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BUSINESS CYCLES IN THE MOTOR INSURANCE IN POLAND

Summary: The aim of this paper is to analyze the changes in the motor insurance market in Poland through the analysis of business cycles that have occurred in this area and the comparison of changes in EU countries. Such studies give an opportunity to explore the current insurance market trends and predict future behavior and have also practical significance as they provide the possibility of preparing for cyclical changes. In Poland, the indicator of cyclical fluctuations in the insurance area is the synthetic indicator PIKU (Poznański Indeks Konjunktury Ubezpieczeniowej, in English: Poznań Insurance Business Index). Other measures which are worth examining are claims ratio and combined ratio – they will be also analyzed and compared with similar ratios in EU countries.

Keywords: motor insurance, business cycles, PIKU, claims ratio.

1. Underwriting cycles – mechanism and main reasons

Underwriting cycle is characteristic for non-life insurance market, it involves alternating phases of the occurrence of the high and low price of insurance (the so-called “hard market phase” and “soft market phase”) and claims ratios and the rates of return on insurance activity. In the “soft” period in the cycle, premiums are low, capital base is high, and the competition on the insurance market is high. Due to continuing competition (and other reasons described later), premiums continue to fall (as naive insurers offer cover at unrealistic rates) and insurance companies are forced to compete or risk losing business in the long term. The next stage of the cycle is caused by a catastrophe or similar significant loss (or when claim ratios are at very high level). After major claims, insurance companies stay with less capital, sometimes after extreme events less stable companies are driven out of the market, which decreases competition. As a result of this situation, premiums rise rapidly, the market hardens, and also underwriting procedures are more strict (the “hard” period in the cycle). After some time, the lack of competition and high rates looks suddenly very profitable, and more companies join the market, that is why business begin to lower rates to compete and underwriting cycle begins again.

There are many factors that can influence that cycles, among the most important there are [Meier 2003]:

1. Disequilibrium between supply and demand, which results from competition-driven prices and capacity constraints – insurers engage into price competition to gain market share, it make prices low and some time later the level of capital is too low to cover capital requirements and, because of the lack of additional capital sources or high costs of raising new capital, prices have to grow.

2. External shocks such as interest rates (in most of the models premiums are the outcome of discounted future losses, so unexpected changes in the interest rates would cause changes in premiums and cause underwriting cycle); regulatory and accounting lags such as data collection lags, regulatory lags, and accounting rules (sudden important changes can be a reason for additional costs, higher solvency requirements or cause a need of rising reserves); and catastrophic losses – this is one of the most important reasons for underwriting cycle. A shock to capital (unexpected claim payments on existing policies) would reduce insurers' capital. If capital cannot be raised or cost of capital is high, insurers have to increase the probability of insolvency, reduce the amount of coverage at a given price, or rise the prices.

3. General business influence such as general business cycle – insurance business is linked to the general economic situation and business practices. Greater risk management practices would be expected to reduce the effects of shocks and the shifts in demand and supply that may cause variability in the underwriting results. The possible evolution of the regulatory environment at national or international (global) level has also an impact on business, capital requirements, and pricing policies.

2. Measures of insurance business activity

There are many measures of insurance market situation, some of them are based on quantitative methods, other no qualitative methods (some of them are mixed). One of the oldest is PIKU (Poznański Indeks Koniunktury Ubezpieczeniowej, in English: Poznań Insurance Business Index) constructed by the Department of Marketing Research at the University of Economics in Poznań. Research is done quarterly since the second quarter of 1993. PIKU gives the synthetic assessment of the economic situation in the sector of insurance.

Studies of the insurance market tendency have been also done by Pentor Research International since 1999. The tests are implemented quarterly using the method of telephone interview [PIU/Pentor 1999]. Since 2003 Central Statistical Office (GUS) has also done surveys among the companies providing services to financial intermediation (section J of the Polish Classification of Activities) [Zagoździńska 2006].

