EVOLUTION OF CHANGES TO THE POLISH PENSION SYSTEM

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Abstract
A reform of the pension system in Poland was carried out in 1999. It mainly aimed to secure a financial stability to the system and to ensure its solvency in view of demographic changes leading to ageing of the society. 15 years of the reformed system comprises the crisis in financial markets which also affected changes to economies of most countries. A faster pace of the growth in the public debt has triggered a new discussion over the pension system in Poland. The paper presents main changes to functioning of pension funds introduced in 2011 and 2014 and indicates reasons for these changes.

Key words: *social security system, open pension funds, a reform of social security*

1. INTRODUCTION

Until 1998 Poland had a pay-as-you-go pension system based on a defined benefit. The deficit of the system deepened and its financing could not go on without raising social security contributions and taxes. A new pension system was implemented on 1st January 1999 and it basic objective was to adjust to unfavourable demographic changes happening (extending life expectancy, a drop in childbirth, a longer period of living on pension benefits) and acceleration of economic development of the country.

In accordance with the Act on the social insurance system dated 13th October 1998 (Journal of Laws No. 137, item 887) a pension part was separated from the system.[1] Fiscal financing of the pension part was substituted with saving financing which was supposed to balance off the system. Each insured person when retiring will receive a value of independently paid contributions in the form of discounted annuity (Góra 2003).

The previous system based on a defined benefit was transformed into the system based on a defined contribution. The obligatory part was divided in to a financial and non-financial part. The pension contribution was broken up into individual accounts to ensure a greater risk diversification.

The first part goes to a public institution – Social Insurance Institution (ZUS) (ZUS constitutes an element of the pay-as you- go system with a defined contribution).[2] In this nonfinancial part of the obligatory system based on the public debts (*NDC*[3]) a return rate depends on the economic growth.[4] The other part of the contribution goes to a private financial institution – established pursuant to the Act on open pension funds (OFE) dated 28th August 1997. The return rate in OFEs depends of effectiveness of investments made by this entity in the financial market. If the group of financial

[1] ZUS collects contributions in the Social Insurance Fund comprising: an old-age pension fund, a disability fund and an accident fund. Reserve funds are created at the end of the year out of resources in those accounts (decreased by resources necessary for payment in January the following year). A separate fund is set up for the old age pension fund. A Reserve Demographic Fund (FDR) established out of pension fund resources is collateral for the old age pension fund against insolvency caused by an unfavourable demographic structure.

[2] Old pension contributions in the reformed system amount to 19.52% of the gross salary and are payable in equal parts by an employee and an employer. They paid into ZUS which in turn transfers 7.3% of the gross salary to OFE.

[3] NDC – nonfinancial defined contribution system based on the public debt
FDC – financial defined contribution system based on investment into private financial instruments,
FDC_{GD} – financial defined contribution system based on the public debt.

[4] Contributions in individual accounts in ZUS are indexed. The indexation may be treated as a return on investment.

instruments acquired by OFEs is dominated by government bonds then the account is similar to the nonfinancial account in the Social Insurance Institution (FDC_{GD}). When the money gathered in the account is invested into financial instruments issued by the private sector we talk about *FDC* financing.

Elaborations on the problem of the pension system reform as well as the so called social communications make use of the tem „the first pillar" for nonfinancial accounts in the Social Insurance Institution and „the second pillar" for financial accounts in OFEs. These terms are not coherent with the classical three-pillar approach of the World Bank (1994). They additionally make the comparison of the Polish pensions systems to other system more difficult.

The Polish so called „first pillar" denotes a reformed ZUS where each insured person has an individual account where contributions are recorded. Open pension funds operate in the so called "second pillar" and "the third pillar" is constituted by additional savings gathered to be paid out after retirement. If we are to use the World Bank's terminology then we need to emphasize that Poland does not have the first pillar and the second one consists of two old age pension accounts: nonfinancial in ZUS (*NDC*) and a financial one (*FDC*) in OFE.

The structure of the Polish third pillar is consistent with the World Bank terminology. The third pillar (capital one)) is an additional and voluntary element of the pension system managed by private entities.

