Investment activity of non-life insurance companies in Poland

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JEL Classification Codes: G22

Abstract
The main area of insurance companies activity is selling protection to their customers. But insurers also hold investments to cover future claims or benefits, administrative expenses and profits to shareholders. The role of insurance investment management is to manage the funds generated by the insurance business, maximizing risk adjusted returns while meeting regulatory requirements on its assets and other financial constraints. Insurance investment management must ensure that investment returns preserve the solvency, both regulatory and economic, of the insurance company, earn the return commensurate with the use of its capital and enable it to continue to underwrite profitable insurance business.
The article present main concepts of insurers investment management. Author examine insurers' investment activity in non-life sector in Poland in years 2006-2010 (volume, dynamic, portfolio and efficiency).

Keywords: non-life insurance, insurers' investment, investment earnings, Polish insurance market

JEL classifications: G11, G32

The task of insurance companies is to provide their clients with insurance protection. Providing insurance protection is possible thanks to accumulating funds. There is an extricable connection between damage distribution and the process of accumulating financial resources. Insurance activity, however, is not only a direct redistribution of the resources but also the necessity to create capitals and reserves, which will be the guarantee of solvency of insurance companies. These funds – temporally available – should be invested on the financial markets. The steady insurance development causes an automatic increase in the importance of the investment activity of insurance companies.
Although investment income constitutes a large share of insurers' income and the investment activities of insurance firms have important macroeconomic consequences for the allocation of investment funds between sectors of the economy, relatively few studies investigate the investing activities of insurance companies (Nissim 2010, p.8).
The first part of article present main concepts of insurers investment management. In the second part author examine volume and dynamic of insurers' investment funds and portfolio in Poland. In the last part of article author make an estimate of investments using efficiency ratios: general ratio of investments level, technical reserves cover ratio and profitability ratio of investment activity and examine the

influence of investment income on insurers' income. Data comes from non-life insurance sector in Poland in years 2006-2010.

Management of investments in insurance companies

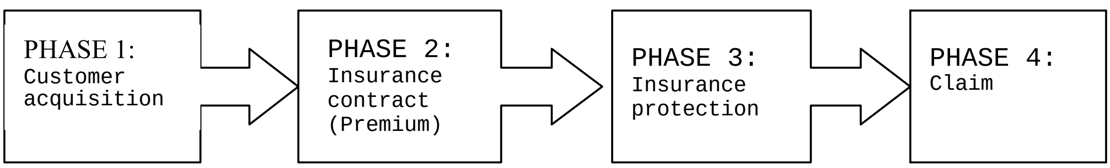
The concept of the management of investments portfolio

An effective financial management is an extremely important factor of a market success of every business entity, including an insurance company. Financial management is based on obtaining financial recourses for the company activity (capitals) and investing them in the assets in a way allowing the completion of the strategic objective that is a maximization of benefits for owners (shareholders) of the company (Bień 2000, p. 14). It can then be stated that there are two main groups of decisions made as part of the financial management. These are (Brealey 2008, p.33):

- financial decisions – concerning sources of search for a capital
- investment decisions – concerning ways of using a capital.

Making decisions concerning financial operations of an insurance company should contribute to a completion of the basic, strategic objective of its activity that is a maximization of market value of a company, which leads to maximization of owners' benefits (maximization of shareholder wealth) (Gallagher, Andrew 2000,p. 5).
The specificity of the insurance activity, however, makes the financial management of these entities differ considerably from the financial management of other business entities. An insurance is understood as a risk transfer from an individual to a group and a division of losses/financial needs over the members of a group (Vaughan 1997, p.). Therefore, thanks to an insurance, it is possible to replace an uncertain but huge loss with a little but certain insurance premium (Mayerson 1962, p. 17). The characteristic feature of the financial activity of an insurance company is then the inverse production cycle that is based on collecting an income from premiums before bearing the overall costs of producing an insurance. These costs appear in the final phase of the completion of an insurance product. It is not possible to calculate them precisely and explicitly at the moment of concluding an agreement because damage occurrence displays a random nature (figure 1)

