfunded (UF)	Latvia, Poland, Sweden (I pillar)	
Fully Funded (FF)	Singapore, Malaysia	Chile, Mexico, Poland, Sweden (II pillar)

*Source:* Holzman & Palacios, 2001, own modification

Referring to the above Table 5, the distinction is mainly made between three types: DB or DC, UF or FF and GM or PM. Previous chapters already devoted theoretical explanations of Defined-benefit and Defined-contribution, Funded and Unfunded schemes, however the concept of Publicly/Private

managed schemes haven't explored. In publicly managed scheme, contribution collection, record keeping, benefit disbursement and asset management are handled by public administration. In contrast, in privately managed schemes, these functions are fulfilled by private financial institutions depending on the individual consumer choice of product and firm. Real examples show that instead of pure publicly or privately managed schemes, most systems lie along the two. For example, public sector may perform only contribution collection function while outsource all the rest functions (i.e. filling and record keeping, asset management or benefit disbursement). On the other hand, in funded system, private sector functions may be reduced to asset management while others done by clearinghouses (examples include Mexico and Sweden). Holzmann and Palacios (2001) conclude that equating "individual accounts" with a scheme in which the individual bears the entire risk, which is fully funded, and in which all functions are performed by the private sector is simply wrong.

When discussing the ways in which a new system of Individual Accounts may be designed, along with administrative issues (i.e. who would assume main functions), two other important concerns have to be addressed. This includes degree of individuals' choice in selecting and controlling their investments and workers flexibility after retirement including the variety and types of payments. Before examining these decisions in detailed, it's noteworthy to mention that they amount trade-off between simplicity and standardization on one side and intense individual choice and flexibility on the other. Obviously, more standardized and simplified systems that offer few investments options and only make annuities, could limit individuals' choice. However, these simplified systems with limited options also minimize risk for individuals though not allowing to choose a diversified portfolio or simply not to make bad decisions. In contrast, systems, offering broad choices in investment options or in how saving are distributed, are accompanied with increased risk associated with increased choices. Decisions regarding system design may also influence administrative cost of the chosen program. For example, more complex programs require more services and therefore higher administrative costs. Finally, in the process of designing individual accounts, it's necessary to remember that options, available for each of those three important decisions could be mixed in some different ways with specific trade-offs, cost and issues for each combination. Annex 1 provides details of selected programs, including funding and type of retirement benefit available.

#### *Who should adopt administrative and record-keeping functions?*

Pension literature outlines two types of record-keeping system: centralized, government-operated and completely decentralized, privately managed. Under a centralized program, a federal agency or alternatively centralized government clearinghouse would assume record-keeping function. Conversely, a decentralized system is designed with employer-sponsored plans, where employers maintain records or where individual investor or financial institution where funds are invested performs record keeping responsibility.

Despite the fact that both systems are based on an existing model, none of them could be implemented without significant changes. Selected option and corresponding changes could determine additional costs or responsibilities for government, employers, workers or private sector providers. Consequently, when choosing the option, trade-offs associated with it, should be weighted. As an example, centralized administrative and record-keeping model, which may build upon already existing government system, would benefit from economies of scale and more likely maintain employer's role or slightly minimize their responsibilities. However, increased government role, responsibilities and probable liabilities may origin concerns. In contrast, decentralized system could minimize government's involvement in managing individual account system, but as system becoming more complex, it also increases regulatory function and shifting toward more challenging and costly activities. Yet, achieving economies of scale could be more difficult along with increased costs and responsibilities for employer, individual or both. In such a case, if employers would bear additional costs and responsibilities, they might reduce or change current benefit packages and therefore undermine the main goal of pension plans to improve retirement security. From individual's perspective, increased responsibility could involve selecting investment manager(s) for investing contributions, keep tracking those investments and generally to understand whole system. Additional employer burden may also include higher tax payments, greater complexity in tax calculations, extensive record-keeping requirements, etc.

Regardless the type of system for the individual account's management, length of time required for its development can be considered. Time is needed for developing regulations (i.e. law on employee benefits) and then for promulgation that may alone take years. Additional concern relates to the process of hiring and training staff, which is also time-consuming. In accordance to the new design structure, staff could be ready to answer various technical questions regarding the system design, its requirements for organizations as employers as well as for individuals, or investment and payout possibilities.

Finally, in any type of system's administration and implementation, it's crucial to educate employers and the public on the basics of a new system. An education campaign should guarantee public's understandings toward the system and its effect to the retirement income. While this process is inevitable, it's not so clear what entity might bear education responsibility or what be involved and with what cost.

*How much option would individual have in investment selection and control?*

Designing the system of individual accounts requires addressing critical decisions in relation to workers' opportunities over controlling their retirement savings. Decisions may include: how much choice individual might have in funds selection, who should invest contributions or what would be

range of investment choices. All these decisions and options partly determine system's cost and complexity and requires different degree of public education.

Investment structure of individual account includes alternatives with two extreme - starting form offering few preselected funds, ended with offering various different private market options. Variety of approaches have been already adopted around the world and therefore it's possible to discuss some of the examples.

Chile was one of the first countries that adopted perhaps best-known individual account model in 1981. From the beginning there were more than ten qualified private pension funds, solely for retirement program. Administrator of fund had responsibility for both, maintaining record and investing contributions (contributions were sent directly from employers to the private fund). Minimum and maximum rates of return for funds were determined by the government. Before 2002, workers have to invest in only one fund but had a choice to change it. However, since August 2002 the rule was modified and multi-fund law was implemented. Because of the new regulation the type and number of pension funds has increased. Each pension fund management company started to offer 4 types of funds with different degree of risks, allowing individuals to allocate contributions in two of those funds (proportions are determined by the individuals).

Different individual account system exists in United Kingdom and in Sweden. Under UK system, state-provided, flat rate benefits are based on earnings and work history. For the earnings-related benefit portion, individuals can either participate in the state earnings-related benefit program, or voluntarily opting out and choosing their own individual account through any private financial provider. In the last case, individual's contributions are forwarded from employers to the government, which than sends contributions to individual's finance provider. The provider makes and manages investments, as well as maintains the record. Number of firms providing individual accounts count several thousands in UK and already in 1996, Personal Investment Authority regulated approximately 4,000 such firms.

Sweden introduced new system of individual accounts, in which public pension includes a basic pension<sup>2</sup>, which supplies 80 to 85 percent of the total social security payment. Under the system, individuals have option to direct 2.5 percent from total contributions paid to social security system in any registered fund. For registering, a fund has to get license to operate in the country and also must agree to pay particular fee and satisfy reporting requirements. All records are maintained by the

---

<sup>2</sup> Swedish basic pension refers to "notional defined contribution" pension system. As already discussed in the previous chapters, under NDC, contributions are credited to the employee's account along with interest paid. Despite the fact that defined-contribution arrangement is used as a vocabulary to describe the system, the benefit calculation produces similar results to those pension systems that are generally considered to be defined-benefit arrangements.

government agency and not by the funds, and also benefits are paid as annuity by the government agency upon individual's retirement.

Different investment choices for individuals are associated with trade-offs. For example, greater investment options definitely allow individuals to manage and control their personal property according to own preferences, yet such a model might increase individual risk because of failure to choose a diversified portfolio or to make wrong selection. As a result, the retirement income from accounts should be reduced. Inadequate retirement income generates risk for the government as well, since individuals may ask to the government for additional support. Additionally, greater investment choices increase administrative costs, which could undermine individual's retirement income. In contrast, limited choices give possibility to reduce risks and administrative costs, while limit potential high return on investments. Moreover, this option may increase concern over government's intervention in selecting investment vehicles and its political influence on them. As a summary, the challenge is to find the balance between employee's investment choice and associated risks and costs with employee and government.

*How much flexibility should be allowed in payout of retirement benefits?*

Payment of retirement benefits can be organized in three basic ways under individual account program. Those three options include: annuitization, timed withdrawals and lump sum payments. With an annuity payout, individual contract with an insurance company (annuity provider) to provide payments at regular intervals over a specified period of time. Contract determines period and monthly amount of payment as well as interest rate earned on the premium (individuals' contribution to the provider). Premiums can be paid then either as a lump sum or as a series of annual payments.

In timed withdrawals that also referred as self-annuitization, individuals determine in advance a withdrawals schedule with their investment manager and receive those determined amounts every month. Balance left on the account remains invested. Conversely, lump sum payment option gives retirees opportunity to receive whole premium as a single payment upon retirement and decide whether save or spend their money according to their desires.

Options such as making annuities mandatory or giving retirees choice in selection of payouts are associated with different trade-offs. Compulsory annuitization on its side ensures that beneficiaries will get benefits for their entire life, yet it provides less flexibility, especially for individuals with shorter life expectancy. Lifetime benefits however are not guarantee under timed withdrawals and lump-sum payments. As an example, in case of timed withdrawals, individual could live longer than expected and thus might leave without retirement benefits, similarly, under lump-sum program, individual could spend all the money at once or invest poorly and therefore might have nothing for retirement. Consequently, flexibility for beneficiaries increase risk that some of them might left without income in old age and as a result government could be called for granting additional support.

However, one noteworthy benefit of choices is that it would provide opportunities to pass on accumulated wealth. One way to cope with those trade-offs is partial annuitization, which combines options in that way to ensure minimum benefits as well as offer flexibility to individual workers. As an example, partial annuitization of payouts is implemented in Chile, where individuals have to purchase an annuity representing 70 percent of the average worker's salary, but they can also withdraw amounts that exceed this level.

When discussing system design of individual accounts, administration costs are the most crucial issues as they vary in accordance to the selected structure. Administrative cost to purchase individual annuity are used for maintaining records, providing payments and services to participants and also for offering small amount of profit margin to payout provider. These costs affect savings as they reduce those individual accumulations and thus diminish amount of lifetime benefits. Government-sponsored annuities are characterized with lower administrative costs partly because of gaining advantage of economies of scale. Administrative costs could increase if individual decides to purchase annuities in the private market. Reason is in the private market, annuities are purchased mainly by consumers with longer life expectancy, therefore annuity providers charge higher prices than if all retirees buy annuities. Therefore, to avoid and mitigate this additional cost, one option again is too make annuities mandatory that help to create pool of applicants with all individuals.

### 2.3.2 Coverage

The transition from PAYG pension system into funded scheme affects all current and future workers in the country. However, switching to privately managed pension accounts may not directly affect individuals who are receiving pensions during the reform period. The main issue of who should be affected by the system depends on the government's choices. The new funded scheme may be presented as a mandate or as a choice to current and future workers. The reforming government must resolve at what extent the new and future workers will be allowed, encouraged or forced to switch their pension plans to the new funded scheme.

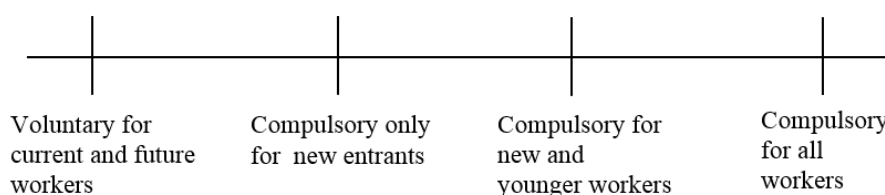
The most important choice for reformers is determining the best strategy for switching that would meet their goals, including the acceptance of the reform. This requires for policymakers first and foremost balancing PAYG and funded elements in new pension system and secondly resolving coverage issues. Relating to the first issue, countries can choose a complete or partial shift to funded, defined-contribution schemes or alternatively introduce compulsory funded scheme as additional element to the existing PAYG system. The second issue of coverage addressing the switching strategy: specifically, the choice between voluntary and compulsory switch. Arguable policymakers' response to this critical issue could be determinant of success or failure of the entire reform.

