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Pension Funds and Acceleration of Poland's Economic Development

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Summary

Retirement systems are extremely complex social, economic, legal, and organisational structures. The authors of retirement systems are faced with a great number of dilemmas. The pension related expenditure has systematically been increasing in the developed world, also as a percentage of GDP, due to the fast ageing of societies both as a result of the fact that life expectancy has become longer and due to a decline in the number of children per family. Consequently, according to the estimates of the International Monetary Fund, in order to maintain the liquidity of public retirement systems in industrialised countries in the light of between 1995 and 2050 it would be necessary to increase expenditure for this purpose on average by 1.8% of GDP annually. It is also a great challenge to Poland, which introduced its new retirement system in 1999.

This paper analyses the possible impact of the new pension system on Poland's economic development. It discusses pension funds in the new architecture of the Polish retirement system and lists conditions for such an impact. It also analyses position of the pension funds on the Polish financial market and discusses opportunities for using open pension fund investment potential. Eventually it focuses on development opportunities for Polish economy in reference the pension system.

1. Introductory Comments

Retirement systems existing in different countries of the world are extremely complex social, economic, legal, and organisational structures. This results both from the necessity of reconciling different goals and tasks within them, from an extremely long redemption period for their obligations as well as from a long period of ‘reforging’ their structures. In effect, the ‘portfolios’ of those systems are, like for example now in Poland, often shaped differently depending on their history. In each case, their basic function is to provide funds for the maintenance of people at post-working age, i.e. when they are deprived of their stream of income from their job.

This basic function may be fulfilled in the circumstances of various systems of values, the extreme expression of which is the principle of full solidarism on the one hand, and the principle of full egoism, or full individualisation, on the other. In the former case, the individual retirement-related burdens are not directly linked to future benefits, whereas in the latter option they are directly and fully connected with retirement savings set aside. The said principle of solidarism may apply to the settlements of accounts with the generation of predecessors as well as/or settlements made within the same generation.

Apart from this fundamental choice, the authors of retirement systems are also faced with many other dilemmas, in particular such as determining the level of compulsory retirement-related burdens and, ipso facto, the level of future benefits in respect of this. The situation in various countries is diversified in this respect. In 2000, pension-related expenditure in OECD countries ranged from 2.0% GDP in South Korea through 3.0% in Australia, 4.4% in the USA, 5.1% in Canada, 10.8% in Poland, 11.8% in Germany, 12.1% in France, and 15.0% in Italy¹. In the latest Eurostat pension study it is estimated that in the year 2000 pension-related expenditure constituted 12.5% of EU’s GDP and was growing at the annual rate of 2%.²

This situation is not solely the issue of political choices, and it strongly depends on the existing demographic processes. Their essence is the fast ageing of societies both as a result of the fact that life expectancy has become longer and due to a decline in the number of children per family. It appears from research conducted by OECD that between 1970 and 1999 the life expectancy of retiring people in that organisation’s member states increased by

¹ M. Góra – System emerytalny, PWE, Warsaw 2003 p. 202.

² Special feature on pension funds. Data 1997-2000, European Commission, Eurostat, Luxembourg 2002, p. 12.

as many as five years.³ It is worthwhile to remember in this context that the retirement age introduced by Bismarck in Prussia was 70 years with the then life expectancy of 45 years. Currently the retirement age is typically at 60-65 with the usual life expectancy of 70-75 years.⁴

In effect, there is an increase in dependency ratios reflecting the extent to which the working population's income has to provide maintenance for those who are not working, which is expressed as a ratio of pensioners to people who are professionally active. In the coming 35-50 years, they will increase from 50% to 100% in OECD countries, and become a serious challenge for the general stability and solvency of existing public retirement systems (see Table 1). In some industrialised countries, dependency ratios may reach almost a catastrophic level, turning upside down all the relationships existing today. Thus, for example, in 2050 they may reach nearly 67% in Italy, 66% in Spain, and nearly 65% in Japan. Poland is exposed to the same danger.

Table 1: Dependency ratios in OECD countries (ratio of pensioners to people at working age) (%)

Country	2000	2035	2050
Belgium	28.1	50.0	49.50
Canada	20.4	42.20	45.90
France	27.2	47.50	50.80
Germany	26.6	54.10	53.20
Italy	28.8	56.80	66.80
Japan	27.7	53.92	64.62
Netherlands	21.9	46.02	44.86
Norway	25.6	41.32	41.21
Poland	20.4	38.36	55.20
Portugal	26.7	40.90	50.90
Spain	27.1	48.17	65.67
Sweden	29.4	45.72	46.34
UK	26.6	44.64	45.29
USA	21.7	38.15	37.94

Source: OECD, citing A Rabough - Funding alternatives for Government sponsored retirement systems - a global overview, op. cit p. 14

In this situation, according to the estimates of the International Monetary Fund, in order to maintain the liquidity of public retirement systems in industrialised countries in the

³ A. Rabough – Funding alternatives for Government sponsored retirement systems – a global review, Global Pensions Quarterly, August 2003, p. 13.

⁴ M. Góra – System emerytalny..., op. cit., p.39.

light of obligations already taken on by them, between 1995 and 20505 it would be necessary to increase expenditure for this purpose on average by 1.8% of GDP annually.

No wonder that this being so there is ongoing search for the ways to solve the problems that have arisen. The proposed therapy includes first of all the reform of traditional repartition systems that are still dominant in the world and the essence of which is that the present working generation finances retirement benefits for the preceding generation. The activities undertaken include the increase of pension contributions, reduction of replacement rates, making the retirement age start later, creation of national pension reserve funds etc.⁶ Another trend involves measures taken to increase the individual far-sightedness of the stakeholders through the development of different optional forms of retirement savings based on the use of financial market instruments. They may either take the form of group pension schemes or individual schemes. They may utilise various forms of the state's fiscal support. Optional systems not only take over the burden from mandatory ones, but also diversify the risk through their links with the financial market instead of the state budget. For this reason, their positive consequence for the safety and stability of the whole retirement system is stressed.

Another trend of activities involves a situation in which part or the whole mandatory pension assurance system is based on the concept of fully funded pension funds, the management of which is entrusted either to private entities (e.g. Chile, Mexico, Poland, Estonia), or public entities (e.g. Singapore, Malaysia, Sweden).

⁵ Ch. Daykin – Pension systems: The EU and Accession countries. Lesson for the UK, Politeia, London 2002, p. 14.

⁶ Compare A. Rabough – Funding alternatives..., op. cit., p. 13.

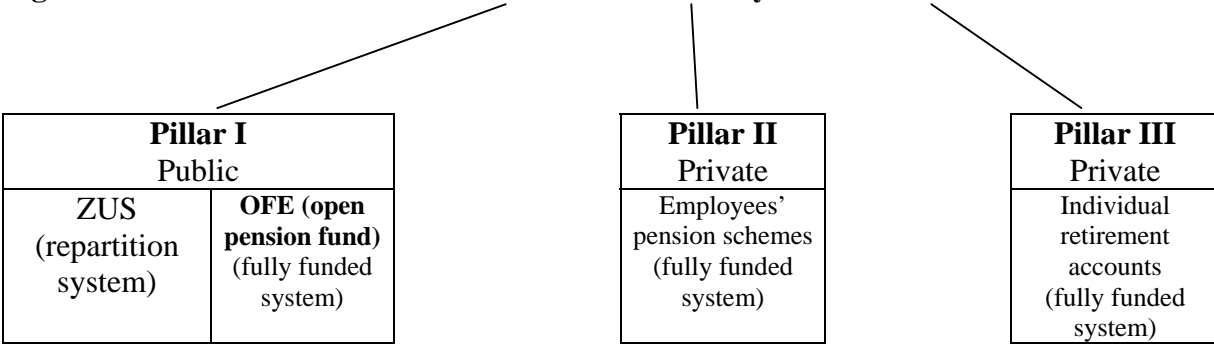
2. Pension Funds in the New Architecture of the Polish Retirement System

The new architecture of the Polish retirement system implemented since 1999 r. is based on the principle of multiple sources and forms of financing future pension income that are commonly referred to as pillars. Some of them are compulsory and thus are part of the public pension assurance system, and some are optional but their product is defined by the state. In the World Bank’s nomenclature, the obligatory part is the first pillar of pension assurance.

In the case of Poland, this pillar is composed of two totally different parts: repartition component administered by ZUS (Social Insurance Company), and fully funded component administered by open pension funds that are managed by PTEs (pension fund companies). Currently, the pension contribution transferred to the account of the Social Insurance Company constitutes 12.22% of the gross salary, whereas 7.30% is allocated to the open pension fund account. It should be remembered that apart from that 2.45% of the gross salary is allocated to the ZUS account in respect of disability pension and 13% in respect of accident benefits. To have a full picture, it should be added that those contributions are made by employees and employers in different proportion.

It is worthwhile to remember that not the whole part of the pension contribution received by ZUS is transferred to the retirement subaccount and thus directly reflects the future pension of the insured. This is because in order to prevent the loss of future liquidity of the repartition pillar a certain part of the contribution, which between 2002 and 2008 constitutes on average 0.25% of the pension contribution transferred to ZUS, is allocated for the so-called national pensions reserve funds. Such reserve funds have also been recently established in many industrialised countries (including the USA, Canada, Sweden, Japan, Norway, and France).⁷

Figure 1: Architecture of the new national retirement system in Poland



⁷ A. Rabough – Funding alternatives..., op. cit., p.14-23.