Figure 1: The inverse production cycle

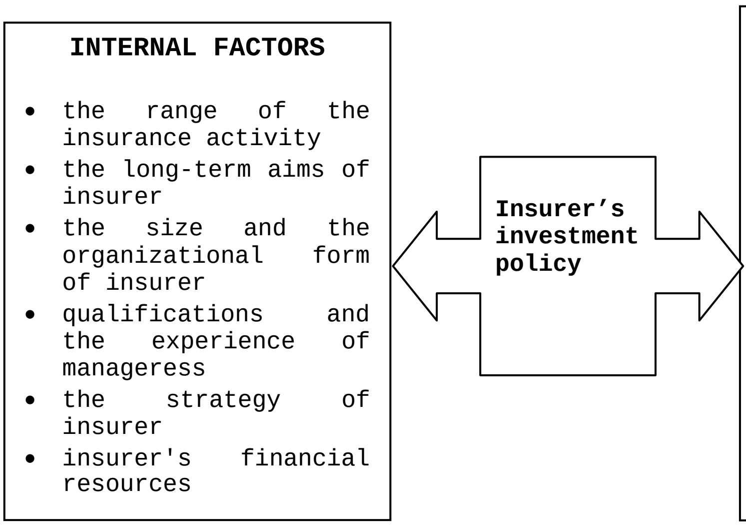


Source: (Monkiewicz J 1999, p. 24)

In the respect to the special nature of insurance services in the activity of insurance companies, a maintenance of a certain minimal level of financial security is definitely required, which can constitute a contrasting goal against the maximization of owners' benefits.
Therefore, in the context of the financial management of an insurance company, investment decisions gain a special significance. Apart from

the basic activity, also called technical one, insurance companies run also the investment activity inextricably connected to it. As a part of the investment activity, insurance companies develop an insurance policy selecting a investments portfolio. The investments portfolio fulfils a derivative role towards the insurance portfolio and is treated as the portfolio entailing the insurance liabilities. The financial economics literature suggests that contracting incentives for managers to increase investment earnings are dependent upon the external environment and firm-specific factors (figure 2)

Figure 2: Factors determining the insurers' investment policy



Source:

While creating a investment policy, insurance companies employ the theoretical models of the management of investments portfolio. In the reference books, the efficiency and effectiveness of the investment policy of insurance institutions are examined from two perspectives:

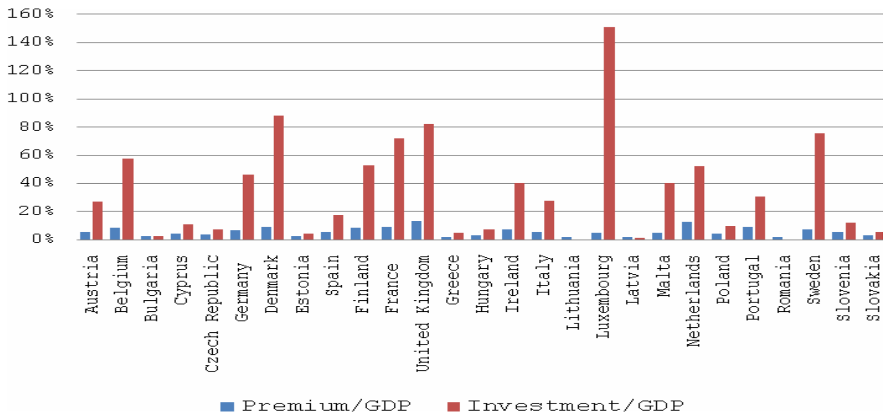
- narrow one – on the basis of portfolio theories where investing persons perform an investments optimization with regard to the acceptable risk level and return on them (Markowitz's portfolio theory)
- wide one- as a part of the Asset Liability Management (ALM) concept.

ALM is an ongoing process of devising and implementing strategies related to liabilities as well as assets to archive financial objectives for given set of risk tolerances and constraints. ALM is the sine qua non of insurance asset management enabling insurers to manage their portfolio in a way that assures that claims are met. ALM provides a framework for simultaneously managing multiple risks, such as liquidity and interest rate risk (Swiss Re 2010, p. 10)

The role and the scope of insurers' investments in EU countries

Insurance companies invest their equity capital, technical reserves and other temporally available financial resources. Investment earnings made by insurance firms make a valuable contribution to their operating results and enable them to reduce premiums and increase dividends and bonuses, thereby improving their competitiveness (Oppenheimer 1983; Adams 1996). Insurance investments have also an important economic and social impact on the nation – insurance capitals and reserves are important source of capital funds to the economy (figure 3)