Reforming country's government has the range of options of second pillar coverage in the transition to funded pension system. At one side, the switch should be entirely voluntary, meaning that all



workers (current and future employees) can decide themselves whether stay with PAYG system or switch to the new funded plan. At the other side, the switch should be entirely compulsory where the rights of all workers can be earned only through the defined-contribution plan. However, in between of those two extreme options, various combinations can be examined. For example, new plan should be a choice to current workers but mandate to new entrants. In contrast, new system may exclude older workers from the participation of new plan, while force younger to switch. Figure 4: Switching strategies from PAYG to funded element shows possible choices from an entirely voluntary switch to the other end of an entirely compulsory switch.

Figure 4: Switching strategies from PAYG to funded element



- Lastly, it's most likely that persuasion of older workers to switch might be expensive. Higher cost is associated with direct or implicit strategies that guarantee the pension for participants under new system.

Looking to the policy choices in practise, Table 6: Coverage - switching policies in selected pension reforming countries, covers entire spectrum of possible outcomes. Researchers Palacios and Whitehouse (1998) looked switching policy in 13 reforming countries and concluded two important trends: Firstly, older people would have to be excluded from the reform, because economic benefits are small and political resistance may be larger if they are included. Secondly, voluntary and not compulsory switch is preferred. However, there are objections to a voluntary switch: continuation of unfunded, PAYG scheme, increasing administrative costs and an uncertainty regarding the pace of reform or number of people that will choose different options.

*Table 6: Coverage - switching policies in selected pension reforming countries*

	Switching for new entrants	Switching for current labor force
Argentina (1994)	Voluntary	Voluntary
Bolivia (1997)	Mandatory	Mandatory
Chile (1981)	Mandatory	Voluntary
Colombia (1994)	Voluntary	Voluntary
El Salvador (1998)	Mandatory	Mandatory < 35 Voluntary 35-55
Mexico (1997)	Mandatory	Mandatory
Peru (1993)	Voluntary	Voluntary
Uruguay (1996)	Mandatory	Mandatory < 40, higher income
Croatia (1999)	Mandatory	Mandatory < 40 Voluntary 40-50
Hungary (1997)	Mandatory	Voluntary
Kazakhstan (1998)	Mandatory	Mandatory
Poland (2000)	Mandatory	Mandatory < 30 Voluntary 30-50
United Kingdom (1988)	Voluntary	Voluntary

*Source:* Palacios & Whitehouse, 1998

Analysis of above mentioned reforming countries shows that only three - Bolivia, Kazakhstan and Mexico have forced all workers to shift to the private scheme. While, Argentina, Colombia, Peru and the United Kingdom have allowed all workers to choose between private and public schemes as part of their mandatory pension element. In contrast, Croatia, El Salvador, Poland and Uruguay have

forced only certain age group to switch. Finally, Hungary and Chile have allowed current workers to choose but have mandated for new labour entrants.

As a summary, the actual experience of reforming countries clearly demonstrates that pension reform may include all possible models. However, the empirical evidence shows that in the broad sense, it's possible to anticipate switching pattern. The choice lies between rapid and gradual transitions. Moreover, the switching process can be influenced greatly by the government, depending on the reform objectives. For example, governments can provide age-related incentives to the current workers to switch. Options include adjustments in the valuation of historical contributions, altering contribution rate for funded element, or reform PAYG scheme that would reduce public pension obligations and allow financing transition. Additionally, to those direct incentives, the government can also provide indirect incentives by adjusting guarantees of the minimum pension or manipulating the default option. Finally, it's the government's obligation to ensure that employees understand all these conditions and can make choices based on the provided information.

### 2.3.3 Pension plan and pension fund governance

Pension plan or arrangement of retirement income is a legally binding contract with explicit retirement objective, but also may offer additional disability, sickness and survivors' benefits. Pension plan may be part of employment contract or specifically required by law. Likewise, its elements may be mandated by law or defined as part of tax treatment as most tax-qualified savings are designed to provide beneficiaries an income after retirement (Yermo, 2002).

Pension plans can be classified as public/private, occupational/personal or protected /unprotected programs.

Public pension plan is administrated by central, state or local governments or by social security institutions and is traditionally PAYG financed. In contrast, private pension plan is administered by institution that doesn't belong to general government. Such institution may be the employer (providing the role of plan sponsor), private pension fund or private sector provider. Unlike public plan, private pension fund is funded.

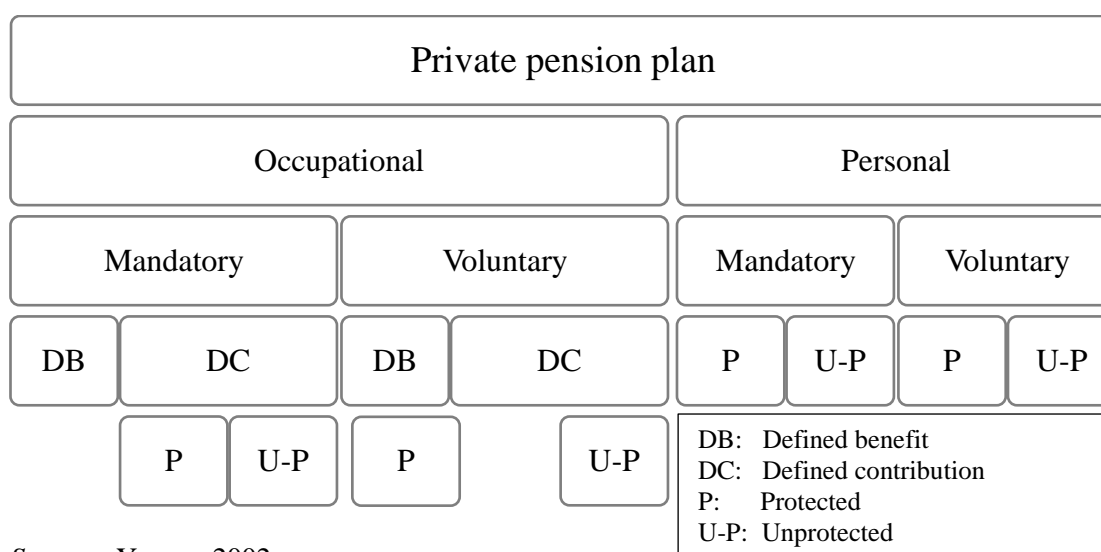
Occupational pension plans represent employment relationship between beneficiaries and entity establishing the plan. Such entity can be employers, jointly with group of employers or labor associations. Plans can be administered either by plan sponsor or by independent entity (i.e. pension fund or financial institution). Depending on the participation requirement of employers, occupational pension plans can divide by mandatory and voluntary plans. In the first case, employers are forced by law to participate, therefore they must set up plans in which employees membership should be normally compulsory or in some cases even voluntary. In the latter case, employers can establish

pension plans are not required to do so. Taxonomy of occupational plans is also structured around two most important key terms: defined-benefit (DB) and defined contribution (DC).

Alike from occupational plans, personal pension plans aren't necessarily linked to an employment relationship. Instead, the plans are established by pension fund or financial institution, acting as pension provider. In this case, individuals, without the intervention of employers, select and purchase appropriate aspects of arrangements. Individuals may be required to join personal plans and make compulsory contributions or alternatively may not be obliged by law to participate. First case is associated with mandatory personal plans, while the second with voluntary personal plans.

The last classification of pension plans is associated with protected vs. unprotected pension plans from the perspective of pension provider and applies to personal or occupational DC pension plans. Under unprotected plan, pension provider doesn't guarantee investment return or benefits. Controversy, under the protected pension plans, guarantees or promises may be offered by the pension plan/fund itself or the plan provider (e.g. deferred annuity, guaranteed rate of return). Figure 5: Classification of private pension plan below shows different types of private pension plans from the functional perspective.

*Figure 5: Classification of private pension plan*



*Source:* Yermo, 2002

Classification of private pension plans show that, they function on the basis of agency relationships between plan members and beneficiaries, on one hand, and the persons or entities involved in the administration or financing of the pension plan, on the other hand (OECD, 2002). The governance of those plans consequently consists relationships between different entities and persons who are involved in functioning of pension plans. Governance also includes designing the objectives of pension plan, means for achieving those goals and tools for performance monitoring.

The OECD Principles of Corporate Governance (2004) is one of the most important and widely used international benchmark for policy makers as it covers 12 basic principles of sound financial system

including various aspects of pension plans governance. The main aim of the guideline is to protect beneficiaries' rights and to ensure pension schemes' financial security. The principles recommend that financial security of pension plans are best achieved through funding. It's also argued that funding should take via separate legal entity (an autonomous pension fund) rather than the non-autonomous funds. In the last case, it's required that liabilities of plans should be properly insured.

Yermo and Marossy (2001) note that governance structure of private, funded pension plan depends on the primarily on three factors: whether the plan is DC, DB or hybrid, personal or occupational and whether it operates under voluntary or mandatory pension system.

In DC plans, pension plan sponsors or/and administrators do not underwrite any of the financial risks that are concomitant to funded pension plans, instead, the plan's benefits are determined purely on the basis of the interest earned on invested assets. Therefore, in this case, governance issues are only limited through timely payments of contributions as well as benefits, the management of the plan's assets, reporting to the supervisory authorities, and disclosure of relevant information to plan members. In contrast, under DB or hybrid schemes, either plan sponsor or administrator insures beneficiaries against financial risks. As a result, pension plan may provide guaranteed minimum rate of return on investment. These guarantees are associated with additional governance issues related to increased responsibility of plan sponsor/administrator to honor the promise. Therefore, because of additional responsibilities, additional internal control is required to ensure that given promises can be met. In such a case, control mechanism may consist detailed provisions for the governance of pension plan. For example, regulations may establish rules regarding types of institutions that should be allowed to manage pension assets or appointment of experts for evaluating future liabilities and scheduling relative contributions for their financing.

Different governance issues are associated with occupational and personal plans. In case of personal pension plans that are provided directly by insurance companies or financial institutions, regulations should focus on those companies and pension plans they provide. However, since such companies are already subject to existing regulations, no additional governance requirements should be needed. Yet, regulations may still introduce specific pension plan governance rules, like the separation of pension plans assets from the rest of other assets or ask more transparency structures and demand higher disclosure of information. Situation is different when pension plans (either occupational or personal) are financed via pension funds, as in such a case-specific governance regulations may apply to those funds.

Finally, governance regulations depend on voluntary and mandatory pension system. Under mandatory participation, fiduciary responsibility of state, hence governance regulations are increasing to guarantee adequate management of pension funds and plans. In contrast, regulations of voluntary plans are supposed to be facile.

After discussing pension plans and their governance, different type of pension funds can also be discussed. Pension fund is defined as a legally separated pool of assets that is bought with the contributions to a pension plan. The fund has only one purpose – to finance pension plan benefits. Simple functions of pension funds include collection of contributions, investment of accumulated assets, and distribution of income to beneficiaries through their retirement (Clark, 2000) As such, it's arguable that pension funds are like other economic organizations in that they have goals and objectives as well as procedures by which those goals and objectives are realized (Clark, Munnell, & Orszag, 2006).

Pension fund governance can be structured in various ways across countries. Yet one characteristic is similar for all of them and that's the governing body or board that all autonomous<sup>3</sup> funds have. The governing body is accountable for operation and oversight of fund; it is the only decision-maker and therefore having responsibility for making strategic decisions ensuring good performance through raising the value of stakeholders. The governing body may be external or internal depending on the legal form of the fund which funds may or may not have. Based on that, internal governing bodies are typical for funds with legal personality and capacity, while external governing bodies generally administer funds with no legal personality and capacity.

Pension funds may take the form of a trust, an independent entity with legal capacity or a legally separated fund without legal capacity managed by a dedicated provider (pension fund management company). More detailed classification of pension funds show that they may take four-man legal form. These are corporate, foundation, trust, and contractual forms. In corporate and foundation forms, pension fund has a legal personality and internal governing body represented as a board of directors. However, the two forms differ in a way that under corporate form, plan members have legal title to the pension assets via their ownership of a certain number of shares in the pension entity that owns those assets (Yermo, 2002). In contrast, under foundation form, plan members are just beneficiaries from the investment of assets and therefore may have beneficial ownership rights over the pension fund. Countries that support corporate form of pension funds include Germany (i.e. pensionskassen or mutual assurance associations), Hungary (mutual savings associations), Belgium (mutual assurance association), Italy (associations). Countries such as Denmark, Finland, the Netherlands, Norway, Sweden adopted pension funds operating as foundations. Unlike from corporate and foundation forms of pension funds, trust and contractual forms doesn't have legal personality or capacity. While all Anglo Saxon countries recognize the trust as the main or only legal

---

<sup>3</sup> In occupational plans, autonomous pension fund is a pension fund that is legally separated from the plan sponsor. Pension funds that support personal pension plans are by definition autonomous (Yermo, 2002)

form for pension funds, pension funds of Poland, Portugal, and Spain, and the Italian are of the contractual form (Yermo & Marossy, 2001).