The optional part of the Polish retirement system is composed of two types of pension products: a group product in the form of employees' pension schemes, and an individual product in the form of individual retirement accounts. Those products are defined by the state, and their use entails the possibility of obtaining relatively limited fiscal incentives by employers (for group products) or employees (in the case of individual products). So far, their popularity has been relatively low and in practice they do not play any important role.

Pension funds, which have taken over 37.4% of the obligatory contribution transferred previously in its full amount to ZUS for retirement purposes, are special legal structures whose only task is to multiply the obtained funds. This is done on their behalf and account by pension fund companies that are a particular type of private asset management companies.

The institution of pension funds has been known for a long time in history. It emerged as early as the beginning of the 19th century as an institution accumulating funds for retirement purposes in plants located in Germany (among others Krupp, Siemens) and the USA (among others American Express, ATT, GE).

The funds established in 1999 in Poland were based on the model of solutions adopted before in Chile, Argentina and Mexico and recommended by the World Bank. From the beginning, the number of their members was high, and it was by more than 100% higher than the number of people who were obliged to become members of pension funds as a result of the implementation of the retirement system reform (all those covered by the social insurance system up to 30 years of age).

Table 2: Number of open pension fund members between 2002 and 2003

Open Pension Fund Name	31 December 2002	31 December 2003	Increase (%)
Skarbiec- AIG	850,421	938,839	10.4
Allianz Polska	233,513	245,284	5.0
Bankowy	383,743	395,444	3.0
Commercial Union	2,488,545	2,540,530	2.1
Credit Suisse4 L&P	338,155	367,916	8.8
DOM	245,140	239,793	-2.2
Ergo Hestia	358,602	397,907	11.0
Generali	376,585	380,385	1.0
ING N-N Polska	1,832,793	1,966,603	7.3
Kredyt Bank	154,803	140,816	-9.0
Pekao	292,477	290,434	-0.7
Pocztylion	448,534	452,376	0.9
Polsat	127,306	123,581	-2.9
PZU Złota Jesień	1,786,728	1,866,692	4.5
SAMPO	442,830	510,090	15.2
Skarbiec – Emerytura	389,527	606,595	55.7

{ego}*	240,114	-	-
Total	10,989,816	11,463,285	4.3

Source: ZUS

* OFE Ego was accepted in 2003 by OFE Skarbiec Emerytura

At the end of December 2003, the 16 existing open pension funds had nearly 11.5 million members, which represented an increase by nearly 0.5 million people in relation to the year 2002. This means that nearly 90% of professionally active population outside agriculture was members of open pension funds.

3. Conditions for the Impact of Pension Funds on Poland's Economic Development

Pension funds are the structures whose basic function is to provide material security for future pensioners rather than stimulate economic development processes, although for obvious reasons both those values are interrelated. A higher rate of growth usually means a higher level of employment and higher salaries, and this ceteris paribus means a higher level of retirement benefits. And the other way round: a lower rate of GDP growth means a higher level of unemployment and lower salaries, and this ceteris paribus means worse retirement benefits in future.

Nobody objects that the adoption of certain construction rules for a pension system may affect national economic development processes both directly and indirectly. For example, the determination of a retirement age has a direct impact on the shape and scale of labour force supply, and ipso facto, among others, on the level of salaries (labour price). The same indirect effect is caused by the determination of a retirement benefit level, because it is translated into a burden of current labour costs and ipso facto into the price paid to employees, which, as a further consequence, affects the competitiveness of business entities and finally the level and dynamics of economic development.

While determining basic parameters for a retirement system, it would be ideal to achieve such a situation in which instead of being a burden for development financing processes it could become their driver. In other words, it would be ideal to shift this system from the area of consumption to the area of investment. For obvious reasons, this is not fully possible. Finally, retirement bonuses have to be paid and thus be a burden for the collected pension fund, and at a certain moment they have to be converted into a consumptive expenditure to some extent. This, however, does not mean that there is no place for converting

the funds collected for retirement purposes into pro-development funds at different stages and in different components of the retirement system.

From the point of view of development processes, particularly promising are those retirement system components that represent fully funded systems. In that case, they have a direct impact on development processes through financial market institutions. In the language of the economy, funds collected in a fully funded system become special purpose savings. They are additionally multiplied through operations on the financial market, i.e. through investments. Thus the bigger the part of the retirement system with a fully funded basis, the stronger its direct influence on development processes. Of course, it should also be remembered that at the same time this means that future retirement bonuses are more dependent on the condition of future financial markets, in particular at the moment of the 'redemption' of retirement liabilities. The structure or the described relationships is outlined in Figure 2.

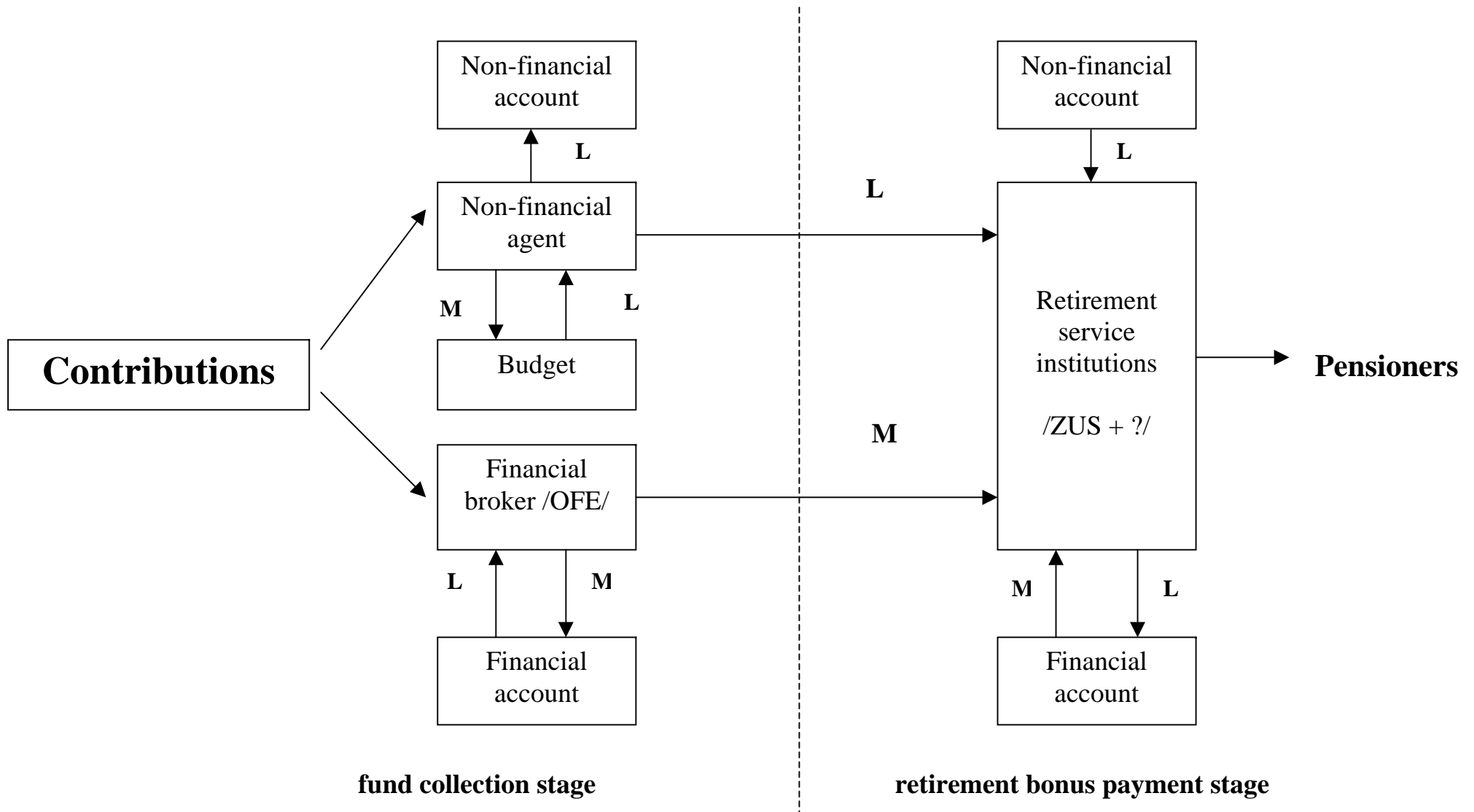


Figure 2 Flow of money streams (M) and liabilities (L) in a retirement system

It should be pointed out that retirement savings in the fully funded part of the retirement system are invested on a financial market in two stages:

- until the retirement age is reached and the benefit is calculated;
- after the commencement of the payments of benefits until the moment when the system has no more liabilities to the beneficiary.

At the first stage, this task is fulfilled by institutions that multiply contributions, and at the second one by those servicing the retirement process. In some countries, both tasks are fulfilled by the same entities, whereas in other ones they are separated. In Poland, this issue has not been finally regulated so far.

In the repartition part of the system, pension contributions become the current income of the state budget and their pro-development influence is exerted through the mechanism of public expenditure.

