



## SUSTAINABILITY OF PENSION SYSTEM

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### **Abstract**

Regardless of the fact that Latvian pension system seems to be advanced and modern, recently we have been questioning sustainability of our Pension system. The discussions have been aroused by the various alarming economic and social processes, like decrease of social budget, economic crisis and breakdown, outflow of population, bad demographics, inhabitants' agedness, illegal national economy and inconsistent pension politics.

Considering the anxiety existing in the Latvian society, the aim of the paper is research and analyses of the conditions of building a sustainable pension system. In order to achieve the above mentioned aim, the authors describe the impact of economic and social factors on the sustainability of pension system, analyze the legislation regulating Latvian pension system, and formulate the criteria of sustainability. The following scientific research methods have been used in work: analytical method, comparative method, historical method, logically and abstractedly constructive method.

As a result the authors conclude that, with the existing system, 70% replacement rate for old age pensions in Latvia is not a realistic goal and in order to reduce replacement rate administrative policy must stimulate reduction of bureaucracy and increasing of productivity of both private and public sectors. Social policy must stimulate increasing of the role of family to ensure welfare of retired persons. The right balance between family support, solidarity support and support from individual savings is a challenge for further research and shall be basis for further pension reforms.

### **Introduction**

Ensuring that public policies cater for sustainable, accessible and adequate retirement incomes now and in the future remains a priority for the EU. While Member States share similar fundamental challenges, there are considerable differences in the timing of demographic ageing,



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the design of pension arrangements, the growth potential and constraints on account of the fiscal situation and external competitiveness. The projected increase in public spending due to population ageing poses an important challenge to EU Member States. Policy action to improve the long term sustainability of public finances while ensuring adequacy of pensions is crucial. People nowadays are healthier and live longer than ever before – the increase is up to two and a half years per decade. But altogether the demographics are declining – we have fewer children. If nothing significant changes, most people in the EU, as well in Latvia, will live very long lives with the life expectancy at birth for men increasing by 8.5 years and for women by 6.9 years.

Due to these circumstances, over the last decade most European countries have reformed their pension systems with the aim to retain its sustainability and adequacy. These reforms have brought important progress, but there are signs that ongoing reforms might create risks regarding both adequacy and sustainability, since changes in pension systems will tend to make benefits more contingent on developments in labour and financial markets not delivering as expected. Budgetary consolidation, which is more urgent after the economic crisis, is essential in order to reduce public debt and contribute to financing the future increase in public pension expenditure.

Adequacy and sustainability are both relevant and interrelated. Meaning, people need to work more and longer to ensure both. The existing pension systems, though different, each has its strengths and weaknesses – they all need to consider the demographic and economic trends. Their aim must be reaching balance between sustainability and adequacy. Due to the crisis and the decrease in economic growth, it is important to strengthen awareness of available routes to adequate income in retirement. Regardless of the fact that Latvian pension system seems to be advanced and modern, recently we have been questioning sustainability of our Pension system.

## 1. Pension Policy by OECD

As the OECD (2011) notes, “retirement – income systems are diverse and often involve a number of different programmes. Classifying pension systems and different retirement–income schemes is consequentially difficult”. [2, 106] Furthermore, comparing these systems is certain to be controversial as every system has evolved from each country’s particular economic, social, cultural, political and historical circumstances. There is no perfect system that can be applied universally around the world. However there are certain features and characteristics of retirement income systems that are likely to lead to improved benefits for individuals and households, an increased likelihood of future sustainability of the system, and a greater level of future sustainability of the system, as well confidence and trust within the community.

The World Bank (1994) in its influential report “Averting the Old Crisis” recommended a multi-pillar system for the provision of old-age income security comprising:

**Pillar 1:** A mandatory publicly managed tax-financed public pension.

**Pillar 2:** Mandatory privately managed, fully funded benefits.

**Pillar 3:** Voluntary privately managed, fully funded personal savings. [3, 3]

More recently, Holzmann and Hinz (2005) of the World Bank have extended this three – pillar system to the following five-pillar approach:

**Pillar 0:** A basic pension from public finances that may be universal or means-tested.



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**Pillar 1:** A mandated public pension plan that is publicly managed with contributions and, in some cases, financial reserves.