Table 7: Main legal forms of pension funds distinguishes four main legal forms of autonomous pension funds with two main criteria: funds' legal personality and capacity and members' legal title to pension assets.

*Table 7: Main legal forms of pension funds*

Legal Personality and Capacity	Legal title to pension assets	No legal title to pension assets
Yes	Corporate form	Foundation
No	Contractual form	Trust form

*Source:* Created by author based on Yermo, 2002; Yermo & Marossy, 2001)

Additionally, another important classification of pension funds includes differentiation on the basis of membership nature: Funds, which don't restrict membership and support at least one plan, are known as open pension funds. Contrary to that, closed funds support only particular plans and are limited to certain employees.

Closed and open pension funds may differ in terms of legal structure. Closed funds generally are established in the trust form and are normally set-up by employers and occupational associations, while open funds are generally established in the corporate form and are operated by financial companies (banks, insurance companies, etc.). However, there is an exemption in case of Hungary, as employers and employment associations can set-up open funds also.

Closed and open funds differ in governance structures as well. Under closed funds structure, board of trustees, which represents beneficiaries' interests, are responsible for the administration of the fund. Yet, the board may have different responsibilities and variety of composition depending on the country in question. As an example, In Italy, the Netherlands, Sweden and Japan (the Employees Pension Funds), closed pension fund boards must be composed of an equal number of employee and employer representatives (Stewart & Yermo, 2009). The board's responsibilities are broad and include the investment management of the fund. In some cases, the Board must delegate executive responsibilities to a pension's committee. However, in most countries, the board may have the right to contract out at least the fund management function to financial intermediaries.

Unlike from closed pension funds, administration and governance of open funds doesn't require specific rules as they are normally subject to the existing rules applying to other funds that are managed by financial companies. Italy is an exemption form that general rules, since open funds are required to contract the provision of benefits with insurance companies. Like Italy, Hungary is an exemption from general rules. In Hungary, open funds have the same governance structure as closed

funds. The assembly is the main decision body in open pension funds, while Board of Directors, which is chosen by the assembly, is responsible for the operations of funds.

The last, but not least distinguishing factor between closed and open pension funds is portability and individual choice. Normally, closed funds only limit portability to the case “where employer changes jobs and switches to the new company’s pension plan, yet employers may establish several closed funds with different risk-return characteristics and permit their employees to choose between these” (Yermo & Marossy, 2001). Open funds on the other hand allow its members to switch funds without restrictions, yet sometimes regulations may limit switching frequency in order to avoid the adverse impact of fees on savings. While portability of open funds is considering as an important advantage over closed funds, significant cost advantage of closed funds should be taken into consideration when comparing the two forms. Cost advantage of closed funds generally is a result of guaranteed membership. Such funds are characterized with stable beneficiaries because employees are automatically enrolling in the pension plan as part of the employment contract. Consequently, closed funds don’t need to encounter additional marketing and advertising expenses for attracting new members. In contrast, open funds have to rely costly distribution channels (i.e. sales agents) and advertisements to attract membership. Following from that, it’s argued that the way distribution channel is managed matter, as expenses of funds at some extent are reflected in higher fees for plan members and therefore have adverse impact on retirement benefits.

Despite increased attention to the good governance of pension funds, significant problems arise recently. Serious cases include for example Switzerland, where fund managers were trading the same shares as the pension funds which employ them. In Hungary there was an evidence that governing body of pension funds was ineffective in looking after the best interest of members, as financial institutions that established funds, promoted their candidates to the fund’s supervisory board. Recent various studies also identified general governance problems that affect pension fund industry. Ambachtsheer and Capelle (2006) did investigation into pension fund governance covering funds in Australia, Canada, New Zealand, the United Kingdom, and the United States, among other countries. Their study found that governance practices were improving but that there were still many lingering problems. In 2008, the International Organisation of Pension Supervisors (IOPS) surveyed its members results showed that pension fund supervisors were particularly concerned with transparency and the disclosure of information to pension fund members, the competency and expertise of the governing body and internal controls (IOPS, 2008). In line to issues recommended response is implementation of adjusting legislative requirements and increasing supervisor oversight.

Because of the evident weaknesses in the governance of pension funds, OECD countries started to address the issues. In some cases, regulators have even enshrined governance best practices similar to the OECD guidelines in the country’s pensions legislation, while in other cases, industry associations driving a reform in governance practices, encouraging funds to improve their self-



regulation through better governance practices (Stewart & Yermo, 2009). Recent governance regulations or countries' recommendations include the following:

- Pensions Market Council report in Denmark contains set of principles for the responsibilities of boards, their tasks, composition and working methods.
- The government of Greece issued new rules related to the selection pension funds' board members.
- Portugal's insurance and pension fund supervisory authority issued regulation on pension funds' governance structure, including issues related to pensions ombudsman and pension fund auditor.

The above mentioned regulatory and industry initiatives have improved the situation in pension funds governance, yet cases of underperformance caused by bad governance practices still remains.

For the practical example on the structure and governance of pension funds, Czech Republic's case is discussed below.

In Czech Republic, pension funds are open and work as joint-stock companies. They have (i) Statute – description of fund's activities, objectives of investment policy, profit distribution and disclosure methods, and (ii) Pension plan – specification of regulations related to benefits and contributions, both accessible for participants. Pension funds are contracted with a depository bank and have independent external auditor. Funds have the right to pass on investment management to another asset manager, yet they have to provide retirement income. Related to the governance, pension funds have board of directors and supervisory board with at least five members. For directors and pension funds' supervisors, suitability regulation is applied, as only professionally qualified and trustworthy individuals can be appointed for the positions. It is required for pension funds to publish semi-annually report on the funds financial performance, including placement, deposit and amount of its assets. Additionally every year funds have obligation to provide their participants a statement which includes accumulated balances and investment earnings.

## **2.4 A Glimpse of Pensions Reforms in Europe**

Based on the theoretical part of Chapter 2 and discussed options for pension reform, this chapter reviews CEE countries examples and outlines how pension system and particularly Pillar II was designed after reforms. Data collected for the countries are useful for designing Georgia's Pension system. Table 8 below shows year of reform in selected CEE countries, covering Coverage and Contribution rate options set by policymakers during reforming years as well as changes done by 2015.

Table 8: A Glimpse of the pension system after reforms

Country	Year of reform	Pillar I	Pillar II	Coverage	Contribution rate
<b>Estonia</b>	2002	DB, PAYG	Prefunded	Mandatory up to 18, Optional to others	6.5%, decreased to 6%
<b>Hungary</b>	1998	DB, PAYG	Prefunded	Mandatory for new entrants	8%
<b>Latvia</b>	2001	NDC, PAYG	Prefunded	Mandatory up to age 29, Optional for 30 to 49	10%, decreased to 8%
<b>Lithuania</b>	2004	DB, PAYG	Prefunded	Optional	6%, decreased to 5.5%
<b>Poland</b>	1999	NDC, PAYG	Prefunded	Mandatory up to age 29, Optional for 30 to 49	7,3%
<b>Romania</b>	2008	DB, PAYG	Prefunded	Mandatory up to age 35, Optional 36 to 44	2% increased to 6%
<b>Slovakia</b>	2005	DB, PAYG	Prefunded	Mandatory for new entrants	9%

Notes: DB: Defined-Benefit; PAYG: Pay-as-you-go; NDC: Notional defined-contribution

Source: Dorfman, Hinz, Robalino, & Holzmann, 2008

As depicted, structural reforms such as change of pension systems' structure includes change of pension formula from defined-benefit to notional defined-contribution and/or implementing of prefunding into mandatory pension schemes. All selected CEE countries, except Lithuania introduced privately managed pension funds into mandatory part of pension systems and thus followed systemic reforms.

Decisions relating to the funded part of the mandatory pension system varies between selected countries because of different contribution levels and participation rules. Contribution rates varies from 2% (Romania) to 9% (Slovakia), besides almost half of the countries adjusted the rate after the pension system reform.

Reformed countries expectation from the reforms mainly was that created funded mandatory pillar at one hand would provide more diversified and sustainable pensions and on the other hand would increase savings, support development of financial markets and enhance economic growth. In all reformed countries, reforms and its objectives were supported by the World Bank report *Averting the Old Age Crisis. Policies to Protect the Old and Promote Growth* (1994). Beside its claimed that that the final decisions made by national authorities on the pension reforms were influenced more directly through financial aid and structural loans from international financial institutions (Bielawska, 2014).

Table 9: Analysis of Mandatory (Pillar 2) for selected CEE countries, further discusses in a detail design and governance of a funded mandatory component (Pillar II) of pension system for three CEE countries: Hungary, Poland, Romania.

*Table 9: Analysis of Mandatory (Pillar 2) for selected CEE countries*

Country	Hungary	Poland	Romania
<b>Contribution collection</b>	Directly to pension companies	Centralized with the Social Security Institution	Centralized with the National Pension and Social Insurance Authority through the Tax Collection System
<b>Record Keeping</b>	Pension Company	Pension Company	Pension Company
<b>Pension provider</b>	Private Pension Funds (PPFs)	Private, or the Open Pension Funds (OFEs), managed by Pension Fund Management Companies (PTE)	Private Pension Funds (PPFs)
<b>Regulations:</b> <ul style="list-style-type: none"> <li>• <b>Capital paid in</b></li> <li>• <b>Independent Audit</b></li> <li>• <b>Regulator</b></li> </ul>	Regulated  Required on an annual basis  Hungarian Financial Services Authority	Regulated  Required on an annual basis  Komisja Nadzoru Finansowego (KNF)	Euro 4 million  Required on an annual basis  Comisia de Supraveghera a Sistemului de Pensii Private (CSSPP)
<b>Portability</b>	Yes after at least six months with a particular fund	Yes, with certain fees	Yes, with certain fees
<b>Pension payout options</b>	Lump sum option for those participants of less than 15 years and a fixed annuity for all others	Fixed period annuity or life annuity	Annuity payments are intended in the proposed legislation

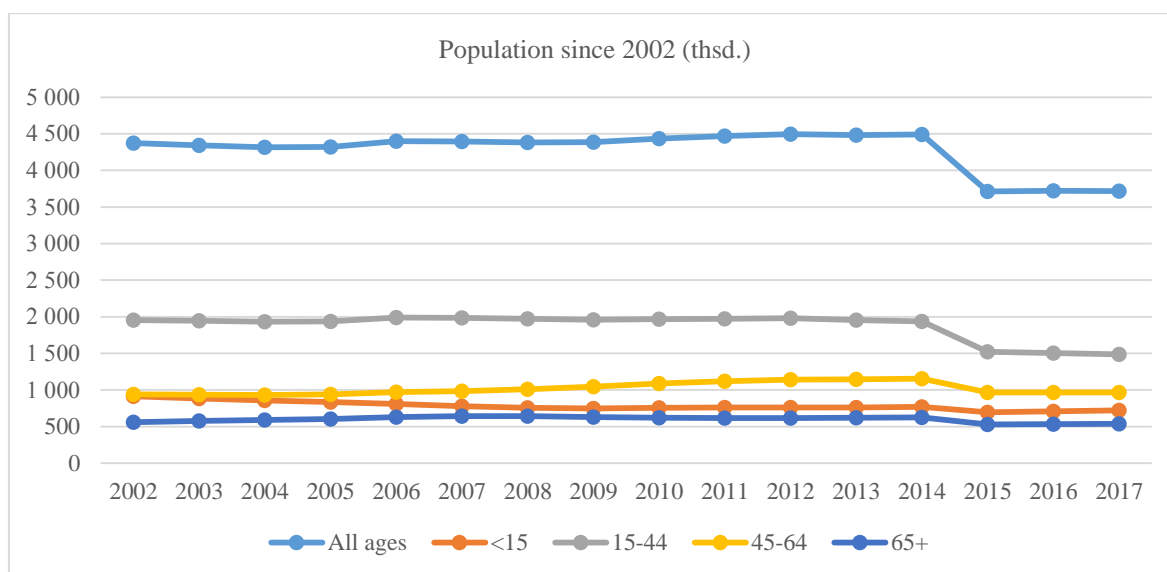
Source: (European Parliament, 2014)

## Chapter 3 – Georgia: Background

### 3.1 Population

Since 2002, Georgia's total population has increased from 4 371 million to 4 490 million in 2014 (data as of January of each year), dropped significantly in 2015 to 3 713 million persons (Figure 6: Population of Georgia since 2002 (thousands)).