Pension funds are currently the most popular form of multiplying pension contributions in the world, and it should be immediately stressed that today they service the optional part of retirement systems to the large extent, whereas the compulsory part is covered by them only to a small extent.⁸ Other known solutions include public central savings funds, to which part of pension contributions is transferred (e.g. in Singapore and Malaysia), and the use of private investment funds for the purposes of managing capital funds collected in public retirement systems.⁹ According to estimates, currently assets administered by pension funds world-wide exceed \$9 billion. The value of those assets constitutes nearly half of the value of GDP in OECD countries (see Table 3). Their position is particularly prominent in such countries as Switzerland, the Netherlands, UK, Iceland, USA, and Canada. On those markets, their share in the capitalisation of financial markets ranges from 60% to 100%. In other countries such as Germany, Italy or Norway, they are of little importance.

⁸ International pension funds and their advisors 2003, Aspire Publications, London 2003; Special feature on pension funds; Data 1997-2000 European Commission, Eurostat, Luxembourg; Preliminary results from the pension statistics data collection and future direction of the project, OECD, DAFE/AS/PEN/WD (2003) 21, 07-Nov-2003.

⁹ Compare N. Marska – Fundusze kapitałowe w finansowaniu świadczeń emerytalnych, niepublikowana praca doktorska, Uniwersytet Szczeciński, Szczecin 2003, p. 46-88.

Table 3: Importance of pensions fund investments for the economy and financial markets

OECD Countries	Fund Investments in Total million USD		As % of GDP		As % of Market Capitalisation	
	2001	2002	2001	2002	2001	2002
Austria	7,474	9,009	3.9	4.4	29.7	26.8
Belgium	12,639	13,824	5.6	5.6	7.7	10.8
Canada	365,607	344,968	51.9	47.6	59.8	60.5
Denmark	43,073	-	27.1	-	50.6	-
Finland	7,828	-	6.5	-	4.1	-
Germany	62,621	75,466	3.4	3.8	5.8	11.0
Hungary	2,071	3,431	4.0	5.2	20.0	26.4
Iceland	6,256	8,441	82.3	100.5	157.4	133.9
Italy	19,373	24,194	1.8	2.0	3.7	5.1
Netherlands	407,070	-	106.0	-	81.3	-
Norway	6,796	8,787	4.0	4.6	9.8	12.9
Poland	4,767	8,063	2.7	4.4	18.2	28.0
Portugal	-	16,303	-	13.4	-	37.8
Spain	34,697	-	6.0	-	7.4	-
Sweden	8,397	-	3.8	-	3.6	-
Switzerland	269,010	335,605	109.4	125.5	43.0	61.4
UK	1,048,551	-	73.3	-	48.4	-
USA	6,667,300	5,934,300	66.5	57.2	48.2	53.7
Total	8,973,529	6,782,390	50.9	43.6	43.5	49.7
Other Selected Countries						
Bulgaria	83	174	0.5	1.0	16.7	24.1
Estonia	122	1,012	2.0	14.7	7.0	49.1

Source: Preliminary results from the pension statistics data collection and future direction of the project, OECD, DAFFE/AS/PEN/WD(2003) 21.

4. Pension Funds on the Polish Financial Market: Scale of the Problem

In their role of financial institutions, pension funds operating in Poland only seem to be the same as their counterparts existing in developed countries. This is connected not only with the specific features of their liabilities, which as a result of the obligatory nature of the system are much more stable and foreseeable, but also with the specific features of the Polish economy and our financial markets. Thus, those differences exist both as regards the internal features of those institutions and their macro-environment. As a result of the features of their macro-environment, those funds may bring about many positive effects.¹⁰ In particular, this, among others, may apply to:

¹⁰ D. Vitas – Pension reform and capital market development, WG 2414, World Bank, Washington DC, August 2000.

Increase in social savings, which in Poland are traditionally small. In the last period, the share of accumulation in GDP is merely at the level of 20%, which creates unfavourable conditions for development processes;

Reduction of the market cost of capital as a result of making the accumulated savings available on the domestic financial market;

Development of the segment of institutional financial investors through the accumulation of relatively large capital administered by specialised institutions oriented towards the attainment of long-term goals;

Restructuring of domestic financial markets through the creation of demand for new types of financial instruments and through the change of importance of traditional financial institutions, banks, insurance companies and trust funds on such markets;

Introduction of the new practices of corporate order and the increase of the market and environment transparency through stricter standards of asset management by pension funds, which may, among others, considerably increase foreign investors' trust in the Polish market.

All those potential effects are of fundamental importance to the Polish economy, however their emergence is not a foregone conclusion, nor is the scale of their impact. This depends both on decisions regarding the macro-environment and specific regulations.

The fact that the existence of fully funded pension funds considerably increases savings in the national economy is beyond any doubt. Five years after the implementation of the retirement system reform, at the end of 2003 those funds administered money in the amount of nearly PLN 45 billion, which meant an increase by PLN 13.3 billion in relation to the end of 2000 (see Table 4).

Table 4: Net assets of open pension funds (million PLN)

Open Pension Fund Name	31 December 2002	31 December 2003	Increase (%)
AIG	2,696.2	3,833.9	42.2
Allianz Polska	839.7	1,210.8	44.2
Bankowy	967.9	1,368.1	41.3
Commercial Union	9,059.6	12,710.5	40.3
Credit Suisse L&P	761.6	1,143.9	50.2
DOM	545.0	749.7	37.6
Ergo Hestia	555.3	915.4	64.8
Generali	1,057.8	1,481.5	40.1
ING N-N Polska	6,996.2	10,046.9	43.6
Kredyt Bank	214.0	264.2	23.5
Pekao	517.0	722.0	39.7

Pocztylion	658.5	937.5	42.4
Polsat	126.5	181.8	43.7
PZU Złota Jesień	4,448.6	6,272.7	41.0
Sampo	914.5	1,374.9	50.3
Skarbiec-Emerytura {ego}	764.0 442.3	1,619.5 -	112.0 (34.3) -
Total	31,564,6	44,833,1	42,0

Source: KNUiFE (Insurance and Pension Supervisory Commission) database

A similar scale of growth was achieved in 2002, when the net assets of open pension funds increased by PLN 12.2 billion. We should note that those assets are strongly concentrated between funds. Nearly 75% of them is controlled by four largest open pension funds (Commercial Union, ING-Nationale Nederlanden, PZU Pogodna Jesień and AIG). The other 12 entities control merely 25% of assets. This can be compared with the fact that in the same period trust funds administered money of the order of PLN 30 billion, the assets of insurance companies amounted to PLN 60 billion, whereas the assets of the banking sector were nearly at the level of PLN 500 billion. In the coming several dozen years, the assets of open pension funds will be still growing fast until the moment when the intensified 'redemption' of their liabilities begins, which will take place only after 15-20 years. According to available estimates, in 2010 the value of the assets of open pension funds will reach nearly PLN 170 billion.

Table 5 Projection of the value of net assets of open pension funds for the years 2004-2010 (million PLN)

Years	Net Value of Assets				
	Base Option ^{a)}	Rate of Return + 2%	Rate of Return + 1%	Rate of Return – 1%	Rate of Return – 2%
2004	62.7	64.5	63.6	61.8	60.9
2005	79.5	82.8	81.2	77.9	76.3
2006	96.6	101.8	99.2	94.1	91.7
2007	112.5	120.0	116.2	108.9	105.5
2008	129.7	139.9	134.7	124.9	120.2
2009	148.1	161.5	154.6	141.9	135.9
2010	167.9	184.9	176.2	160.0	152.5

^{a)} The base scenario is a result of a forecast for the parameters taken as most reliable. It is assumed in it that among others the rate of return on open pension fund investments (without the management fee) is 6% between 2003 and 2004, 4.5% in 2005, and 3% between 2005 and 2010.

Source: KNUiFE

5. Pension Funds on the Polish Financial Market: Opportunities for Using Open Pension Fund Investment Potential

The importance of the future financial potential of open pension funds should be seen from the perspective of possible Polish financial market development scenarios. The size of that market will be finally the derivative of two circumstances:

Condition of the public finance sector;

Investment needs of the economy resulting, to the large extent, from the impact of Poland's accession to the European Union.

It can be estimated that in 2010 the projected supply of financial instruments will be probably between PLN 520 billion and PLN 680 billion (realistic option: approx. PLN 590 billion), compared with approx. PLN 310 billion in 2003. Thus, in the forecast it will be growing by approx. 9.6% annually (pessimistic option: approx. 7.7%; optimistic option: approx. 11.9%).