The system became safe thanks to risk diversification. A part of the contribution goes to an institution managed publically – Social Insurance Institution, a part goes to open pension funds (OFE) operating in the second pillar. In the nonfinancial part of the system (ZUS) the return rate depends on the economic growth. In the downturn period (e.g. in case of high inflation) contributions are indexed which compensates for the loss or a lower increase in the capital in OFE. While contributions gathered in ZUS are not highly indexed, funds earn on the stock markets' increases. The system designed that way reduces the risk and increases safety of pension resources.

The first essential changes to the functioning of the system were introduced in 2011. These changes resulted in decreasing the part transferred to OFE and thus touching the basis of the system namely its safety. Subsequent changes were made in 2014. The scope of these changes is very broad. 51.5% of contributions of each OFE member was amortised, the percentage of contribution to OFE was again decreased (giving the insured the right to choose between ZUS and OFE), a 10-year period preceding the retirement was introduced to transfer all the funds to ZUS.

This paper aims to present changes happening to the functioning of the reformed pension fund in Poland since its establishment in 1999.

2. REASONS FOR CHANGES TO THE SYSTEM IN 2011

Poor performance of OFE in investment activities was an argument for changes to the system put forward by their supporters. Open pension funds invest funds in the capital market so their investment results depend on the general situation in the financial markets. They allocate most resources to bonds and T-bills. Secondly they also invest in shares listed in the national stock exchange.

2.1 OFE INVESTMENT PORTFOLIO UNTIL 2011

Over the years 2000-2011 the percentage of shares in OFE portfolios fluctuated from 28 to 34%.The lowest percentage occurred over the years 2001-2002 when due to their high profitability bonds were very much favoured as opposed to shares which resulted from a downturn in Warsaw Stock Exchange. We may say that the situation in the financial market was reflected in the composition of OFE investment portfolios.

2003 brought significant changes to the financial market which made the funds invest more in T-bills in the first half of the year. However the second half of the year increasing indexes in the Stock

Exchange encouraged the institutions to invest more in the shares market. The shares participation increased the profitability of the entire OFE investment portfolio.

The end of 2004 saw a significantly different situation than the end of 2003. Increasing interest rates discouraged from further investment in bonds whereas a noticeable upturn in the Stock Exchange in the second half of the year encouraged investing in shares.

2005 again observed a growth in debt instruments in portfolios. Despite a good upturn Open Pension Funds decreased their involvement in shares. In 2006 the interest in shares slightly grew however the percentage of bonds participation in the overall portfolio did not change.

2008 witnessed a collapse in capital markets connected to the world financial crisis. The pace of the growth in OFE assets slowed down. At the end of 2007 the value of aggregated investment portfolio amounted to zł 139 594 335 424 and after a year it amounted to zł 138 205 722 550.98. The assets growth began slowing down at the end of 2007 and lasted until February 2009. The situation improved significantly in March 2009.

From January 2009 the value of Warsaw Stock Exchange WIG index increased. The betterment of the situation in financial market positively influenced OFE assets. From February 2009 the value of OFE assets grew form the level of 131 088 045 149.57 to the level of 167 732 804 907.14 at the end of October 2009.

After the collapse of Lehman Brothers investment bank a crisis began in the world financial market. As a result of actions undertaken by state institutions such as the National Bank of Poland, the Ministry of Finance or the Polish Financial Supervision Authority the stability of the financial system was maintained. In world markets the most important stock exchange indexes went down. This situation influenced the valuation of securities listed in the Warsaw Stock Exchange. In the biggest down periods the Warsaw Stock Exchange WIG index lost 49.4% in its value (from July to October 2008). In the same period WSE capitalization dropped by over 21%. The analysis of financial statements of entities present in the market revealed worsening the average gross financial result (Polish Financial Supervision Authority, 2010). The analysts drew attention to the fact that the scale of crisis in the Polish capital market was much smaller than in world stock exchanges. They indicated that Open Pension Funds contributed to buffering decreases of share prices in Warsaw Stock Exchange[5]. "The net demand from OFE contributed to buffering decreases of share prices (...) in the biggest slump period at the turn of 2008 and 2009."[6] The influence of OFE investments on trading in the Stock Exchange is presented by chart 1.