Figure 6: Population of Georgia since 2002 (thousands)

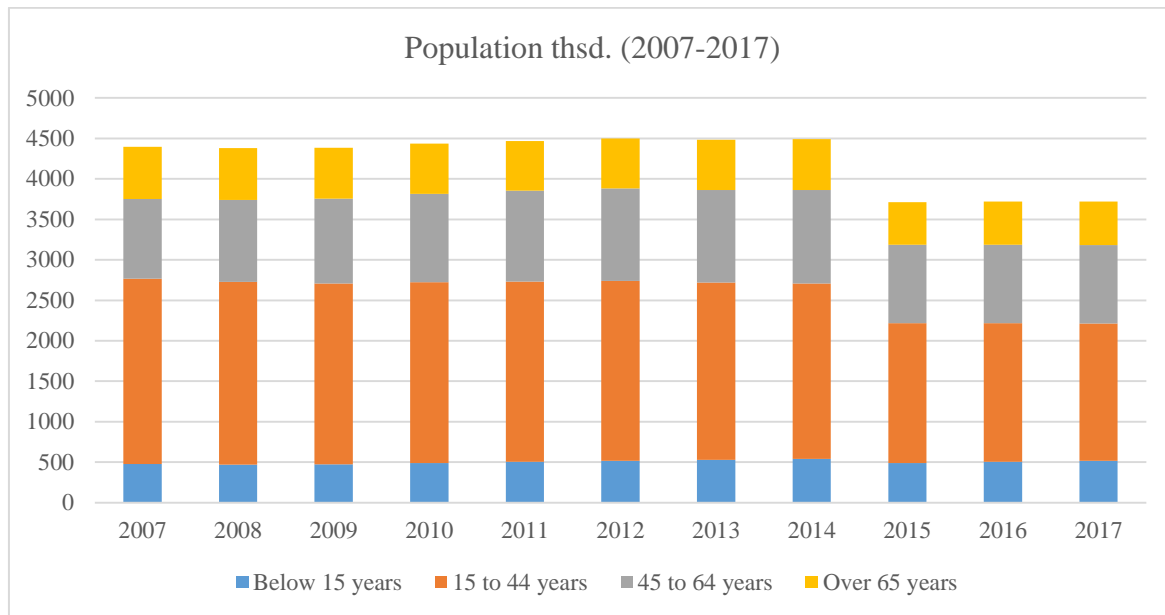


NOTE: General population census was conducted in 2014, showed decline in population compared to census data of 2002.

Source: National Statistics Office of Georgia (GEOSTAT)

From the above figure increasing trend in population until 2014 and a sharp decline in 2015 is depicted. The reason behind the population drop was the general population census that has been conducted during November 5-19, 2014. As seen, results showed that the number of population of Georgia totalled 3 713 million persons, or 15% (657 731 persons) less compared to the previous census data (2002) (4 371 million persons) (Geostat, 2016).

Figure 7: Population by age, thousands (2007-2017)



Source: National Statistics Office of Georgia (GEOSTAT)

Figure 7: Population by age, thousands (2007-2017) shows that in 2016, population has increased to 3 720 million persons and slightly decreased to 3 718 million persons in 2017. The population of both men and women age 15 and over has also declined from 3 720 million in 2013 to 2 994 million in 2017. While the number of those over 15 years of age has decreased, the number of people below 15 years of age reflects an increasing trend. Additionally, population of age group 45-64 has decreased from 1 144 million in 2013 to 968 thousand in 2017 which will lead to a smaller elderly population in the near future. Yet the population over 65 years is increasing slightly again from last year after a decline in 2015. There is a decreasing trend for the age group of 15 to 44 years for both men and woman in the last five years (for the data about population by age, gender and year along with demographic statistics see Annex 2).

Table 10: Dependency ratio (2013-2017)

	2013	2014	2015	2016	2017
Dependency Ratio	20,0%	20,3%	21,2%	21,6%	21,9%
Males	15,6%	15,8%	16,5%	16,7%	16,9%
Females	24,1%	24,4%	25,7%	26,2%	26,7%

Based on the population and demographic statistics of Georgia, Table 10 shows old-age dependency ratios. The ratio is calculated as a percentage of older dependents (persons older than 64) to the working age population (15-64). As shown in the above table, elderly dependency ratio has increased in the last five years and current (2017) rate reached almost 22% on average. This means that there are approximately two elderlies for every ten people in the active labour sector. It is worth to note that even though the number of people between 45 and 64 years of age has decreased, its remains

stable and is likewise to increase, which means more people would become eligible and entitled to receive old age pension from the state pension in the next years.

### 3.2 Labor force

The Georgian labour force<sup>4</sup>, as shown in the Table 11: Employment statistics, fluctuated slightly over the last few years.

*Table 11: Employment statistics*

In thousands	2013	2014	2015	2016
Total population *	4484	4491	3714	3720
Labour force (15+)	2004	1991	2021	1998
Average monthly earnings GEL	773	818	900	940
Employed	1712	1745	1779	1763
<i>Hired</i>	658	692	753	745
<i>Self-employed</i>	1044	1046	1018	1011
<i>Not identified</i>	10	7	8	7
Unemployed	292	246	242	235
People beyond labour force	1022	1004	958	963
Activity rate % <sup>5</sup>	66,2	66,5	67,8	67,5
Unemployment rate %	14,6	12,4	12,0	11,8

NOTE: \* General population census was conducted in 2014, showed decline in population compared to census data of 2002.

Source: National Statistics Office of Georgia (GEOSTAT)

In 2015, labour force increased by 1.5% from 2014 and around 50% of working population was self-employed. In that year self-employment increased by 8.8% compared to 5% increase in 2014. In 2016, labour force declined approximately 1.2% and number of hired employees decreased by 1.1% as well as self-employed decreased by 0.7%.

Unemployment has been an issue in the country for many years. As seen from the above table, unemployment rate was almost 15% in 2013, however started to gradually decrease from 2014. As of 2016, unemployment rate was 11.8 %.

According to Geostat statistics, the average nominal monthly salary of Georgian hired employees is growing during the last few years to GEL 900 in 2015 and GEL 940 in 2016, as compared to GEL 818 in 2014 and GEL 773 in 2013. General salary increase was observed for governmental and civil positions, created more public interests for these jobs and also generating a rise in private sector salaries.

---

<sup>4</sup>Labour force refers to female between age 15 and 60 and/or male between age 15 and 65

<sup>5</sup>Activity rate is a ratio of total labor force to total labor force and people beyond labor force (Geostat)

### 3.3 Basic economic indicators

Table 12: Historical Basic Economic Indicators, 2011-2016

	2011	2012	2013	2014	2015	2016
GDP (nominal), mln GEL	24 344	26 167	26 847	29 150	31 756	33 922
GDP (real), mln GEL	11 925	12 682	13 112	13 718	14 113	14 501
GDP (real), changes	7,2%	6,4%	3,4%	4,6%	2,9%	2,7%
GDP deflator changes	2,1%	1,1%	-0,7%	3,8%	5,9%	3,9%
GDP deflator, index	204,1	206,3	204,8	212,5	225,1	233,9
GDP per capita, nominal	6 258	6 820	7 096	7 816	8 535	9 165
GDP per capita, real	3 065	3 305	3 466	3 678	3 793	3 917
Average inflation rate	8,5%	-0,9%	-0,5%	3,1%	4,0%	2,1%

Source: IMF World Economic Outlook Database (2017) - Country (Georgia)

Last few years Georgian economy saw a declining trend in growth, the real GDP has been increasing from 2011 when it reached the highest growth rate in years at 7.2 percent. Growth rate declined to 6.4 percent in 2012 and in 2013 country experienced even smaller economic growth at 3.4 percent. Shown declining trend of GDP growth started from 2012 is associated with 2012 parliamentary elections. The result of the election was the democratic change in power for the first time in eight years. Because of the uncertainty associated with elections, FDI decreased significantly, caused the slowdown of economic growth. Started from 2013, new government implemented actions to boost its economy and stimulate growth, therefore growth rate increased to 4.6 percent in 2014. However, in the next two years, the growth has been slowing down again.

Average inflation has been falling since 2012, after reaching the very high point of 8.5 percent in 2011. After the peak, inflation has declined to the point of deflation until end of 2013. The decline was mainly attributed to the decreased global food prices in 2012 and 2013, as food constitutes around 30 percent of the country's consumer basket (Deutsche Bank Research, 2013). Started from 2014, consumer price index started to rise and inflation reached around 4 percent in 2015. Rise in inflation was mainly attributed to the increase in demand and depreciation of national currency.

In 2016, growth in the country reached 2.7 percent. Despite the cuts in the policy rate, inflation was low, below the 5% inflation target. The current account deficit was increased to 12 percent of GDP and external debt grew almost 110 percent of GDP, mainly because of the currency depreciation. In contrast to budgeted 3 percent fiscal deficit of GDP, it reached 4.1 percent of GDP in 2016 (for the economic indicators see Annex 3).

Based on the historical economic data, IMF's projections of the future developments of economic indicators are shown in Table 13.

Table 13: Projected Economic Indicators - GDP and CPI

	2017	2018	2019	2020	2021	2022
Real GDP growth	3,9%	4,1%	4,5%	5,0%	5,5%	5,4%
Nom. GDP mln GEL	37 380	40 091	43 253	46 755	50 768	55 165
Inflation, average consumer prices	6,0%	2,9%	3,2%	3,0%	3,0%	3,0%

Source: IMF World Economic Outlook Database (2017) - Country (Georgia)

According to IMF, GDP growth is projected to increase gradually. Real GDP growth was projected at 4 percent in 2017, because of consumption and investment. Real GDP will gradually increase to 5 percent by 2020 and reach 5,5 in 2022. Increase is supported by structural reforms and investments. Nominal GDP is projected to increase from GEL 37.4 billion in 2017 to GEL 55.2 billion in 2022. In 2017 inflation rate is expected to cross the 5 percent target in 2017 mainly because of continuing currency depreciation. However, in the next years projected rate is around 3 percent.

### 3.4 Pension system

Currently Georgia has two types of pensions schemes: the state pension and non-state pension funds. The state pension is PAYG (unfunded) pension program and it provides pension for: (1) old age, (2) persons with qualifying disabilities and (3) survivors due to loss of a breadwinner. The non-state pension funds represent voluntary schemes. Such funds are generally established by few numbers of employers who contract the schemes with authorized insurance companies for the benefit of employees. According to the data of National Bank of Georgia (NBG), as of December 31, 2012, there were five authorized insurance companies as pension providers with 18,390 overall active participants with accumulated pension assets (reserves) of GEL11.289.600. This total number of participants however represents only 2,5% of more than 724,000 formally employed individuals. Additionally, in 2012 for example, amount of withdrawals was more than 40% of the amount of contributions. As the number of employers that participate in voluntary pension system are relatively low the performance of the non-state funds is also gloomy, state pension program still remains to be considered as the main source of pensions for elderly. But, since Georgia also experiences similar demographic trends as many other countries in the world, the need of pension reform in the country remains unquestionable. On that way, substantial challenge is to establish and implement the model that would increase the efficiency of the system and will facilitate conditions of pensioners and provide decent old age security with much higher probability.

