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Marta BORDA[1]

LONG-TERM POST-COVID-19-PANDEMIC EFFECTS FACED BY LIFE INSURERS IN POLAND IN THE CONTEXT OF EUROPEAN TRENDS

The COVID-19 pandemic has initiated or accelerated significant changes in the insurance sector, including remote customer service, along with changes to risk management processes and the insurance offer. In the post-pandemic environment, these may increase development opportunities and improve the market competitiveness of insurers. The aim of this paper is to identify and discuss the implications of the COVID-19 pandemic for life insurers operating in Poland. To examine the direct responses of life insurance markets to the COVID-19 pandemic, an analysis is conducted of the life insurance sector in Poland and the whole of Europe, based on the most up-to-date data available. Next, the implications of the pandemic for life insurers' technical operations and financial sustainability are examined. The article also discusses the main challenges to the further development of life insurance businesses in the context of long-term post-pandemic effects.

Keywords: life insurance, COVID-19 pandemic effects, Poland, mortality risk, Europe.

1. INTRODUCTION

There is no doubt that the COVID-19 pandemic has caused many changes in the economy, including the insurance sector, bringing various challenges for individual insurance market participants. In the initial period, severe disruption to the activity of many insurers was noted, but in the long run, the situation provided a great opportunity for dynamic development in many aspects of the insurance business.

In life insurance, due to the specific features of the products, a slightly different approach for analysis of changes resulting from the pandemic and their impact on the business activity and financial operations of life insurance companies is needed compared to non-life insurers. First of all, the risk of death and/or reaching a certain age is the main risk covered under the contract. Second, most life insurance products are of a long-term nature and enable the accumulation of savings that can be used in the future (Borda, Chmielowiec-Lewczuk, Kwiecień, 2020). The above-mentioned characteristics of life insurance require a specific approach to risk assessment and the financial operations conducted by life insurance companies.

[1] Marta Borda, Wroclaw University of Economics and Business, Poland; e-mail: marta.borda@ue.wroc.pl. ORCID: 0000-0001-7539-8648.

The COVID-19 pandemic has affected the life insurance sector directly by causing a significant number of premature deaths, which has increased the mortality risk for many life insurance products. Moreover, life insurers as financial institutions and long-term investors on the capital markets have faced new challenges related to the macroeconomic situation, in particular high inflation, as well as the instability of financial markets and new regulations.

The purpose of the paper is to identify and discuss the main challenges faced by life insurance companies in Poland in the post-pandemic environment. In order to present the direct response of life insurance markets to the COVID-19 pandemic, analysis is conducted of the life insurance sector in Europe and Poland, based on the most up-to-date data available. In addition, the implications of the COVID-19 pandemic are examined in terms of life insurers' technical activity and financial operations, as well as their solvency requirements. The paper also presents the main challenges in the further development of life insurance companies in the context of long-term post-pandemic effects.

2. ANALYSIS OF THE EUROPEAN LIFE INSURANCE SECTOR IN THE CONTEXT OF THE COVID-19 PANDEMIC EFFECTS

The first wave of the COVID-19 pandemic had a tangible impact on the performance of the European life insurance sector. The main characteristics of the life insurance markets in European countries are presented below, based on the most up-to-date and verified data.

According to Insurance Europe data, in 2020 the European life market recorded the largest drop in the last decade in the basic indicators characterizing the market size and its level of development. In the year 2020, the total gross written premium amounted to EUR 640 billion, and after three years of increases it fell by as much as 9.4% compared to the previous year. Life benefits paid decreased by as much as 11.5% compared to 2019 and reached EUR 508 billion, which represents the lowest value in the period 2011–2020. Moreover, the density ratio expressing the average insurance premium per inhabitant decreased by 9.9% and the penetration ratio (gross written premiums as a percentage of GDP) declined by 0.24 p.p. respectively (Insurance Europe, 2021).

Table 1 shows the initial response of life insurance markets to the COVID–19 pandemic in individual European countries, taking into account the values related to premiums and benefits.

In Figure 1 the COVID-19 cumulated cases and deaths reported in European countries as of 27 December 2020 are presented.