2.1. PIKU index

The method of calculation of PIKU index is based questionnaire conducted quarterly by post among the general managers representing individuals tested [Mocek 2009].

It includes specific questions to which respondents provide five options for answers (strong decrease, small decrease, no change, slight growth, strong growth or the significant worsening, slight worsening, unchanged, slight improvement, a significant improvement). Then the system of weights based on the size of the market share and the size of capital an insurance company is introduced. Further, simple indicators are calculated on various economic categories and the types of insurance services, according to the following formula:

$$SK = \frac{-100 \sum_{i=1}^k w_{i1} - 50 \sum_{i=1}^k w_{i2} + 0 \sum_{i=1}^k w_{i3} + 50 \sum_{i=1}^k w_{i4} + 100 \sum_{i=1}^k w_{i5}}{\sum_{i=1}^k \sum_{j=1}^5 w_{ij}}$$

where: w_{i1} – weighted responses indicating “strong decrease”/“major worsening”;
 w_{i2} – weighted responses indicating “slight decrease”/“minor worsening”;
 w_{i3} – weighted responses indicating “no change”;
 w_{i4} – weighted responses indicating “slight increase”/“slight improvement”;
 w_{i5} – weighted responses indicating “strong growth”/“much improved”.

And finally PIKU is a weighted average of the set of selected balances of individual economic situation (diagnostic and prognostic) and has a value between –100 (strong deterioration, decline) to +100 (strong improvement, growth). PIKU is calculated using the following formula:

$$PIKU = \frac{UOWUO + UOWS - UOWO - UOLR + UOSF + UPKLN + UPLUO + UPWS - UPSZ + UPSF}{10}$$

where: $UOWUO$ – balance of the assessment of the volume of services in quarter t ;
 $UOWS$ – balance of the assessment of the volume of written premiums in quarter t ;
 $UOWO$ – balance of the assessment of the volume of compensations paid in quarter t ;
 $UOLR$ – balance of the assessment of the number of customers giving up their insurance contracts in quarter t ;
 $UOSF$ – balance of the assessment of the overall financial position of insurance companies in quarter t ;
 $UPKLN$ – the balance of the forecast of the number of new customers in quarter $t+1$;
 $UPLUO$ – the balance of the forecast of the number of insurance set in quarter $t+1$;
 $UPWS$ – the balance of the forecast of the volume of written premiums in quarter $t+1$;

- UPSZ* – the balance of the forecast of the claims ratio in quarter $t+1$;
UPSF – the balance of the forecast of the overall financial position of insurance companies in quarter $t+1$.

It is determined for the entire insurance market as well as separately for the insurance of life and property insurance for groups classified by size (large, medium, and small), and for the criterion set by the five chosen regions.

2.2. Other measures

Other measures that can be used to analyse underwriting cycle are financial ratios such as: claims ratio (compensations paid, plus a change in the level of technical provisions divided by premiums), combined ratio (claims ratio with technical costs), return on sales, return on equity, cost ratios (for example administrative and acquisition costs), the dynamics of gross written premiums, the number of policies, claims, and many others. In analysing general insurers activity, all of them can be taken into consideration, while in analysing only the separated group of insurance, not all of the ratios are possible to calculate because of the lack of data (not all of the data are published).

3. Situation on the Polish market

Values of PIKU index since 1999 till 2008 are presented in Figure 1 (line for total value, dark grey bars for big insurers, light grey for small companies).

