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THE IMPACT OF THE GLOBAL ECONOMIC CRISIS ON POLISH INSURANCE MARKET

The global economic crisis has had a destructive impact on the entire global economy. In its early phase Polish economy did not directly experience its effects, but with the intensification of downward trends it also suffered from its adverse impact. The recession has impacted the insurance market as well. It noticeably felt the effects of economic downturn, followed by the reduction of expenditures on insurance and reduced interest in insurance among business entities and natural persons. Currently, the insurance sector restores its position, acquiring an ever higher insurance premium and accumulating ever greater assets, allowing insurance companies to perform safe financial policy and activate their operations.

Keywords: economic crisis; stabilization pentagon; financial market; insurance sector; financial security.

Ришард Пукала

ВПЛИВ ГЛОБАЛЬНОЇ ЕКОНОМІЧНОЇ КРИЗИ НА ПОЛЬСЬКИЙ СТРАХОВИЙ РИНОК

У статті показано, що глобальна економічна криза негативно вплинула на розвиток світової економіки. На її початковій стадії економіка Польщі не відчувала негативних наслідків, проте в міру збільшення рецесії відбулося уповільнення темпів економічного зростання. Рецесія також вплинула й на страховий ринок, який відчув наслідки спаду економіки, а слідом за цим відбулося зниження витрат на страхування і зменшення інтересу до страхування серед юридичних і фізичних осіб. У даний час страховий сектор відновлює свої позиції, збільшуючи обсяги зборів страхових платежів, накопичуючи активи. Це дозволить страховим компаніям проводити безпечну фінансову політику й активізувати операційну діяльність.

Ключові слова: економічна криза; п'ятикутник стабілізації; фінансовий ринок; страховий сектор; фінансова безпека.

Форм. 1. Рис. 2. Табл. 7. Літ. 16.

Рышард Пукала

ВЛИЯНИЕ ГЛОБАЛЬНОГО ЭКОНОМИЧЕСКОГО КРИЗИСА НА СТРАХОВОЙ РЫНОК ПОЛЬШИ

В статье показано, что глобальный экономический кризис оказал отрицательное воздействие на мировую экономику. В его начальной стадии экономика Польши не ощутила отрицательных последствий, однако по мере усугубления рецессии произошло замедление темпов экономического роста. Рецессия так же повлияла и на страховой рынок, который ощутил последствия спада экономики, а вслед за этим – снижение расходов на страхование и уменьшение интереса к страхованию со стороны юридических и физических лиц. В настоящее время страховой сектор восстанавливает свои позиции, увеличивая сборы страховых взносов, накапливая активы. Это позволит страховым компаниям проводить безопасную финансовую политику и активизировать свою операционную деятельность.

Ключевые слова: экономический кризис; пятиугольник стабилизации; финансовый рынок; страховой сектор; финансовая безопасность.

Introduction. Each economic crisis with a global outreach destabilizes financial markets and subsequently shifts on the real economy. It influences a broad range of

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macro and microeconomic factors, the disturbance of which brings about negative consequences for economic development of any country. It contributes to the slowing down of enterprises' activity and in consequence, to the limitation of labour demand. It is followed by a decline in employment and an increase in unemployment. Directly or indirectly, it influences social welfare as well, resulting in the decline of population's real income. All these factors are reflected in the development stage of the insurance sector, which depends on the supply of risks on the insured parties side, demand on these risks on the insurers side or readiness to accept them, as well as funds at both parties' disposal, after all it is them who determine risk being traded as market goods. On the other hand, the supply of risks is a direct derivative of the domestic economy development and its current state. That is why we need to scrutinize the impact of crisis on the insurance sector in this context, as it depends on the development stage of the economy and the influence of insurance on economy. On the basis of another R. Pukala's study, we also need to note that "close cooperation and mutual stimulation of all segments is reflected in the efficiency of the economy, expressed in GDP growth and its influence on international financial markets" (Pukala, 2012).