Regarding the dynamics of written premiums and benefits paid, in general it can be expected that the increase in mortality associated with the pandemic has been translated into an increase in the total value of benefits paid, which consequently can lead to an increase in premiums in the next years. Additionally, an indirect, short-term effect of the pandemic may also be a decrease in the value of premiums, caused, for example, by the difficult financial situation of households and enterprises. At the end of 2020, the European region continued to account for the second highest number of new COVID-19 cases and deaths globally (37% and 42% respectively) (WHO, 2020). As Figure 1 presents, the cumulated number of COVID-19 deaths per 1 million population reported by the WHO as of 27 December 2020 was the highest in the case of: Belgium, Slovenia and Italy, followed by Bulgaria, Czechia, Spain and the UK, which did not always directly translate into an increase in benefits paid by life insurers. It should be mentioned that the total value of life insurance benefits paid in a given country is determined not only by the level of mortality but also other factors, such as: the percentage of population covered by life insurance, dominant types of life insurance contracts, the range of insurance coverage including premature death caused by COVID-19, etc.

Table 1. Selected characteristics of life insurance markets in European countries in 2019–2020

Country	Change in written premiums (2020/2019, in %)	Change in annual benefits paid (2020/2019, in %)	Density ratio (in EUR)		Penetration ratio (in %)
			2019	2020	2019
Austria	-1.4	8.2	618	607	1.37
Belgium	-6.7	7.6	1409	1307	3.41
Bulgaria	-3.5	22.1	26	25	0.30
Croatia	-13.6	18.2	101	88	0.77
Cyprus	7.3	7.3	432	462	1.74
Czechia	-5.4	-15.1	176	166	0.85
Denmark	7.6	9.1	4151	4454	7.75
Estonia	-11.2	3.2	72	64	0.34
Finland	-17.3	-12.7	3979	3286	9.14
France	-20.0	-12.5	2073	1650	5.74
Germany	0.0	-3.4	1243	1241	3.00
Greece	-5.2	-7.3	205	195	1.17
Hungary	4.0	-6.7	147	153	1.00
Italy	-6.1	-1.4	2100	1996	7.09
Luxemburg	-17.7	20.7	43769	35320	42.30
Latvia	8.4	9.0	67	73	0.42
Malta	-4.6	19.5	766	701	2.85
Netherlands	-1.4	-1.9	716	701	1.52
Norway	-4.8	5.8	1913	1808	2.83
Poland	-2.5	-6.2	126	123	0.91
Portugal	-34.8	25.5	681	443	3.29
Romania	1.1	2.3	29	29	0.25
Slovenia	-0.5	0.6	336	332	1.46
Slovakia	-9.5	-19.6	170	153	0.98
Spain	-20.5	0.6	584	460	2.20
Switzerland	-17.8	-44.3	3274	2673	4.45
Sweden	15.1	9.7	2436	2776	5.26
United Kingdom	-11.7	-16.4	2260	1984	5.97

Source: Author´s work based on Insurance Europe (2021).

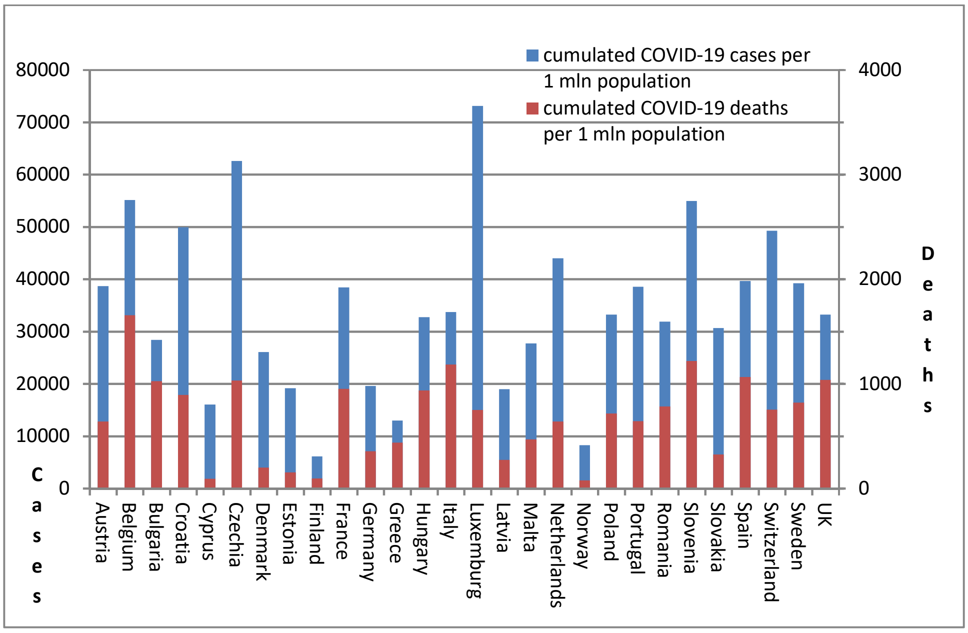

Figure 1. COVID-19 cumulated cases and deaths reported in European countries as of 27 December 2020

Source: WHO (2020).