[5] Polish Financial Supervision Authority, 2010. *Polski rynek finansowy w obliczu kryzysu w latach 2008-2009*. UKNF, Warsaw 10
[6] Ibidem: 10

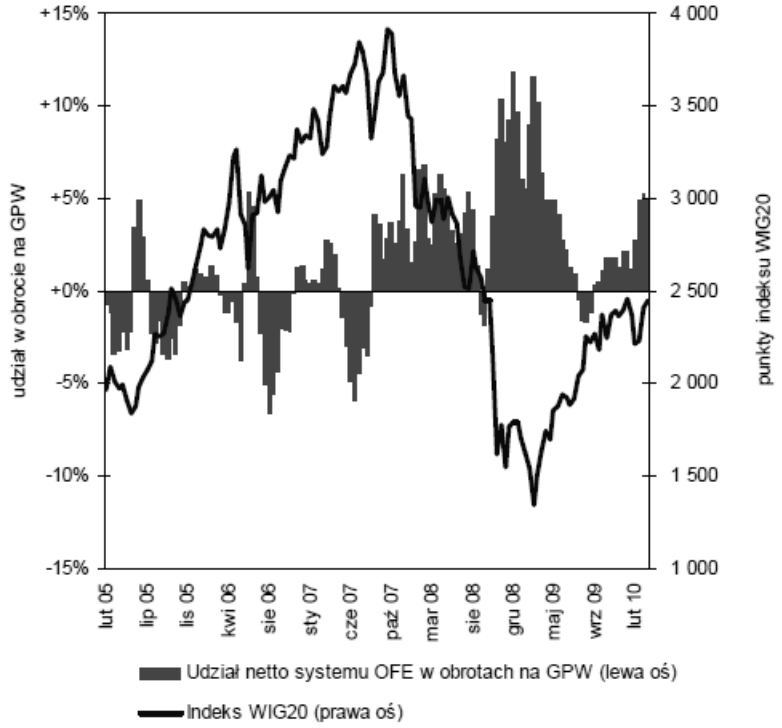


Chart 1 *OFE share in public trading and listings of Warsaw Stock Exchange WIG 20 (Source: Polish Financial Supervision Authority, 2010. Polski rynek finansowy w obliczu kryzysu w latach 2008-2009. UKNF, Warsaw.)*

While investing some assets in shares Open Pension Funds tie their investment results to the overall market condition. Naturally occurring bear and bull markets affect the valuation of participation units in funds. In chart 2 the evolution of the value of participation units was presented from January 2004 (left axis) as well as the value of Warsaw Stock Exchange Index (right axis).

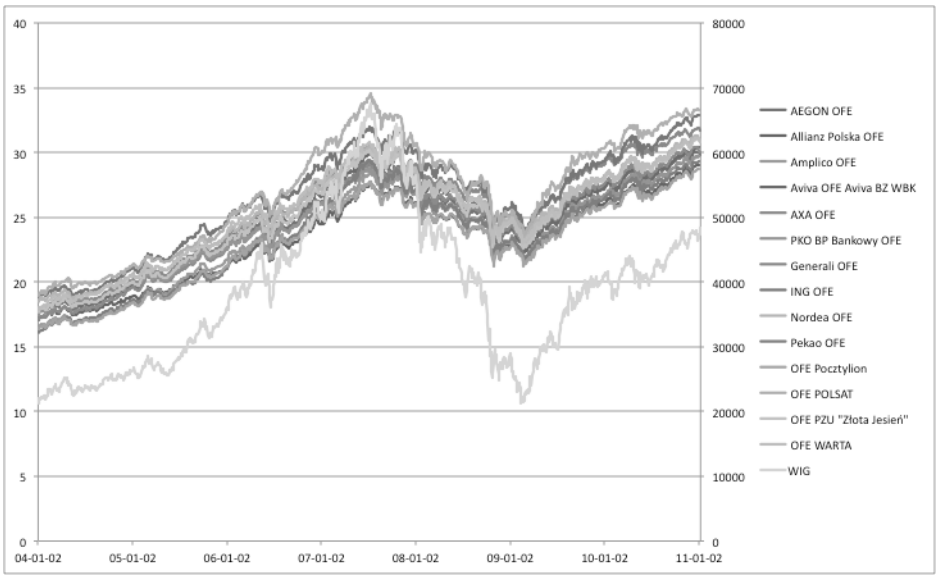


Chart 2 *The value of OFE participation units and WIG (Warsaw Stock Exchange Index) over the period 2004-2010 (Source: Elaboration of one's own on the bases of bossa.pl)*