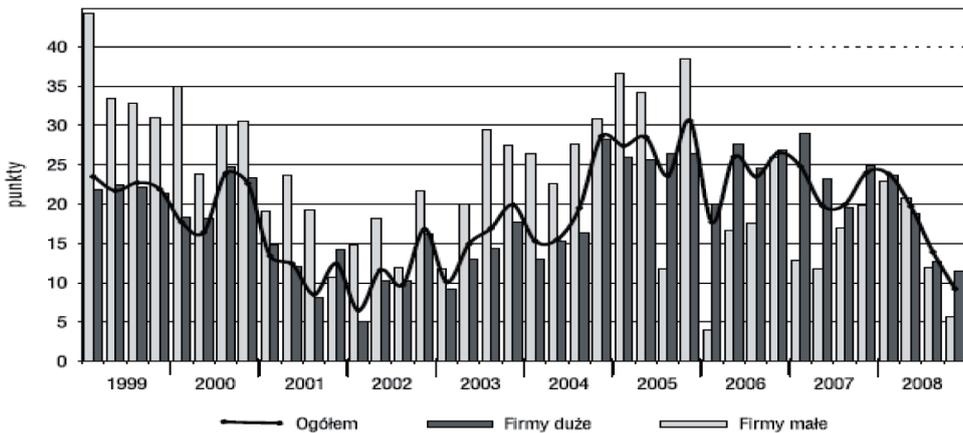


Fig. 1. Values of PIKU index from 1999 to 2008

Source: [Mocek 2009].

According to PIKU data, it can be said that the underwriting cycle takes place on the Polish insurance market and that this cycle is quite long – around 8-10 years. In 2001 and 2002 pure values of PIKU index can be compared with pure values of GDP dynamics in that period (around 1% comparing to for example 2006 with 6%). It is worth comparing these results with other measures, for example claims ratios, ROS, and costs ratios (see Figure 2).

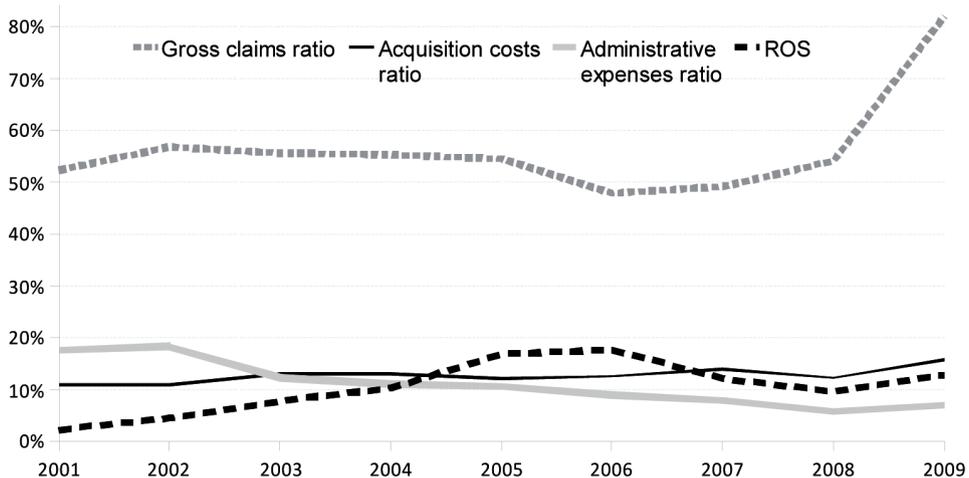


Fig. 2. Claims ratios, acquisition and administrative costs ratio, and ROS for the Polish insurance market in 2001-2009

Source: authors' own study based on the data from Polish Supervisory Authority.

Trends in claims ratios for the whole market suggest that the reaction of the financial results is delayed around 1 year comparing to PIKU index, but ROS ratio has a very similar course. The analyses done for the whole market are difficult to interpret, as there are many factors that can have influence on the financial results in this area – it is worth analysing the motor insurance market separately.

4. Situation on the motor insurance market in Poland

As for motor insurance in Poland, the amount of both premiums and compensations paid were growing steadily in 1999-2009; the rate of this increase grew in 2005-2006 mostly in MTPL insurance. The growth in premiums written from the MTPL is comparable to the increase in the number of registered vehicles (in 2002 it was 15 500 000 and in 2008, over 21 300 000), because it is a compulsory insurance. The increase in the size of compensation payments associated with the increased awareness of victims in relation to their rightful compensation. This involves the development of companies offering legal assistance in obtaining compensation and benefits for people injured in traffic accidents.