As Table 1 shows, in 2020, for a number of the countries analyzed (Austria, Belgium, Bulgaria, Croatia, Estonia, Norway, Portugal) the observed decrease in the amount of premiums was accompanied by an increase in the value of benefits paid. However, 10 out of the 28 countries examined recorded a decline in life insurance benefits with a simultaneous decline in premiums compared to the previous year. This was the most pronounced in: Switzerland, France, Finland, the UK and Slovakia. Moreover, there were also countries where in the first year of the pandemic there was a noticeable increase in premiums with a simultaneous increase in the value of benefits paid (Cyprus, Denmark, Latvia, Sweden). It should be highlighted that the amount of premiums collected by life insurers in 2020 was influenced by various factors, such as insurance awareness in the face of the pandemic (recorded cases and deaths), the changeable financial possibilities of households and employers, types of life insurance contracts offered on the market (individual or group, traditional or unit-linked), improvements in customer service, distribution channels (traditional versus remote) and others.

In 2019–2020, most European countries were characterized by a decreasing density ratio, which was especially noted in the case of Portugal, Spain and France. Moreover, in most of the countries analyzed there was a relatively small decrease in the share of life insurance premiums in GDP, although the decrease was more dynamic in the case of Luxemburg, Finland, Portugal and Switzerland. Regardless of the effects of the pandemic, it is important to mention that one can still observe a great differentiation in the level of development of the life insurance sectors among examined countries (especially between CEE states and Western European states), measured by density and penetration ratios.

According to preliminary data collected by Insurance Europe, in 2021 in many European countries, life insurance premiums were able to return to their “normal” levels noted before the COVID-19 pandemic, with unit-linked contracts leading the growth. The main reason was that some of the household savings accrued during the pandemic were invested in life insurance products. In the case of united-linked life insurance products, contrary to traditional life insurance, the investment component of the contract is separated from the protection one, giving more transparency and flexibility to the policyholders, however with the investment risk usually taken by them. The performance of financial markets generated good returns on investments and made unit-linked life insurance more attractive for customers. However, the recovery in life premiums was not observed in all Europeans states. High inflation and changeable energy prices, especially towards the end of 2021, may have affected household savings and reduced demand for life insurance products in some markets (e.g. Germany and Austria) (Insurance Europe, 2022).

In 2021, the amount of benefits paid by life insurers varied across European countries due to the possible effects of the pandemic on life insurance payments. Excess mortality related to COVID-19 created a higher level of mortality claims, but possibly a lower level of life annuity pay-outs. Moreover, in some countries, people decided to surrender their private pension plans before maturity because they needed extra money due to the economic effects of the pandemic (Insurance Europe, 2022).

3. POLISH LIFE INSURANCE MARKET IN RESPONSE TO THE COVID-19 PANDEMIC

In Poland, during the first wave of the COVID-19 pandemic, a decline was observed in both premiums collected by life insurers as well as the total amount of life benefits paid. In 2020, total life insurance premium reached PLN 20.8 billion (the lowest value in the last decade) and recorded a 2.5% decrease compared to 2019. As presented in Table 2, this situation resulted mainly from a 14% fall in investment life insurance premiums (group 3), with a simultaneous increase in additional health insurance premiums belonging to group 5 (by 5% compared to 2019) and a small increase in traditional life insurance products from group 1 (by 1.5% compared to 2019). This decline in written premium could be related to limitations in the sale of life insurance products with the use of traditional distribution channels (insurance agents, direct sale), as well as difficulties in collecting premiums in group contracts as an effect of liquidity problems experienced by enterprises (Borowski, Costa, Radwan, Sokoliński, 2020).

In 2020, a significant decrease in the claims ratio in the life sector was also noticeable, especially in the case of group life contracts and health insurance. Total benefits paid by life insurers fell by 6.2% compared to the previous year. As presented in Table 3, taking into account the types of life insurance products, despite a large increase in benefits paid out from traditional life insurance (an increase by 10.35%), the value of benefits from unit-linked insurance and additional health insurance decreased (cf. Polish Chamber of Insurance, 2020; Ronka-Chmielowiec, 2022). It seems that this could partly be the result of limitations in the number of medical procedures performed and the reduction in the number of various accidents as a result of the lockdown (Deloitte, 2022).