**Pillar 2:** Mandated and fully funded occupational or personal pension plans with financial assets.

**Pillar 3:** Voluntary and fully funded occupational or personal pension plans with financial assets.

**Pillar 4:** A voluntary system outside the pension system with access to a range of financial and non-financial assets and support. [4, 42] In effect, they split the original first pillar into two and then also split the third pillar by adding a new fourth pillar which includes personal savings, home ownership and other assets held outside the pension system. The recognition of the fourth pillar highlights the important role of these assets in financially supporting the individual or household during retirement.

Park (2009) in an Asian Development Bank paper suggests that a well designed pension system will have the following characteristics: broad – based in terms of both coverage and the range of risks covered, sustainable – over time in terms of its actuarial and financial soundness, robust – so that it can withstand macroeconomic and other shocks, affordable from individual, business, fiscal and macroeconomic perspectives, providing reasonable levels of post retirement income, providing a safety net for the elderly poor. [5, 6] This list suggests a multiple set of objectives for any pension system and, as Park correctly notes, different societies will need to decide on the relative importance of each objective at a particular time. Furthermore, these priorities are likely to change over time as a society's economic and demographic circumstances change. As a rule, the best system for a particular country at a particular time must take into account that country's economic, social, cultural, political and historical context.

## 2. Pension Policy by European Union

Development of the pension system is within the competence of the Member States. At the same time, according to Article 136 of the Amsterdam Treaty, provision of proper social protection is a common objective of the Union and the Member States. To achieve this objective, The European Council may introduce measures to encourage cooperation between Member States through initiatives aimed at improving knowledge, developing exchanges of information and best practices, promoting innovative approaches and evaluating experiences (Article 137 Treaty).

The European Council in Stockholm (March 2001) emphasized the need to secure sustainability of pension systems in the context of the ageing population and decided to apply the Open Method of Coordination (OMC) also in the field of pension policy. This was based on a broad understanding that pension systems of the EU Member States face similar challenges in the light of demographic ageing – how to maintain simultaneously social adequacy and financial sustainability.

During the Laeken summit in December 2001, the European Council defined 11 common pension objectives. Although worded in relatively general terms (which is easily understandable considering that a consensus of all 15 Member States was needed to reach an agreement), these



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objectives describe the common policy of the EU in the field of pensions. In 2002, 15 Member States of the EU presented to the European Commission their national pension strategies. In these strategy papers the Member States have evaluated the current situation and prospects (over the time span up to 2050) of their pension system in meeting the EU common objectives. On the basis of these national strategies, the European Commission drafted a joint report, evaluating the situation of different Member States in respect of the 11 objectives (Council of the European Union 2003). In 2002-2004, the Social Protection Committee of the EU was engaged in developing common indicators to compare the pension systems of the Members States in a coherent way. [6, 53-54] As a new Member State, Latvia will also have to participate in the OMC in the field of pensions.

### 3. Latvian Pension System

Reform of the Latvian pension system was started in the beginning of nineties. The aim of this reform was to restructure the pension system according to the new socioeconomic circumstances in Latvia. Latvia was one of the first countries in the Central and Eastern Europe which started the introduction of multi-pillar pension system and the first country in the world which introduced the non-funded generation solidarity pension scheme based on the principles of capital accumulation. The underlying principle of the system is: the larger the contributions made today, the larger the pension will be tomorrow.

Since July 2001 there is a three tier pension system in Latvia:

- 1) the state obligatory non-funded pension scheme;
- 2) the state obligatory funded pension scheme;
- 3) the private voluntary pension scheme. [7]

#### 3.1. The 1<sup>st</sup> Pillar (Tier) of State Pension System

All persons making social insurance contributions are involved in the 1<sup>st</sup> pillar or the state obligatory non-funded pension scheme. Paid contributions are used for payment of old age pensions to the existing generation of pensioners. Ideology of pension system intends that the able-bodied population would fully engage in the state social insurance and continue working as long as possible, delaying the retirement to older age. Social insurance contributions, earmarked for the old-age pensions, are recorded in national (virtual) individual accounts that return national interest until retirement and accumulate national pension capital, while real contributions are used for financing current pension expenditure. At retirement, pensions are calculated by dividing the amount accumulated in the national account by the average number of years protected for the pension payouts at each specific age of retirement. The state guarantees 1<sup>st</sup> pillar pensions for all residents who have been making social contributions for a period of at least 10 years.