Table 6: Instrument supply on the securities market by categories (cumulative) between 2004 and 2010 (billion PLN)

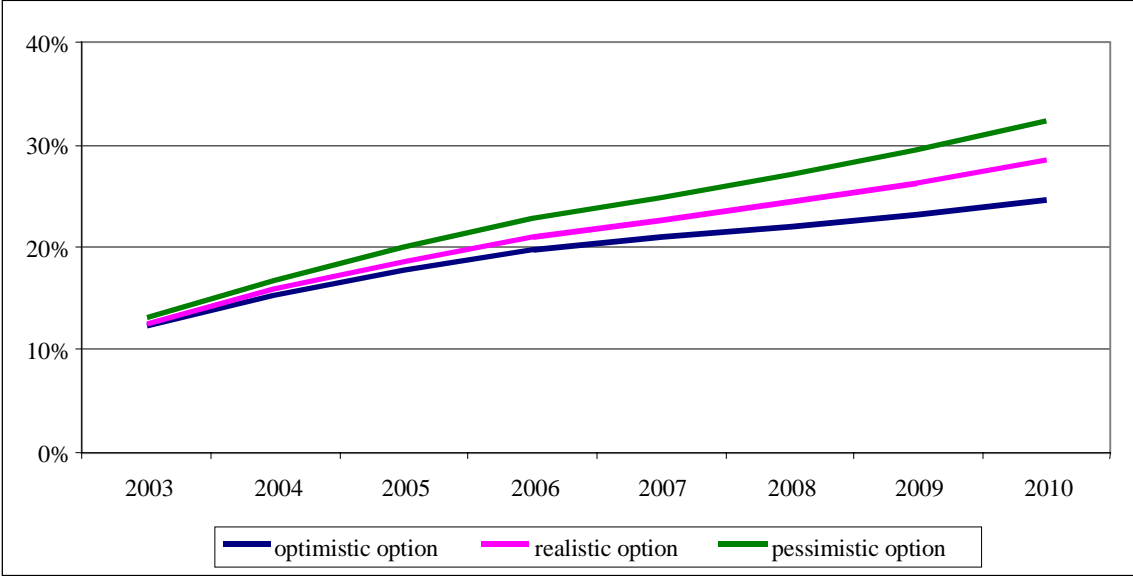
Year	Pessimistic Option			Realistic Option			Optimistic Option		
	Stock ^{a)}	Bonds	Total	Stock ^{a)}	Bonds	Total	Stock ^{a)}	Bonds	Total
2004	39.3	332.1	371.4	49.3	343.3	392.6	53.6	353.9	407.5
2005	39.9	357.4	397.3	52.2	373.4	425.6	58.3	388.9	447.2
2006	40.1	381.9	422.0	54.4	403.3	457.7	62.9	425.8	488.7
2007	42.1	408.9	451.0	58.3	436.2	494.5	69.3	468.4	537.7
2008	44.4	435.0	479.4	62.7	469.0	531.7	76.4	512.5	588.9
2009	47.0	455.0	502.0	67.6	495.7	563.3	84.4	550.7	635.1
2010	49.7	469.9	519.6	72.9	517.3	590.2	93.2	586.5	679.7

a) free float

Source: KNUiFE

The ratio of open pension fund assets to the projected supply of securities in that period will increase from approx. 13% to 25-32%, depending on the financial instrument supply development scenario. In connection with the fact that the dynamics of open pension fund assets is relatively independent from the situation of the national economy, the more pessimistic the supply dynamics scenario, the higher the ratio.

Figure 3: Ratio of open pension fund demand to total financial instrument supply between 2003 and 2010 (%)



Source: KNUiFE

Taking into account the reality of the functioning of a single financial market in the European Union, one should make an assumption of the actual concentration of the demand of Polish financial institutions on the Polish market, given a rather supplementary role of investments made abroad. While considering the issue of the investment power of open pension funds, it should be remembered that those funds represent a specific segment of the Polish financial market. They create a stream of savings in an autonomous manner, not in response to the real demand from entities seeking capital, which results in a real threat such as the existence of savings that may be difficult to manage on the domestic market. Therefore, there is a danger such that in the conditions of strong legal restrictions for investment activities they may be invested in an inefficient manner, which, in consequence, may lead to the emergence of a speculative bubble effect.

This seems to be particularly possible on the stock market and it results from the relatively low stock supply measured by the free float. The fast growing open pension fund assets invested in stock on a long-term basis additionally reduce the available supply. A major scale of privatisation through the stock exchange and a big number of offers addressed directly to open pension funds might contribute to the limitation of the risk of insufficient supply on the market. Such risk is likely to emerge particularly in the case of the low dynamics of stock market development (pessimistic scenario). Then it may be expected that in 2010 open pension fund assets will include the whole free float of the Stock Exchange.

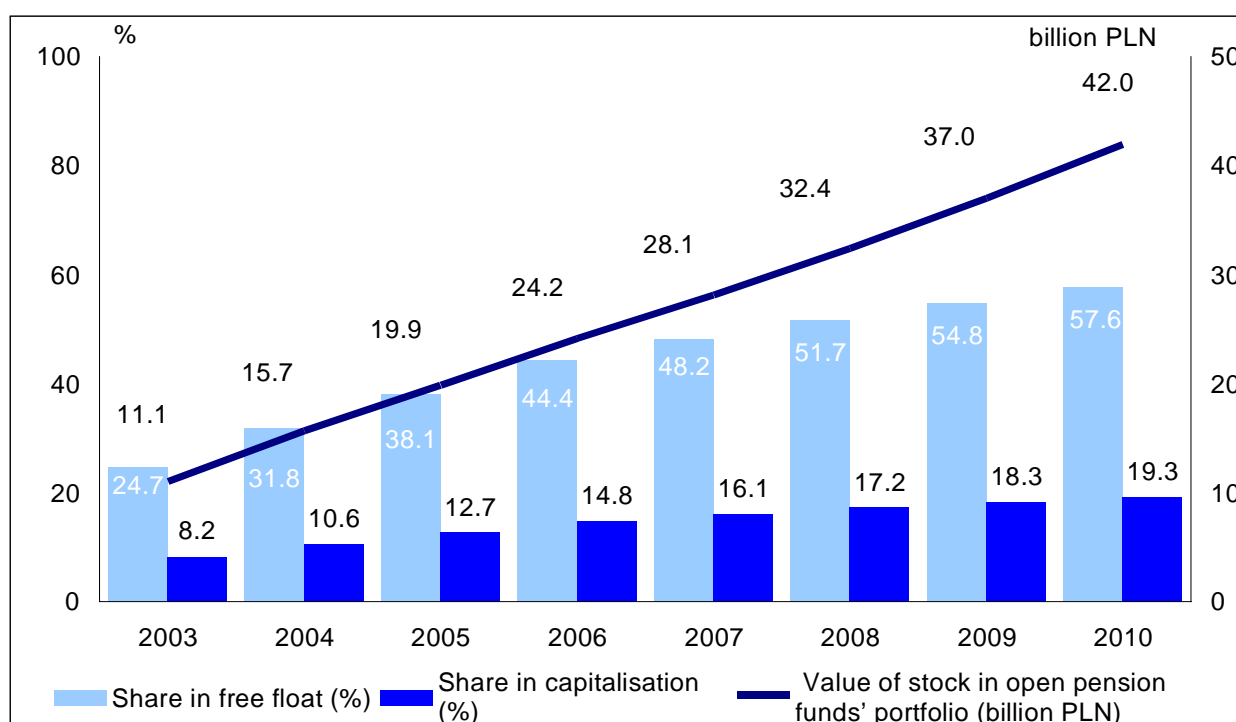
Table 7: Open pension funds' cumulative demand for share instruments between 2004 and 2010 (billion)

	Pessimistic Option		Realistic Option		Optimistic Option	
	25% of stock in assets	35% of stock in assets	25% of stock in assets	35% of stock in assets	25% of stock in assets	35% of stock in assets
2004	15.2	21.2	15.7	21.9	16.2	22.7
2005	18.9	26.5	19.9	27.8	20.9	29.2
2006	22.6	31.6	24.2	33.8	25.7	36.0
2007	25.8	36.2	28.1	39.4	30.4	42.6
2008	29.3	41.0	32.4	45.4	35.6	49.8
2009	32.9	46.1	37.0	51.8	41.2	57.7
2010	36.7	51.4	42.0	58.8	47.4	66.3

Source: KNUiFE

The scale of open pension funds' demand for stock will depend on the structure of open pension funds' investment portfolios as well as on the rate of growth of their assets. It is estimated that by the year 2010 the total demand will amount to PLN 37-66 billion.

Figure 4: Stock portfolio and the share of open pension funds in the stock market between 2003 and 2010

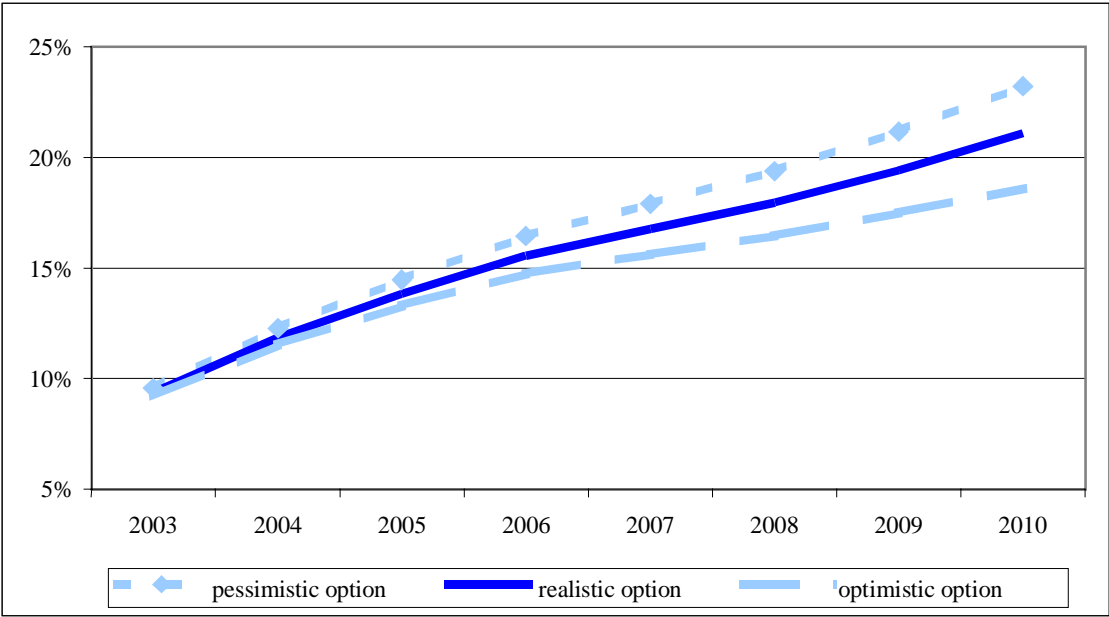


Source: KNUiFE

In the realistic option, this will mean that nearly 60% of the stock portfolio of all the public companies from the Stock Exchange will be part of open pension fund assets. At the same time, their share in the capitalisation of the Stock Exchange will be higher than 19.3%.