#### 3.4.1 Review of pension system in the post-Soviet period

After the independence in 1990s, Georgia continued to have the Soviet system of a compulsory pension scheme, which was operated based on DB principle and was funded on PAYG basis form



the payroll fund (in line with the solidarity principle). The system was including old age, disability and survivors' pensions its main characteristics were as follows:

- Entitlement to a pension – retirement age of 55 for woman and 60 years for men
- Pension payment required minimum 20 years of service for women and 25 years for men
- Motivation to receive pension as for a full paid worker the pension constituted around 60% of salary

However, the above described pension system didn't last for long, mainly because of the economic crisis in the first half of the 1990s in Georgia. The state was unable to pay pensions as such the amount reduced to minimum and basically was purely symbolic. Starting from 1995, flat rate pension benefit was introduced and pension based on the years of service was abolished. In 1996, the government implemented further changes and increased pensionable age by 5 years and became 60 for women and 65 for men. Along with these changes, payment of pension benefits was a permanent problem.

Starting from 2004, one of the main goals of the government was to bring the value of state pension closer to the subsistence minimum rate and in line with this strategy pension was increasing gradually.

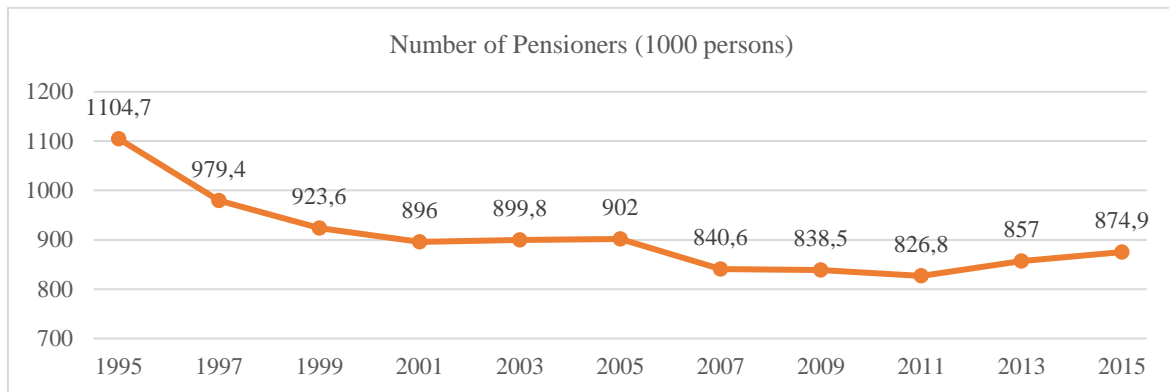
### 3.4.2 State Pension

State pension program in Georgia are funded from the national budget and according to the existing legislation ("Law of Georgia on state pensions," 2012) are allocated to the Georgian citizens or to foreign citizens living in the country for the last 10 years. Pension system provides benefits for (i) old age (65 for men and 60 for women), (ii) disabled persons and (iii) loss of a breadwinner (survivors pension).

#### *Coverage and adequacy*

By the end of 2016, 22,6% of Georgia's population received state pensions. Figure 8 shows the dynamics of pensioners by years from 1995.

Figure 8: Number of Pensioners



Source: National Statistics Office of Georgia (GEOSTAT)

The figure shows that between 1995 and 2001 the number of pensioners was declining steadily, but also in 2007 and 2011. The explanation of drop can be the increase of pensionable age by 5 years in 1996 and, also fall of pension provision. By then the pension benefits was so small that big part of population didn't apply for it. When it comes to the distribution of state pension beneficiaries, Table 14 shows that in 2016, more than 81% of pensions was Old age, while only 16.7% was Survivor's pension.

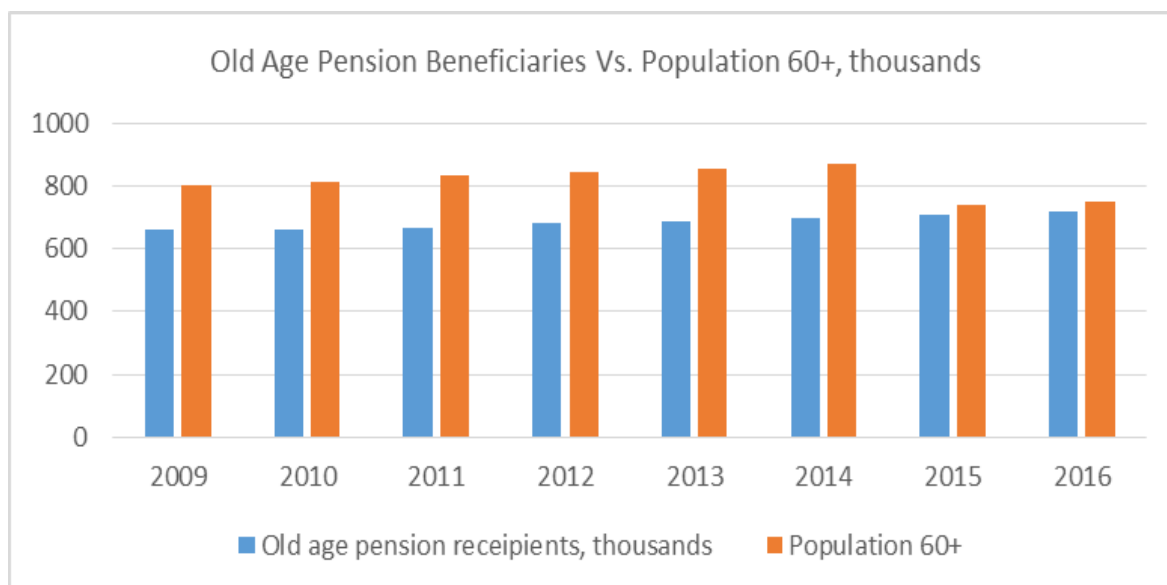
Table 14: Persons receiving pension by gender, thousands

	Number of Pensioners	Percentage
Old age pension	720,2	82,8
Disability pension	125,2	14,4
Survivors' pension	24,2	2,7
Total number of state pension recipients	869,7	100,0

Source: National Statistics Office of Georgia (GEOSTAT)

Following from the liberal eligibility criteria, the universal pension system in Georgia provides complete coverage of the elderly population. In 2015 and 2016, 96 percent of the population above age 60 received a universal pension, making it country's largest redistributive social protection program in terms of both coverage and spending (see Figure 9).

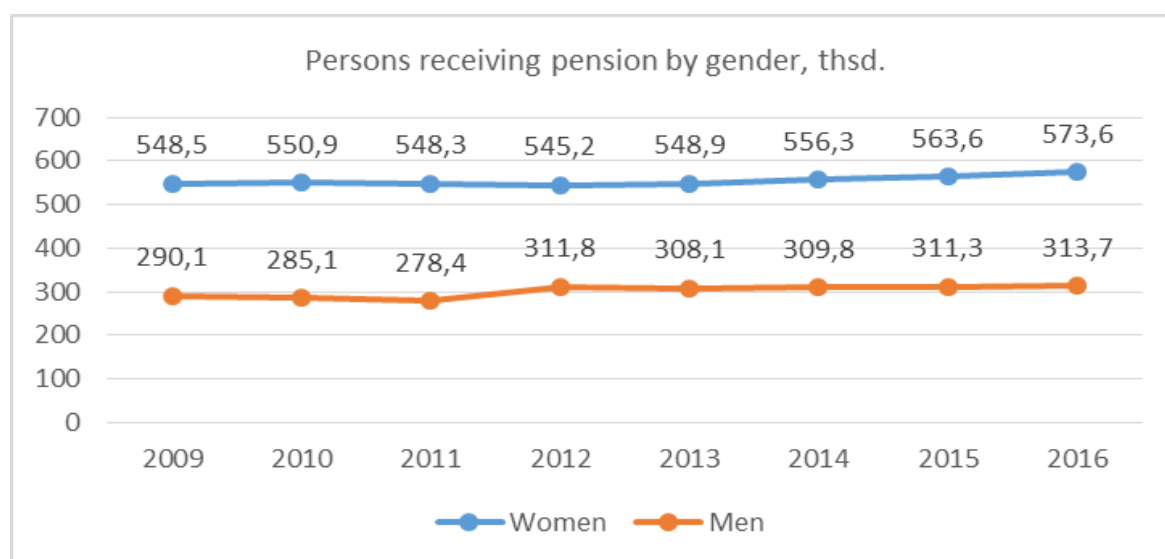
Figure 9: Persons receiving pension package (old age), thousands



Source: National Statistics Office of Georgia (GEOSTAT)

Figure 10 shows that the majority of state pension beneficiaries were women.

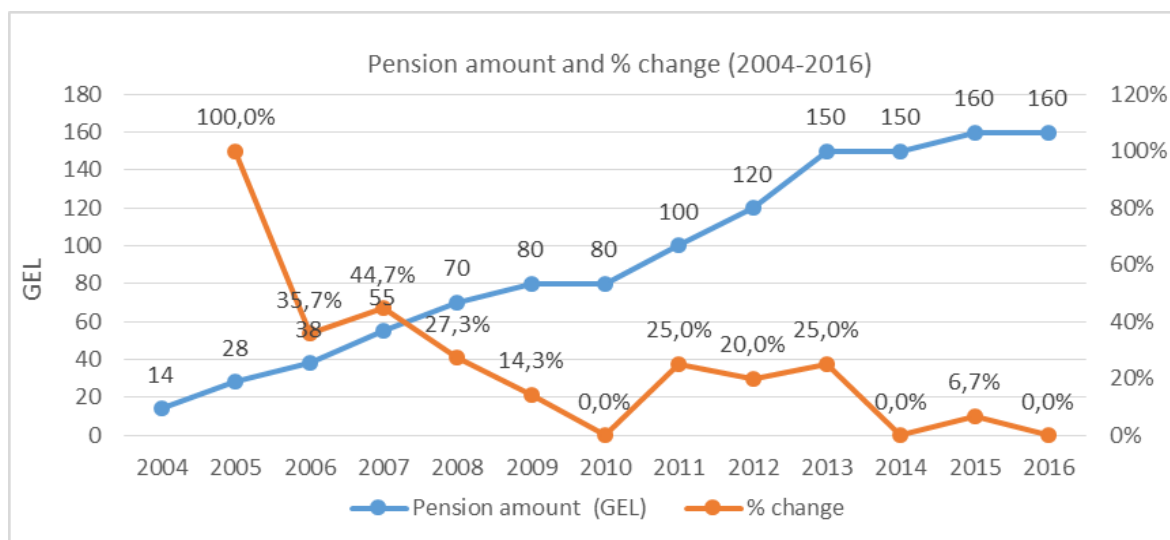
Figure 10: Pension distribution by gender



Source: National Statistics Office of Georgia (GEOSTAT)

After the introduction of flat pensions, from 1995 to 2004 maximum pension benefit was increasing from 8.5 (€ 3.8) GEL to 14 GEL (€ 6.2). In 2005 pensions were increased to GEL 28 (€ 12.4). In 2006, the Georgian Parliament introduced the Law on State Pensions through which established universal, non-contributory flat-rate pension driven by the need to reduce country's substantial poverty rates. Pension benefits were additionally increased by GEL 10. From 2009, the old age pension was GEL 80 (€ 34,3), the disability pension - GEL 70 (€ 30,0) and the survivors' pension - GEL 55 (€ 23,6). In 2015, the flat-rate benefit amounted to 160 GEL (€ 65,2).

Table 15: Development of pension amount



Source: National Statistics Office of Georgia (GEOSTAT)

While the pension amount paid has doubled from 2010 to 2015, it still remains modest by international standards, providing 17% replacement rate of the average wage, marginally above the subsistence level. However, it should be mentioned that for Georgia, the replacement rate is only the average statistical value, because of the fact that around 62% of population of pension age is unemployed, 34% is self-employed, the absolute majority of which is involved in agriculture in rural areas and up to 4% of population of pension age is employed. Table 16: Old age pension amounts and replacement rates. Table 16 below shows replacement rate in relation to the country's average salary.