According to the results of the Population and Housing Census, on December 16, 2011, the CSB informed that Latvia population exceeds 2 million – there are 2 067 887 people living in Latvia. [8] The number of population since the previous Population and Housing Census has reduced, and this change was due to both negative demographics (number of deaths exceeding the number of births) and international migration. The number of pensioners on the figures from the Central Statistical Bureau at 31.12.2011. amounted to 581 864 persons



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or 28% of Latvian population. Old-age pensioners are 482 537, and average size of a pension is (LVL) 179.75. The average size of a newly granted old-age pension is (LVL) 194.49. Besides, 78.61% of the pensioners' size of the pension is below (LVL) 200, and 16.8% of pensioners' size of pension is from (LVL) 200 to 300. Only 4.5% of the pensioners' pension size is actually higher than (LVL) 300. [8] The minimum amount of the retirement pension cannot be less than the state social security benefits (the data of December 31, 2011 – (LVL) 45 and 75 for disabled persons since childhood).

### 3.2. The 2<sup>nd</sup> Pillar (Tier) of State Pension System

Social insurance contributions of those who participate in the 2<sup>nd</sup> pension tier or the state obligatory funded pension scheme through chosen fund managers are invested into the financial market and saved for the pension of the specific contributor. Level 2 of the Pension System was introduced on July 1, 2001.

The State Social Insurance Agency (SSIA) is to ensure functioning of the 1<sup>st</sup> and 2<sup>nd</sup> tier pension schemes, i.e., register the socially insured persons and their contributions into the personal social insurance account, administer the contributions of the participants of the 2<sup>nd</sup> tier pension scheme, as well as to perform pension payment out of the resources accumulated from the social insurance contributions made by the employers and employees. Upon reaching the age of pension a person may choose either to add the capital accrued within the 2<sup>nd</sup> tier of the pension system to the 1<sup>st</sup> tier and receive the pension from the state or to purchase the life pension insurance policy from a life insurance company and receive his/her pension according to the conditions thereof. It will provide additional profits while already being on a pension and ensure disbursement of the pension until the end of the days, as well as give the opportunity to take care of one's spouse who will receive the pension afterwards. The total social insurance contributions for pensions (20% of one's salary) are divided between the 1<sup>st</sup> tier and the 2<sup>nd</sup> tier of the pension system (see Table 1).

Table 1

**Social insurance contributions among the 1<sup>st</sup> and the 2<sup>nd</sup> pension tier [9]**

Years	the 1 <sup>st</sup> tier	the 2 <sup>nd</sup> tier
2001-2006	18%	2%
2007	16%	4%
2008	12%	8%
2009-2012	18%	2%
from 2013	14%	6%

You are not required to pay any additional social tax contributions for the participation in the 2<sup>nd</sup> tier. In the future, the assets accrued under the 2<sup>nd</sup> tier of the pension system together with additional profit may account for a considerable part of your pension.



Table 2

## General information on Management of State-funded Pension Scheme Assets [9]

Item	31.12.2011.
Number of managers of State-funded pension scheme assets	9
Number of investment plans provided by managers of State-funded pension scheme assets ( incl. private asset managers)	27
Number of participants in the State-funded pension scheme*	1 156 743
incl. joined voluntarily	486 227
registered obligatory	670 516

\* Data of the State Social Insurance Agency, [www.vsaalv.lv](http://www.vsaalv.lv)

The managers of State-funded pension scheme assets are specially licensed management companies, which have more investment options, enabling to accumulate a larger pension principal. Saving function is based on the unitization principle, i.e. individual contributions, invested according to portfolio, chosen by individual, are marked in units. The value of a unit, which is a subject to investment performance, is calculated as a ratio between the value of assets as at the calculation time and number of units registered at the calculation time. The average net assets per unit of investment plans for the period of year 2001 till 2011 at the end of accounting period 31 December 2011 was (LVL) 757.5, and the average annual assets per unit (LVL) 75.8.