As regards the market of debt instruments, it will not be exposed to the risk of a speculative bubble to the same extent as the stock market. This results from the fact that it is much deeper. Between 2003 and 2010 it will still be clearly dominated by treasury securities whose share in the market of debt instruments, however, is likely to decline from approx. 90% to approx. 80%.

Figure 5: Ratio of open pension fund demand to debt instrument supply between 2003 and 2010 (%)

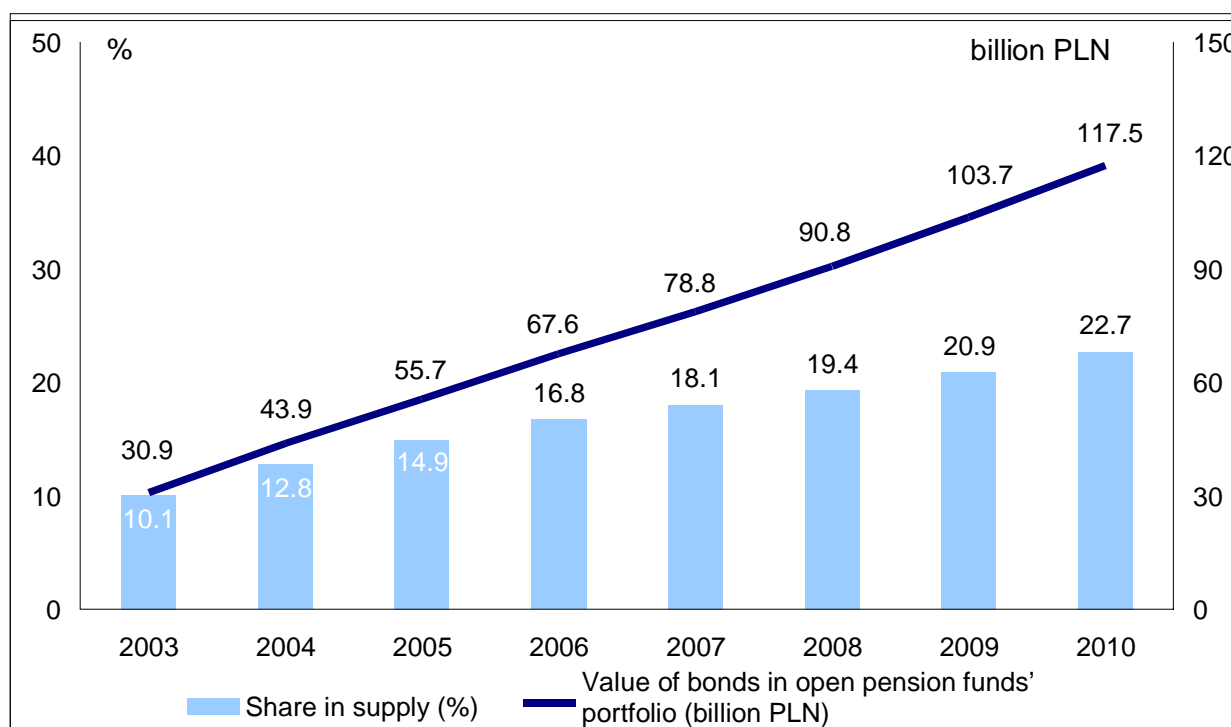


Source: KNUiFE

The sector of commercial securities, both short- and long term ones, clearly has a chance to develop faster than the market of treasury and municipal securities. Its development will significantly depend first of all on prospects for the development of the Polish economy. The same remark applies to the market of mortgage bonds, instruments that are especially attractive from the point of view of open pension funds. They have a chance to develop dynamically because of significant housing needs.

Open pension funds’ demand for debt instruments, including, in particular, treasury securities, seems to be certain. Those instruments, however, represent a major part of the portfolio of all the types of financial institutions. They are also acquired more and more willingly by individual investors. This may cause shortfalls in the supply of instruments with characteristics that are particularly desired by those investors. It will lead to the reduced profitability of such instruments, and a negative impact on the investment results of open pension funds will not be avoided, thereby affecting adversely the level of future retirement benefits.

Figure 6: Ratio of open pension funds' demand to debt instrument supply between 2003 and 2010



Source: KNUiFE

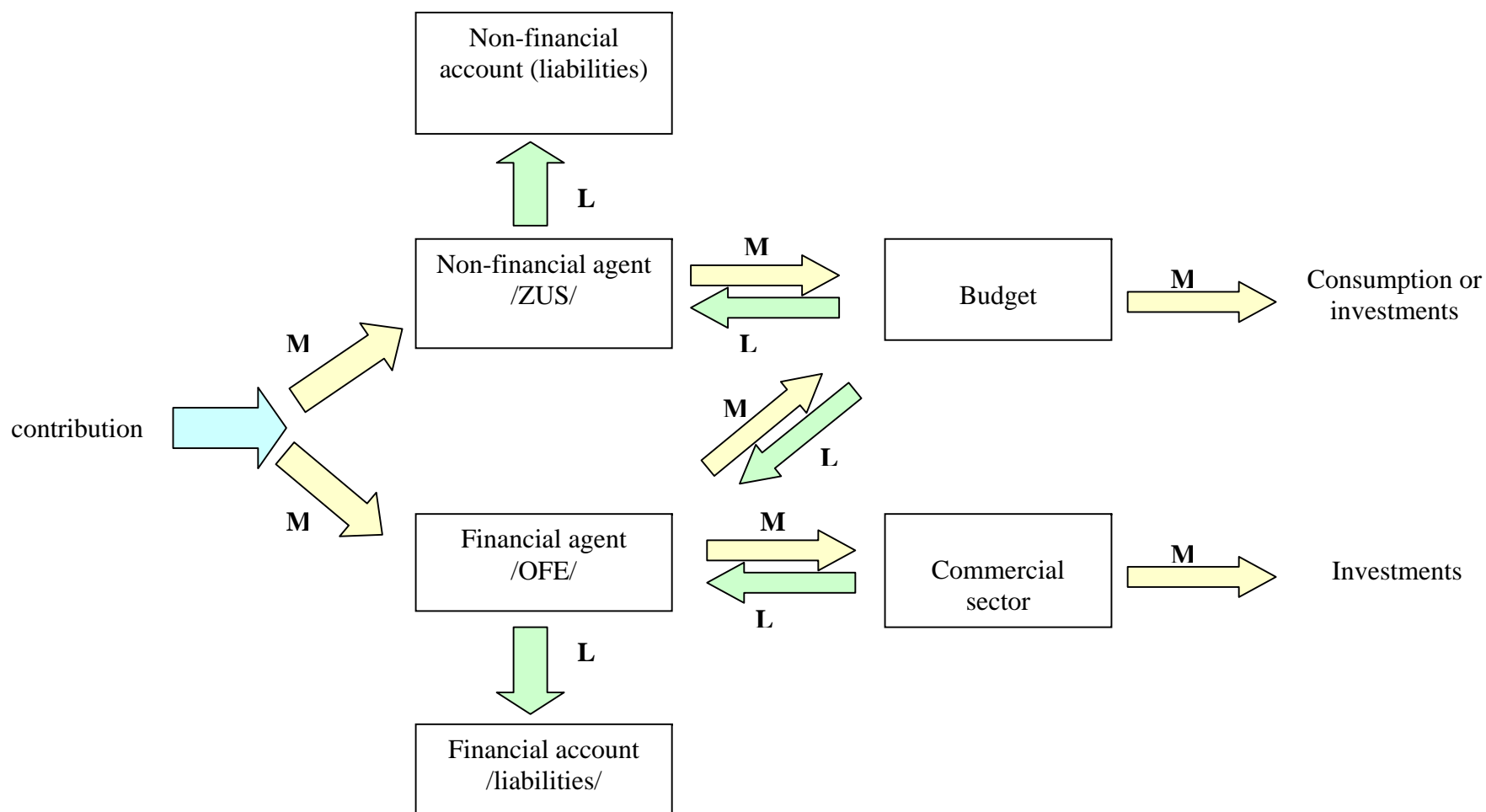
According to KNUiFE estimates, open pension funds' demand for debt instruments in 2010 may amount to PLN 90-100 billion in the realistic option and even PLN 113-133 billion in the optimistic option. This means that open pension funds' investments will include more than 20% of that segment of the financial market.