The chart shows interdependency between changes to WIG index and values of participation units in OFE. Stock Exchange increases make the value of a participation unit grow whereas decreases affect a drop in the value. Changes to the value of participation units are not as significant as fluctuations in the market because shares constitute on average 30% of assets of the funds.

2.2 MICRO-ECONOMIC SITUATION IN THE PERIOD PRECEDING THE CHANGES

Slumps in world financial markets resulted in the crisis moving to the real economy. Despite the fact that economic indicators in 2008 in Poland remained on the satisfactory level, the fourth quarter noted a series of negative consequences. In entire 2008 the Polish economy recorded a growth in the GDP at the level of 4.8% and the fourth quarter was characterised by a slowdown in the growth pace (+3.4%). 2009 brought a further decrease in the growth pace (+1.8% on the annual basis). However it was the only positive indicator among the EU states which recorded on average a slump over 4% in the GDP. Subsequent quarters of 2009 were characterised by a growing pace of the GDP from 0.8% in the first quarter to 3.3% in the fourth quarter 2009. Chart 3 presents quarterly results.

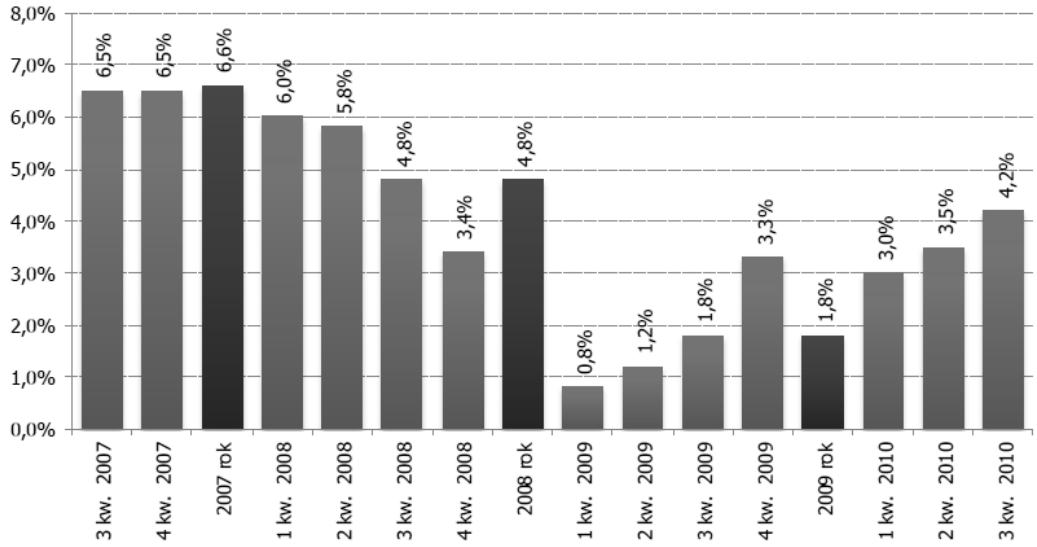


Chart 3 *GDP dynamics in Poland over the years 2007-2010 as compared to an equivalent period of the previous year* ***(****Source: Polish Financial Supervision Authority, 2010. Informacja o działalności inwestycyjnej funduszy emerytalnych w okresie 28.09.2007 – 30.09.2010. UKNF, Warsaw. Page: 5)*

It is worthwhile noticing that maintaining the growth of the GDP was possible due to a high ratio of internal demand and weakening the national currency. Depreciation of the zloty against the euro amounted to 22.4% in the fourth quarter of 2008 from the level of 3.41 to zloty 4.17 per euro, and against the American dollar it amounted to 24.9%. Weakening of the zloty was mainly caused the fact that investors disliked the risk more and mistrusted currencies of countries from Central and East Europe. Nevertheless it had a positive impact on improvement of the foreign trade balance and contributed to the increase in the debt in foreign currencies. A rise in the budget deficit and the public debt was also caused by a decline in the budget income in the period of slowdown in the pace of the economic growth (compare table 1).

