

# Polish business insurance with reference to the catastrophic phenomena, including pandemic ones (impact of catastrophic events on the agricultural insurance market)

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## Abstract

The SARS-CoV-2 coronavirus pandemic, also on the European continent, caused illness, the death of millions of victims and serious material damage. In Poland, similarly to other countries, it significantly impacted the financial markets, and among them the area of functioning of business insurance, which includes voluntary and compulsory agricultural insurance.

The subject of this study is a review and signalling of crisis impacts of catastrophic phenomena, also related to pandemic risk, on the social and economic life of the country, including the impact on the area related to the functioning of insurance for agriculture.

The issues of the calamity impact of natural disasters, with particular emphasis on the phenomenon of the pandemic and the share of the insurance method of compensation for damage and its material effects, were analysed.

The analysis is complemented by the authors' conclusions and proposals as to the tasks and forms of action of the country, international institutions and the insurance market in cases of high probability of occurrence of further phenomena of this type.

The objective of the study is to assess the impact of the insurance method on the management and counteracting types of catastrophic risks, including pandemic risks.

**Keywords:** COVID-19, pandemic risks, agricultural insurance, natural disaster risk management, catastrophic phenomena.

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## Introduction

Catastrophic phenomena (regardless of their nature), which we have been experiencing in recent years, make it necessary to take more effective actions in the area of risk management. The needs primarily relate to activities of a systemic nature, with particular emphasis on the insurance method. The COVID-19 pandemic is an example, which has been troubling the world since November 2019<sup>1</sup>, and which, apart from its impact in the form of causing an infectious disease, has a profound impact on the economies and social life of the countries affected by it, causing social and economic crises. Undoubtedly, they also affect those parts of the economy and those sectors that are related to agriculture.

The authors of this article attempt to verify the hypothesis about the insurance possibility of the risk of a pandemic and the existence of an objective need to introduce the obligation of insurance protection in the area of life and health of Polish citizens, taking into account the population of rural areas.

The objective of the study is to assess the impact of the insurance method on the management and prevention of catastrophic risks, taking into account pandemic risks.

The adopted research methods are based on literature studies, analysis of information from secondary sources and participatory observation regarding the behaviour of the insurance market in Poland.

## Insurance with reference to catastrophic events

Events such as natural disasters, regardless of the sources that cause them, resulted in a higher exposure of social goods and interests to catastrophic risks, including pandemic ones, than in previous years. This results in the need to pay particular attention to the planning of risk management activities, including preventive ones, taking into account insurance as a method of transferring catastrophic risk. This will enable to limit losses, both in property as well as personal losses. According to the authors, this should be done in the most organised manner possible, on a macro scale, i.e. taking into account the

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1. On 17 November 2019 in China, there was probably the first case of COVID-19, and on 9 January 2020, the World Health Organization (WHO) announced that in Chinese Wuhan there is a mysterious pneumonia associated with an infection previously unknown, namely coronavirus: *Pandemia koronawirusa na świecie i w Polsce – kalendarium*, <https://www.medicover.pl/o-zdrowiu/pandemia-koronawirusa-na-swiecie-i-w-polsce-kalendarium,7252,n,192>, access 25.02.2022.

primary role of state and international institutions<sup>2</sup>, but also with the participation of insurance companies. Insurance companies are in possession of the following:

- data on damages, compensations and benefits necessary for the identification of risks;
- data of insured individuals and entrepreneurs;
- experience in the liquidation of damage;
- experience in preventive actions;
- experience in mitigation and losses restitution.

Only such an approach will ensure economic balance for societies, including entrepreneurs, and guarantees for the preservation of assets, both private and public<sup>3</sup>.

**Table 1. The number of natural disasters in the world in 1991–2017**

	Droughts and fires	Floods and landslides	Storms and hurricanes
1991	46	116	152
1997	66	151	149
2007	65	242	255
2017	79	346	258

Source: Own study based on the Polish Insurance Association, Deloitte, Report: *Climate of risk. How can prevention and insurance reduce the impact of natural disasters on the environment?*, Warsaw 2019, [www.piu.org.pl](http://www.piu.org.pl), access 23.02.2022.

The report of the World Meteorological Organization (WMO) entitled: “Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970–2019)” indicates an increasing trend of disasters resulting from climate change<sup>4</sup>. At that time, there were 1,672 registered disasters, 159,438 deaths and USD 476.5 billion in economic losses recorded in Europe. Most often, they were floods (38%) and storms (32%). However, the main cause of death was extreme

2. The currently operating projects in Poland in the area of natural disaster risk management primarily include:
  - a) Agricultural Drought Monitoring System in Poland (SMSR),
  - b) Information System of the National Shield against Extraordinary Hazards (ISOK),
  - c) RescEU – European system for combating natural disasters,
  - d) 44 MPA – project of adaptation to climate change in 44 Polish cities,
  - e) RCB alert.
3. Polska Izba Ubezpieczeń, Deloitte, *Raport: Klimat ryzyka. Jak prewencja i ubezpieczenia mogą ograniczyć wpływ katastrof naturalnych na otoczenie?*, Warsaw 2019, [www.piu.org.pl](http://www.piu.org.pl), access 23.02.2022. The authors of the report state that in 2017 alone, material losses caused by natural disasters amounted to PLN 338 billion, with insurability at the level of PLN 140 billion.
4. World Meteorological Organization (WMO), *Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970–2019)*, WMO-No. 1267, [https://library.wmo.int/index.php?vl=notice\\_display&id=21930#YhZNVlqZM2w](https://library.wmo.int/index.php?vl=notice_display&id=21930#YhZNVlqZM2w), access 23.02.2022.

temperatures (93%), with 148,109 fatalities. Floods and storms caused the most economic losses in Europe (36% and 44% respectively). Only two extreme heat waves from 2003 and 2010 caused 127,946 deaths, representing 80% of the total number of fatalities. The 2002 flooding in Germany caused losses of USD 16.48 billion and it was the most expensive incident in Europe in 50 years. The analysis of disasters shows that river floods (22%), storms (14%) and floods (10%) were the most common threats in Europe. Heat waves caused the highest number of losses in people (89%). Five threats caused most of the economic losses. These are river floods, general storms, non-tropical storms, floods and droughts.

It should be noted here that the majority of natural disaster losses are uninsured. In the last 10 years, an average of 33.8% of financial losses in the world were covered with insurance, which represents a slight increase compared to the value for 30 years (30.7%)<sup>5</sup>.