6. Pension Funds and Development Opportunities for the Polish Economy: Problems to Solve

In the analysis made so far, the relationship between pension funds and economic development processes has been seen through the prism of a linear model, which was based on the adoption of a simplified picture of the impact of those institutions on the accumulation of social savings, and then through investment processes on financial markets on the financing of economic needs. At the same time, the fact that such relationship does not occur in the case of the repartition part of the retirement system was stressed. In that part, the Social Insurance Company does not accumulate physically the contributions transferred to it, but only enters the fact of receiving them in the books and in connection with this it does not appear as an investor on the financial market. It is simply an inter-generation flow vehicle, which collects pension contributions and uses them to finance the payment of due retirement

benefits. Collection applies to the working generation, whereas the benefits apply to the generation that is already resting from work. Any possible shortfall or surplus of pension contributions in relation to payments made in respect of retirement benefits is made up or taken over by the state budget. In this way, the repartition part of the retirement system appears to be a burden for development processes, whereas the fully funded part represented by pension funds appears to be their support (see Figure 7).

Figure 7. Use of savings in the retirement system composed of repartition and fully funded parts



Source: M. Góra - op.cit p. 65

Now let us try to bring this simplified picture a bit closer to the Polish reality. First of all, we will notice that during the period of ‘reforging’ the old retirement financing system into the new one pension funds are provided with a part of the contribution that in fact represents the lost current proceeds of the Social Insurance Company. In this way, they create additional burdens for the state budget, which has to increase the scale of subsidies for the retirement system. Only between 1999 and 2003 were open pension funds provided with PLN 38.4 billion in the form of contributions. In efficient terms, this meant that in that period the state budget deficit was increased exactly by that amount. To realise what scale of the problem we are faced with, let us take the fact that between 2004 and 2010 contributions transferred to pension funds will constitute about 6-7% of the total state budget expenditure. At the same time, they represent more than one-third of the projected budget deficit in the same period. This is a result of adopting a fast track of the retirement system reorganisation proposed in 1998. Today one can wonder whether it was not too ambitious as for the capabilities of the Polish economy /compare Table 8/.

Table 8: State budget burden in respect of contributions paid to open pension funds

YEARS	Contributions + Total Debt (million PLN)	% of Deficit	% of State Budget Income	% of State Budget Expenditure
1999	2, 285	18.3	1.8	1.7
2000	7, 603	49.4	5.6	5.0
2001	8, 706	26.9	6.2	5.0
2002	9, 654	24.2	6.7	5.2
2003	10,654	27.5	6.8	5.5
2004 ^a	15,082	34.5	9.2	7.3
2005 ^a	15,864	34.9	9.2	6.9
2006 ^a	16,723	37.3	9.1	7.3
2007 ^a	14,404	32.0	7.4	6.0
2008 ^a	15,310	34.8	7.5	6.2
2009 ^a	16,244	36.0	7.5	6.2

^{a)} Estimate

Source: KNUiFE

The high transfers of pension contributions to open pension funds mean an increase of the financial needs of the state budget and its stronger presence on financial markets (compare Table 8). In this way, according to well-known mechanisms, commercial sector investors are forced out of the financial market, and this may have a negative impact on investment processes in the economy. Even more interestingly, open pension funds, two-thirds of whose investment portfolios are on average composed of treasury debt instruments, also participate actively in this 'trade'. Thus, there is a paradoxical situation in which the large part of open pension funds' resources created at the expense of the state budget is used for financing the budget deficit instead of serving investment purposes.

A change of this situation may require both regulatory activities and other relevant macroeconomic measures. A solution to this problem is not made easier by a poor market of debt instruments, and, in particular, share-based enterprises. In the latter case, a real threat is the occurrence of the speculative bubble phenomenon resulting from the low supply of such instruments in relation to the open pension funds' investment potential, and, at the same time, from a serious limitation of the possibility of making investments abroad. In the latter point, as it seems, the autonomy of our decisions will to a higher and higher extent be limited by decisions taken in the European Union, which begins to apply more and more common regulations to the segments of pension funds.

As a result of significantly growing open pension funds among investors on the stock market, there is also a growing impact of those institutions on development decisions taken in enterprises. On the one hand, this puts their reporting and management standards in order and creates better environment for the absorption of other investors, in particular foreign ones. On the other hand, however, it entails the stronger and stronger involvement of open pension funds in management processes and creates a growing threat of the occurrence of a moral hazard, and distracts open pension funds from their main areas of competence.

References

1. Daykin, Ch. (2002) *Pensions systems: The EU and Accession countries. Lesson for the UK*, London, Politeia.
2. European Commission (2002) Special feature on pension funds. Data 1997-2000, Luxembourg, European Commission, Eurostat.
3. Góra, M. (2003) *System emerytalny*, Warszawa, PWE.
4. Hadyniak, B., Monkiewicz, J. (1999) *Fundusze emerytalne. II Filar*, Warszawa, Poltext.
5. International pension funds and their advisors 2003 (2003) London, Aspire Publications.
6. Marska, N. (2003) *Fundusze Kapitałowe w finansowaniu świadczeń emerytalnych*, (unpublished PhD dissertation) Szczecin, Uniwersytet Szczeciński
7. OECD (2003) Preliminary results from the pensions statistic data collection and future direction of the project, OECD, DAFE/AS/PEN/WD.
8. Rabough, A. (2003) Funding alternatives for Government sponsored retirement systems - a global review. *Global Pensions Quarterly*, August.
9. Vittas, D. (2000) Pension reform and capital market development. WG 2414. Washington, World Bank, August.

Statistical Appendix

Table 1: Pension Fund Companies (PTE) and Open Pension Funds (OFE) operating in Poland in 2003

No.	OFE Name	PTE Name	Stockholders
1	AIG OFE	AIG PTE S.A.	- ALICO (USA) - 50% - Amplico Life S.A. (Poland) - 50%
2	Bankowy OFE	PKO/Handlowy PTE S.A.	- PKO BP S.A. (Poland) - 100%
3	Credit Suisse Life&Pensions OFE	Credit Suisse Life&Pensions PTE S.A.	- Winterthur Life Insurance Company (Switzerland) - 70% - EBRD (UK) - 30%
4	Commercial Union OFE BPH CU WBK	Commercial Union PTE BPH CU WBK S.A.	- CU Tow. Ubezpie. na Życie S.A. (Poland) - 50% - CGU Intern. Insurance plc (UK) - 30% - BPH S.A.(Poland) - 10% - Bank Zachodni WBK S.A.(Poland) - 10%
5	Ergo Hestia OFE	PTE Ergo Hestia S.A.	Sopockie Towarzystwo Ubezpieczeniowe Ergo Hestia S.A. - 100%
6	ING Nationale-Nederlanden Polska OFE	ING Nationale-Nederlanden Polska PTE S.A.	- ING Continental Europe Holdings BV (Netherlands) - 80% - ING Bank Śląski S.A. (Poland) - 20%
7	OFE Allianz Polska	PTE Allianz Polska S.A.	- TU Allianz Polska S.A. (Poland) – 58.28% - Allianz Aktiengesellschaft (Germany) – 41.72%
8	OFE DOM	PTE DOM S.A.	- TUiR Warta S.A. (Poland) - 50% - Kulczyk Holding S.A. (Poland) - 50%
9	OFE Kredyt Banku	PTE Kredyt Banku S.A.	KREDYT BANK S.A. - 100%
10	OFE Pocztylion	Poczta Polska - Cardif (Grupa BNP Paribas) - ARKA-INVESCO PTE S.A.	- PPUP Poczta Polska (Poland) – 39.34% - Cardif S.A. (France) – 33.60 - Amvescap PLC (UK) – 23.06% - Konferencja Episkopatu Polski (Poland) - 4%
11	OFE Polsat	PTE Polsat S.A.	- Telewizja Polsat S.A. – 37.80% - Polsat Media S.A. – 39.53% - Invest-Bank S.A. – 19.84% - Totalizator Sportowy Sp. z o.o – 2.83%
12	OFE PZU Złota Jesień	PTE PZU S.A.	PZU Życie S.A.(Poland) - 100%
13	OFE Sampo	Sampo PTE S.A.	Sampo plc with registered office in Turek - 100%
14	OFE Skarbiec-Emerytura	PTE Skarbiec-Emerytura S.A.	BRE Bank S.A. (Poland) - 100%
15	Pekao OFE	Pekao Pioneer PTE S.A.	- Bank Pekao S.A.(Poland) - 65% - Pioneer Global Asset Management S.p.A. (Italy) - 35%
16	Generali OFE	Generali PTE S.A.	Generali Holding Vienna AG - 100%