1. The impact of crisis on Polish economy. The global economic crisis, initiated by the burst of a speculative bubble at the real estate market in 2007, has been widely recognized as the worst global recession since the crisis that occurred at the turn of the 1920s and the 1930s (Report NBP, 2009). Beyond doubt, it has influenced the entire global economy, including Poland.

In the pre-crisis period, Poland observed an even and sustainable economic growth, covering practically all sectors, the main impulse of which had been Poland's accession to the European Union in 2004. The economic activity reached its peak in 2007, when GDP growth amounted to 6.8% (Urząd Komisji Nadzoru Finansowego, 2011).

In the period of crisis Polish economy remained on the growth path, as one of the few economies in Europe. However, with the intensification of downward tendencies in the global economy, the crisis began to gradually influence Polish economy as well. At the climax of crisis, in 2009, Polish economy observed a 1.7% growth. In 2010 Poland saw the recovery of economic activity. The growth rate increased to 3.9%. This positive trend continued into 2011, with GDP growth amounting to 4.3%. However, the year 2012 saw a significant decline to 1.9%, which marks another wave of crisis (Ministerstwo Gospodarki, 2013).

The crisis was visible virtually in all market segments, particularly in the financial sector. At first, the impact of global financial market disturbances on economies of such countries as Poland was limited mostly to capital markets. Later, it influenced basically all market spheres and state operations. It was accompanied by limited crediting action by banks, speculative attack on Polish currency and a visible decline in the value of Polish zloty, as well as financial problems of enterprises related to currency options. It correlated with economic slowdown, unemployment growth, decline in investment growth rate, decline in consumption expenditure and currency prices growth, which in consequence has contributed to reduced imports and exports, followed by the lack of financial liquidity of certain industries, reduced employment and number of full-time jobs, limited working hours and overtime hours and, in extreme cases, to enterprises' insolvency.

We can investigate the depth of crisis' impact on Polish economy by observing changes of basic macroeconomic indicators of the country in the years of crisis. As indicated by G. Kolodko, "however, the longer the recession and the harder it is to overcome, the more intense the questioning of either the scope of the phenomenon, or its significance" (Kolodko, 1993), therefore specification of factors that influence the disturbance of economic processes is so important.

A set of indicators dubbed "macroeconomic stabilization pentagon" (Kolodko, 1993) can be used in macroeconomic stabilization process analysis. The essence of analysis using a pentagon method comes down to observing the following volumes (in the years 2007–2012):

- GDP growth rate (GDP), being a synthetic expression of the country's economic development and its citizens' affluence,
- registered unemployment rate (UNE) measured as the number of the registered unemployed to the working population ratio,
- inflation rate (consumer price index, CPI), treated as an indicator of internal balance and measured by consumer price growth,
- government debt (GOV) measured as the state budget balance to gross domestic product ratio,
- foreign debt (CAB) measured as a current account balance to gross domestic product ratio.

Relevant macroeconomic data are presented in Table 1.

Table 1. Selected macroeconomic data of Polish economy, 2007–2012, %

Indicator	2007	2008	2009	2010	2011	2012
GDP	6.7	4.9	1.7	3.8	4.3	1.9
UNE	11.2	9.5	12.1	12.4	12.5	13.3
CPI	2.5	4.2	3.5	2.6	4.3	3.7
GOV	-6.2	-6.6	-3.9	-5.1	-4.9	-3.5
CAB	-6.0	-7.2	-3.0	-3.9	-4.2	-2.6

Source: Central Statistical Office data for 2007–2012.

The discussed method boils down to the analysis of the optimal use of resource streams (namely, UNE labour resources) and the level of economic growth rate (GDP) at lower or higher internal and external balance, measured by government deficit (GOV), inflation rate usually related to former (CPI) and foreign debt (CAB) indicators. The selected set of indicators allows conducting an ongoing analysis of economic status, however, it fails to formulate future development prospects. In order to depict the occurring processes better, the data have been presented in the form of a graphical stabilization pentagon, Figure 1.