The Global Risks Perception Survey indicates that for the first time in history climate-related topics and the consequences of climate change are the most important long-term risks in terms of their probability of occurrence<sup>6</sup>. They are as follows (in order):

- extreme weather conditions,
- climate action failure,
- natural disasters,
- biodiversity loss,
- man-made natural disasters.

**Table 3. The most important long-term threats, in terms of their probability of occurrence, in 2015–2020**

2015	2016	2017	2018	2019	2020
<b>Interstate conflict</b>	Forced migration	Extreme weather conditions	Extreme weather conditions	Extreme weather conditions	Extreme weather conditions
<b>Extreme weather conditions</b>	Extreme weather conditions	Forced migration	Natural disasters	Climate action failure	Climate action failure
<b>Disasters of national governments</b>	Climate action failure	Natural disasters	Cyber attacks	Natural disasters	Natural disasters

5. Polska Izba Ubezpieczeń, Deloitte, *Raport: Klimat ryzyka. Jak prewencja i ubezpieczenia mogą ograniczyć wpływ katastrof naturalnych na otoczenie?*, Warsaw 2019, [www.piu.org.pl](http://www.piu.org.pl), access 23.02.2022, p. 11.

6. World Economic Forum, *The Global Risks Report 2020, Insight Report*, 15th Edition, in cooperation with Marsh & McLennan and Zurich Insurance Group, <https://www.weforum.org/reports/the-global-risks-report-2020>, access 26.02.2022.

## Polish business insurance with reference to the catastrophic phenomena

2015	2016	2017	2018	2019	2020
<b>Collapse of the state caused by crisis</b>	International conflict	Terrorist attacks	Fraud and data theft	Fraud and data theft	Biodiversity loss
<b>Unemployment rate</b>	Natural disasters	Fraud and data theft	Climate action failure	Cyber attacks	Man-made natural disasters

Source: Own study based on the World Economic Forum, *The Global Risks Report 2020, Insight Report, 15th Edition*, in cooperation with Marsh & McLennan and Zurich Insurance Group, 15 January 2020, <https://www.weforum.org/reports/the-global-risks-report-2020>, access 26.02.2022.

Climate change is occurring much faster than expected, causing unprecedented extreme weather events around the world. The last years have been the warmest in history, and natural disasters are becoming more intense and frequent. It is anticipated that global temperatures will rise by at least 3°C by the end of this century, twice the maximum limit for avoiding the most serious economic, social and environmental problems<sup>7</sup>.

The above clearly indicates that the warming of the climate and the resulting effects will affect Poland to a greater extent than before, which will result, among others, in deterioration of the conditions for the development of plants and increase their susceptibility to diseases. This will happen regardless of the problems with low temperatures, and the accumulation of these two factors will affect very serious losses in agriculture and horticulture<sup>8</sup>.

There is no doubt that the catastrophic incident in the world, namely the COVID-19 pandemic, has changed the entire insurance market. However, it is somewhat premature to ask in the first half of 2022 about the full effects of its impact on the insurance market in Poland. There is a potential risk of further development and advancement, with unknown temporal and effectual severity.

It is worth underlining that the above-mentioned staging coincides with the separation of three periods in which the effects of the pandemic on the insurance sector and insurance itself take place, i.e. short, medium and long-term. The following periods are key here: medium and, above all, long-term, when the following phenomena occur<sup>9</sup>:

- 1) adapting the insurers' strategy to the new conditions,
- 2) changes in the scope of risk assessment,
- 3) increased insurance rates,
- 4) reduced risk of appetite of insurance companies,

7. Ibidem.

8. Polska Izba Ubezpieczeń, Deloitte, Raport: *Klimat ryzyka. Jak prewencja i ubezpieczenia mogą ograniczyć wpływ katastrof naturalnych na otoczenie?*, Warsaw 2019, [www.piu.org.pl](http://www.piu.org.pl), access 23.02.2022, p. 11.

9. A. Śliwiński, *Pandemia COVID-19 a sektor ubezpieczeń*, in print.

- 5) the emergence of the effects of the use of modern technologies,
- 6) the emergence of product innovations.

The occurrence of the pandemic resulted in the fact that Life insurance companies, in order to meet the expectations of customers, decided to extend their offers primarily to benefits related to hospital stays due to COVID-19, stays in the ICU or with respiratory failures, while guaranteeing benefits in the event of death of the insured as a result of this disease. Insured persons also received emergency assistance for the period of quarantine as part of assistance products. In the case of non-life insurance, however, changes were introduced primarily with regard to travel products (e.g. hospitalization and treatment due to COVID-19, performance of a test, stay of a caregiver in the event of a child's illness, etc.).

The pandemic has triggered many processes that have a significant impact on the insurance market and require the appropriate security measures. This applies primarily to increasing claims, in the medium term, mainly in health and life insurance, loss of job, low contribution to mortgage, travel or financial loans. This is one of the key threats to the insurance market. The main sources of threats are, among others<sup>10</sup>:

- 1) increased pressure related to the level of insurance premiums as the number of claims increases;
- 2) deteriorating economic conditions;
- 3) increase scope of liability exclusions in certain insurance policies, in particular health and life insurance.

From the point of view of insurance theory, a disease in the form of the coronavirus pandemic should be classified as a mass catastrophic risk<sup>11</sup>, however, of a measurable nature of events caused by it, and therefore – insurable. For the insurance market, in particular insurance companies and entities operating in the areas of risk assessment, insurance distribution and compensation, the pandemic should be considered in at least two categories:

- 1) as entities providing insurance services to the Polish economy, due to the mission of business insurance;
- 2) the impact of the pandemic risk for these entities, along with the consequences, obligations and powers of entrepreneurs operating on the market, including the possibility of using state support in the form of measures and tools to combat the pandemic.

10. J.W. Przybytniowski, *Rynek ubezpieczeń gospodarczych w dobie COVID-19*, in print.

11. The risk posed by natural forces in the event of mass occurrence should be considered a catastrophic risk. More: T. Michalski, A. Śliwiński, R. Pajewska-Kwaśny et al., *Ryzyko katastroficzne*, Warsaw, Polskie Wydawnictwo Ekonomiczne, 2016.

When considering the issue on the first layer, you can notice that in the insurance doctrine and practice<sup>12</sup> it is assumed that the basic mission of (economic) insurance is to compensate for damage and losses caused by various types of risks of a multiple nature, including natural (e.g. floods) or social (e.g. illness, accident, strike).

Such phenomena, in practice called random events, adversely affecting the personal rights of a person (life and ability to work) or any material values (property, civil liability), cause damage that should be compensated (e.g. reconstruction of a house destroyed by fire), and additionally cover material needs caused by the risk (e.g. obtaining funds to compensate lost income, after the death of a family provider).