Table 16: Old age pension amounts and replacement rates

	2009	2010	2011	2012	2013	2014	2015	2016
Average monthly salary of employees (GEL)	538	593	623	714	760	800	897	938
Old age pension (GEL)	80	80	100	110	150	150	160	160
Subsistence minimum of average consumer (GEL)	119	113	135	139	133	137	142	146
Replacement rate in relation to old age (percentage)	14.9	13.5	16.1	15.4	19.7	18.8	17.8	17.1

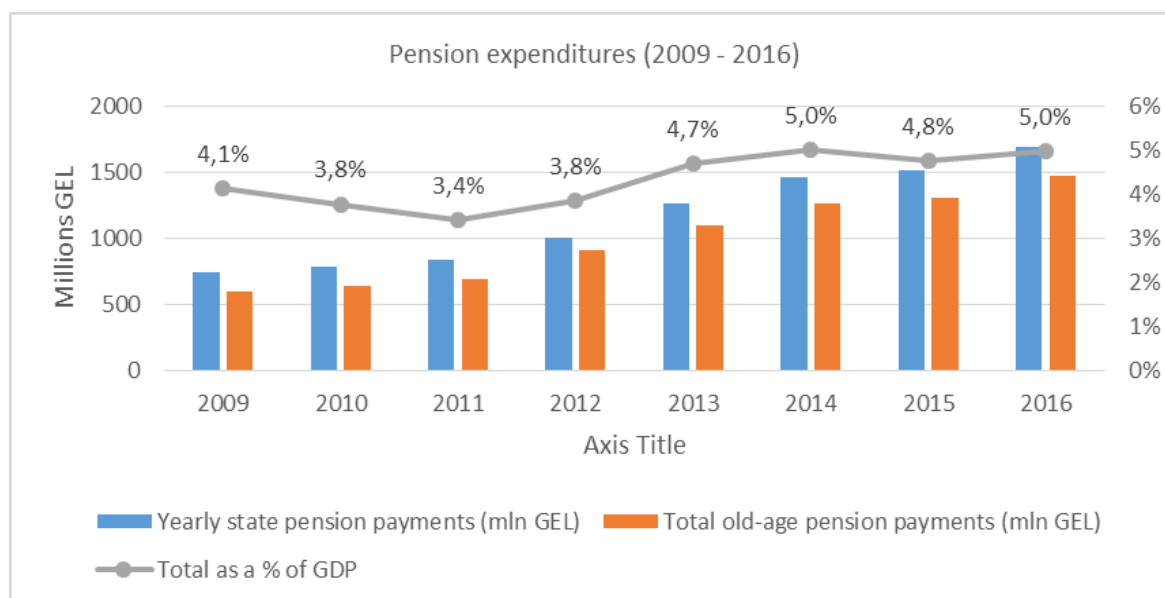
Source: National Statistics Office of Georgia (GEOSTAT)

As pension is a flat-rate benefit in the country, it provides higher income replacement for lower income groups. For those retired in 2016 while earned 50% of the average wage, the old-age pension provided a replacement rate of approximately 35%. However, the level of replacement rate declines to 16% for someone retired at the average wage and further drops to as low as 9% for a person earned twice the average wage. As such, the universal pension is a means of redistributing income from wealthier segments to the more vulnerable segments of society in old age.

## Sustainability

According to Social Service Agency, in 2016, the total amount transferred for funding pensions equaled to GEL 1 685,8 million, which constituted 5,0% of GDP in Georgia. Over the course of recent years this amount and proportion evolved as follows:

Figure 11: Total and old age pension expenditures (2009-2016)



Source: National Statistics Office of Georgia (GEOSTAT)

As the above figure shows, yearly pension payments have increased rapidly from 2009. Growth is associated with increased old-age pensions payments as the number of old-age pensions and number of pensioners have increased. If in 2009 pension payments amounted to GEL 741 million, in 2016 the number more than doubled, reached to GEL 1 685 million. Pension expenditures as a percentage of GDP have slightly decreased from 2009 from 4 percent, reached lowest point of 3.4 percent in 2011. Starting from 2012 the ratio has increasing trend, reaching 5 percent in 2016.

Table 17: Pension expenditures (2015-2016) below shows details for the public pension systems of the Georgian government.

Table 17: Pension expenditures (2015-2016)

	2015	2016
Total Number of Pensioners (thousands)	875	887
Total Population (thousands)	3714	3720
Ratio of Pensioners to Population	23,6%	23,9%
Number of Old Age Pensioners (thousands)	708	720
Number of Pensioners Due to Disabilities (thousands)	124	125
Number of Pensioners Due to Loss of a Breadwinner (thousands)	24	24
Amount of Monthly Pension for Old Age (GEL)	160	160
Amount of Monthly Pension Due to Disability (GEL)	160	160
Ratio of Old Age Pensioners to Total Number of Pensioners	82,6%	82,8%
Annual Transfers for All Pensions (GEL, million)	1508	1685
Annual Transfers for Age Pensions (GEL, million)	1303	1469
Ratio of Old Age Pension Paid to Total Pensions Expenditures	86,4%	87,1%
Share of Total Pension Expenditures in Total Budget	18,9%	20,1%
Share of Old Age Pension Expenditure in Total Budget	16,3%	17,5%

Source: Social Service Agency

As depicted from the above table and reported by the Statistic Report of the Social Service Agency (SSA) of the Ministry of Labour Health and Social Affairs (MOLHSA), at the end of 2016, there were a total of 887,338 pensioners, which is 23.9% of the population. This percentage of pensioners to the populations is slightly lower than the average 26% ratio in CEE countries. In 2016, 82.8% of the of number of pensioners are beneficiaries of old age pension. In terms of total pension spending, old age pension payments were 87.1% of total pension expenditures. Moreover, total expenditures for old age pension was 20.1% of the total budget for the year 2016, which is 1.1% higher than 2015 results, indicating that public pension expenditures occupy a large portion of the state budget.

### 3.4.3 Non-State Pension Funds – Voluntary Private Pension

The history of non-state pension funds takes place from 1998 when the law, establishing such funds, was enacted. Current legislation, which can't be called effective or attractive for long-term pension savings, allows insurance companies, banks or employers to found and provide non-state pension schemes. From the beginning, those funds were regulated and supervised by National Bank of Georgia (NBG), but from April 15, 2013 according to the Organic Law of Georgia, the supervisory authority of the National Bank was no longer applied to insurance companies. Instead Insurance State Supervision Service of Georgia that was subdivision of NBG became an independent national regulatory body. Up to now there are has six insurance companies licensed as pension fund providers. Yet, nowadays only two of them provide non-state pension funds and the schemes are DC arrangements.

In non-state pension funds, employees can enrol in pension schemes established by employers. Employer or a depositor can choose pension plan based on its preferences and takes responsibility to

transfer to the pension provider the amount of regular contributions, which with earnings or interest are deposited in the nominal accounts of the participants.

Table 18: Voluntary Private Pension – Non- State Pension Funds below shows the performance of non-state pension funds.

*Table 18: Voluntary Private Pension – Non- State Pension Funds*

Founder	Contributions (GEL)	Valid agreements as of 31.12.2016	Participants	Amounts withdrawn from pension schemes	Pension reserves as of 31.12.2016 (GEL)	Income from the investment of pension reserves
JSC "Aldagi BCI"	3 084 774	544	9 816	1 475 492	16 314 630	1 598 189
JSC "GPI Holding"	980 893	12 006	12 006	461 067	5 906 471	265 046
Total	4 065 667	12 550	21 822	1 936 559	22 221 102	1 863 236

Source: Insurance State Supervision Service of Georgia

Looking to the performance of the two non-state pension funds in the above table, as of December 31, 2016, there were only 21,822 participants and the accumulated pension assets amounted to GEL 22,221,102. During 2016, the amount of withdrawals was slightly less than a half of contributions.

Currently existed non-state pension funds are designed in a way that (i) contributions and earnings are not given tax-incentives and (ii) withdrawals of savings are not restricted. Because of that, firstly such funds don't have ability to generate long term savings and secondly can't achieve the objective of saving for pensions. When early withdrawal is allowed, participants can spend most of their savings before retirement and left without adequate pension. As could be observed from Table 18, in 2016 the withdrawal rate was 48% of contributions made in the same year. As it was a trend in the past and if it continues to be the same, undoubtedly non-state pension funds can't achieve pension's objectives.

Besides the design of the non-state pension funds, because of its voluntary nature, it's a challenge for funds to achieve enough number of participants, mainly because of the fear in individuals that neither government nor someone else can't take care of their needs in old age and also don't see the need to save for their retirement.

As a summary of the current state of the voluntary pensions market in Georgia, it's obvious that non-state pension funds can't achieve pension's objectives and act as an incentive to support national savings. The two insurance companies that having actual pension business by now are elitist and their pension schemes are sold mainly to large corporates. Therefore, the funds don't target country's major working population and can't act as a provider of their retirement savings.

## **Chapter 4 – Pension Development In Georgia**

Based on the presented analyses of Georgia's economic and demographic situation in Chapter 3, Chapter 4 tries to hypothesize how the Georgian pension system can be developed and may be used as a base for establishing a mandatory savings pension system. For achieving the goal, author tried to project appropriately country's demographic, employment and economic indicators and trends, which was used later for the designing of Pillar II as well as showing the potential impact of demographic changes on the state pension expenditures.

### **4.1 Methodology**

For projecting economic indicators along with demographic and employment trends, author used population data projections from US Census Bureau and utilized employment data from the National Statistical office of Georgia (Geostat) on their on-line web site at [www.geostat.ge](http://www.geostat.ge).

Based on the projected population growth data, author created employment growth table. Employment growth is related to population growth and is estimated as a ratio of average number of employees to total labour force.

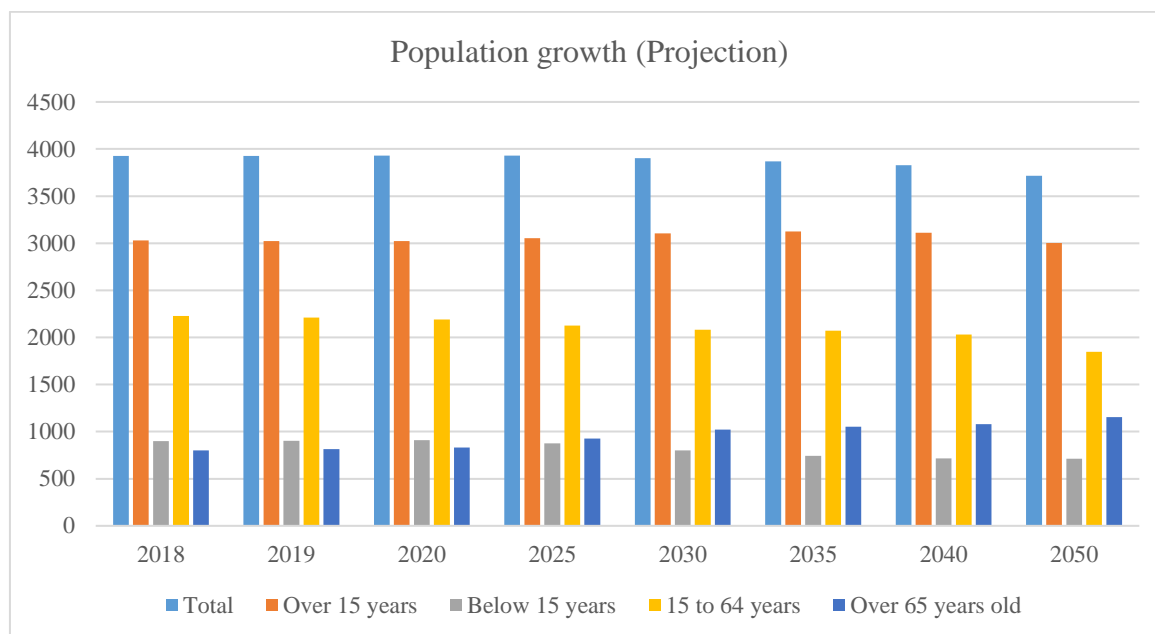
GDP and CPI growth rates that are directly connected to the average salary and pension level projections are based on the International Monetary Fund (IMF) forecast.