Table 3

## Net Assets of Investment Plans for State-funded Pension Scheme Assets [10]

Item (in thousands of lats)	30.09.2011.
Net assets at beginning of accounting year	828 604
Net assets at end of accounting period	876 264
Gain/loss of net assets arising from investments	-17 467
Average profitability of investment plans*, %	-1.96
incl. conservative plans	1.89
incl. balanced plans	0.57
incl. active plans	-3.78

\* Annualized ratio of changes in net assets per unit of investment plans during the period to the value of net assets per unit of investment plans at beginning of accounting year.

The annual real rate of investment returns (in lats and after investment management expenses) was – 1.96%, whereas for conservative plans it was 1.89%, for balanced plans 0.57%



and for active plans – 3.78%. Pension funds lost (LVL) 17 467 000 of net assets arising from the investments. Despite the recovery in financial markets, asset allocation remains challenging as pension funds and sponsoring companies need to take complex strategic decisions on the asset allocation mix in the context of highly changeable market conditions.

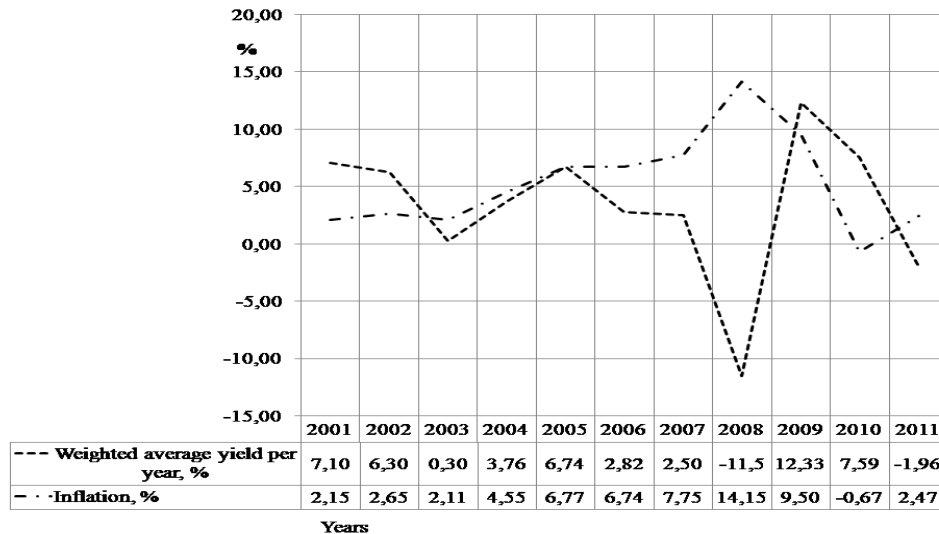


Figure 1. Inflation rate (%) and weighted average yield per year (%) of State-funded Pension plans (authors' survey)

Figure 1 shows the average profitability of the 2<sup>nd</sup> pension tier since its launch. In 2008, this tier suffered the biggest loss, when the profitability was -11.5%, but the inflation reached 14.5%. The annual average consumer price increase in Latvia in 2011 was 4.4%. [8] In most EU countries in practice, this assumption has little effect on the results of pension plans assets because of indexation. In 2010 Latvia stopped indexation. Savings swell and preserve their value, if the profitability of a pension plan is higher than the inflation. The crisis has highlighted the need to review the degree of financial market exposure and the design of risk sharing, regulation and investment strategy matter in funded pensions.

### 3.3. The 3rd Pillar (tier) of Pension System

The third pension tier or the private voluntary pension scheme ensures the possibility for every individual according to his free choice to create additional savings for his pension in the private pension funds. It is effective since July 1, 1998, and it aims at accumulating and investing the personally and voluntarily contributed monetary contributions by mediation of private pension funds, thus ensuring these participants an additional capital in old-age. Pension funds can be closed or open and they can have one or more pension schemes. Participants of this pension scheme can participate in pension plan both directly and by mediation of their employers. Accumulated capital is the property of the private person irrespective of the entity that made the contributions; moreover, it is subjected to inheritance rights. By accumulating private pension capital at the pension funds, it is possible to enjoy a series of advantages – to



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receive tax relief for your contributions; the contribution amounts and timing are flexible; the amount and frequency of contributions to the pension plans are unlimited; there is an opportunity to choose between investing in one of 21 pension plans; there is a possibility to receive accrued funds before the state-guaranteed pension but after reaching the age of 55 (the current retirement age in Latvia is 62 years); etc.