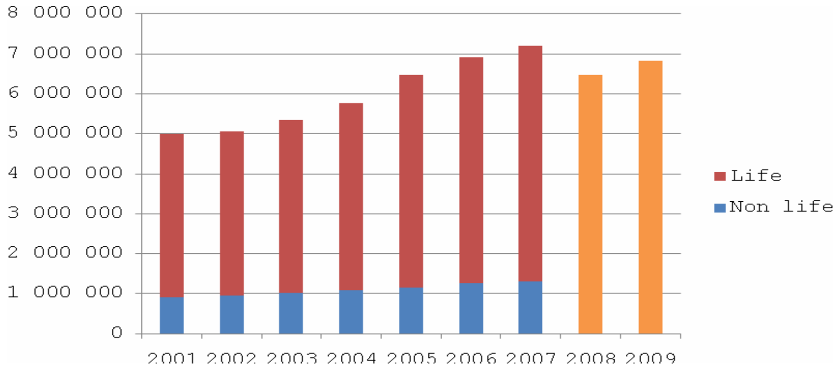
Figure 3: Premiums to GDP ratio and insurers' investment portfolio to GDP ratio in EU countries in years 2001–2009 (€m)



Source: Source: own work based on the CEA data

Like insurance penetration (premiums to GDP ratio), the ratio of insurers' total investment portfolio to GDP shows the relative importance of insurance to the economy, enabling comparison of the development of the insurance sector from country to country and from year to year. Due to a combination of the growth of European insurers' investment portfolios and the economic recession in 2009, the ratio of the investment portfolio to GDP grew from 47.8% in 2008 to 53.2% in 2009. Nevertheless, it is still below the record levels seen in 2005, 2006 and 2007, when the ratio was 54–55% (CEA 2010, p.27)
The scope of investments depend on the type of insurance (figure 4).

Figure 4: Life and non-life insurers' investment portfolio in Europe in years 2001–2009 (€m)



Source: (CEA, 2010)

Life insurance contract are long-term in nature and the liabilities of life insurers extend over long period. Most life insurance investments are therefore long-term in nature. Investment income is extremely important in reducing the cost of insurance to policyowners since the premium can be invested and earn interest. The income is reflected in the payment to policyowners, which reduces the cost of insurance. In contrast to life insurance non-life insurance contracts are short term in nature. For these reason, the investment objective of liquidity is extremely important. Non-Life insurers' investment income is extremely important in offsetting unfavorable underwriting experience (Rejda 1998, p.523)

The practice of insurance asset management (non-life insurance in Poland)

Non-life insurance in Poland

Insurance companies have a long tradition in Poland (since 1803). In 1938 operated 72 national institution in the form of public or private commercial and mutual insurance institutions. In the post-war period, insurance business undergoes nationalization. The insurance law passed in 1991 gave competitive insurance market a chance of revival. In Poland currently (2009 operate 33 non-life insurance companies and 30 life insurance companies. Polish insurers collected 11.824 m€ premiums. It was 3,77% of GDP (40 place in the world). The Polish insurance market is a bit dominated by life insurance segment (50,9% of total premium.
Non-life insurers collected 4.827 m€ in 2009. It was 1,86% of GDP. Nearly 55% of the products are motor insurances (over 31% are the third party liability insurances for drivers) and another 22% are property insurances.(CEA 2010, Swiss Re 2010)
Investments are the main element of assets in insurance companies and make up about 70% of assets.