Source: KNUiFE

Table 2: Age structure of OFE members as of 31 December 2003

OFE Name	18-20		21-25		26-30		31-35		36-40		41-45		46-50		51 and older		Total	
	People	OFE %	People	OFE %	People	OFE %	People	OFE %	People	OFE %	People	OFE %	People	OFE %	People	OFE %	People	OFE %
AIG OFE	53,642	5.71	151,995	16.19	186,188	19.83	153,037	16.30	133,965	14.27	131,890	14.05	91,838	9.78	20,404	2.17	938,839	8.19
OFE Allianz Polska	10,842	4.42	37,925	15.46	55,322	22.55	44,486	18.14	35,743	14.57	32,591	13.29	20,584	8.39	4,284	1.75	245,283	2.14
Bankowy OFE	26,896	6.80	82,136	20.77	82,241	20.80	66,217	16.75	51,302	12.97	49,253	12.46	29,411	7.44	5,639	1.43	395,442	3.45
Commercial Union OFE BPH CU WBK	55,666	2.19	379,796	14.95	645,481	25.41	520,117	20.47	384,698	15.14	331,020	13.03	184,277	7.25	28,249	1.11	2,540,526	22.16
Credit Suisse Life & Pensions OFE	24,157	6.57	73,426	19.96	77,285	21.01	60,659	16.49	48,270	13.12	42,952	11.67	27,790	7.55	6,043	1.64	367,916	3.21
OFE DOM	16,707	6.97	50,288	20.97	49,961	20.84	37,634	15.70	29,749	12.41	29,328	12.23	20,278	8.46	5,088	2.12	239,756	2.09
OFE Ergo Hestia	24,470	6.15	92,282	23.19	78,782	19.80	59,642	14.99	48,009	12.07	49,289	12.39	35,779	8.99	9,327	2.34	397,902	3.47
Generali OFE	17,943	4.72	61,980	16.29	69,822	18.36	63,301	16.64	58,665	15.42	59,115	15.54	40,083	10.54	9,112	2.40	380,376	3.32
ING Nationale-Nederlanden Polska OFE	85,925	4.37	325,390	16.55	486,890	24.76	378,589	19.25	271,693	13.82	230,668	11.73	137,907	7.01	26,185	1.33	1,966,594	17.16
OFE Kredyt Banku	7,275	5.17	46,857	33.28	27,109	19.25	17,546	12.46	14,098	10.01	14,171	10.06	10,798	7.67	2,935	2.08	140,814	1.23
Pekao OFE	18,143	6.25	74,710	25.72	54,426	18.74	39,402	13.57	33,755	11.62	34,792	11.98	26,666	9.18	8,158	2.81	290,433	2.53
OFE Pocztylion	30,885	6.83	98,201	21.71	75,669	16.73	66,179	14.63	62,749	13.87	61,735	13.65	39,478	8.73	9,051	2.00	452,372	3.95
OFE Polsat	6,728	5.44	32,522	26.32	21,977	17.78	16,784	13.58	15,314	12.39	14,969	12.11	11,349	9.18	3,911	3.16	123,581	1.08
OFE PZU Złota Jesień	104,616	5.60	358,493	19.20	357,211	19.14	292,488	15.67	250,837	13.44	269,652	14.45	178,057	9.54	34,125	1.83	1,866,677	16.28
Sampo OFE	26,987	5.29	116,011	22.74	111,471	21.85	79,184	15.52	58,805	11.53	56,007	10.98	39,693	7.78	11,084	2.17	510,089	4.45
OFE Skarbiec-Emerytura	38,700	6.38	133,847	22.07	127,819	21.07	95,714	15.78	74,413	12.27	71,117	11.72	49,627	8.18	13,965	2.30	606,593	5.29
Total	549,582	4.79	2,115,859	18.46	2,507,654	21.88	1,990,979	17.37	1,572,065	13.71	1,478,549	12.90	943,615	8.23	197,560	1.72	11,463,193	100.00

Source: ZUS

Table 3 Number and total of contributions transferred to open pension funds by 31 December 2003 (in PLN)

	19 May1999 – 31 December 2003					
Open Pension Fund Name	Number of Contributions	Contribution Total	Interest	Number of People	Average Contribution	Average Base
AIG OFE	34,169,746	3,484,305,175.71	24,090,218.41	27,285,913.00	127.70	1,749.26
OFE Allianz Polska	8,598,292	987,060,808.17	6,076,830.22	6,720,618.00	146.87	2,011.93
Bankowy OFE	13,363,228	1,230,120,162.06	9,334,931.96	10,721,367.00	114.74	1,571.72
Commercial Union OFE BPH CU WBK	106,689,531	10,976,930,985.06	79,470,080.07	85,207,912.00	128.83	1,764.73
Credit Suisse Life & Pensions OFE	10,910,940	962,039,278.02	7,032,099.40	8,635,253.00	111.41	1,526.14
OFE DOM	6,807,459	588,998,443.96	4,807,992.94	5,269,186.00	111.78	1,531.26
OFE Ergo Hestia	7,783,894	629,760,074.83	5,711,517.23	5,948,570.00	105.87	1,450.24
Generali OFE	14,279,118	1,318,329,156.66	10,787,626.80	11,466,766.00	114.97	1,574.93
ING Nationale-Nederlanden Polska OFE	74,939,318	8,146,247,350.72	57,984,624.86	59,150,735.00	137.72	1,886.58
OFE Kredyt Banku	3,053,631	206,499,236.23	1,653,243.70	2,271,265.00	90.92	1,245.45
Pekao OFE	7,061,659	663,224,777.21	5,058,194.06	5,599,956.00	118.43	1,622.38
OFE Pocztylion	10,771,014	868,400,519.78	7,189,027.37	8,438,851.00	102.91	1,409.66
OFE Polsat	2,239,303	158,265,556.55	1,166,180.14	1,771,909.00	89.32	1,223.55
OFE PZU Złota Jesień	63,045,989	5,376,891,561.26	42,841,615.09	50,369,816.00	106.75	1,462.31
Sampo OFE	13,025,515	1,131,461,382.58	9,220,566.32	10,453,842.00	108.23	1,482.66
OFE Skarbiec-Emerytura	17,663,096	1,435,691,115.61	11,445,895.59	14,106,051.00	101.78	1,394.22
Total	394,401,733	38,164,225,584.41	283,870,644.16	313,418,010.00	121.77	1,668.05

Source: ZUS

Table 4 Structure of open pension fund portfolios

State as of: 31 December 2003

Open Pension Fund	National Investment Fund Stock	Stock of Companies Listed on Regulated Stock Market	Treasury Bills	Bank Deposits and Bank Securities	Bonds	Investments Made Abroad	Other Deposits	All Deposits in Total
AIG OFE		1,288,727,896.90		309,360,318.60	2,121,469,498.00	28,862, 715.05	39,671,370.70	3,788,091,799.25
OFE Allianz Polska		367,750,286.35		24,647,846.81	795,062,767.91			1,187,460,901.07
Bankowy OFE	7,418,785.50	462,941,088.50	60,566,066.05	115,426,491.09	702,188,119.07		10,021,000.00	1,358,561,550.21
Commercial Union OFE BPH CU WBK		3,876,403,983.55	290,426,126.48	418,010,116.13	7,709,594,681.02	209,172,714.14	11,505,004.10	12,515,112,625.42
Credit Suisse Life & Pensions OFE	2,080,804.10	364,440,614.03	3,826,377.47	19,385,649.74	731,701,022.00		3,626,272.20	1,125,060,739.54
OFE DOM	14,440,515.10	244,944,242.30	67,921,845.88	32,232,736.10	371,607,642.00	11,978,539.81		743,125,521.19
OFE Ergo Hestia		284,570,657.30	29,761,385.42	36,026,638.66	553,410,260.00		629,799.00	904,398,740.38
Generali OFE		491,199,042.95		63,913,287.74	900,500,739.00			1,455,613,069.69
ING Nationale-Nederlanden Polska OFE	1,816,352.70	3,264,327,411.65	898,912,927.15	36,299,652.40	5,710,319,595.63		26,569,269.60	9,938,245,209.13
OFE Kredyt Banku		81,561,720.00	23,283,722.50	3,787,340.89	144,280,969.18		8,006,300.00	260,920,052.57
Pekao OFE	11,059,715.37	190,705,666.26	34,756,198.03	46,769,544.73	406,136,915.60		22,044,549.60	711,472,589.59
OFE Pocztylion	3,492,830.61	288,817,450.85	43,648,253.90	38,604,388.80	535,295,625.35		20,042,000.00	929,900,549.51
OFE Polsat		57,880,319.09	19,410,175.65	9,900,000.00	91,162,371.50			178,352,866.24
OFE PZU Złota Jesień		1,950,452,082.15	132,302,542.41	430,922,888.75	3,573,106,297.76	57,629,318.44	45,045,416.40	6,189,458,545.91
Sampo OFE		403,925,011.75		88,516,433.08	847,371,037.58		3,598,079.20	1,343,410,561.61
OFE Skarbięc-Emerytura	5,021,537.04	497,640,537.95	115,146,266.48	25,068,132.21	955,749,349.50		5,020,000.00	1,603,645,823.18
Total OFE	45,330,540.42	14,116,288,011.58	1,719,961,887.42	1,698,871,465.73	26,148,956,891.10	307,643,287.44	195,779,060.80	44,232,831,144.49

Source: KNUiFE

Table 5 Structure of investment portfolios of pension funds in OECD countries (%)