Table 5

### General Information on Private Pension Funds [10]

Item	31.12.2011
Number of private pension funds (including 1 closed pension fund)	7
Number of pension plans	21
Number of pension plan members	198 575
incl. active members	111 493
deferred participants <sup>1</sup>	46 371
retired persons <sup>2</sup>	52 254

<sup>1</sup> Members who have left the pension plan, but retain deferred rights.

<sup>2</sup> Members, who have reached their retirement age, left the pension plan and receive pension capital in parts.

Table 6

### Summary of the Movement of Pension Plan Net Assets [10]

Item (in thousands of lats)	31.12. 2011.
Net assets of pension plans at the beginning of reported period	111 928
Pension plan performance	-3 096
Net assets of the pension plans at the end of the reporting period	119 474
Annual profitability of pension plans*, %	-2.7

\* Annual profitability of pension plans – annualized ratio of pension plan performance to average net asset value of pension plans.

The average net assets per unit of investment plans for the period of year 1998 till 2011 at the end of 31 December 2011 were (LVL) 563.6, hence the average annual assets per unit is (LVL) 42.4. The financial turmoil and the ensuing crisis had a major impact on private pension assets. The current economic and financial crisis has reduced the value of assets accumulated to finance retirement by around 20-20% on average, according to the latest OECD figures. Additionally, the increase in unemployment stemming from current economic conditions will reduce the amount of pensions' savings, which will negatively affect future retirement incomes. The crisis has not diminished the importance of private pension provision in a well balanced pension system. Private pensions are necessary to diversify the sources of income at retirement and, as such, they complement public pensions.





## 4. Common Objectives for Pensions

EU Member States are committed to providing adequate and sustainable pensions by ensuring:

- **Adequate** retirement income for all and access to pensions, which allow people to maintain, to a reasonable degree, their living standard after retirement, in the spirit of solidarity and fairness between and within generations;
- The financial **sustainability** of public and private pension schemes, bearing in mind pressures on public finances and the ageing of populations, and in the context of the three-pronged strategy for tackling the budgetary implications of ageing, notably by: supporting longer working lives and active ageing; by balancing contributions and benefits in an appropriate and socially fair manner; and by promoting the affordability and the security of funded and private schemes;
- That pension systems are **transparent** and **well adapted** to the needs and aspirations of women and men and the requirements of modern societies, demographic ageing and structural change; that people receive the information they need to plan their retirement and that reforms are conducted on the basis of the broadest possible consensus. [13, 16]

Pension policy remit includes provision of adequate levels of retirement incomes so as to ensure that people do not end up living in poverty in their old age. The old-age pension replacement rate measures how effectively a pension system provides a retirement income to replace earnings, the main source of income before retirement.

The 'Benefit ratio' is the average benefit of: (i) public pension; and (ii) public and private pensions, respectively, as a share of the economy-wide average wage (gross wages and salaries in relation to employees). Public pensions used to calculate the Benefit Ratio includes old-age, early pensions and other pensions (disability and survivors). [13, 28-29] In the countries with a high at-risk-of-poverty rate, the magnitude of the decline in the benefit ratio is quite strong. In Latvia, the average pensions of future retirees will fall (relative to average wages), leaving country citizens facing pension sustainability risks. Table 7 "Benefit ration for selected EU countries and trends in 2007-2060 (%)" shows results and prognosis before the onset of the crisis.

Table 7

**Benefit Ratio for selected EU countries and trends in 2007-2060 (%) [13, 35]**

	Benefit Ratio (%)					
	Public Pensions			Public and private pensions		
	2007	2060	% change	2007	2060	% change
Latvia	24	13	-47	24	25	4
Estonia	26	16	-40	26	22	-18
Lithuania	33	28	-16	33	32	-2
Denmark	39	38	-4	64	75	17
Hungary	39	36	-8	39	38	-3



The “Gross Average Replacement Rate” is calculated as the average first retirement pension as a share of the economy-wide average wage, reported by Member States in the 2009 long-term projection exercise. [13, 28-29] As shown in Table 8, the generosity of the first pension from public pension schemes is set to decline by 33% in Latvia. Latvia and Estonia show a considerable decline in the value of first pensions during the period between 2007 and raising pension sustainability concerns in these countries. The lower the first pension, the greater is the risk that future retirees will end up in poverty. The effect on private pensions of recent crises may also bring Latvia into this high risk group. With a falling replacement rate there will be a tendency to extend working lives and enhance future retirement incomes.