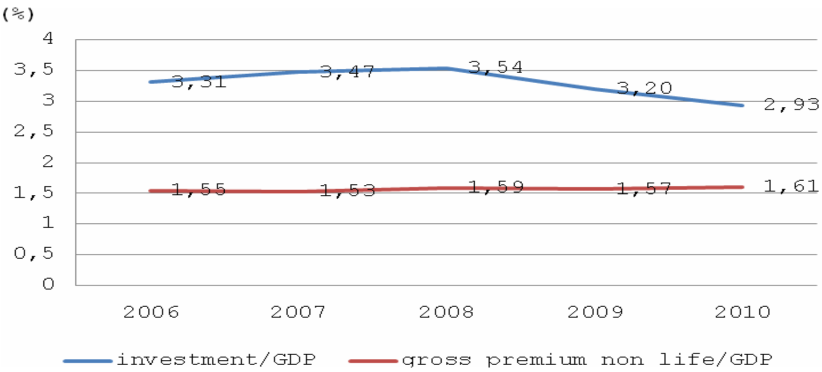
Investment legal restrictions

Taking up the investment activity into the instruments of the financial market, an insurance company is obliged to construct its investments portfolio in the way that allows to achieve the highest possible degree of security and profitability with the maintenance of liquidity taking the kind and structure of the managed insurances into account.(Act of insurance activity 2003, §153) The main task of an insurance company in the scope of the investment policy is then to construct a portfolio which will produce a maximum income from the investments with the acceptable risk level. It should be emphasized that increasing the security level is inextricably connected to the acceptance of a lower level of total income from the portfolio and a reverse increase in the probability reduces the security and liquidity of the investments. The completion of the requirement to own secure, liquid and profitable investments is then unusually difficult.(Wanat-Polec 2001, p. 74)
Technical reserves are the elements of liabilities – a part of the insurance fund determined at the amount that ensures covering current and future liabilities which can result from the concluded insurance agreements (fee already charged) (Act of insurance activity 2003, §151.1). The legislator determined in the legal regulations that insurance companies are obliged to own assets in the amount not lower than the gross value of the technical reserves. The principles of investing the funds coming from these reserves, which concern currency and dates of investing them and their appropriate diversity and distribution, were also defined. In the legal act, the kinds of assets available to insurance companies were listed and quantitative limits concerning the investments in individual assets were introduced.

Volume and dynamics of investments

The measure of the significance of the investment activity is the contribution of the investments to the GDP (figure 5). For Polish property insurers, the rate of contribution of the investments to GDP is rising within 2006-2008 and is above twofold higher than the penetration rate (measured with the contribution of insurance premiums to the GDP). The situation within 2009- 2010 is clearly worse, when the contribution of the investments to the GDP is decreasing, reaching the level higher than the penetration rate only by 80% in 2010

Figure 5: Contribution of the investments and non-life insurance premiums to the GDP



Source: own work based on the KNF and GUS data

The detailed analysis of the volume of investments and premiums (table 1) indicates explicitly that the rate of investments increase, exclusively within 2006-2007, is higher than the dynamics of the premiums. It proves that the increase in the investment values is in this period not only the consequence of the market development but also the company policy – devoting greater and greater amount of the own resources to financial investments.

Table 1: Volume and nominal growth (year to year) of gross premiums and investment in non-life insurance in years 2006-2010

Items	2006	2007	2008	2009	2010
Non-life gross written premiums (€m)	16,41	17,98	20,28	21,06	22,74
Non-life insurers' investment portfolio (€m)	35,04	40,80	45,09	42,98	41,36
Nominal growth of gross written premiums non-life (%)	+4,90	+10,95	+11,43	+3,71	+7,99
Nominal growth of investment (%)	+14,85	+16,04	+10,58	-4,56	-3,94

Source: own work based on the KNF data

In next years this tendency turns and within 2009-2010 the dynamics of the investments is not only lower than the premiums but also we record the decrease in the investment value. It proves that the increase in the deposits does not follow the market development of a company. Such a market behavior is also affected by an extraordinary situation – the greatest property insurer in Poland, PZU, already in the second half-year of 2009 advances the dividend for 2009 at the amount of 12.7 bn. PLN[1], which results in the decrease in the balance of own funds of the whole sector of the property insurances by 48.3%. Another payment of the dividend appears in 2010 at the amount of 1 bn. PLN and along with the final dividend settlement from 2009 (c. 5 bn. PLN) reduces significantly the investment opportunities of the largest Polish insurer for the next time.

Structure of the investments

Insurance companies in Poland in their investment policy can employ quite varied financial instruments but in principle debt securities take the dominant position (table 2)

Table 2: Structure of investments in non-life insurance in years 2006-2010

Items	2006	2007	2008	2009	2010
Land and buildings	2,01	1,64	2,01	2,19	2,29
Investments in subordinated undertakings	15,60	19,42	16,83	21,03	20,32
Shares and participating interests	5,94	4,94	2,26	3,02	3,28
Units in investments funds	4,42	4,08	3,74	4,27	5,22
Derivatives	0,02	0,02	0,07	0,08	0,15
Other variable-yield securities	0,03	0,00	0,03	0,00	0,00
Debt securities and other fixed-income securities	60,59	62,00	66,79	63,68	61,98
Mortgage-secured loans	0,01	0,01	0,01	0,06	0,10
Other loans	6,54	1,73	0,94	0,86	1,87
Deposits with credit institutions	4,73	6,13	7,28	4,76	4,77

Source: own work based on the KNF data

The government financial instruments constitutes almost total number of the investments in the debt securities on the Polish insurance market (table 3). Among them the most significant are government bonds. These securities are characterized by the lowest risk level, therefore their dominant position in the secure portfolios of insurance companies is not surprising.