	2005	2006	2007	2008	2009	2010
Interest rates from the nominal view (on average in the period)	5.30%	4.20%	4.40%	5.70%	3.80%	3.50%
Debt of the public finance sector in ml zł (as of Dec)	466590.0	506264.0	527442.0	597764.0	669876.0	747899.2
Debt of the public finance sector compared to the GDP	47.5%	47.8%	44.8%	46.9%	49.8%	52.8%
CPI inflation as of Dec (equivalent month of the previous year = 100)	100.7	101.4	104.0	103.3	103.5	103.1

Table 1 *Basic macro-economic data over the years 2005-2010 (Source: Ministry of Finance, www.finanse.mf.gov.pl)*

The debt of the public sector went up in the analysed period from zł 466 590 ml to zł 747 899.2 ml. It denoted the level of almost 50% in subsequent years and in 2010 the debt of public finance amounted to 52.8% of the GDP.

3. REASONS FOR CHANGING THE PENSION SYSTEM AFTER 2014

A worsening situation of the state public finance was the main reason for introducing changes in 2014. Justifying the need of radical changes the government even blamed OFE for the public debt. The entire 1999 reform resulting in the division of the contribution into two pillars was criticised. In supporters' of changes view this division caused smaller receipts of the first pillar. As money from the first pillar is allotted to pay for current pension benefits, smaller contributions made the public debt go up. Indirectly Open Pension Funds were blamed for weak investment results by showing that profits generated by these institutions were not higher than those achieved by ZUS and emphasising high costs of maintain the funds.

The next argument concerned an investment policy of Open Pension Funds. OFE mainly purchased T-bonds issued by the Ministry of Finance. The issue of debt securities increases the public debt so in the government's view the state borrows from OFE its own money.

There is an unsolved issue of fees charged by General Pension Societies (companies managing Open Pension Funds). General Pension Societies collect a percentage fee for contributions paid (the so called distribution fees), fees for management and fees for transfer payments. Distribution fees collected by OFE by January 2014 amounted to 3.5% at the most, after 1st February 1.75%. The amount of fees is controlled by the Act on organization and functioning of pension funds and the legislator can influence the maximum fees collected by the funds.[7] The fee for management depends of the number of assets managed by General Pension Societies and its amount is regulated statutorily.[8]

[7] Ustawa z dnia 28 sierpnia 1997 r. o organizacji i funkcjonowaniu funduszy emerytalnych, Journal of Laws 1997 No. 139 item 934, Art.134
[8] Ustawa z dnia 28 sierpnia 1997 r. o organizacji i funkcjonowaniu funduszy emerytalnych, Journal of Laws 1997 No. 139 item 934, Art 136.2a

3.1 OFE INVESTMENT PORTFOLIOS OVER THE YEARS 2011-2013

Open Pension Funds are institutional investors whose investment policy is largely determined by limitations imposed by the legislator. Moreover funds are obliged to report a return rate for 3-year investment activities at the end of the mid-year. The Funds are not awarded for achieving good results and they mainly secure against achieving a low return rate which could result in deficiency. The investment policy of particular OFE is similar and focused on achieving an appropriate return rate at the end of March and September. Analysing main ingredients of OFE assets at the end of the year only slight differences may be noticed in particular categories of assets in portfolios. Bonds and T-bills constituted the largest part of the assets. The second category of investments was made into shares listed in the national regular stock market (including the National Investment Fund). The structure of investment portfolios of all OFEs operating in the market over years 2009-2012 is presented by table 2.