In 2021, the situation in the Polish life insurance market changed and both the benefits paid and gross written premium increased. This was mainly related to increased customer interest in protection life insurance products and the increased mortality in the population due to the pandemic. Total life insurance premiums amounted to PLN 22.1 billion, of which as much as PLN 9.1 billion was related to traditional life insurance, including protection insurance (an increase by 14.39% in comparison to 2020). The pandemic increased the fear among Poles about the lack of access to medical care and the risk of serious illness or death of family members, which was translated into an increase in sales not only of protection life insurance, but also additional accident and sickness insurance, for which the premium amounted to PLN 7.1 billion (6.98% higher than in 2020).

Table 2. Selected indicators related to gross written premium according to risk classes in life insurance sector in Poland in 2019–2021

Classes	Share in total gross written premium in life sector (in %)			Dynamics 2020/2019 (in %)
	2019	2020	2021	
Class I. Life insurance	36.88	38.34	40.99	101.47
Class II. Marriage assurance, birth assurance	0.52	0.53	0.45	100.0
Class III. Life insurance, if linked to investment fund	32.20	28.37	25.68	85.98
Class IV. Annuity insurance	0.68	0.77	0.90	109.66
Class V. Accident and sickness insurance, if supplemental to the insurance referred to in classes I-IV	29.73	31.99	31.98	105.02

Source: Author´s calculations based on data from Polish Chamber of Insurance (2021, 2022).

Table 3. Selected indicators related to benefits paid according to risk classes in life insurance sector in Poland in 2019–2021

Classes	Share in total benefits paid in life sector (in %)			Dynamics 2020/2019 (in %)
	2019	2020	2021	
Class I. Life insurance	31.24	36.73	40.76	110.35
Class II. Marriage assurance, birth assurance	0.65	0.69	0.54	99.17
Class III. Life insurance, if linked to investment fund	53.30	47.90	43.48	84.34
Class IV. Annuity insurance	0.45	0.54	0.54	111.90
Class V. Accident and sickness insurance, if supplemental to the insurance referred to in classes I-IV	14.36	14.15	14.67	92.46

Source: Author´s calculations based on data from Polish Chamber of Insurance (2021, 2022).

It is worth mentioning that in response to COVID-19, insurers offering group life products have introduced new technological solutions, e.g. websites that allow employees to sign up for insurance, simplified administration of contracts by employers, and adaptation of procedures to remote working. In addition, insurers have waived the pandemic liability exclusion. This was the case for the few insurers that used this exclusion in their contractual provisions (Jaźnicki, 2021).

The increase in mortality as a result of the COVID-19 pandemic was undoubtedly the most important factor determining the increase in benefits paid by life insurers in 2021. Compared to 2020, total amount of life benefits grew by 5.65%, with the largest increase observed in the case of traditional life insurance (an increase by 17.24%), followed by additional health riders (9.58%) (Polish Chamber of Insurance, 2022). It is also important to mention that this increase in payments significantly worsened the performance results of life insurance companies. In 2021, the total profits achieved by life insurers reached the lowest level for the period 2009-2021. Technical results (profits) in the life sector amounted to PLN 2.1 billion compared to PLN 3.2 billion in 2019, and net financial result (profits) amounted to PLN 1.6 billion compared to PLN 2.6 billion in 2019 (Polish Chamber of Insurance, 2022).

In general, based on the data presented in Tables 2 and 3, the COVID-19 pandemic gave rise to increased interest in traditional life insurance contracts ensuring benefits in the event of the insured's death, as well as additional sickness and accident insurance riders that enable access to private health care services (see also Ronka-Chmielowiec, 2022). On the other hand, life insurance products linked to capital investment funds weakened their position both in terms of written premiums and benefits paid. More detailed studies on investment life insurance show that in the first period of the pandemic, due to a slump in the financial markets, the results of insurance capital funds worsened, but in the long term, the pandemic did not significantly affect the effectiveness of life insurance linked to capital investment funds (Ostrowska-Dankiewicz, 2022).

4. CHANGES IN THE LIFE INSURANCE BUSINESS IN POST-PANDEMIC TIMES

Taking into account the life insurers' perspective, the COVID-19 pandemic forced significant changes in their business, which should be continued in order to improve the risk management process, customer service, human resources management, and contributing to financial sustainability in the currently turbulent environment.