Table 3: Government financial instruments in years 2006-2010 (%)

[1] PZU result for 2009 was only at the level of 2.51 bn. PLN. Such a high dividend resulted from blocking the payment from the previous years and the agreement concluded with Eureko (in 2009, owner of 32% of PZU shares) by the Treasury, whose part of compensation was exactly that dividend. This agreement that ended the dispute, in which Eureko requested to sell the majority of shares in PZU.

Items	2006	2007	2008	2009	2010
Securities issued, backed or guaranteed by the Treasury or by international organizations to which Republic of Poland is a member:	96,55	97,00	97,33	94,55	94,98
Bonds,	95,23	97,98	97,57	95,83	97,93
Treasury bills	4,73	1,98	2,40	4,02	2,04
Bonds issued or backed by local government entities or associations of local government entities	0,22	0,19	0,07	0,34	0,67
Other fixed-income debt securities	3,24	2,81	2,60	5,11	4,35

Source: own work based on the KNF data

The second largest position within 2006-2010, after the treasury securities, was occupied by the investments in the subsidiaries.
Another position is taken by the instruments filled with higher risk – stocks and shares and investment certificates, whose total contribution was 6-10% yearly. Bank deposits also appear in the structure of the portfolio. They are not much significant – their contribution does not exceed 5% (except for 2007, 2008). Investments in real estate (2-3% yearly) appeared as well.

The portfolios of insurance companies are distinguished by the high security level considering the high contribution of treasury securities. Investments requiring a detailed analysis concerning their security also appear in the investment portfolios. These are shares and stocks in the subsidiaries with the increased risk with regard to the possibility of occurrence of difficulties with their sale or “domino effect” and investments in real estate that are characterized by quite a low liquidity degree on the Polish market. A trace amount of the derivative instruments, which according to the legal regulations can only serve as a tool to manage the market risk, appear also in the portfolios. Their increasing contribution can prove increasing awareness of insurers in this scope.

Assessment of the investment activity

To analyze the investment activity of the insurance companies, three rates of investments level was applied. These are shown in table 4:

- Rate of investing the reserves = total investments/insurance fund
- General rate of investments level = total investments/(insurance fund + own capitals)
- Profitability rate of investment activity = result of investments/average investments level

Table 4: Basic rates of investments level within 2006-2010 (%)

Items	2006	2007	2008	2009	2010
Rate of investing the reserves	158,1	169,1	167,5	148,9	126,9
General rate of investments level	96,23	95,29	93,71	104	89,91
Profitability rate of investment activity	9,43	4,36	7,45	8,14	11,51

Source: Own work based on the KNF data

The rate of investing the reserves provides the view on the security degree of liabilities towards the insured, this is the adequacy of

owned investments in the ralation to liabilities, which can always result from the accepted risk. By 2000, it was used as the statutory measure of solvency of an insurance company. It shows the value considerably exceeding the required level of 100% (the higest level in 2007 almost 170%). It can then be acknowledged that financial recourses entrusted by the insured were properly secured and the solvency of insurance companies was at the very high level.
Broadening the analysis carried out by means of the rate of investing the reserves is a calculation of a relation of the total investments value to the technical reserves and own capitals (general ratio of investments level). General ratio of investments level depicts the degree of covering the liabilities of insurance companies both towards owners and the insured by means of the investments. Except for 2009, the level of this rate differs from the desired level of 100%.The biggest difference is more than 6 percentage points. Admittedly, this difference is not considerable but it indicates some possible shortages in covering the liabilities of insurance companies.