Table 8

**Gross Average Replacement Rate for selected EU countries and trends in 2007-2060 (%) [15, 9]**

	Gross Average Replacement Rate (%)					
	Public pensions			Public and private pensions		
	2007	2060	% change	2007	2060	% change
Latvia	33	22	-33	33	33	0
Estonia	28	16	-43	28	31	11
Lithuania	32	29	-9	32	37	16
Denmark	33	33	0	71	84	18
Hungary	49	38	-22	49	43	-12

Replacement rate is a case study based calculations that show the level of pension income in the first year after retirement as a percentage of individual earnings at the moment of take-up of pensions. In these calculations the year of retirement is 2012 making the last year of earnings 2011. However, the difference in income between these years is in real terms and adjusted for inflation.

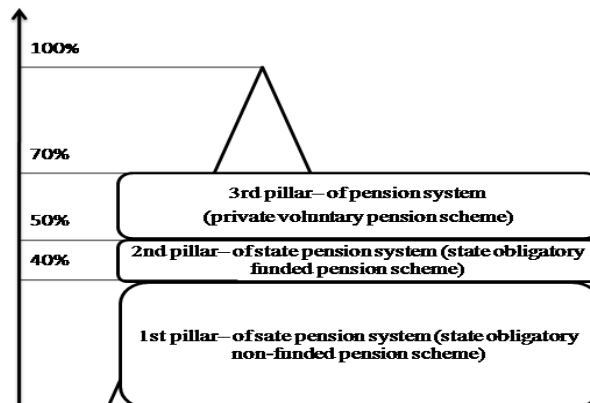


Figure 2. Theoretical replacement rate [authors' survey and calculations]



Theoretical replacement rate is a measure of the impact of new pension policies. The base case calculates the retirement pension received by a hypothetical person (male) working a full working life (40 contribution years), retiring at 62, and accumulating pension rights under the new pension scheme, and divides it by the projected wage in the immediate previous time period. This ratio is compared with the same theoretical ratio today for someone who would have accumulated pension rights under today's pension. It measures how reformed pension systems change future pension entitlements. It covers public pensions and mandatory private schemes, as well as private schemes that are considered to play a significant role in the future (see Figure 2).

The results in Figure 2 show the potential of net replacement rate that was the goal of the reforming Latvian pension system – the value of the pension retirement, after taxes, should reach up to 70% of the level of earnings before retirement, after taxes and contributions.

## 5. The Impact of the Crisis on Pension Schemes and Its Social Consequences

With the financial crisis and the economic downturn, Latvia has had to assess the short- and longer-term impacts on the various elements in their pension schemes. The crisis adds to the economic impact of demographic ageing on pension provision, although the consequences will critically depend on the depth and length of the downturn. For public “pay-as-you-go” pension systems, the slowing of the real economy is bringing additional fiscal pressures on financing and contributions. For funded schemes, the crisis has exposed their vulnerabilities in financial markets. In practice, the level of pensions will be affected by economic crisis, inflation, discount rate, profitability of pension plans.

Figure 3 shows that replacement rate, including all three levels, reaches only 42-45%. The crisis has highlighted the need to review the design of the Latvian pension system and the need for the right balance between PAYG (Pay-As-You-Go) systems and fully funded systems. Comparing the situation of Latvia with other European countries, one can conclude that replacement ratio is one of the lowest within the EU 27 countries (see table 7).