4.1. Changes in technical activity

First of all, the COVID-19 pandemic has increased the mortality risk. Mortality risk is the main risk which is insured under life insurance contracts and also affects the risk of an insurance company. The unexpected increase in mortality risk forced life insurers to implement changes in their technical activity, including risk identification and measurement, as well as the calculation of premiums and technical reserves. Life insurers must take into account the COVID-19 mortality risk based on an appropriate mortality model so as to better forecast the future financial stability of their operations (Zhang, Liao, Chen, 2021). It is worth underlining that the direct and indirect effects of the pandemic on mortality rates should be incorporated into such a model. The direct effects reflect simply the number of deaths caused by COVID-19, however there are also indirect adverse effects of the pandemic (e.g. limited access to healthcare services during the pandemic, social distancing, economic changes) that may increase mortality rates in the future (Clemente-Suárez et al., 2021; Hanna et al., 2020; Zhang et al., 2021). Consequently, life insurers should forecast future mortality rates taking into account the negative effects induced by the COVID-19 pandemic. In the international literature, there is an ongoing discussion on how temporarily stressed mortality rates change post-COVID-19 mortality rates and the mortality term structure and premium calculations (Carannante, D'Amato, Fersini, Forte, Melisi, 2022; Harris, Yelowitz, Courtemanche, 2021; Milesky, 2021; Spiegelhalter, 2020).

Depending on the types of life insurance products offered, various effects of the impact of the increase in mortality on the amount of premiums and the costs of benefit payments can be observed, which directly translates into the profitability of the conducted business. For example, in the case of term insurance contracts, the increased number of premature deaths has led to an increase in mortality risk liabilities and the total amount of benefits paid by the insurer, which has reduced the profitability of the insurance business. However, it should be added that the extent of this effect depends largely on the age profile of the policyholders and their place of living (Farrell, 2020). On the other hand, in the case of life insurers offering life annuities, pandemic-related deaths may reduce the expected level of longevity risk. In a study by Carannante et al. (2022), the authors examined the long-term impact of the COVID-19 pandemic on life insurance profitability using the example of a life annuity contract. They found that the pandemic affected the profitability of medium- and long-term annuity contracts in a positive way, however they conclude that much more attention should be paid to longevity risk, as it is a systematic risk that has a significant impact over the entire duration of a life annuity contract.

In the life insurance sector in Poland, annuity contracts are still not very popular and have a marginal market share measured by gross written premium, in contrast to term insurance and other life insurance contracts under which the risk of premature death is covered. Moreover, in Poland there are no current assumption whole life insurance (CAWL) products on the market, in which the volatility in mortality rates, investment results and expenses is taken by policyholders (Black, Skipper, 2000). Therefore, the main effects of the COVID-19 pandemic are related to changes in the mortality risk covered under traditional life insurance contracts. One should also add that in the medium- and long-term perspective, a separate challenge will be the calculations of premiums and technical provisions in such a dynamically changing environment. Existing solutions, which are often based on a retrospective approach and analyses of historical trends, may not be easily applicable in the current situation.

4.2. Changes in the financial operations

The increase in mortality risk, as an effect of the COVID-19 pandemic, has also had a significant impact on life insurance companies' risk profiles and the adequacy of their funds for covering the capital requirements under the Solvency II regime. As Karlsson (2020) indicates, the pandemic may represent a serious threat to the solvency stability of insurance companies. In a study by Puławska (2021), the results demonstrate that the pandemic has negatively affected the functioning of the European insurance sector, e.g. solvency ratios decreased in the Belgian, French and German insurance markets. According to the Solvency II system, in the life sector the life underwriting risk represents the most important component of the solvency capital requirement (SCR), calculated with the standard formula, followed by market risk. In a study by Jaśkiewicz (2020), the author found that for life insurers operating in Poland in 2016–2017, the life underwriting risk had the largest impact on the amount of SCR (representing 59–82% of SCR), with the second greatest being market risk, which constituted 44–57% of SCR. For both of these risks, the impact of the pandemic (increase in mortality rates, volatility on the financial markets and higher costs) may result in the need for insurers to maintain higher levels of their own funds in order to cover higher solvency capital requirements.