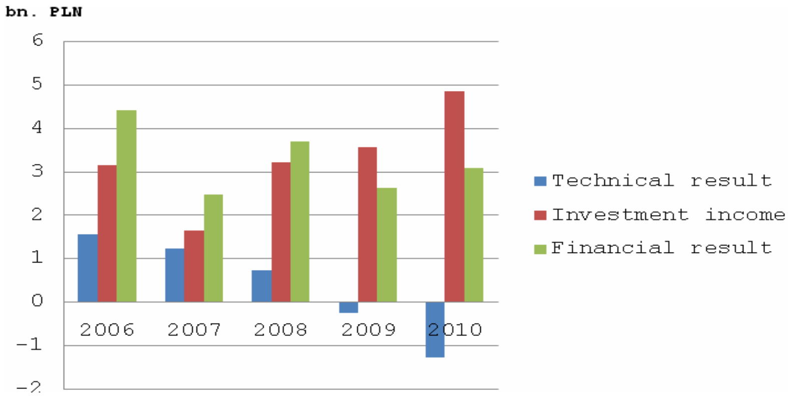
Non-life insurance companies in the entire study period achieved positive results on the investment activity. The analysis of profitability, if the investment activity of insurances companies, shows the tendencies characteristic of the general market situation. The probability rate decreases clearly in 2007 (economic crisis year) in order to improve quite considerably in the next year and maintain the high increasing tendency. Throughout 2008 the profitability of investments was 7.45% and was better than the year 2007 by over 3 percentage points and only slightly worse than the profitability for the year 2006 (about 2 percentage points). In 2009 profitability of investments is even better 8.14%. High results on investment activity in 2008-2010, however, are the result of the income from shares in subsidiaries . In the 1st half of each of these years, the largest life insurer in Poland PZU Życie paid to the biggest Polish property company dividends – in the amount of PLN 2.167 billion in 2008, PLN 1.419 billion in 2009 and PLN 3.12 billion in 2010.

After "clearing" the results of investment activity from this emergency, one-off amount the profitability of the investments drops in 2008 to the level of 2.42% in 2009 to the amount of 5.63% and in 2010 to 2.61%. Thus they become comparable to the period 2005-2007. These comparisons indicate that the financial crisis had no significant influence on investment activities of Polish property insurers.

Investment activity and income

The results on investment activity in years 2008-2010 are respectively – 3,23 bn., 3,58 bn., 4,58 bn. Thus they become comparable to the period 2006-2007. These comparisons indicate that the financial crisis had no significant influence on activities of Polish property insurers (Figure 6).

Figure 6: Financial results in non-life insurances in 2006-2010



Source: Own work based on the KNF data

In the 2nd half of 2008 the technical result of insurers dropped. This decline is mainly caused by an increase in the dynamics of administrative costs and provisions for outstanding claims[2]. It should be noted, however, that the result of Polish insurance sector in 2008 is the second result after 2006 since 1991. Although clearly, the key contribution here is the high result of investment activity, which (as already mentioned) is the result of rather high dividend income from PZU Zycie. Despite the negative technical result of property insurers in the 2nd half of 2009 the final result for the sector for 2009 is also satisfactory. The technical result of non-life insurers in the 2010 is negative largely due to the spring and summer floods, storms and torrential rains. According to information from the Polish supervision in the period of May-June the amount of about PLN 1 billion compensation for these losses was paid (including about 61% is the share of the reinsurers). However, due to the high profitability of investments the sector's result is positive.

Conclusion

To sum up, it should be stated that the investment activity is one of the basic elements of the financial strategy of insurers. The investment activity has a significant influence on the solvency of an insurance company. It should be considered from a perspective of an additional income generated through running the investment activity.
On the other hand, it should be emphasized that gaining an income from the investment activity can be applied in the basic activity of a company, for example, to reduce the financial premium through financing the expenses of the insurance activity and compensations and benefits resulting from the investment activity. Investing financial resources through insures' companies increase also their security since it secures the company against a depreciation of the financial resources, which is particularly significant for the technical reserves. On the other hand, an income from the investment activity

[2] From 1 Oct 2007 to the end of 2008 in the costs appears the so called Religa tax (named after the then Minister of Health) that is a mandatory flat fee in the amount of 12% of the premiums from third party liability insurance for drivers paid to the National Health Fund (the fund being the source of public health care financing) intended for treatment of traffic accident victims.

increases a profit or decreases a loss of an insurance company, which influences the level of own recourses of this company.

The analysis of investment activity of Polish insurances companies, shows the tendencies characteristic of the general market situation. The portfolios of insurance companies are distinguished by the high security level considering the high contribution of treasury securities (the lowest risk level). The probability rate decreases clearly in 2007 (economic crisis year) in order to improve quite considerably in the next year and maintain the high increasing tendency. The high profitability rates are extremely beneficial phenomenon considering the management of an insurance company.

The global financial crisis, which began in 2007, highlighted the importance of having a clear investment policy as well as a structured and disciplined investment process. It also underlined that assets need to be managed in relation to liabilities. The success of this activity has been a major differentiator across the industry

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