#### **4.1.1 Population growth**

Population projections suggest that country's population will decline and the number of elderly will grow (Figure 12: Population growth 2017-20150 (in thsds.)).



Figure 12: Population growth 2017-20150 (in thsds.)



Source: US Census Bureau, International Data Base

According to the US Census Bureau's projection, the total Georgia's population will increase slightly in the next few years. Projected number of population will increase from 3926 million in 2018 to 3930 million in 2025. However long-term projection shows that population will decrease to 3828 million by 2040 and further to 3715 million in 2050. Country's population decline is mainly due to the decline in the following age groups: (a) below 15 years old group and (b) 16 to 64 years old group. Despite the decline in the mentioned age groups, number of elderly is increasing every year. Number of persons over 65 years old is projected to be around 800 million in 2018 compared to 1155 million by 2050, representing 30% increase (for the data about projected population growth by age see Annex 4).

#### 4.1.2 Average inflation and economic growth

Table 19: Projected Economic Indicators - GDP and CPI

	2017	2018	2019	2020	2025	2030	2035	2040	2050
Real GDP growth	3,9%	4,1%	4,5%	5,0%	6,0%	6,0%	6,0%	5,5%	5,0%
Nom. GDP mln GEL	37380	40091	43253	46755	63880	95670	110450	175660	378990
Inflation, average consumer prices	6%	2,9%	3,2%	3%	3%	3%	4%	4%	4%

Source: IMF World Economic Outlook Database (2017) - Country (Georgia)

According to IMF World economic outlook database (2017), the economic growth is projected to increase from 4 percent in 2017 to 6 percent in 2035 and then started to decrease to 5 percent by 2050. The average inflation rate has been projected to be 6 percent in 2017, 2.9 percent in 2018 and

3.2 percent in 2019. From 2020, its projected to be 3 percent until 2030 and then constant 4 percent from 2035 to 2050. Economic growth and average inflation rate are correlated to projections for average salary and also pension levels.

## 4.2 Findings

### 4.2.1 State pension system development

This part discusses current state pension system and based on projected impact of aging, outlines of what is possible impact of country's population aging on the state pension expenditures.

In order to calculate pension payments, two assumptions are used:

- Yearly adjusted to CPI (t-1) and to CPI (t-1) along with economic growth (t-1)
- Five years adjusted to CPI (t-1) \*...\*(t-5) and to CPI (t-1)\*...\*(t-5) along with economic growth (t-1)\*...\*(t-5)

Table 20 and Table 21 bellow shows pension amounts considering above adjustments.

Pensions only adjusted to CPI and particularly those adjusted over five years shows little increase.

*Table 20: Projection of pension amounts*

	2016	2017	2018	2019	2020	2025	2030	2035
Yearly adjusted to CPI	160	170	175	180	186	215	249	300
Five years adjusted to CPI	160	160	160	160	160	185	215	259

Table above shows that pension, only adjusted to CPI and particularly those adjusted over five years shows little increase. In 2018 pension amounts yearly adjusted to CPI are projected to be GEL 175, GEL 186 in 2020 and 300 in 2035. As such pension amounts are supposed to increase by 71% between years 2018 and 2035. In contrast, five years adjusted pension amounts to CPI remain to be GEL 160 until 2020, increase to GEL 185 in 2025, and further to GEL 259 in 2035. In total from 2020 to 2035 pension will increase by 60%.

*Table 21: Projection of pension amounts*

	2016	2017	2018	2019	2020	2025	2030	2035
Yearly adjusted to CPI and Economic growth	160	174	186	199	214	322	496	791
Five years adjusted to CPI and Economic growth	160	160	160	160	160	241	370	591

Table 21 above shows projected pension amounts adjusted to CPI along with economic growth. Yearly adjusted pension is projected to grow from GEL 160 in 2016 to GEL 214 in 2020. Pension amounts are further increasing in the next fifteen years, amounted GEL 791 by 2035. In total, between 2016 and 2035, pension amounts will almost triple. Likewise, in case of pension amounts adjusted to only CPI, five years adjusted numbers to CPI and economic growth show little increase. With this scenario, pension amounts are projected to increase from GEL 160 in 2020 to only GEL 590 in 2035.

Compared to only CPI adjusted payments (Table 20) both CPI and economic growth adjusted payments (Table 21) look more realistic and close to reality.

After making the assumptions related to pension payments and projected old-age population growth, annual pension systems' funding requirements can be calculated.

Table 23: Pension Expenditures (projection, in million GEL), shows annual old age expenditures. Pension expenditures are calculated by multiplying above shown pension payments (Table 20 and Table 21) with number of pensioners (Table 22).

*Table 22: Number of Old-age Pensioners (projection)*

	2016	2017	2018	2019	2020	2025	2030	2035
Number of Pensioners (thsd)	745	788	801	814	831	927	1021	1054

Table 23: Pension Expenditures (projection, in million GEL)

In million GEL	2016	2017	2018	2019	2020	2025	2030	2035
Yearly adjusted to CPI	1431	1605	1678	1760	1849	2391	3056	3798
Five years adjusted to CPI	1431	1514	1539	1563	1595	2062	2636	3276
Yearly adjusted to CPI and Economic growth	1431	1646	1786	1947	2136	3582	6076	10002
Five years adjusted to CPI and Economic growth	1431	1514	1539	1563	1595	2675	4537	7469

Table 23, old-age pension expenditures are projected to rise as pension amounts and old-age pensioners are projected to increase. Only CPI adjusted pension expenditures increase from GEL 1605 million to GEL 1849million between 2017-2020, reaching almost GEL 3798 million in the year of 2035. Compared to it, both CPI and economic growth adjusted pension expenditures are much higher. As projected, yearly adjusted expenditures reach GEL 10002 million by 2035, while five years adjusted only GEL 7469 million.

Calculations of projected pension expenditures as a percentage of nominal GDP in Table 24 show positive trend only in the system where pension payments are adjusted to the CPI and economic growth rates.

Table 24: Pension Expenditures/GDP ratio (projection)

	2016	2017	2018	2019	2020	2025	2030	2035
Yearly adjusted to CPI	4,2	4,3	4,2	4,1	4,0	3,7	3,2	3,4
Five years adjusted to CPI	4,2	4,0	3,8	3,6	3,4	3,2	2,8	3,0
Yearly adjusted to CPI and Economic growth	4,2	4,4	4,5	4,5	4,6	5,6	6,4	9,1
Five years adjusted to CPI and Economic growth	4,2	4,0	3,8	3,6	3,4	4,2	4,7	6,8

As depicted from the above table, yearly adjusted ratio of pension expenditures to GDP to CPI and economic growth more than doubles between years of 2016 and 2035. From 4.2 percent in 2016, ratio amounts 4.6 percent in 2020 and further increases to 9.1 percent by 2035.

To summarize the developments for Georgia's current pension system, number of pensioners are projected to increase because of growing trend for elderly population. From 2017 to 2035 number of pensioners will increase and exceed one million, which in combination with shift in the nominal pension level will cause budgetary expenditures also to increase. Projections for the ratio of CPI adjusted annual pension expenditures to nominal GDP show negative trend, while the same ratio

adjusted to CPI and economic growth rates is rising and represents maximum 9% by the year of 2035 (Table 24).

#### 4.2.2 Pillar II – Mandatory savings pension

Likewise, for the state pension system, in order to develop scenarios for Pillar II pension for Georgia, firstly basic parameters have to be set. Those parameters are the following:

**Retirement age:** Pension age to be 65. Because of women's ability to work until that age combined with the fact that their life expectancy is longer than men's, unified age for retirement is set.

**Coverage based on age and salary/wage:** Reform will affect all workers in the private and civil sectors for the age group of 15 to 45 years old. Compulsory participation of this age group guarantees at least 20 years of savings before retirement. Apart from age, participation in Pillar II will be compulsory for those workers who have a salary at least GEL 500. Perception is that following from the current prices, this group of employed individuals every month can save fraction of their salary without big impact of their consumption budgets.

**Contribution rate:** Contribution rate to be 7% of gross salary/wage. The rate is consistent with Pillar II contributions rates for the CEE countries as described in Table 8: A Glimpse of the pension system after reforms.

For the projected scenarios for Pillar II, above mentioned quantitative parameters are applied to the country's following indicators: demographic statistics, historical and projected basic economic indicators, population data, employment rate. In addition, following assumptions were applied for the two scenarios.

*Table 25: Development of Pillar II (scenario 1)*

Contribution rate: 7% of monthly salary

Return on investment 6%, compounded quarterly

In Million GEL	2018	2019	2020	2025	2030	2035
Contributions	280	350	420	970	1900	4200
Investment income	10	25	40	250	720	2100
Pension payments	0	0	0	0	0	0
Net pension assets	290	665	1125	5060	17711	61988
Investment income/GDP	0,02%	0,06%	0,09%	0,39%	0,75%	1,90%
Net pension assets/GDP	0,72%	1,54%	2,41%	7,92%	18,51%	24,20%

Table 25: Development of Pillar II (scenario 1) shows that with the assumptions made, after three years of reform, net pension assets prediction is to amount GEL 1.1 Billion, representing 2.4% of

projected nominal GDP. After fifteen years (2035), net pension assets are expected to be almost GEL 62 Billion, around 24% of the projected nominal GDP.

*Table 26: Development of Pillar II (scenario 2)*

Contribution rate: 7% of monthly salary

Return on investment 4%, compounded quarterly

In Million GEL	2018	2019	2020	2025	2030	2035
Contributions	280	350	420	970	1900	4200
Investment income	5	11	29	126	327	955
Pension payments	0	0	0	0	0	0
Net pension assets	285	646	1095	4380	14017	44856
Investment income/GDP	0,01%	0,03%	0,06%	0,20%	0,34%	0,86%
Net pension assets/GDP	0,71%	1,49%	2,34%	6,86%	14,65%	21,40%

For another scenario for Pillar II development, only return on investment has changed to 4% from 6%. As shown from Table 26: Development of Pillar II (scenario 2), under these assumptions, after three years of reform net pension assets prediction is to amount GEL 1 Billion, representing 2% of projected nominal GDP. Fifteen years later, in 2035, net pension assets are expected to be almost GEL 44 Billion, around 21% of the projected nominal GDP.

Table 25 and Table 26 show that the introduction of Pillar II mandatory savings pension system in Georgia will support economic development and positively affect social considerations. First and foremost, the advantage of the introduction of mandatory pillar II is that it will encourage individuals to save during their working period to provide themselves additional income after retirement. Besides it will support employment to increase and labour market to enlarge labour market in general. Most importantly, pensions will be funded from the savings of individuals (no fiscal transfers required) and as the funding, governance and administration of funded scheme will be shifted from government, political influence of pension savings will be eliminated. Tables 26 and Table 27 clearly demonstrates that over the period, Pillar II will generate significant amount of net assets for investments in entrepreneurial capital and not only that will support labour market development and certainly can boost national productivity at the end.

Along with advantages, Pillar II will provide significant functionalities. Funded scheme will enforce accurate record keeping and thanks to required personal statements, transparency in pension management is achieved. Besides, because funded pillar links contributions to benefits, it will support individuals' participation in the private and civil sectors, discourages early retirement, that all together increase supply of labour, employees earnings and savings rate also.

Despite the described benefits, pillar II is associated with some threats also. Main issue is that funded pension scheme can't guarantee retirement income for all. For the development of Pillar II (Table 26 and Table 27), two main assumptions that was made are that reform will affect only to those individuals who (i) are below 45 years old (in order to have minimum 20 years before retirements and therefore for savings) and (ii) whose monthly salary/income is more than GEL 500. As such individuals having low income and short period for savings will not be able have decent retirement income.