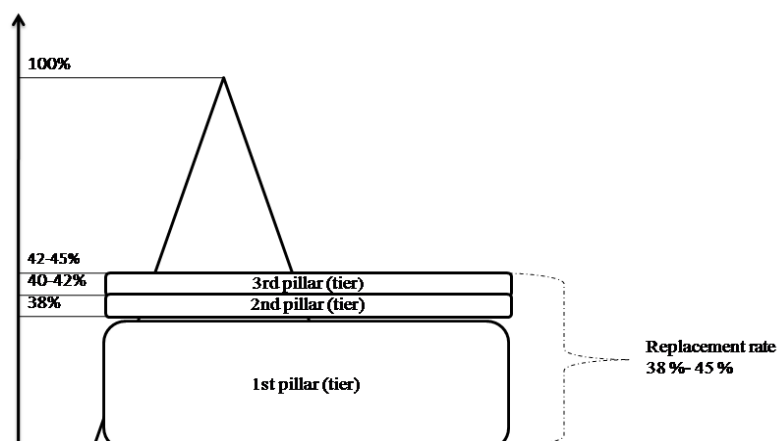


Figure 3. Replacement rate (2012) [authors' survey and calculations]



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The crisis will affect all pension designs and has revealed several shortages like the poor interaction between public and private pillars. Some governments, for example, Argentina, have *de facto* nationalized private pensions, and there are policy discussions about reverting back towards PAYG public pensions in some Central and Eastern European countries (Hungary, some activities in Estonia, Lithuania, and Poland). Macroeconomic stability and well-functioning labour and financial markets are needed for pension systems to work well. Pension reforms would not be enough – they would not reduce the annual replacement rates unless people work more and longer. Transparent pension policy from policy-makers and well-thought over legislation is also essential.

In order to achieve in Latvia the replacement rate is 70% of the pre-retirement income, it is necessary to change individuals' attitudes towards their old age. It is therefore important to introduce the 4<sup>th</sup> pension tier. No less important is the public policy of the pension system as a whole and its sustainability. The authors' study showed that the current pension system does not provide income for 70% substitution level, when the pensioner retired. In Figure 4, the authors show that with a merger of the 1<sup>st</sup> and 2<sup>nd</sup> level, saving in private pension funds and introduction of the 4<sup>th</sup> pension tier makes it possible to achieve 70% of pre-retirement income. The recognition of the fourth pillar highlights the important role of the financial and non-financial assets in financially supporting the individual or household during retirement.

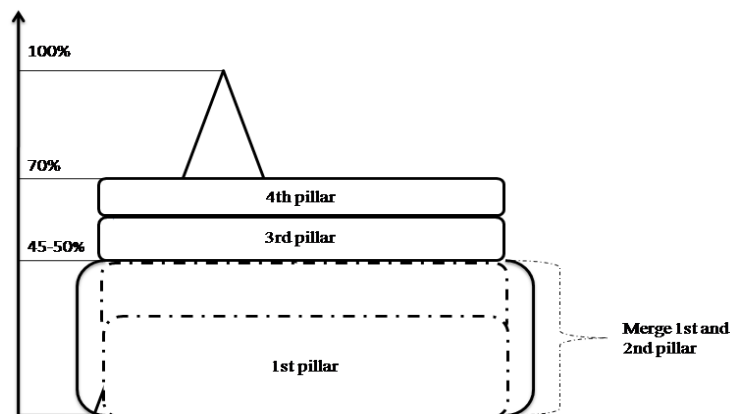


Figure 4. Replacement rate after pension reform [authors' survey and calculations]

Although the pension schemes of the European countries differ, all of them are facing the contemporary demographic and economic risks. Due to those, in order to preserve long-term fiscal sustainability and guarantee the benefits for contribution makers, the policy makers have the hard job of balancing between sustainability and adequacy concerns. The pension must be equal to person's pre-retirement income and by no means can poverty be tolerated. The aims to achieve are quite complicated: working longer must be rewarded and interrelated with one's pension; person's length of employment must be balanced with the size of a pension and supplementary occupational and personal schemes must be encouraged. To continue on reaching sustainability, it must be noted that the current crisis (and economic problems as such), due to lower growth prospects and increasing deficit and debt affect, influence the contemporary



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employees and particularly the younger generations. We must review the degree of financial market exposure and the design of risk sharing on funded pensions. Besides, the crisis affects all levels of pension system, which are interlinked, since macroeconomic stability and well-functioning labour and financial markets are essential for pension system as a whole to function well. Knowing about unemployment problems, working longer must be strongly encouraged – it is the only way to reach the adequacy-sustainability balance.