Types of investment instruments	Value (in thousand ZL)				Share in the total value (in %)			
	31.12.09	31.12.10	31.12.11	31.12.12	31.12.09	31.12.10	31.12.11	31.12.12
Bonds	119230366	129984352	141404840	151914793	66.59	58.69	62.51	55.97
Shares of companies listed on regular market	54 305 506	80 248 573	69 681 169	94 628 291	30.33	36.24	30.80	34.86
Bank deposits and bank securities	3 849 236	8 055 033	12 623 555	22 066 056	2.15	3.64	5.58	8.13
Treasury bills	455 544	1 696 202	1 001 108	365 157	0.25	0.77	0.44	0.13
NFI Shares	325 866	419 158	252 194	475 348	0.18	0.19	0.11	0.18
Other investments	873 337	1 058 416	1 240 767	1 992 513	0.49	0.48	0.55	0.73
Total investment portfolio	179039855	221461734	226203634	271442157	100.00	100.00	100.00	100.00

Table 2 *The structure of investment portfolios of all OFEs operating in the market over years 2009-2012 Source: elaboration of one's own based on annual data from the Polish Financial Supervision Authority, www.knf.gov.pl)*

The share of bonds in OFE portfolios at the end of the years amounted between 56% - 67% and constituted the main category of assets. The participation of shares was on average 30% - 35%. We can say that investments into listed shares are an alternative to investments into debt securities.

3.2 MACRO-ECONOMIC SITUATION

An expanding fiscal and monetary policy of most EU countries triggered a recovery in world markets in 2010. Anti-crisis activities led to an increase of a deficit in public finance. In Poland the deficit was lower than in most European countries and amounted to 7.9% of the GDP.[9] In August 2010 the government approved proposals limiting the deficit in the public sector. The reform plan assumed maintaining the public debt below 55% GDP and anticipated inter alia:

- „ changes to VAT rates (increase),
- establishing the so called spending rule (the maximum growth in flexible expenditure cannot exceed 1% increased by the inflation rate),
- over the next three years keeping the public debt at the level of: 54.4% GDP, 54.6% GDP and 53.7% GDP"[10]

In 2011 the global economic growth slowed down as a result of the second phase of the financial crisis (the National Bank of Poland, 2011), and in 2012 it stayed on a low level (the National Bank of Poland, 2012). The growth began in the first half of 2013. Quarterly GDP results in Poland are presented by chart 4.

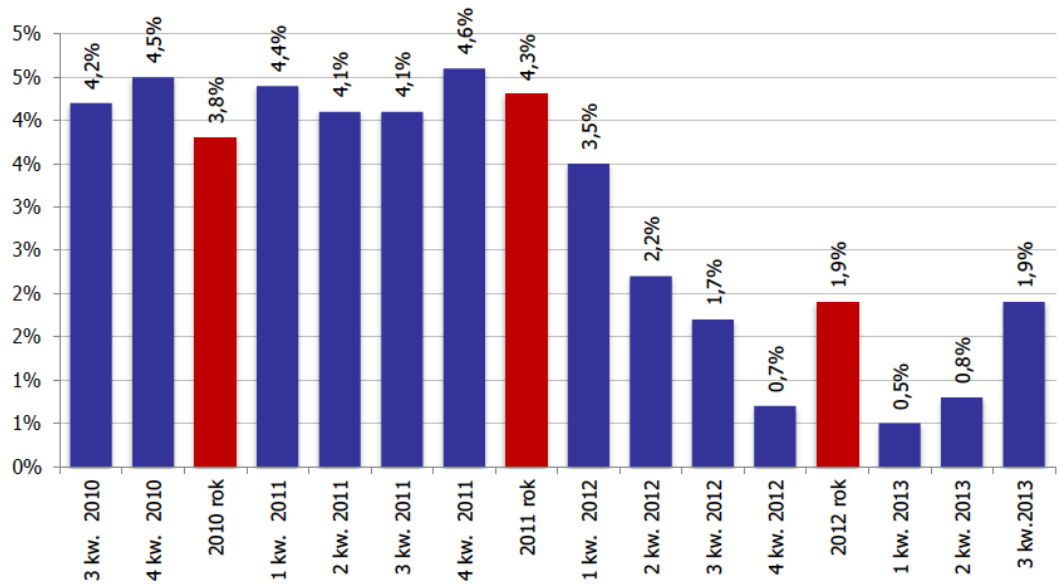


Chart 4 *Dynamics of GDP in Poland over the years 2007-2010 as compared to an equivalent period of the previous year (Source: Polish Financial Supervision Authority, 2013. Informacja o działalności inwestycyjnej funduszy emerytalnych w okresie 30.09.2010 – 30.09.2013. UKNF, Warsaw. Page: 5)*

In 2010 the economic growth went up by 3.8% compared to the previous year. Despite significant slumps in the the world markets in 2011 the GDP grew by 4.3%. The situation got worse in subsequent years. In 2012 the GDP went up by only 1.9%. This trend of unchanged dynamics remained in 2013. The debt of the public finance sector is presented by table 3.