Insurance is therefore a specific type of business activity in which the fulfilment of a provision (compensation) is preconditioned by the occurrence of a fortuitous event, the consequence of which is a damage or material need arising from a member of the insured group, covered by protection against the effects of damage resulting from the implementation of a specific risk<sup>13</sup>.

Hence, it is quite obvious here that there is a common, even trivial view that insurance lives from risk. Having this statement in mind, it is appropriate to ask further important questions:

- 1) to what extent is the risk of coronavirus impact an insurance phenomenon and should it be covered by insurance?
- 2) is the current insurance market able and possibly to what extent to compensate for its material and personal consequences, both in terms of Poland and the entire European Community?
- 3) in the sense of a social mission, should insurers profit from the implementation of pandemic insurance, and if so, how to manage it?

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12. Not one, though. It has a significant, and so far underestimated role in Poland, one of the types of financial functions of business insurance, expressed in earlier periods by supporting the development of the national economy, and nowadays – using the resources and financial flows of insurance to push global, regional and national economic growth through investments. I. Jędrzejczyk, *Ubezpieczenia jako źródła kapitału na cele inwestycyjne*, Paper delivered on 16 November 2016 during a scientific conference at the Faculty of Management of the University of Warsaw entitled: “Financial and insurance markets in times of economic crises”, materials held by the Chamber of Commerce for Insurance and Risk Management.

13. See, regarding the specific form of the insurance contract, the decision of the Supreme Court, ref. no. IVCSK 125/06, in which the same Court considered that the insurance contract is not a reciprocal contract under the Civil Code. It does not contain the equivalence that characterises these contracts. The obligation of provision of the insurer arises only if a fortuitous (insurance) event occurs, as a result of which a damage (loss) that the insurer covers arises. The mere provision of insurance protection, specified in the insurance contract, does not constitute a mutual benefit, without the fulfilment of the risk (fortuitous event), causing damage. Moreover, without the quantifiable damage (loss) specified in the contract, there is no basis for providing (compensation) under the contract.

## Development of the pandemic risk insurance market

The COVID-19 pandemic has a direct impact on the activity of insurance companies through health changes, such as an increase in the number of illnesses and deaths, but also indirectly, i.e. through low interest rates or other finance-related disturbances<sup>14</sup>. Pandemic-related phenomena also significantly determine the behaviour of entities in the area of insurance distribution activities. This also applies to enterprises other than insurers performing a distribution function (insurance agents). This is specifically the case with regard to communication with consumers and the use of modern technological tools, such as forms of contact and remote services.

According to the authors, the scope and effects of pandemic events therefore require specific compliance actions on the part of professional market participants and appropriate legal regulations as well as soft law (e.g. guidelines, opinions of supervisory authorities) that will enable entities to<sup>15</sup> adapt to the changed conditions of functioning on the market and will make real protection possible in terms of the effects of events.

While the size, scope as well as social and economic consequences of the pandemic may have surprised countries and economic markets with the scale of events, the behaviour of the Polish insurance market (also in many other countries)<sup>16</sup> seems to be inadequate to the scale of social and economic needs and expectations as well as intellectual and product possibilities of the insurance market. This is even more so because the essence of the activity of this market should be the creation of devices securing and compensating the effects of the occurrence of the risk of fortuitous events.

The research on the behaviour of Polish insurers in response to the revealed risk of a pandemic indicates that apart from standard activities of insurance companies that try to create conditions for coverage, a part of the market conservatively limited the interest in the pandemic to partial compensatory actions (e.g. insurance of costs of hospital treatment or material protection of the effects of death). In practice, some

14. J.W. Przybytniowski, A. Grzebieniak, W. Pacholarz, *Wybrane aspekty ubezpieczeń gospodarczych w Polsce i na świecie w dobie pandemii COVID-19*, Olsztyn, Instytut Badań Gospodarczych, 2021.

15. Regarding the compliance function and the so-called soft law in the activities of insurance distributors, see R. Nowak, *Otoczenie prawne pośrednika ubezpieczeniowego jako dystrybutora ubezpieczeń* [in:] *Administracyjno-finansowe konteksty zarządzania – wybrane zagadnienia*, red. nauk. K. Iglicka-Okólska, M. Dobrzyński, Warszawa, Wydawnictwa Uniwersytetu Warszawskiego, Sekcja Wydawnicza Wydziału Zarządzania UW, 2021, p. 120–151.

16. More about the functioning of business insurance in the era of the COVID-19 pandemic in Poland and in the world through the prism of customer behaviour on this market, the economic situation of individual countries, as well as the insurance market of non-life insurance itself, see J.W. Przybytniowski A. Grzebieniak, W.M. Pacholarz, *Wybrane aspekty ubezpieczeń gospodarczych w Polsce i na świecie w dobie pandemii COVID-19*, op. cit.

insurance companies did not even express any interest in providing insurance protection for the effects of this risk. Even after two years of the devastating impact of the pandemic, it is difficult to see in the development plans of many Polish insurers any specific intentions, corresponding to the pandemic risk challenges. According to the statements of representatives of insurance companies, even those “leading” when it comes to the interest in the problem, the observed increase in health insurance results from the spontaneous increase in the demand for them by policyholders, with insufficient acquisition activity of insurers<sup>17</sup>.

It is worth noting that in situations of pandemic-related events, all kinds of restrictions and limitations applied to society by the state increase the demand for insurance services securing the effects of these events, through their impact on the sense of uncertainty of insurance market consumers. At the same time, pandemic phenomena may even be a pretext for insurance companies to develop such solutions that exceed the standard scope, which is associated with the basic function of insurance protection and risk transfer, for example in the area of calculating premiums<sup>18</sup>.

It is also striking to see the widespread lack of protection in property insurance, e.g. the type of lost benefits (BI) or similar ones, such as financial benefits<sup>19</sup>. In the case of the latter benefits, some banks, which are often shareholders of insurance companies, show behaviours that are not too active and banks, due to the profession, should also be interested in solving the problem of damage and losses caused by the pandemic through the insurance method.