It seems that in long term, the impact of the COVID-19 pandemic on the investment activity of life insurance companies may be more considerable for their economic solvency than the above-mentioned impact of the increase in mortality rates. From the beginning of the pandemic, the life insurers as the institutional investors on the financial markets have been exposed to significant market risk related to higher volatility in equity markets and dynamic changes in interest rates (Campbell, 2020; Farrell, 2020). Such changes could have an adverse impact on life insurance liabilities and solvency ratios, as in the life insurance sector, significant assets are held to cover future liabilities to policyholders. However, it should be mentioned that the net effect of the market risk impact on a life insurance company's balance sheets will depend on the asset duration compared to the liability duration (Farrell, 2020). Currently, the combination of rising interest rates and high inflation seems to be a significant challenge for life insurance companies, especially with regards to adequate product valuation and investment activity.

In response to the financial implications of the pandemic, the European Insurance and Occupational Pensions Authority (EIOPA) has encouraged the use of flexibility within the Solvency II system. Consequently, in some European countries, insurance regulators have introduced a flexible approach to the valuation of insurance liabilities. For example, the Italian Institute for the Supervision of Insurance has introduced a change in the Solvency II framework with respect to the valuation of insurance liabilities by using a country-specific volatility adjustment (see in: Sugimoto, Windsor, 2020).

4.3. Other post-pandemic challenges

Among the other long-term post-pandemic challenges faced by life insurance companies operating in Poland are the following (see more in: Borowski et al., 2020; Klonowska, Strupczewski, 2021; Volosovych, Zelenitsa, Kondratenko, Szymla, Mamchur, 2021):

- Development of the product offer – including implementation of new products and changes to existing ones. The COVID-19 pandemic and the accompanying sense of threat has generated increased interest in traditional life insurance and additional health insurance products that guarantee quick access to health care services and cover for treatment costs. An important opportunity for the life insurance sector may also be the expansion of the product offer, including the introduction of product innovations. The best examples in this area seem to be telemedicine, especially in private health insurance, and simplification of the structure of existing products, as well as the creation of products addressed to new groups of customers, for example people suffering from chronic diseases, who until now have often been excluded from insurance cover.
- Further digital transformation of processes and improvement of remote customer service – including implementation of modern technologies such as artificial intelligence (AI), machine learning (ML), the Internet of Things (IoT), natural language processing (NLP) and computer vision, which should lead to automation and an acceleration and increase in efficiency of many processes in insurance companies. It is also expected to improve remote communication with customers in terms of the purchase of insurance products, contract renewal, change of data, and the possibility of making appointments online to see a doctor, as well as improvement in the risk management process including risk assessment and claims handling.

- Implementation of crisis management strategies in insurance companies – containing effective coordination of the operations of all organizational units in the event of a crisis situation, detailed analysis of possible scenarios of the impact of a crisis situation on the insurer's financial stability, and planning post-crisis changes and activities.
- Implementation of a long-term hybrid work model for employees – including adequate management tools, coaching and employee cooperation.

It is worth mentioning that in the long term, the above-mentioned changes in the life insurance business initiated by the COVID-19 pandemic may build strong opportunities for establishing a stable market position, and may contribute to the application of a sustainable insurance approach.

5. CONCLUSIONS

Due to its multifaceted nature, the COVID-19 pandemic has affected the activity of life insurers in various ways, leading to long-term effects. This "abnormal" situation has highlighted some inefficiencies in the traditional business model used by life insurers, including risk management and technical calculations, product structure, and interaction between insurers and their customers, and has encouraged life insurance companies to focus more efforts on innovations and investments in digital solutions.

The conducted market analysis, based on the available and most up-to-date data, showed that the direct responses of the life insurance markets in European countries to the pandemic situation were differentiated depending on the development level, the structure of the life insurance products offered on the market (protection life insurance versus life annuities), distribution channels, the financial situation of households and other factors. In Poland, one of the positive and visible post-pandemic effects is an increasing customer interest in the area of traditional life insurance and health insurance products. This creates an excellent opportunity for life insurers to improve their offer by taking into account the experiences of the pandemic, changes in mortality risk management and premium calculations, changeable customer needs, and the use of innovative solutions. On the other hand, the pandemic situation showed still low level of insurance education in the Polish society, especially in the area of unit-linked life insurance products. From the financial point of view, the life insurers in Poland should pay a significant attention to the life underwriting risk as the main component affecting their solvency capital requirements.

It is worth adding that not only the post-pandemic effects, but also high inflation, the energy crisis, Russia's invasion of Ukraine and the threat of economic stagnation or recession may all have a significant impact on consumer attitudes and their financial possibilities in the nearest future, and consequently on the profitability of the life insurance business. These challenges also serve as future research opportunities.

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