[9] Deficit calculated according to ESA 95 methodology, (National Bank of Poland, 2010)
[10] National Bank of Poland, 2010. *Raport o stabilności systemu finansowego. Grudzień 2010*, National Bank of Poland, Warsaw, viewed 21 June 2014, <http://www.nbp.pl/systemfinansowy/rsf122010.pdf>: 17-18

	2010	2011	2012	2013	III 2014 (forecast)
Debt of the public finance sector in ml zł (as of Dec)	747 899.24	815 346.19	840 476.81	882 297.67	782 079.06
Debt of the public finance sector compared to GDP	52.8%	53.4%	52.6%	53.9%	No data

Table 3 *Basic macroeconomic data over the years 2010-2013 (Source: Ministry of Finance, www.finanse.mf.gov.pl)*

The debt of the public finance sector grew from zł 747 899.24 ml in 2010 to zł 882 297.67 ml in 2013. It was also affected by a worsening situation in the Social Insurance Fund. After 2010 when 50% of the public debt was exceeded as compared to GDP this trend remained unchanged.

According to Article 86 on public finance when the value of the public debt compared to the gross domestic product is greater than 55% and smaller than 60%, certain precautions are imposed on the government. They anticipate that a budget bill for the next year cannot account for a deficit of the state budget, salaries of employees of the budget sphere cannot be raised, and indexation of disability pensions and old-age pensions cannot exceed the increase in prices for goods and consumption services announced by the Central Statistical Office for the previous budget year.[11] These precautions impose a number of limitations on the government. At the same time exceeding the threshold of debt influences negatively the safety of Polish public finance as well as creditworthiness of the state in financial markets.

4. CHANGES TO THE PENSION SYSTEM

The most important change to Open Pension Funds was introduced by amendments to the Law dated 13th October 1998 concerning the social insurance system. According to Art. 22 of the Law the interest rate for old age pension contribution amounts to 19.52% of the assessment basis. Before changes part of a contribution amounting 7.3% was transferred to ZUS by a selected open pension fund. After the reform that became effective 1st May 2011 a part of contribution amounting to 2.3% of the base benefit was transferred to OFE and the remaining 5% was recorded on a special sub-account kept with the account of the insured person in ZUS[12].

Contributions transferred to a sub-account in ZUS are only recorded (including information about indexation) and they are not "monetary" and are used to pay current pensions. Amounts transferred to OFE were supposed to go up slightly by 2017. The division of the contribution proposed in 2011 is presented in table 4.

Assessment basis of the contribution for social insurance				
For the period	To 1st pillar (individual account in ZUS)	To 2nd pillar		Total
		OFE	Sub-account in ZUS	
Until 30th April 2011	12.22%	7.3%	-	19.52%

[11] Ustawa z dnia 27 sierpnia 2007 roku o finansach publicznych, Journal of Laws 2009 No 157, item 1240, Art. 86

[12] Ustawa z dnia 13 października 1998 roku o systemie ubezpieczeń społecznych dodany przepisem Ustawy z dnia 25 marca 2011 roku o zmianie niektórych ustaw związanych z funkcjonowaniem systemu ubezpieczeń społecznych, Journal of Laws No 75, item 398, Art. 40a

From 1st May 2011 to 31st December 2012		2.3%	5.0%	
From 1st January to 31st December 2013		2.8%	4.5%	
From 1st January to 31st December 2014		3.1%	4.2%	
From 1st January 2015 to 31st December 2016		3.3%	4.0%	
From 1st January 2017		3.5%	3.8%	