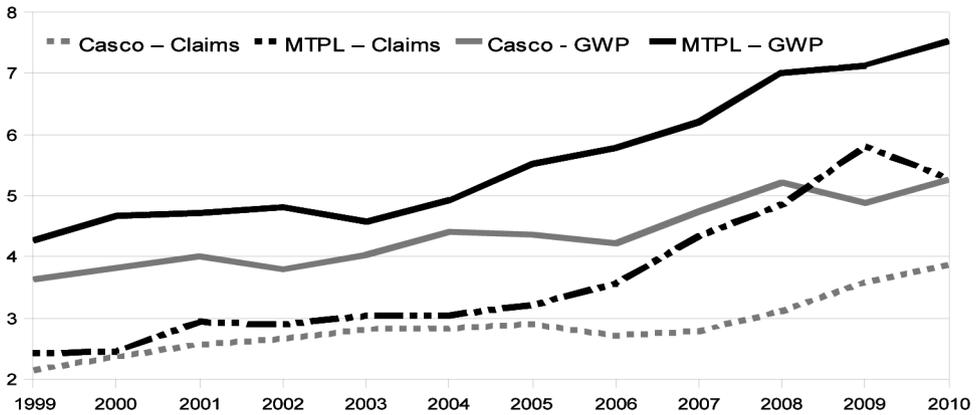


Fig. 3. Gross written premium (GWP) and claims incurred (million PLN) from MTPL and casco insurance in Poland in 1999-2010

Source: authors' own study according to Polish Supervisory Authority, data available at www.knf.gov.pl.

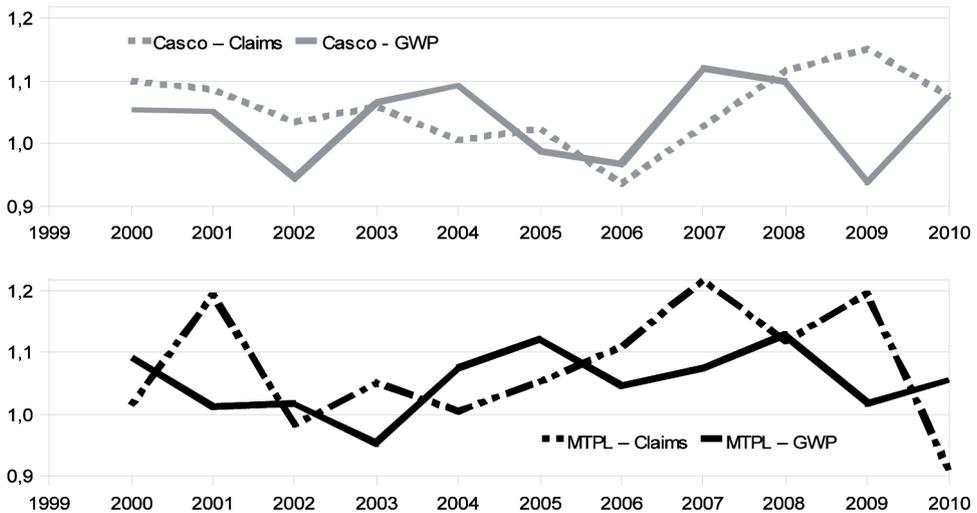


Fig. 4. The dynamics of gross written premiums and claims incurred from MTPL and auto casco insurance in Poland in 1999-2010

Source: authors' own study, according to Polish Supervisory Authority data.

It is also worth glancing at the dynamics of premiums and claims in MTPL and casco insurance. In Figure 4, the dynamics of gross written premiums and claims

incurred are shown. It is very difficult to find any cycle in these data. Perhaps the main reasons for the changes in the insurance market in Poland are not recurring but new phenomena, which just begin the cycle. Moreover, it is assumed that the insurance market has been developing in Poland since 2003 – since the introduction of new laws and regulations that govern it.