The scale of numerical values has been adjusted to the actual data arrangement. Pentagon vertices, meaning the maximum or minimum values of particular indicators, are treated as desired objectives, although they do not always mean an optimal result, since, for example, high surplus on a current account or in a state budget, zero unemployment or zero inflation do not stimulate development.

Analyzing the macroeconomic stabilization pentagon of Poland in 2007–2012, we need to emphasize that the economy in the discussed period was quite unstable. Beyond doubt, the global crisis is a factor influencing such state of affairs, as it has adversely influenced all economic sectors. Changes in economic growth measured by

GDP dynamics are not accompanied by improved labour market situation. There is a persistent problem of high unemployment, showing an upward trend. Undoubtedly, its levels influence the economic growth rate of the country, providing the following effects:

- loss of production;
- increased financial burdens of the state;
- worsened economic conditions of the unemployed and their families;
- negative impact on social conditions.

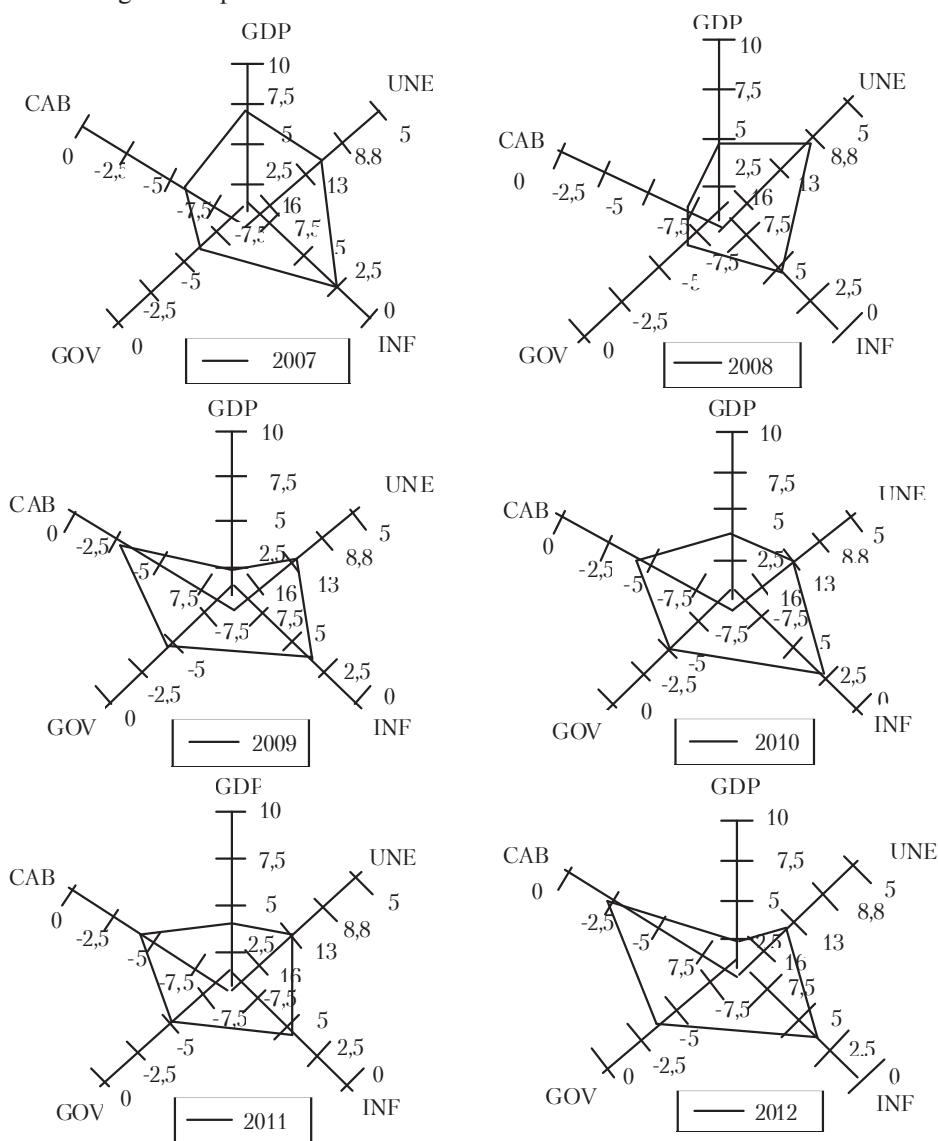


Figure 1. **Macroeconomic stabilization pentagon of Poland, 2007–2012,**
author's study based on the data from Table 1