Table 4 *The amount of the old age pension contribution transferred to 1st and 2nd pillar- a project from 2011 (Source: Elaboration of one's own on the basis of art. 22 Ustawy z dnia 25 marca 2011 roku o zmianie niektórych ustaw związanych z funkcjonowaniem systemu ubezpieczeń społecznych, Journal of Laws No. 75, item 398)*

One of the reasons for carrying out the pension reform on 1st May 2011 was saving public finance. In reformers' view too high contributions transferred to OFE increased the deficit in public finance and caused the growth in costs of handling the public debt. The other reason was too low effectiveness of entities functioning in the capital part of the pension system. Changes made pursuant to the Law dated 25th March 2011 concerning changes to some acts related to functioning of the social insurance system mainly concerned the amount of contribution transferred to OFE. The legislator did not propose changes enhancing effectiveness of the system.

Another changes were made in 2014 pursuant to the Act dated 6th December 2013 concerning some acts defining principles of paying old-age pensions out of resources gathered in open pensions funds[13]. By virtue of this Act in February 2014 Open Pension Funds transferred assets corresponding to 51.5% of the participation units recorded by 2014 to ZUS.

Membership to 2nd pillar is voluntary these days. Each insured person may choose where his or her contribution will go – to OFE or ZUS. The old-age pension contribution amounting to 19.52% since 1st February 2014 has been divided as follows:

- 2.92% of the assessment basis is transferred to OFE,
- 4.38% of the assessment basis is recorded in the sub-account in ZUS,
- 12,22% of the assessment basis is transferred to an individual account in ZUS.

If the insured person gives up participation in 2nd pillar, 7.3% of the assessment basis will be recorded in the sub-account in ZUS. The choice between OFE or ZUS can be made from 1st April to 31st July 2014. The decision is not final and can be changed in the equivalent period of 2016 and then every 4 years.

The Act also introduces the so called „safe period" preceding the payment of the first old-age pension. 10 years before the retirement age ZUS will stop transferring funds to OFE to improve safety of resources gathered over the working period.

The Act dated 6th December 2013 introduced serious changes to the investment policy of OFE. According to amended Article 141 of the Act on organization and functioning pension funds [14] assets

[13] Ustawa z dnia 6 grudnia 2013 r o zmianie niektórych ustaw w związku z określeniem zasad wypłaty emerytur ze środków zgromadzonych w otwartych funduszach emerytalnych, Journal of Laws 2013, item 1717.
[14] Ustawa z dnia 28 sierpnia 1997 r. o organizacji i funkcjonowaniu funduszy emerytalnych, Journal of Laws 1997 No 139, item 934. Art. 141.2

of the open pension fund can be invested into bonds, bills and other securities issued by the State Treasury, the National Bank of Poland, governments and central banks of other EU member states. The fact that OFE cannot invest in safe state instruments changes the nature of investment portfolios into riskier ones.

5. CONCLUSION

The first assumptions of the Polish pension system reformed in 1999 were included in the elaboration of the Government Spokesman for Pension Security Affairs. The report (Rutkowski & Góra 1997) presented proposals for solutions securing solvency of the system. In 2013 the Ministry of Labour and Social Policy together with the Ministry of Finance elaborated a report called *Safety thanks to stability* (Ministry of Labour and Social Policy the Ministry of Finance 2013) which indicated a need of radical rebuilding the existing system and negative consequences of the reform from 1999. The most important conclusion drawn from the report is about the safety of the pension system which (in authors' view) is affected by the pace of economic growth and the present and future condition of public finance. Changes made to the social insurance system resulted in reduction of the debt in this sector. If savings made by the Poles in 2nd pillar had not been moved to ZUS, the debt of the public finance compared to the GDP would have exceed 55% at the end of 2014 and this would entail imposing precaution measures. One may say that the aim the authors of changes in 2014 had was achieved.

The system valid since 2014 is not compliant with the concept of three pillars and infringes the basic assumption of the 1997 reform namely diversification of risk (payment from a few sources) to enhance safety of the pension system. As a result of changes (transferring contributions to ZUS 10 years before retirement) the Social Insurance Fund will become an entity paying old-age pension benefits in the obligatory system. From the point of view of public finance such a solution will increase obligations of the pension system in the long-term.

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