It is also important to analyse the technical and financial results of the insurers and claims ratio, ROS, and the ratios of the level of acquisition costs and administrative costs. Claims ratios in Poland were constantly decreasing until 2008 in MTPL and casco insurance – similar trend can be observed in EU countries.

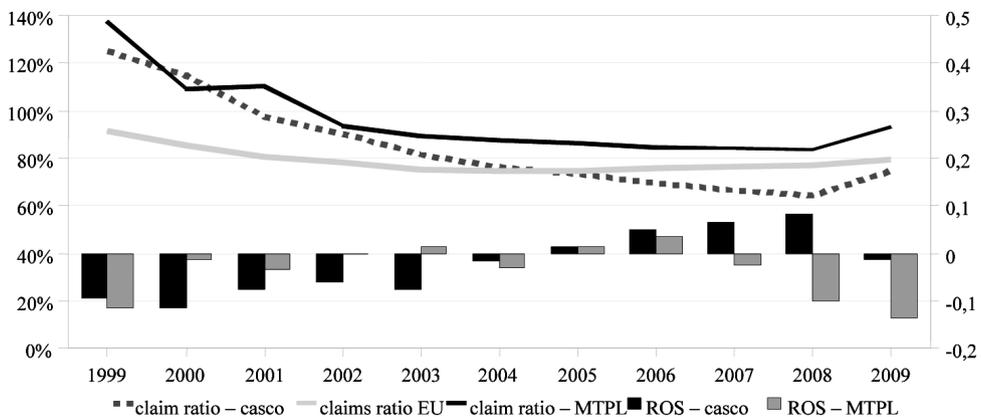


Fig. 5. Claim ratio (left axis) and ROS ratio (right axis) for MPTL and casco insurance in Poland and claims ratio in motor insurance in the EU in 1999-2009

Source: authors' own study based on CEA data Polish Supervisory Authority, www.knf.gov.pl.

Generally claims ratios are high in motor insurance, around 80%. In Poland since 2004 claims ratios have been at the level similar to EU countries. On the other hand, it is also important to analyse the technical results of this activity. In motor insurance in Poland, the results are very poor – there were only 3-4 years with positive ROS ratios. In casco insurance, tendencies from 2004 to 2008 were positive, only in 2009 with negative values (it is a result of a sudden drop in the prices of spare parts and man-hours). In MTPL insurance, a negative trend has started in 2006. It can have two main reasons: significant changes in legal regulations and the level and trends in administrative and acquisition costs.

Regulations may affect the whole insurance market (for example, the Act of 2003, which adjusted the Polish insurance law to EU requirements), but also the selected area of insurance. An example of rules which have a strong impact on the motor insurance in Poland was introduced in August 2007 (and valid until the end of

2008) so-called “Religa’s tax”¹. It was a legal regulation, which required insurance companies to transmit 12% of the liability insurance premium for the National Health Fund. This was to be involved in treating victims of traffic accidents. This resulted in insurance premium in 2008 compared to 2007 at more than 6% and poorer insurer’s results. Another important change was the amendment to the Civil Code in 2008, which introduced the right of claiming compensation for pain and suffering by the deceased victim’s relatives. The amounts of this part of compensations are increasingly higher. It should be emphasized that such changes do not only intervene in the activities of insurers, but also violate their business cycles.

Another important factor is strong competition among the market intermediaries who sell policies at a cost that is as low as in the case of policies sold through the network of banks – bancassurance. Because of strong competition, insurers spend more funds on acquisition and, at the same time, due to IT systems development and using direct distribution channels, administrative cost has been reduced (premium income from direct channel was equal to 350 million PLN in 2007, while in 2006 to 185 mln PLN; it is estimated that in over four years, direct channel should generate approximately 10-15% of premiums written; see Figure 6).