High level of government debt also adversely influences the macroeconomic stabilization of Poland. It has been caused by a general decline in investments and lower efficiency of enterprises at increasing budgetary commitments resulting from state development programmes and welfare commitments to society. In this context, the situation with foreign current account balance is also negative. On the one hand, Polish economy is becoming more and more open to the world, while on the other hand, it is import-oriented, which limits development opportunities for domestic producers. It adversely influences the situation of enterprises and leads to lower proceeds to budget, intensifying economic problems of the country.

Observing economic data on the condition of Polish economy, we can see that although they confirm a negative tendency, they also indicate the chance for improvement of economic conditions in the years to come more evidently. Obviously, it is related to the need to undertake actions aimed at accelerating the process of the economy recovering from crisis, among others, through:

- maintaining economic balance, both internal and external, aimed at maintaining an even level of prices and safe public debt;
- maintaining the stability of the financial sector;
- making Poland an investor-friendly place, also to foreign investors;
- limiting investment currency risk in Poland;
- changing the structure of acquired capital for the benefit of long-term capital.

All these actions will undoubtedly stimulate economic growth and, in consequence, will improve the living standards of the population.

2. Insurance market as a financial market component. Presenting the insurance market as a financial market component, it is worth defining it first. Generally, financial market is a place where cash transactions are carried out. The subjects at the financial market are materialized and dematerialized securities and cash. In this context we can state that financial market includes all links between its participants in the scope of cash accumulation and sharing (Nawrot, 2007). Financial market is a place where purchase and sale transactions related to various forms of capital, both short-term and long-term, are made.

Owing to its features, holders of capital surplus can invest it and those units who do not have any can obtain it through transactions at this market. Functioning of the financial market allows investors diversify a portfolio of assets in stock and limits the investment-related risk. We need to emphasize here that, as properly indicated by T. Bednarczyk, "insurers conduct investment operations on the financial market, which is one of the key markets of the entire economy" (Bednarczyk, 2012).

Polish financial system is of typically continental model, where banking remains the dominating form of financial agency – see Table 2.

Table 2. Main financial market sectors' assets in Poland, 2007–2012

Assets (bln PLN)	2007	2008	2009	2010	2011	2012	D _{2012/2007} , %
Banks	814.1	1041.8	1142.4	1158.0	1295.0	1353.1	166.21
Pension funds	140.0	138.8	180.5	221.3	224.7	269.6	192.57
Investment funds	133.8	74.2	93.5	120.1	114.4	145.8	108.97
Insurance companies	126.9	138.0	138.8	145.2	146.1	162.9	128.37
Total	1214.8	1392.8	1555.2	1644.6	1780.2	1931.4	158.99

Source: Central Statistical Office data for 2007–2012.

We need to note here that Polish banking sector has not suffered drastically because of the crisis. Despite the slowdown observed in 2010, the following years saw a considerable assets growth. Compared to banks, the situation of the insurance sector is worse and the influence of crisis has been clear for the entire period, influencing its growth rate. It is worth emphasizing that Polish banking sector is characterized by a significant growth potential, expressed for example in a dynamic growth in mortgages, a large number of lending institutions, high degree of assets concentration and extensive involvement of foreign investors. Compared to this, the insurance sector is relatively small, although we need to note that it belongs to the most prospective ones from the point of view of further development of Polish economy. Regardless considerable proportions, both sectors complement each other, for example via bank assurance, which improves their market position and allows a better use of their potential.