However, for insurers, and especially those with significant potential of many millions of insured persons, including people and entities already covered or potentially insurable (banks, fuel sector, commodity sales), the pandemic risk creates specific acquisition opportunities. Hence, in general accident and life insurance, and even property insurance, it would be necessary to create an atmosphere of public

17. The president of TU Wiener – A. Włodarczyk-Moczkowska speaks about the increase in the need for protection: “(...) the pandemic caused an increase in concerns of Poles about the lack of access to medical care, the risk of serious illness of the closest person or their death (...)”. A representative of the largest group of insurers on the Polish market, PZU – T. Kulik, also points out that in 2022 “We will probably still struggle with COVID-19 and although the risk has been largely «tamed», the impact of the pandemic and increased mortality can still be reflected in the outcomes of the life insurance segment, especially in the second quarter”. P. Skwirowski, *To będzie trudny rok ubezpieczycieli* [in:] “Rzeczpospolita” dated 4 January 2022, p. A–19.

18. J.W. Przybytniowski, A. Grzebieniak, W.M. Pacholarz, *Wybrane aspekty ubezpieczeń gospodarczych w Polsce i na świecie w dobie pandemii COVID-19*, op. cit.

19. The greatest emotions regarding the possible coverage of damage caused by the COVID-19 pandemic are related to loss of profit (BI) insurance, especially in the USA, Great Britain or France. On the British islands, the Supreme Court ruled that sickness-related insurance clauses may apply to the protection of the effects of the pandemic, thus obliging insurance companies to compensate for losses in the event of specific damage events, such as the closure of business premises, more: E. Nowosielska, *Loss of profit insurance and losses caused by COVID-19*, [www.wtwco.com](http://www.wtwco.com), access 14.02.2022.

interest in citizens or economic entities when it comes to such insurance products, materially compensating for the effects of such risks.

In the practice of the attempts at solutions, the fastest and most complete coverage in terms of the effects of COVID-19 in 2020–2021 was apparently offered by Generali and PZU. Apart from the substantive assessment of the value of individual insurance conditions (GTC), it should be emphasized that the numerical effects of pandemic insurance acquisitions among the entities covered by the protection should be sought:

- in the possibility of access to the largest possible number of entities potentially interested in the already introduced insurance: mass insurance, universal group insurance, life insurance or accident insurance and related ones;
- in an effective acquisition, both in groups already protected, and in creating the possibility of insurance in a universal customer network (e.g. in banks, mass sales networks), using loyalty packages;
- in the activation of acquisition activities and proposing new GTC (type of loss of profit) in property insurance.

In the powerful group life insurance portfolio, which has been supported for years, extending the scope of the existing protection, by the risk of the effects of the pandemic (even if only taking into account death events, treatment costs or significant loss of health) would not require special acquisition procedures, unless it would involve a significant increase in the existing premium.

Similarly, the existing or gradually introduced new forms of loyalty packages in mass sales networks (e.g. through petrol stations, in banking products) can be replaced or supplemented with pandemic types of insurance.

The premium means obtained this way may become a source of multi-million funds compensating for damage or financing preventive measures<sup>20</sup>. In addition, which seems particularly important, they can support the investment measures of the state, in economic and social development (e.g. in the areas of particular interest of the insurance market, including pension or health care systems).

The social and economic importance of the problem would therefore require efforts to establish appropriate scientific and practical teams to study the effects of the pandemic in various risk categories. These teams should be equipped with the appropriate means to carry out urgent work for the policy of the state or for specific entities active in the financial and insurance markets.

The repeatability of the phenomena of the widespread impact of increasingly new types of catastrophic risk on life, health or property interest, occurring in the

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20. In the practically forgotten form of preventive impact of insurers.

recent years, both of the state and its citizens and economic entities, requires urgent research and conclusions, at least ones that are approximate.

Taking into account insurance theory and practice, the answer to the question regarding the insurability of the current pandemic risk therefore seems obvious. The answer is affirmative to both life and property insurance. As for property insurance, the status of development of the Polish economic market, including the insurance market, despite the long-term transformation process, does not favour the universality of the demand for such coverage, mainly due to the limited financial possibilities (payment of the tariff premium) by business entities.

To sum up, since any type of measurable risk can be covered, and the current state of the COVID-19 epidemic seems to be possible to actuarially assess the risk of a pandemic, only the efficiency of redistributive market activities depends on the universality of such protection. However, the initial assessment of the principles, conditions and acquisition efficiency of the market evidenced that in the current state of development, it is unfortunately unable to meet the economic and social demand for effective insurance coverage of the pandemic, from the point of view of meeting the principles of the insurance coverage function.

While exploring this problem, it should be noted that due to the affirmative answer to the question about the economic and, above all, social profitability of pandemic risk insurance, in order to fully explain the limits of this profitability, it is necessary to recall that the insurance mission is to perform a number of functions. Among them, the leading standard is to fulfil the function of insurance coverage, implemented by performing three of its principles, i.e.: completeness, reality and universality of coverage.

In the current state of the Polish insurance market, which is dominated by the principle of achieving constant profit and prioritising the need to achieve financial profits, it is difficult to find types of insurance in which all three principles would be the leading ones<sup>21</sup>.

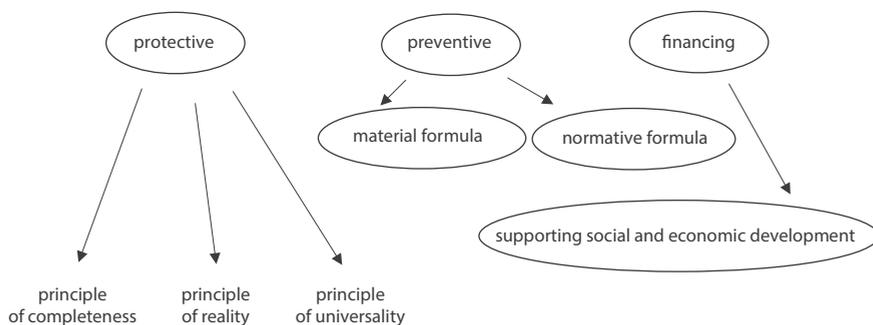
Similar doubts arise when noticing that in addition to the protective function, insurance also provides other functions, including:

- 1) preventive function, in the following formulas:
  - material, financing projects promoting the desired behaviour of insuring persons (e.g. co-financing the development of health centres) and

21. See: S. Nowak, J. Jagodziński, M. Łazęcki, *Polski model ubezpieczeń – pora na moderację i modernizację (problemy spełniania funkcji ubezpieczeniowych)* [in:] *Polski rynek ubezpieczeń na tle kryzysów społeczno-gospodarczych*, red. A.Z. Nowak, S. Nowak, J. Jagodziński, Warszawa, Wydawnictwo Naukowe Wydziału Zarządzania UW, 2016.

- normative, i.e. creating legal norms in insurance that enforce the desired behaviour of covered entities<sup>22</sup>;
- 2) financial functions, from which the function of supporting the social and economic development of the country originated, and which is somewhat neglected today<sup>23</sup>.