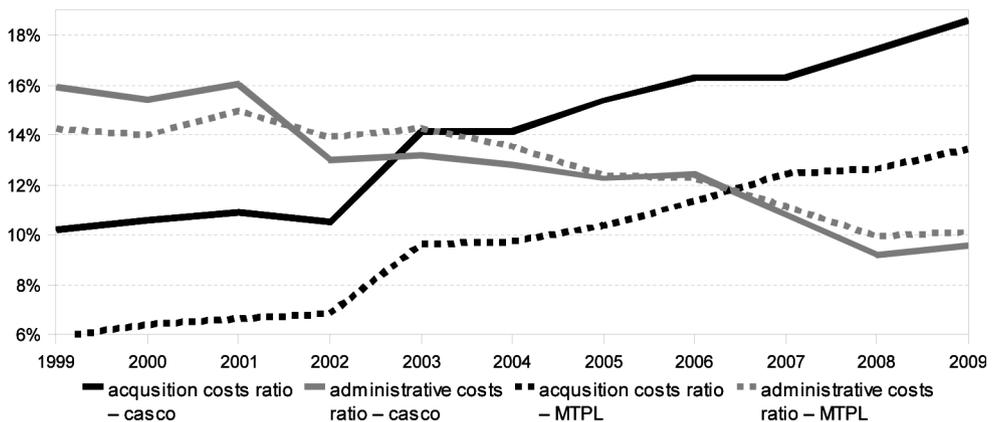


Fig. 6. Acquisition and administrative costs ratio in motor insurance in Poland in 1999-2009

Source: authors’ own study, according to Polish Supervisory Authority, data available at www.knf.gov.pl.

¹ Prof. Zbigniew Religa, a prominent cardiologist, was the Minister of Health in Poland at that time.

5. Summary

From the presented data, it does not appear directly that motor insurance in Poland was subject to business cycles. The reasons for this can be ascribed to the following facts:

- the Polish insurance market is still young;
- Polish accession to the EU and the introduction of EU regulations in the area of insurance could affect the natural cycles of the Polish insurance market;
- the area of motor insurance in Poland is still dominated by four leading insurance companies, in 2009 six insurers (out of 23 operating in the area) gathered 82% of the total premium in that year for motor insurance, (PZU SA – the largest insurance company, 46% of total premium);
- changes associated with the prolonged period of liability from the MTPL insurance to 20 years also had an impact, especially on the profitability of these insurance.

It should also be noted that in the area of insurance, including motor insurance, we can expect business cycles in the long term – more than 10-year cycles.

For the study of cyclical phenomena on the insurance market, PIKU index is a valuable tool for monitoring the current situation. However, in the research on the area of motor insurance, there is a need for modifying this general tool with respect to the elements associated with claims ratios in order to apply it also to the area of motor insurance in Poland – in particular, MTPL and motor vehicle owner's auto insurance casco.

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CYKLE KONIUNKTURALNE NA POLSKIM RYNKU UBEZPIECZEŃ KOMUNIKACYJNYCH

Streszczenie: Celem referatu jest próba prześledzenia zmian na rynku ubezpieczeń komunikacyjnych w Polsce poprzez analizę cykli koniunkturalnych oraz porównanie sytuacji w krajach UE. Analiza wahań koniunktury ma istotne znaczenie poznawcze, gdyż daje możliwość zbadania właściwości obecnych tendencji na rynku ubezpieczeń i prognozowania zachowań przyszłych. Badania mają też znaczenie praktyczne, gdyż dają możliwość zakładom ubezpieczeń przygotowania się do zmian koniunkturalnych. W Polsce jednym z mierników wahań koniunkturalnych w obszarze ubezpieczeń jest PIKU (Poznański Indeks Koniunktury Ubezpieczeniowej). Innymi miernikami wartymi analizy są wskaźniki szkodowości, wskaźnik łączony, ROS, wskaźniki poziomu kosztów. Wskaźniki te również poddane zostały analizie.