3. Development status of Polish insurance market in the times of crisis. Beyond doubt, the inclusion of Polish market to the EU single insurance market was a positive impulse for its development, which has manifested itself, among others, in the significant growth of insurance premium and the growing number and scope of offered products. It is also, as indicated by M. Cycon, a precondition for "the execution of the insurance protection feasibility rule by insurers, which requires funds to cover current and future liabilities. The main source of funds needed to provide insurance protection are insurance benefits that make up for 70–90% of all insurance company's revenues" (Sulkowska, 2013).

Along with observed premium growth, insurance has begun playing a more important role in domestic economy. The relevant data have been presented in Table 3.

Table 3. Insurance sector within Polish economy, 2007–2012

Indicator (bln PLN)	2007	2008	2009	2010	2011	2012	D _{2012/2007} , %
Budget	1176.7	1275.5	1344.5	1416.6	1523.2	1595.3	135.57
Gross premium	43.7	59.3	51.3	54.2	57.1	62.6	143.25
Insurer's assets	126.9	138.0	138.8	145.2	146.1	162.9	128.37
% share of assets/budget	10.78	10.82	10.32	10.25	9.59	10.21	—
% share of premium/budget	3.71	4.65	3.82	3.83	3.75	3.92	—

Source: Central Statistical Office data for 2007–2012.

Gross premium written is one of the basic measures for the evaluation of insurance market development. The role and meaning of insurance is usually defined by referring the premium to the volume of gross domestic product (GDP). This indicator considerably declined at the peak of the crisis (2009) to start regaining its position later on. Such a large decline in premiums was caused mainly by financial problems experienced by enterprises, which had considerably limited their expenditures, including on insurance, in the process of optimizing their operations.

Among natural persons a visible decline in the interest in insurance policies is observed, caused by unemployment growth, reduction of remunerations and the risks related to losing a job, which resulted in limiting expenditure. This process was correlated with a downturn at the credit market, which in turn undermined the sales of insurance as collateral for liabilities. Despite the premium decline, insurance companies were able to maintain the asset growth in the discussed period, which undoubtedly attests strong position of insurers at the market and their high level of capitalization.

3.1. Insurance companies. The number of insurance operators in Poland has been on decline for several years now – the data on the number of insurance and reinsurance companies operating in 2007–2012, holding a national operating certificate, is presented in Table 4.

Table 4. The number of insurance and reinsurance companies holding a national operating certificate, 2007–2012

Insurance company	2007	2008	2009	2010	2011	2012
Life	33	31	31	30	29	29
Non-life	35	35	34	33	33	33
Total	68	66	65	63	62	61

Source: Polish Financial Supervision Authority data from 2007 to 2012.

A gradual decline in the number of insurers has been caused by consolidation processes observed for a number of years. There were no insolvencies of insurers in the analysed period, which attested market stabilization and meeting financial security requirements by insurance companies, allowing safe operations. It is worth remembering, what J. Monkiewicz points out, that "the process of creating common economic space, executed from the moment of concluding the first integration treaty, has a complicated internal structure and is finalized by means of various instruments. It also brings plenty of new institutions into being. Finally, it has a different dynamics in different areas of economy" (Monkiewicz, 2005).

We need to emphasize that Polish insurance market has been treated as one with a great development potential by many insurers. Owing to this, as per end – 2012, 583 entities from the EU and EFTA member states (Parties to EEA) declared their willingness to operate within the single insurance market in the area of Poland. Some of them wish to provide services to native business entities abroad, but for most of them Poland is an attractive market where they can pursue active sales.

3.2. Insurance premium and damages paid. Analyzing the market with regard to the level of insurance premium, we need to stress that its dynamic growth took place in 2007–2012. Insurance premium growth took place both in life insurance and property insurance segments. Obviously, in the times of crisis we can observe a decline in the premium growth dynamics, particularly in the life insurance sector (relevant data is provided in Table 5). In spite of it, premium is gradually rising.