Figure 1. Insurance functions



Source: Own work.

Thus, when considering the problem of insurability and acquisition possibilities on the Polish pandemic insurance market, it should be emphasised that while the first phase of the insurance legal relationship, i.e. concluding a contract and payment of premiums, in the current state of market practice is generally met in a manner consistent with the principles of the essence of insurance, the second benefit and indemnity phase is experiencing a significant crisis. This is due to the strong dominance of the principle of constant profit on the supply side of this market.

## Universality of pandemic risk insurance

The course of the coronavirus pandemic in Poland has shown specific dynamics of its forms of impact on human health and has caused unexplained health effects for human organisms in the future. Medical information on this subject is full of examples

22. Among the implementation of the material sphere of the preventive function, almost forgotten on the contemporary Polish insurance market, it is probably the most fully implemented by the PZU Group, as M. Rudke writes: “PZU has been running its own preventive programs for many years and supports projects promoting safe behaviour on the road, by the water and in the mountains (...). In 2020, PZU and PZU Życie allocated over PLN 77 million to prevention and sponsorship activities (...)”. M. Rudke, *Dobre polisy przyniosły sukces w rankingu* [in:] “Rzeczpospolita” dated 28 May 2021.

23. See in this regard I. Jędrzejczyk, *Ubezpieczenia jako źródła kapitału na cele inwestycyjne*, op. cit.

of particularly adverse effects for people who have been through the disease on their health here and now. This makes it all the more difficult to estimate future effects.

The above information for those infected with the virus significantly affects their health prognosis. It is not possible to exclude an adverse impact on health, life and the ability to work of several million Polish convalescents of this disease. Such a state may have essential social and economic consequences and significantly complicate actuarial estimates of insurance provisions affected by this type of risk.

It is worth emphasising the following fact: the EY 2021 Global Insurance Consumer Survey and its Polish counterpart show that due to the coronavirus pandemic, over 60% of respondents (in Poland and in the world) are afraid of sudden loss of their loved ones, and in addition, almost 61% of people from the group of developing countries lost all or part of their income<sup>24</sup>.

The solution to possible resulting actuarial problems may be limits of sums insured for individual types of benefits. It may be much more difficult to carry out property insurance, mainly of the type of lost profits, even if due to the expected likely high premium and the already mentioned lack of financial resources of entrepreneurs to pay it. Despite the existence of the Polish insurance market for more than 30 years, in the liberal economy model, unfortunately no relevant traditions of taking out insurance from this group have been developed. Due to the systemic reasons, it should not be expected that an obligation to take out property insurance of this type will be introduced, therefore it seems that insurance education measures for potentially needy entrepreneurs still remain.

The need to consider whether legal and organizational steps should be taken to introduce universal insurance for loss of life or health, illness or ability to work and the costs of treatment of natural persons (regardless of age, gender or profession) resulting from the implementation of pandemic (mass) disease risk should be treated differently.

Similarly, ideological and systemic preferences for the market model of business insurance, indicating the contractual form of the creation of legal relationships of these insurance coverages<sup>25</sup>, did not eliminate the statutory form of the creation of insurance coverages in Polish legislative regulations on insurance in general. Despite

24. The EY 2021 Global Insurance Consumer Survey was conducted in May-August 2021 on a group of 4,200 people in seven countries (Brazil, Canada, Japan, the Netherlands, the Philippines, South Africa and the USA). Respondents were asked about the financial consequences of the pandemic, plans, interest in various types of insurance and purchase preferences, [https://www.ey.com/pl\\_pl/banking-capital-markets/konsumenci-stracili-w-pandemii-poczucie-bezpieczestwa-i-szukaj-m](https://www.ey.com/pl_pl/banking-capital-markets/konsumenci-stracili-w-pandemii-poczucie-bezpieczestwa-i-szukaj-m), access 14.03.2022.

25. See ustawa z 28 lipca 1990 roku o działalności ubezpieczeniowej, Dz. U. 1996 nr 11 poz. 62 ze zm.

systemic and model changes, the statutory nature of a significant part of the social security system<sup>26</sup>, including even those related to personal insurance (accidents on the way to and from work), has still been retained. When creating a new, market-based legal and organizational model of economic (as well as social) insurance, the Polish legislator unfortunately did not meet the condition of unambiguous division (type distinction) of standardised business insurance and created several ambiguous divisions of the current model of these insurance policies.

In today's world, misfortune is brought upon man of a mass nature, resulting from changes in the environment of its existence (e.g. natural or economic activity). Despite the progress of medical sciences, for centuries humanity has faced diseases and plagues, including pandemics of a mass nature, destroying the health and lives of people. The personal and material effects of these events become unbearable for individuals or families, and even for the state, if its participation is reduced to the role of the sole beneficiary of the measures to compensate for the damage and losses.

Without the universality of insurance protection, covering the material costs of such phenomena will be very difficult, even for the state finances (benefits, medical expenses, reliefs, subsidies). A simple economic account relating to the losses and material needs resulting from the already occurring diseases proves the need and approximation of compensation for this phenomenon in order to develop a model of remedial proceedings.

In the general insurance against pandemic (mass) risks, with the obligation of all Polish citizens to have one<sup>27</sup>, a deliberate fund can be created to secure expenses, without resorting solely to public funds. The conceptual premises of the obligation to insure only for types of third-party liability risks, in view of the social and economic sense of protection, should be omitted here, especially since the insurance of buildings on farms in compulsory form since 1990 has turned out to be socially and economically necessary for this sector.

26. See: Z. Brodecki, W. Marek, W. Mogilski et al., *Ubezpieczenia w świetle zmieniającego się pojęcia odpowiedzialności* [in:] *Insurance Studies*, Vol. X, p. 101–115. Since the adoption of the Labour Code Act in 1974, there has been a separation of social and business insurance, derived from and in a significant part regulated by the provisions of the Civil Code (ustawa z 23.04.1964, Dz. U. nr 16 poz. 93 ze zm.). In the Polish legal system, separate regulations also apply to farmers' social insurance, which are regulated by the provisions of the amended Act of 20 December 1990 on farmers' social insurance (Dz. U. 1991 nr 7 poz. 24.). Cf. e.g. M. Podstawka, *Problemy związane z reformowaniem systemu ubezpieczeń społecznych rolników* [in:] *Ubezpieczenia na rzecz gospodarki globalnej, sektorów i regionów*, red. I. Jędrzejczyk, Warszawa, Oficyna Wydawnicza Edward Mitek, 2015.