As an example, it is interesting to explore the changes made in the Hungarian pension system in 2010-2011. The objective of a comprehensive pension reform that is currently under way in Hungary is to return to the two-pillar pension system based on social solidarity, on the one hand, and voluntary contributions, on the other. [14, 1] The major changes that Hungary made to its mandatory two-pillar pension system in the latter half of 2010 were designed to address the perceived under-performance of the funded second pillar, encourage people to work longer and, in recognition and support of family life, to provide a fairer system for women who had child-rearing responsibilities and a qualifying service period of at least 40 years.

### 6. Criteria of Sustainability

Analyses of the world economic crisis impact have shown that all tiers of the Latvian pension system are threatened. Decreasing of salaries and increasing of unemployment lead to necessity of increase the share of first tier from 12% to 18% in order to preserve pension levels determined by law. Dropping of second and third tiers profitability to negative values leads to real losses instead of foreseen savings. Negative impact of crisis is natural. Full economic cycle, including increasing phase and decreasing phase, is much more important for social security tax payers. Normally payment period includes several economic cycles. During this period the main factors predicting result are:

- 1) impact of indexation of pensions after retirement;
- 2) impact of tax-rate during the social security payment;
- 3) difference between inflation and profitability of funded pensions;
- 4) impact of family support after retirement, compared with pension support.

In fact, achievement of the predicted replacement rate according the post crisis scenario based on fiscal discipline is impossible. First of all, it depends on difference between inflation and profitability. During the last decade inflation rate was substantially greater than profitability of the second and third tier pension funds. Therefore, in the moment of retirement, the impact on the funded pensions will be very small. Compared with funded pensions, the financial basis of the first tier (solidarity of ages) is not vulnerable by inflation. In Latvia the average salaries are three times smaller than the average productivity (compares to EU figures). That means there is an objective necessity to increase salaries faster than the inflation. Basis of solidarity pensions during decade have increased by more than 3 times; basis of the funded pensions during decade have increased only by several percent. Therefore, the first tier pension basis during working age increases much more than basis for the funded pensions. Effect of demography is much smaller than the one of inflation. First tier depends on indexation. The second and third tiers profitability depends on management and inflation rate. If profitability is smaller, sustainability of those tiers is under question.



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Welfare of retired person substantially depends on family support. Crisis will be the facilitating factor to rethink the role of the traditional family model. The right balance between family support, solidarity support and support from individual savings should be discussed again and again.

Sustainability can be analysed also from fiscal and macro-economic points of view. Latvia has comparably high rate of taxes from wages. During crisis attempts to increase tax rates of individual income tax as well as compulsory social insurance tax were performed. Such increasing stimulated illegal economy, but did not give positive fiscal effect. There are signs that both components of taxes from wages will be reduced in order to ensure greater revenues for pensions.

Therefore, criteria for sustainability of pension system could be formulated in such a way:

- 1) Pensions have to ensure:
  - a) increasing of pension base faster than the inflation rate;
  - b) compensation of inflation impact after retirement;
  - c) interest of employees to pay social insurance tax and minimal revenues standard for poor.
- 2) Compulsory social insurance tax as basis for state pensions must be so small as to stimulate active investments policy, creating jobs and economic development.
- 3) Substantial part of retired persons' welfare will depend on family support.

The discussion about sense of state funded pensions' allocation into national economics, about multiplicative effect of this allocation is also necessary. Assessment of such an allocation could be reached on the basis of public good concept-evaluating impact not only on future pensioners, but also on economics of state and local governments budget and households expenditures.

### 7. Conclusion

1. Sustainable Pension system must ensure that older people are not placed at risk of poverty and can enjoy a decent standard of living. 70% replacement rate for old age pensions in Latvia is not a realistic goal.
2. Financial sustainability of pension systems and adequacy of pensions are dependant upon efficiency, availability and security of provisions of state-funded and private pension funds. Administrative policy must stimulate reduction of bureaucracy and increasing of productivity of both private and public sectors in order to reduce replacement rate.
3. Sustainable pension system reduces impact of inflation on savings and pensions after retirement. Components of pension system, which cannot ensure such reduction, shall be excluded from compulsory social insurance.
4. Social policy must stimulate increasing of the role of family to ensure welfare of retired persons. The right balance between family support, solidarity support and support from individual savings is a challenge for further research and shall be basis for further pension reforms.
5. Experience of Hungary to modernize its pension system to achieve larger future pension for tax payers shall be evaluated in order to improve sustainability of Latvian pension system.



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