Table 5. Insurance premium and damages paid in 2007–2012

Indicator (mln PLN)	2007	2008	2009	2010	2011	2012	D _{2012/2007} , %
Gross premium written	43732	59292	51344	54159	57123	62643	143.2
Life insurance premium	25509	38986	30284	31420	31832	36377	142.6
Non-life insurance premium	18223	20306	21060	22739	25291	26266	144.1
Share of life insurance premium in total premium, %	58.3	65.8	59.0	58.0	55.7	58.1	–
Share of non-life insurance premium in total premium, %	41.7	34.2	41.0	42.0	44.3	41.9	–
Damages paid	19958	29997	39378	35555	38775	39962	200.2
Life damages paid	10420	19425	26942	21977	25576	25917	248.7
Non-life damages paid	9538	10572	12436	13578	13199	14045	147.3
Damages paid to gross premium written ratio, %	45.6	50.6	76.7	65.6	67.9	63.8	–

Source: Author's calculations based on Polish Financial Supervision Authority data dedicated to Polish insurance market from 2007 to 2012.

Life insurance premiums prevail in portfolios. Apart from social interest, their dynamic development has been fuelled by the legal structure of life insurance, which is very capacious in Polish legal environment and covers contracts with diverse characteristics and economic functions. In the recent years investment or saving products have played a particularly vital role. They are offered mainly by insurance companies, in cooperation with other financial market sectors' entities.

Economic essence of these contracts is similar to typical capital market (e.g. investment funds' share units) or banking sector instruments (deposits). Protective function is limited here, and in consequence, exposure of insurance companies to insurance risk does not play any significant role. At the same time, the structure of these products results in the fact that deposit (investment) risk related to assets acquired by an insurance company, as well as the selection of assets, falls mainly on the insurer. It also triggers very high indicators of life insurance premiums paid, since protective function is minimized in such products.

The amount of damages paid visibly grew during the crisis. On the one hand, it is a consequence of clients' withdrawal from life insurance with investment functions, but on the other hand, it is the result of the growing burden imposed on insurance companies caused by insolvencies and related commitments arising for insurers. However, since 2010 this indicator has gradually declined, which certainly attests the growth in insurance protection among clients and active sales operations performed by insurers.

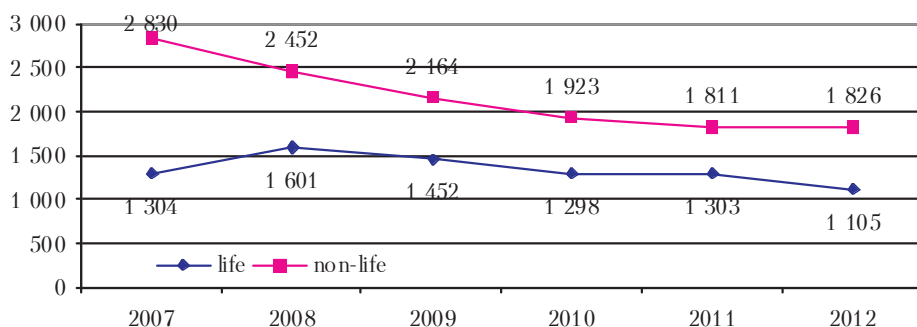
3.3. Herfindahl-Hirschman Index. Herfindahl-Hirschman Index (*HHI*) of market concentration defines the estimated level of density in a given sector as well as the level of competition at a given market. The index is presented as below:

$$HHI = \sum_{i=1}^n x_i^2, \quad (1)$$

where n is the number of all firms in an industry and x_i is the share of i -th firm in the total industry sales. The resulting index is assigned to one of the ranges:

- high industry concentration if *HHI* is more than 1,800;
- medium industry concentration if *HHI* is between 1,000 to 1,800;
- low industry concentration if *HHI* is less than 1,000.

The *HHI* at Polish insurance market from 2004 to 2011 is presented on Figure 2.