27. With regard to the (legally) mandatory form of insurance protection on the Polish insurance market, in the period of the neoliberal market formula and on other forms of compulsion to conclude insurance contracts, see S. Nowak, *Problemy 25-lecia polskiego rynku ubezpieczeń (przymus ubezpieczenia w rolnictwie)* [in:] I. Jędrzejczyk, *Ubezpieczenia na rzecz gospodarki globalnej, sektorów i regionów*, op. cit.

If the thesis on the obligation to insure the risk of a pandemic in the area of life and health of natural persons in Poland is accepted, it would be necessary to analyse the need to apply to EU bodies with the initiative to consider the obligation of such coverage in the form of relevant acts of the European insurance law.

### **Catastrophic and pandemic risks and insurance for agriculture**

Insurance policies, which in the Polish business insurance system are commonly referred to as agricultural insurance, falls, in principle, in the property insurance sector, in accordance with the annex to the Insurance Activity Act<sup>28</sup>, constituting types of property insurance. However, it seems that it is worth looking at this issue from a broader perspective, i.e. in the context of the needs of the (objective) population and entities dealing with agriculture and agricultural economy. Then, in the circle of interest, there will be a much larger spectrum of insurance products from both the life insurance and non-life insurance sectors, starting from accident insurance or life insurance, ending with financial insurance.

The economic effects of the pandemic, also in relation to the agricultural economy, are mainly discussed in the context of its (predominantly negative) impact on the economy, referring to basic macroeconomic indicators:<sup>29</sup>

- gross domestic product,
- unemployment,
- inflation,
- public finance sector deficit,
- public finance sector debt.

The agricultural economy, like any other economy, is exposed to the possibility of losses, which have a negative impact on it. Fluctuations in production results, being the consequence of the management risk are qualified as damage, as long as they increase in size. A characteristic of losses in agriculture is the difficulty of their precise estimation in practice. The nature of farming, which is usually seasonal (causing a build-up of supply of products), is largely open-air and on large spaces, contributes to the occurrence of damage<sup>30</sup>. Risk factors affecting the economy are most often

28. According to the definition contained in the annex to the Act, these are “Other personal and property insurance”.

29. A. Majchrzycka-Guzowska, *Wybrane problemy polityki fiskalnej w okresie pandemii* [in:] *Administracyjno-finansowe konteksty zarządzania – wybrane zagadnienia*, op. cit., p. 7–38.

30. E. Stroiński, *Ubezpieczenia majątkowe i osobowe w rolnictwie*, Warszawa, Wydawnictwo Akademii Finansów, 2016, p. 15.

identified with weather conditions (hurricanes, hail, floods, droughts, frosts). Other factors and sources of risk are caused mainly by the economic environment (e.g. decreases in prices or demand), but also by the environment (e.g. the occurrence of mass diseases in humans) as well as political and legal (e.g. the country's tax policy towards the agricultural sector).

Following E. Stroiński, we can distinguish several categories of losses in agriculture<sup>31</sup>:

- losses resulting from natural disasters,
- other property losses resulting from the natural and social environment,
- economic losses,
- personal losses.

Special types of losses, characteristic of agriculture, are mass deaths of livestock (especially cattle, pigs and horses) caused by animal epidemics (epizootics) and their emergency slaughter. They are treated in the same way as natural disasters. The most famous mass events of this type include, for example, African swine fever (ASF), “mad cow” disease or “bird flu”, which were pandemic phenomena. The equivalent of epizootic diseases among plants are epiphytes, i.e. the mass occurrence of illnesses per one disease at a given time and place among plants<sup>32</sup>.

The occurrence of losses requires the use of methods and tools ensuring adequate protection of agricultural production, including appropriate (effective) risk management, the element of which is insurance<sup>33</sup>. The legal conditions for state protective measures are created by European law, and above all by Regulation (EU) No. 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No. 1698/2005<sup>34</sup>.

In the opinion of M. Kaczała and K. Łyskawa, a farm manager defines the risk related to a given farm, according to an individual assessment, on the basis of individual goals, knowledge about the specificity of the farm and his own experience. This means that the agricultural entrepreneur independently determines the size of the loss, which will be acceptable for him<sup>35</sup>.

31. Ibidem, p. 25.

32. J. Boczek, *Nauka o szkodnikach roślin uprawnych*, Wyd. III poprawione i uzupełnione, Warszawa, SGGW, 1998, p. 413.

33. For more information on the company's environment and risk management, see, among others, R. Nowak, op. cit.

34. Regulation (EU) No. 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No. 1698/2005 (OJEU L 347/487).

35. M. Kaczała, K. Łyskawa, *Ubezpieczenia przedsiębiorstw/gospodarstw rolnych* [in:] *Ubezpieczenia w zarządzaniu ryzykiem przedsiębiorstwa*, L. Gąsiorkiewicz, J. Monkiewicz, t. 2, Warszawa, Wydawnictwo Poltext, 2010, p. 156–159.

The COVID-19 pandemic is a mass catastrophic phenomenon that has affected the general public and a large part of the economy and industries, with greater or lesser impact. It resulted in the introduction of a state of emergency or states of similar nature in many countries (e.g. the state of epidemic threat in Poland), which resulted in significant restrictions in the activities of business entities, also in the agri-food sector, which is of course of great economic importance. These restrictions mainly relate to areas of business activity, such as the movement of goods and services and of the population, including international trade or the activities in the hotel and catering sector related to the agricultural production sector. They also cause a deterioration of the situation on the labour market and a decrease in household income in rural areas<sup>36</sup>, which is visible especially in the context of the high social and economic sensitivity of the countryside to the effects of the pandemic<sup>37</sup>. The result of this is “an increase in the exposure of the Polish agricultural sector and Polish rural areas to pandemic risk in connection with the occurrence of SARS-CoV-2 and COVID-19, due to which the expected losses may take catastrophic proportions (...)”<sup>38,39</sup>.

In the face of various types of disasters and crises, insurance, as a recognized form of risk transfer, becomes a particularly desirable method of securing life, health or property and the property interests of enterprises in the broadly understood agricultural sector. It allows for efficient agricultural management, influences the effective allocation of farm resources and promotes a sense of stability<sup>40</sup>. Agricultural insurance (in a narrow sense) covers about 30% of crops in our country, and insurance protection in the area of natural damage covers 140 thousand farmers<sup>41</sup>.

36. P. Szajner, *Wpływ pandemii COVID-19 na sytuację na rynkach rolnych w Polsce* [in:] “Ubezpieczenia w rolnictwie – Materiały i Studia” 2020, nr 1(73), p. 73–116, <https://www.krus.gov.pl/czasopismo/>, access 25.02.2022.