## Conclusions and Summary of Recommendations

After the proposed pension reform in Georgia, the new multi-pillar pension system could be structured as follows:

*Table 27: Multi-pillar pension system in Georgia*

Current state pension (Pillar I)	Mandatory savings pension (Pillar II)	Voluntary savings pension (Pillar III)
Publicly managed defined-benefit pension	Privately managed defined-contribution pension	Privately managed scheme
Financed from state budget	Financed from mandatory savings and investment income	Financed from personal savings assets

Described three pillar pension system will provide Georgian population all the opportunities to save and after the retirement to enjoy with the additional income. The proposed Pillar II will be additional pension scheme to the existed Pillar I and Pillar II pension systems. Three pillars functioning together will allow for development, growth and sustainability of the new pension system.

Introduction of mandatory savings pension system in Georgia ensures the growths of national private savings, in the long term generates capital that could be invested into various programs, increasing employment and domestic productivity, reduces the long-term fiscal burden of the state pension and social assistance programs, to mention a few.

Implementation of well-structured Pillar II will support the long-term objectives of Georgian Government:

- Introduction of pension system that provides decent retirement income – pillar II will result increased retirement for those who saved for their pensions.
- Solutions of long-term issues – sustainable funded pension system addresses socio-economic and political pressures along with fiscal budgetary issues resulted from the demographic changes.
- Economic development – funded pension system creates long-term savings that can be used for boosting national productive and support economic growth of Georgia.

It's under the interest of Georgia's government to create long-term capital resources to stimulate investments. Besides, as funded mechanism is pre-funded by nature and pays benefits after minimum of 20 years, accumulated high private and national savings would reduce country's dependence on foreign capital.



As of recommendations, Government of Georgia should implement pension reform and establish mandatory savings scheme as a supplement to the state pension. Pillar should target low and medium salary workforce who can save during working years in order to have stream of retirement income.

For the designing of pension reform, its recommended to create a working group that will design detailed road map for implementing the reform and also to draft legal and regulatory frameworks.

Current frameworks of non-state pension funds would also need to be redesigned in order to achieve the objectives of supplementary pension scheme.

## References

- Ambachtsheer, K., & Capelle, R. (2006). Pension Fund Governance Today: Strengths, Weaknesses, and Opportunities for Improvement. *Financial Analysts Journal*.
- Andrews, E. S. (2006). Pension Reform and the Development of Pension Systems: An Evaluation of World Bank Assistance. World Bank Publications.
- Barr, N. (2010a). Reforming pensions: myths, truths, and policy choices.
- Barr, N., & Diamond, P. (2009). Pension Reform: A Short Guide. Oxford University Press, USA.
- Bielawska, K. (2014). Sustainability of structural pension reforms in the CEE countries (Vol. 2014).
- Blaich, R. (2010). Occupational pensions in Germany – time for action.
- Clark, G. (2000). Pension Fund Capitalism. Oxford, New York: Oxford University Press.
- Clark, G., Munnell, A., & Orszag, M. (2006). The Oxford Handbook of Pensions and Retirement Income.
- Coudouel, A., & Paternostro, S. (2006). Analyzing the Distributional Impact of Reforms, 2: A Practitioners' Guide to Pension, Health, Labor Markets, Public Sector Downsizing, Taxation, Decentralization and Macroeconomic Modeling. World Bank Publications.
- Deutsche Bank Research. (2013). CIS frontier countries: Economic and political prospects.
- Dorfman, M., Hinz, R., Robalino, D., & Holzmann, R. (2008). The Financial Crisis and Mandatory Pension Systems in Developing Countries”, World Bank Pension Primer. World Bank Pension Primer.
- European Parliament. (2014). Pension Schemes.
- Fiona Stewart, & Juan Yermo. (2009). Pension fund governance. *OECD Journal: Financial Market Trends*, 2008(2), 1–42.
- Hall, P. A. (1993). Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain.
- Holzman, R., & Palacios, R. (2001). Individual Accounts as Social Insurance: A World Bank Perspective.
- Holzmann, R. (1999). The World Bank Approach to Pension Reform. [papers/Pensions-DP/9807.pdf](#)
- Holzmann, R. (2005). Old-age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform. World Bank Publications.
- International Monetary Fund. (2017). Georgia : Request for Extended Arrangement Under the Extended Fund Facility and Cancellation of Stand-By Arrangement-Press Release; Staff Report; and Statement by the Executive Director for Georgia.
- IOPS. (2008). The Supervisory Oversight of Pension Fund Governance paper. IOPS Working Paper.
- [ISSA] International Social Security Association and [INPRS] International Network of Pension Regulators and Supervisors. (2003). Complementary and Private Pensions Throughout the World.

- Kritzer, B. E. (2005). Individual Accounts in Other Countries.
- Law of Georgia on state pensions. (2012).
- Leppik, L. (2006). Transformation of the Estonian pension system: policy choices and policy outcomes.
- Muller, K. (2003). Pension reform in Europe : process and progress (No. 26292) (p. 1). The World Bank.
- Myies, J. (2002). Myles, J. (2002). A New Social Contract for the Elderly?
- National Statistics Office of Georgia (GEOSTAT).
- OECD. (2004). OECD Principles of Corporate Governance. OECD publications: Paris
- OECD, (Secretariat). (2002). Guidelines for pension fund governance.
- Overbye, E. (1996). How Do “Organizational Designs” Influence Welfare Politics? A Study of the Nordic Pension Systems. *Scandinavian Political Studies*, 19(3), 227–255.
- Palacios, R., & Whitehouse, E. (1998). The Role of Choice in the Transition to a Funded Pension System.
- Palier, B. (2000). Beyond retrenchment: Differences in sequence and in patterns of welfare state changes.
- Pierson, P. (2000). Not Just What, but When: Timing and Sequence in Political Processes. *Studies in American Political Development*, 14(1), 72–92.
- Rhodes, M., Ferrera, M., & Hemerijck, A. (2000). The Future of Social Europe: Recasting Work and Welfare in the New Economy.
- Scharpf, F. W. (1997). Games real actors play actor-centered institutionalism in policy research. Boulder, Colo Westview Press.
- Schwarz. (2016). Pension System Reforms.
- United Nations. (2010). World Population Ageing.
- World Bank. (1994). Averting the old age crisis. The World Bank.
- World Bank. (2006). Independent Evaluation Group (MIGA).
- Yermo, J. (2002). Revised taxonomy for pension plans, pension funds and pension entities.
- Yermo, J., & Marossy, A. (2001). Pension Fund Governance, Insurance and Private Pension Compendium for Emerging Economies.

# Appendices

## Appendix 1

Annex 1 provides details of selected programs, including funding and type of retirement benefit available. These programs are funded by the employee, the employer, or both. The type of retirement benefit varies: from annuity to some type of instalment payment or a lump sum.

Country	Funding	Type of retirement benefit available			Early retirement available
		Instalment		Lump sum	
		Annuity	Other		
Australia	Employer	Yes	Yes	Yes	No
Chile	Employee	Yes	Yes	No	Yes
Denmark	Employee	No	Yes	Yes	No
Estonia	Employee and employer	Yes	Yes	Yes	No
Hong Kong	Employee and employer	No	No	Yes	Yes
Hungary	Employee	Yes	No	Yes	No
Latvia	Employee	Yes	No	No	Yes
Poland	Employee	Yes	No	No	No
Slovakia	Employee and employer	Yes	Yes	Yes	Yes
Sweden	Employee and employer	Yes	No	No	a
United Kingdom	Employee and employer	Yes	Yes	Yes	Yes

NOTE: a. Flexible retirement from the age of 61

Source: (Kritzer, 2005)

## Appendix 2

Population and demographic statistics (2013 – 2017)

	2013	2014	2015	2016	2017
In thousands, unless indicated as %					
Total	4483,8	4490,5	3713,7	3720,4	3718,2
Males	2138,8	2141,4	1773	1779,5	1781,5
Females	2345	2349,1	1940,7	1940,9	1936,7
Over 15 years	3720,9	3721,1	3019,6	3010,2	2994,1
Males	1736,7	1736,5	1408,2	1406,9	1402,6
Females	1984,2	1984,6	1611,4	1603,3	1591,5
Below 15 years	762,9	769,4	694,1	710,2	724,1
Males	402,1	404,9	364,8	372,6	378,9
Females	360,8	364,5	329,3	337,6	345,2
15 to 44 years	1955,9	1937,4	1522,4	1506,8	1487,9
Males	977,6	970,1	763,3	757,9	751,1
Females	978,3	967,3	759,1	748,9	736,8
45 to 64 years	1144,3	1156,6	968,6	968,9	968,8
Males	524,2	528,9	445,4	447,3	449,1
Females	620,1	627,7	523,2	521,6	519,7
Over 65 years old	620,7	627,1	528,6	534,5	537,4
Males	234,9	237,5	199,5	201,7	202,4
Females	385,8	389,6	329,1	332,8	335
15 to 64 years	3100,2	3094	2491	2475,7	2456,7
Males	1501,8	1499	1208,7	1205,2	1200,2
Females	1598,4	1595	1282,3	1270,5	1256,5
Dependency Ratio	20,0%	20,3%	21,2%	21,6%	21,9%
Males	15,6%	15,8%	16,5%	16,7%	16,9%
Females	24,1%	24,4%	25,7%	26,2%	26,7%

Source: Geostat

## Appendix 3

### Georgia: Selected Economic Indicators

		2012	2013	2014	2015	2016	2017*
National accounts and prices		(annual % change)					
	Real GDP	6,4	3,4	4,6	2,9	2,7	3,5
	Nominal GDP (in billions of GEL)	26,2	26,8	29,2	31,8	33,7	36,2
	Nominal GDP (in billions of U.S. dollars)	15,8	16,1	16,5	14	14,2	13,7
	GDP per capita (in thousands of U.S. dollars)	4,1	4,3	4,4	3,8	3,8	3,7
	GDP deflator, period average	1,1	-0,8	3,8	5,9	3,2	4
	CPI, Period average	-0,9	-0,5	3,1	4	2,1	5,7
	CPI, End-of-period	-1,4	2,4	2	4,9	1,8	5,4
Investment and saving		(in % of GDP)					
	Gross national saving	17,3	19	19,2	20,1	19,4	20,5
	Investment	28,9	24,8	29,8	32,1	31,8	33,4
	Public	7,5	5,1	5	5,6	5,1	5,8
	Private	21,4	19,7	24,9	26,5	26,7	27,7
Consolidated government operations		(in % of GDP)					
	Revenue and grants	28,8	27,5	28	28,1	28,6	29,3
	Expenditures	31,8	30,1	31	31,9	32,7	33,4
	Public debt		34,7	35,6	41,4	44,9	45,5
Money and credit		(annual % change)					
	Credit to the private sector	12,8	19,5	23,3	22,1	19,6	10,5
	Broad money	11,4	24,4	13,8	19,2	20,4	10,1
	Deposit dollarization	60,4	55,7	57,1	66,8	69,9	69
External sector		(in % of GDP)					
	Current account balance	-11,7	-5,8	-10,6	-12	-12,4	-12,9
	Gross international reserves	2,9	2,8	2,7	2,5	2,8	3,1
	Gross external debt	66	65,6	64,9	86,2	87,8	91,7
	GEL per U.S. dollar (period average)	1,65	1,66	1,77	2,27	2,37	
NOTE: *2017 data are projections							

Source: (International Monetary Fund, 2017)

## Appendix 4

Projected population growth by age (in thousands)

In thousands	2018	2019	2020	2025	2030	2035	2040	2050
Total	3926	3927	3930	3930	3904	3868	3828	3715
Over 15 years	3028	3024	3022	3053	3103	3126	3112	3001
Below 15 years	898	903	908	877	801	742	716	713
15 to 64 years	2227	2210	2191	2126	2081	2073	2032	1847
Over 65 years old	801	814	831	927	1021	1054	1081	1155

Source: US Census Bureau