Source: Author's calculations based on the report by Polish Financial Supervision Authority dedicated to Polish insurance market from 2007 to 2012.

Figure 2. *HHI* in Polish insurance market, 2007–2012

In 2007–2012 HHI in Poland was on gradual decline, both for life and property insurance. Certainly, it was a consequence of changes at the market caused by growing competition and looking for new ways of reaching clients, especially by small insurance companies, as well as looking for less developed market areas. It manifested itself in the quest for market niches and sharpening competition between insurers. Undoubtedly, it brings about premiums for clients who receive a more attractive product when it comes to quality and price, meeting their requirements to a greater extent.

3.4. Profitability indicators. Profitability indicators provide information on the profitability of insurance companies operating at the market and allow the inspection of management efficiency. With regard to the overall profitability indicators of Polish insurance market (Table 6) – we need to emphasize that the decline in their value, caused by the financial crisis, was evident in the analysed period.

Table 6. Profitability indicators, 2007–2012

Indicator, %	2007	2008	2009	2010	2011	2012
Sales profitability	12.11	9.75	12.91	12.46	10.72	10.58
Equity profitability	17.95	16.89	20.45	19.79	19.83	19.57
Property profitability	4.50	4.37	4.79	4.20	4.21	4.21

Source: Polish Financial Supervision Authority data from 2007 to 2012.

However, we need to make it clear that this decline was not substantial. It was the largest in the first phase of crisis, in 2008. A relatively steady level of profitability indicators is certainly a consequence of high capitalization of insurance companies operating at the market and rapid implementation of saving programmes, which allowed combating negative effects of the crisis.

3.5. Financial security of insurance companies operating at the market. The amount of security fund at insurance companies disposal determines the insurance security economic guarantee and is influenced by:

- equity;
- appropriate insurance technical reserves policy;
- appropriate fund investing policy;
- relevant active and passive reinsurance contracts.

Financial security of insurance companies is therefore a key element in fulfilling the concluded contracts and a gradual development of an insurance company. What is important in this regard is the level of insurance technical reserves created by insurers, which are obligatory and aimed at "covering current and future commitments resulting from concluded insurance agreements" (Insurance Activity Act, 2003). Their key objective is to provide the validity of insurance protection guarantee offered to insurers and provide solvency of insurance companies, Table 7.

Table 7. Financial security of insurance companies in 2007–2012

Indicator (mln PLN)	2007	2008	2009	2010	2011	2012	D _{2012/2007} , %
Insurance technical reserves	86954	97945	100162	109800	109324	120814	122.9
Life insurance reserves	65725	71004	71240	77198	73020	80784	165.2
Life reserves coverage ratio, %	108.8	108.6	108.9	109.1	107.9	111.2	–
Non-life insurance reserves	24229	26941	28922	32602	36304	40030	134.3
Non-life reserves coverage ratio, %	153.9	154.8	116.7	124.5	123.9	126.9	–

Source: Author's calculations based on the report by Polish Financial Supervision Authority dedicated to Polish insurance market from 2007 to 2012.

In 2007–2012 the level of insurance technical reserves gradually grew in the property insurance sector. Life insurance sector, however, experienced a considerable decline in 2011, caused by the second wave of financial crisis. In the following year, insurers re-established their positions. It certainly attests the growth of insurance sector capitalization, followed by the growth of operating insurance companies' security. Therefore, we can argue that insurance technical reserves created in 2007–2012 guaranteed the actuality of insurance protection.

Summary. Polish insurance market has only slightly suffered from the global financial crisis. Owing to a significant capitalization level and steady financial security indicators, operating insurance companies have proved effective in their battle against the decline in profitability of operations. However, this does not mean they should not undertake actions aimed at optimizing their operations, particularly in the context of continuing recession. We know that financial security of an insurance company is one of the key aspects in its functioning, whereas appropriate management of funds and the risk related to its operation is the principal task. Looking at the entire insurance sector at this angle, it should be emphasized that its efficiency will have a certain impact on state economy, stimulating its future development.

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