37. See: I. Jędrzejczyk, *Ekspozycja na ryzyko sytuacji pandemicznej COVID-19 i wrażliwość społeczno-ekonomiczna obszarów wiejskich i agrobiznesu* [in:] “Ubezpieczenia w Rolnictwie – Materiały i Studia” 2020, nr 1(73), p. 7–71. Preliminary results of the study of spatial diversity of the level of social and economic sensitivity to the effects of the COVID-19 pandemic situation, carried out in 2020, indicate that the areas with the highest aggregate social and economic sensitivity index to extreme events include: Włocławek – 1.0; Tarnów – 0.99; Inowrocław – 0.97; Grudziądzki – 0.92 and Krosno – 0.90. It should be noted that this study, due to the course of the pandemic and the date of its implementation, did not include empirical verification of the assessment.

38. I. Jędrzejczyk, *Ekspozycja na ryzyko sytuacji pandemicznej COVID-19 i wrażliwość społeczno-ekonomiczna obszarów wiejskich i agrobiznesu*, op. cit., p. 8.

39. In the contrary opinion of P. Szajner, the recession in the economy, which is a consequence of the coronavirus pandemic, has a relatively negligible impact on the functioning of the market of basic agricultural products in the country, especially regarding foreign trade and price fluctuations in the supply chain, P. Szajner, op. cit., p. 73–116.

40. A. Kurdyś-Kujawska, *Determinanty wykorzystania dobrowolnych ubezpieczeń w rolnictwie*, “Annales Universitatis Mariae Curie-Skłodowska Lublin-Polonia” 2018, Vol. LII, 1 section H, <http://oeconomia.annales.umcs.pl>, access 14.02.2022.

41. Polska Izba Ubezpieczeń, Deloitte, *Raport: Jak ubezpieczenia zmieniają Polskę i Polaków*, Warszawa 2017.

Table 4. The most frequently insured agricultural production risks for 2008–2019

Hail	47.6%
Spring frosts	24.3%
Negative effects of overwintering	20.1%
Hurricane, cloudburst	4.40%
Lightning strike, landslide, avalanche	2.5%
Drought	0.57%
Flood	0.43%

Source: Own study based on the Ministry of Agriculture and Rural Development. Insurance with income stabilization as risk management instruments in agriculture, September, 2020, <https://piragro.pl/wp-content/uploads/2020/10/Ubezpieczenia-z-uwzgl%25C4%99dnieniem-stabilizacji-dochod%C3%B3w-jako-instrumenty-zarz%C4%85dzania-ryzykiem-w-rolnictwie.pdf>, access 21.02.2022.

However, it seems that due to the current events of damage and contemporary risks, also related to the occurrence of damage resulting from natural disasters, including the pandemic, the existing insurance methods and models of securing human activities and the material effects of risk become insufficient<sup>42</sup>. This thesis may be justified considering the data indicating a relatively low penetration of voluntary insurance in the agricultural sector. The research indicates several basic features, affecting the probability of concluding such an insurance contract<sup>43</sup>:

- the soil class of the farm,
- fixed assets stock of the farm,
- damage course,
- the amount of the insurance premium.

Another determinant of the use of agricultural insurance also seems to be the size of the farm in accordance with the principle that “the larger the farm, the greater the scope of the use of (optional) insurance”<sup>44</sup>.

The increase in the level of use of business insurance by rural inhabitants is also not supported by a lower level of their income, and thus the material wealth of the

42. More S. Nowak, *Rynkowy model polskich ubezpieczeń gospodarczych w rolnictwie w okresie przygotowań do wejścia do UE (lata 1990–2004)* [in:] “Ubezpieczenia w Rolnictwie – Materiały i Studia” 2021, nr 2(76), p. 105–126. Referring to modern times, the author focuses on the analysis of the course of “processes securing the life and health of rural residents and agricultural economy with insurance methods, implemented in the period from the adoption of market management principles by Poland until the accession to the European Union in 2004”.

43. A. Kurdyś-Kujawska, op. cit.

44. T. Czuba, *Ubezpieczenia gospodarstw rolnych w Polsce – wyniki badań empirycznych* [in:] “Ubezpieczenia w Rolnictwie – Materiały i Studia” 2020, nr 2(74), p. 197–218. The author’s research shows that the level of use of voluntary insurance in farms with an area of 5 ha to 15 ha is 91%, in farms with an area of 15.1–50 ha is 95%, and even 100% in farms with an area of over 50 ha.

population engaged in agricultural economy. In addition, public services and infrastructure are relatively underdeveloped<sup>45</sup>.

Improving the social efficiency of agricultural insurance in the face of catastrophic phenomena is also not supported by the phenomenon of the increasing inflation, rising prices<sup>46</sup> and limiting consumption, combined with a deterioration of social assessments of the economic situation of Poland and an increase of fears about the situation of Poles and their families, recorded at the end of 2021<sup>47</sup>. Surveys conducted by S. Kalinowski and W. Wybuda indicate social concerns about the increase in the level of poverty and unemployment in Poland<sup>48</sup>. This can be seen in the following table:

**Table 5. Social sentiment regarding the level of poverty and unemployment**

Fears of rising poverty levels in the country	87% of respondents
Sense of extreme subjective poverty	7% of respondents
Sense of relative subjective poverty	38% of respondents
Pessimistic forecasts of changes in their income situation in the next 12 months	50% of respondents
Concerns about rising unemployment rate in Poland	more than 90%
Fear of losing one's job	more than 20%

Source: Own study based on S. Kalinowski, W. Wybuda, *Economic and social situation of the population during the Coronavirus pandemic in Poland* [in:] *Consequences of the COVID-19 pandemic, State and society*, ed. K. Hajder, M. Musiał-Karg, M. Górny, <https://www.researchgate.net/>, access 16.02.2022.

Also, the moods and forecasts of farmers surveyed in 2021 by the Central Statistical Office remain statistically pessimistic. This results, among others, from the analysis entitled “The economic situation of farms in the first half of 2021”<sup>49</sup>. These opinions were conditioned by several factors:

- the legal form of the farm,
- the area of agricultural land,

45. Regarding the subject, see: J. Jędrzejczyk, *Ekspozycja na ryzyko sytuacji pandemicznej COVID-19 i wrażliwość społeczno-ekonomiczna obszarów wiejskich i agrobiznesu*, op. cit., p. 17.

46. According to the data of the Central Statistical Office, prices of consumer goods and services according to a quick estimate in December 2021, compared to the corresponding month of the previous year, increased by 8.6% (price index 108.6), and compared to the previous month, they increased by 0.9% (price index 100.9), <https://stat.gov.pl/>, access 16.02.2022.