OECD Countries	Cash and Deposit	Treasury Securities	Enterprise Bonds	Loans	Stock	Real Estate	Trust Funds	Insurance	Other
Austria	2.1	79.5	-	0.5	14.3	0.5	-	-	3.1
Belgium	4.4	13.6	3.2	0.3	14.6	1.1	55.8	2.6	4.1
Canada	4.9	26.6	0.8	0.8	28.7	4.2	32.8	-	1.3
Denmark	0.3	10.2	37.7	00.5.1	39.1	2.7	9.9	-	0.0
Finland	-	-	42.9	25.6	16.8	8.5	0.0	0.0	31.4
Germany	2.3	41.4	-	-	15.8	6.4	8.1	-	0.4
Hungary	4.4	68.1	5.2	14.8	8.7	-	5.8	-	7.8
Iceland	2.2	39.6	15.9	14.8	25.8	0.2	-	-	1.5
Italy	13.5	49.1	0.8	-	8.6	16.4	6.5	0.3	4.9
Korea	1.4	6.3	40.9	5.2	0.6	-	-	-	45.6
Mexico	0.2	85.4	14.4	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	0.0	-	36.2	8.1	47.8	4.8	-	0.0	3.1
Norway	4.7	-	-	3.9	19.5	5.9	-	-	66.0
Poland	4.2	66.8	1.2	0.0	27.8	-	0.0	-	0.0
Portugal	12.0	25.2	23.5	0.0	16.7	8.6	11.8	-	2.2
Spain	4.7	37.2	20.9	0.0	19.6	0.2	4.3	-	13.0
Sweden	81.6	-	-	18.4	-	-	-	-	-
Switzerland	7.6	28.5	0.0	5.2	28.2	11.2	16.2	-	3.0
UK	2.6	14.5	4.7	0.5	53.8	4.3	11.4	6.2	2.0
USA	6.3	8.4	9.1	0.4	38.6	1.9	14.5	9.9	10.9
Total	5.1	12.4	9.4	1.5	39.7	3.2	13.8	7.1	7.7
Other Countries									
Bulgaria	27.8	62.2	7.0	0.0	0.2	2.8	0.0	0.0	0.0
Estonia	14.9	34.0	26.1	-	11.4	-	13.5	-	0.1
Slovenia	21.9	54.7	19.5	0.0	2.5	0.0	1.4	-	0.0

Source: OECD

Table 6 Value of net assets of individual open pension funds between 1999 and 2003

	31-12-99	31-12-00	31-12-01	31-12-02	31-12-03
	Net Asset Value	Net Asset Value	Net Asset Value	Net Asset Value	Net Asset Value
OFE	180,642,668	897,909,085	1,703,498,159	2,696,202,465	3,833,870,686
AIG	30,584,241	223,915,633	482,361,934	839,749,049	1,210,747,223
Allianz Polska	5,307,099	44,699,940			
ARKA-INVESCO	76,975,931	318,502,007	619,321,325	967,904,010	1,368,055,927
Bankowy	678,942,844	2,878,222,727	5,648,658,131	9,059,591,659	12,710,482,786
Commercial Union BPH CU WBK	50,501,215	237,723,987	474,123,010	761,570,286	1,143,908,966
Credit Suisse Life & Pensions	34,909,055	140,846,757	304,306,040	544,994,831	749,711,841
DOM	33,966,349	147,333,943	281,725,870	442,306,503	
ego	3,111,458	18,124,438			
EPOKA	32,417,613	146,551,054	279,225,559	555,310,057	915,359,942
Ergo Hestia	96,948,220	386,156,299	705,618,970	1,057,836,417	1,481,544,019
Generali	478,206,070	2,123,735,598	4,139,986,650	6,996,190,270	10,046,859,081
ING Nationale-Nederlanden Polska	1,613,548	28,818,169	108,699,629	213,962,423	264,161,336
Kredyt Bank	10,008,125	69,174,227	328,901,811	517,023,476	721,973,593
Pekao	13,939,049	66,065,111			
Pioneer	27,870,888	156,640,981	409,167,855	658,470,382	937,525,518
Pocztylion	2,948,426	36,746,185	80,816,955	126,499,076	181,839,955
Polsat	360,247,767	1,450,862,690	2,816,422,480	4,448,613,814	6,272,652,391
PZU Złota Jesień	271,884	9,205,980			
Rodzina	75,454,869	309,588,621	582,745,598	914,450,697	1,374,876,424
Sampo	60,076,819	234,255,064	443,840,739	763,971,253	1,619,499,648
Skarbiec-Emerytura					
Total	2,254,944,138	9,925,078,498	19,409,420,713	31,564,646,670	44,833,069,336

Source: OECD

Table 7 Investment results of open pension funds in 2000-2003

	2000	2001	2002
OFE average rate of return	13.1%	7.3%	13.6%
Inflation indices (CPI)	8.6%	3.7%	0.9%
NBP reference rate	16.5%	19.0%	11.5%
12-month bank deposit	13.1%	15.0%	8.0%
52-week treasury bills	15.8%	17.3%	10.8%
Warsaw Stock Exchange Index (WIG) change	-1.3%	-22.0%	3.2%
WIG 20 Index change	1.5%	-33.5%	-2.7%
Domestic bond return index	9.4%	24.7%	20.0%

Table 8 Pension funds in selected countries of Central and Eastern Europe

Country	Implementation Date	System Description	Assets, Members	System Evolution
Czech Republic	Pillar II – not planned Pillar III - 1994	Pillar II – national, repartition Pillar III – fully funded, optional, with defined contribution	Assets as of the end of 2002 – CZK 69 billion Members at the end of 2002 – 3.4 million	Pillar III – Strong market concentration – the number of funds declined from 44 in 1994 to 13 at the end of 2002. Expected further decline in the number of funds. The largest fund has a 27% share in the market, five largest funds - 73%.
Hungary	Pillar II - 1998 Pillar III - 1994	Pillar I - national, repartition Pillar II – fully funded, obligatory, with defined contribution. Second pillar funds are open. Pillar III – fully funded, optional, with defined contribution. Third pillar funds can be open or closed – limited only to the employees of selected companies (company schemes). Hungarian pension funds operating both in the second and third pillars are non-profit organisations and they are owned by their members. The authorities of those funds manage them independently or they establish co-operation with an external management company.	Assets at the end of 2002 Pillar II – HUF 413.1 billion Pillar III – HUF 358 billion Members at the end of 2002 Pillar II – 2.23 million Pillar III – 1.18 million	Pillar II – Strong market concentration – the number of funds declined from 39 in 1999 to 18 at the end of 2002. Expected further decline in the number of funds. The largest fund has a 25% share in the market, five largest funds -79%. Pillar III – Strong market concentration – the number of funds declined from 315 in 1998 to 82 at the end of 2002. Expected further decline in the number of funds. The largest fund has a market share of more than 10%, five largest funds – more than 45%. Second pillar funds have a possibility of running several pension schemes that vary in terms of the degree of exposure. The members have a possibility of moving the money freely between the schemes within a single fund.
Slovakia	Pillar II – will start in 2005 Pillar III – 1996	Pillar I – national, repartition, Pillar II – fully funded, obligatory, with defined contribution. Pillar III – fully funded, optional, with defined contribution.	Assets at the end of 2002 – SKK 7.6 billion Members at the end of 2002 – 457,000.	Pillar III – There are four pension funds operating in Slovakia for several years now.
Lithuania	Pillar II – not planned in the nearest future Pillar III - 2000	Pillar II – national, repartition, Pillar III – fully funded, optional, with defined contribution. Third pillar funds have a possibility of running several pension schemes that vary in terms of the degree of exposure. The	Assets – no data, Members – at least 439,000 (end of 2003).	Pillar III – There were no pension funds until 2004. The market was controlled by pension companies that enjoyed preferential taxes, which made the existence of funds unprofitable. Only the Law of 2001 created better conditions for the development of funds. Enrolment for

		members have a possibility of moving the money freely between the schemes within a single fund.		them took place between September and December 2003. The funds started their operations in early 2004. Currently there are ten pension funds that are managing 22 pension schemes.
Latvia	Pillar II - 2001 Pillar III - 1998	Pillar I – national, repartition Pillar II – fully funded, obligatory, with defined contribution. Open funds. Pillar III – fully funded, optional, with defined contribution. Closed and open funds. Closed funds are limited only to the employees of selected companies. Participation in the second pillar is obligatory for all the newly insured and people who were under 30 years of age at the moment when the reform started. People at 31-49 years of age had an option to become fund members at the moment when the reform started.	Assets at the end of 2002 Pillar II – LTL 12.3 million Pillar III - LTL 14 million Members at the end of 2002 Pillar II – 335,000 Pillar III – 20,000	Pillar II - Between 2001 and 2002, the money accumulated within the second pillar was managed by the state. Privately managed funds started their operations only from the beginning of 2003. In 2003 there were five pension funds running ten pension schemes. Pillar III – According to the status as of 2002 there were four pension funds, three of which were open. In total, they managed nine pension schemes. Funds II and III have a possibility of running several pension schemes that vary in terms of the degree of exposure. The members have a possibility of moving the money freely between the schemes within a single fund.
Estonia	Pillar II - 2002 Pillar III - 1998	Pillar I – national, repartition Pillar II – fully funded, obligatory, with defined contribution. Pillar III – fully funded, obligatory, with defined contribution. Second and third pillar funds have a possibility of running several pension schemes that vary in terms of the degree of exposure. The members have a possibility of moving the money freely between the schemes within a single fund.	Assets Pillar II – 700,000,000 Estonian kroons at the end of the second quarter of 2003 Pillar III – 63,000,000 Estonian kroons at the end of 2002. Members Pillar II – 350,000 at the end of 2003 (projection), 207,000 at the end of 2002. Pillar III – 2,300 people at the end of 2002.	Pillar II – Obligatory for people beginning the period of professional activity, optional for others. There are six pension funds running fifteen pension schemes. The funds may invest in one of three ways: only in debt instruments, up to 25% in stock and up to 50% in stock. About half of the members choose the most aggressive fund, and each of the two other funds is chosen by more than 20% of members. Pillar III – Two types of products: life insurance (eleven pension schemes run by four companies) and pension funds (4).

Source: Investments of pension funds in CEE countries. Research report.