47. Based on: Fundacja Centrum Badań Opinii Społecznej, *Roczny bilans nastrojów społecznych*, p. 2, [www.cbos.pl](http://www.cbos.pl).

48. S. Kalinowski, W. Wybuda, *Sytuacja ekonomiczno-społeczna ludności w czasie pandemii koronawirusa w Polsce* [in:] red. nauk. K. Hajder, M. Musiał-Karg, M. Górny, *Konsekwencje pandemii COVID-19, Państwo i społeczeństwo*, p. 35–53, <https://www.researchgate.net/>, access 16.02.2022.

49. Główny Urząd Statystyczny, *Koniunktura w gospodarstwach rolnych w I półroczu 2021 r.*, 30 September 2021, [www.stat.gov.pl](http://www.stat.gov.pl).

- the production focus of farms,
- the type of crops grown and the species/groups of livestock kept, as well as
- age and education of the person managing the farm.

It turned out that the greatest pessimism was expressed by people managing individual farms, especially those conducting animal production, users of farms with an area of up to 1 ha of agricultural land and with an area of 50 ha.

The particular importance of the agricultural sector for the national economy is manifested, among others, by including areas of business activity in rural areas as an obligation in the area of business insurance and the system of subsidies to agricultural insurance<sup>50</sup>. In the Polish legal system, the obligation (in the area of agricultural economy) refers only to insurance of buildings and structures on a farm and the civil liability of farmers<sup>51</sup>. Currently, agricultural producers are also obliged to insure 50% of the agricultural area with state subsidies in the case of obtaining direct payments from the European Union.

The above may create the postulate of extending the catalogue of compulsory insurance for rural areas and agriculture. This could be particularly justified by the occurrence of catastrophic (including climatic) phenomena and other phenomena that limit the scale of product penetration among potential interested parties, as well as by the consequent need for a modern state policy taking into account the functioning of the national agricultural sector within the framework of the European single market<sup>52</sup>. In this sense, the need to safeguard the income of households engaged in agricultural production would also require an extraordinarily high level of treatment for accident and life insurance and insurance related to loss of income and business interruption.

It is worth mentioning that when it comes to subsidies to agricultural insurance contracts, they are a tool that is an instrument of state policy (interventionism<sup>53</sup>)

50. Subsidies for agricultural insurance take place on the basis of contracts concluded by the Ministry responsible for agricultural policy and individual insurance companies operating in the area of agricultural insurance. In 2022, these are the contracts with Powszechny Zakład Ubezpieczeń S.A., Towarzystwo Ubezpieczeń Wzajemnych "TUW", Generali Towarzystwo Ubezpieczeń S.A., Pocztowe Towarzystwo Ubezpieczeń Wzajemnych, InterRisk Towarzystwo Ubezpieczeń S.A. Vienna Insurance Group, TUZ Towarzystwo Ubezpieczeń Wzajemnych, Vereinigte Hagelversicherung VVaG (headquartered in Gießen), Branch of VH VVaG TUW in Poland, Sopockie Towarzystwo Ubezpieczeń ERGO Hestia S.A.

51. The Act on Compulsory Insurance, the Insurance Guarantee Fund and the Polish Motor Insurers' Bureau of 2003 (Dz. U. 2003 nr 124 poz. 1152) introduces, among others, compulsory insurance of the civil liability of farmers for managing a farm and compulsory insurance of buildings included on the farm against fire and other fortuitous events.

52. S. Nowak, *Rynkowy model polskich ubezpieczeń gospodarczych w rolnictwie w okresie przygotowań do wejścia do UE (lata 1990–2004)*, op. cit., p. 124.

53. More on the forms of state intervention in the agricultural economy in the world, see: M. Kaczała, K. Łyskawa, *Ubezpieczenia przedsiębiorstw/gospodarstw rolnych*, op. cit., p. 162–163.

aiming at the development of agricultural production. The Act of 7 July 2005 on insurance of agricultural crops and livestock is essential here. It<sup>54</sup> defines the principles of:

- applying subsidies to premiums for the conclusion of insurance contracts against the risk of the effects of fortuitous events in agriculture,
- concluding and executing contracts for compulsory crop insurance against the identified risk of the effects of fortuitous events in agriculture,
- granting a specific grant to cover part of the compensation for damage caused by drought.

It should be noted that the reason for introducing the system of subsidizing crop insurance in Poland were: on the one hand – a high level and frequency of catastrophic phenomena, but on the other hand – the need to limit state aid granted on an ad hoc basis<sup>55</sup>.

It should therefore be stressed that the application of the insurance risk transfer method by agricultural producers has a number of advantages<sup>56</sup>:

- 1) income stabilization (allows, for example, to preserve production without the need to use loans or other sources of financing),
- 2) increasing the credibility of the agricultural producer in contacts with credit institutions,
- 3) with the possibility of engaging in subsequent specializations, without the need to bear the effects of risk implementation on one's own.

In 2022, subsidies from the state budget apply to agricultural producers' premiums for the conclusion of insurance contracts against the occurrence of certain random events, causing negative effects on agricultural production, i.e.:

- 1) hurricane, flood, cloudburst, hail, lightning, landslides, avalanche, drought, adverse effects of wintering or spring frosts – for crop production (i.e. crops of cereals, maize, rape, turnip rape, hops, tobacco, ground vegetables, fruit trees and shrubs, strawberries, potatoes, sugar beet or legumes);
- 2) hurricane, flood, cloudburst, hail, lightning, landslide, avalanche, emergency slaughter – for livestock production (i.e. cattle, horses, sheep, goats, poultry or pigs).

The level of subsidies for 2022 is determined by the Regulation of the Council of Ministers of 22 November 2021<sup>57</sup>. The amount of the aid shall be 65% of the premium for 1 ha of agricultural crops and 65% of the premium for 1 head of livestock.

54. Ustawa z 7 lipca 2005 roku o ubezpieczeniach upraw rolnych i zwierząt gospodarskich, Dz. U. 2005 nr 150 poz. 1249, unified text.

55. M. Kaczała, K. Łyskawa, *Wpływ ubezpieczeń dotowanych upraw na wynik finansowy wybranych rodzajów produkcji roślinnej*, "Wiadomości Ubezpieczeniowe" 2020, nr 4, p. 33–55.

56. M. Kaczała, K. Łyskawa, *Ubezpieczenia przedsiębiorstw/gospodarstw rolnych*, op. cit., p. 162–163.

57. Rozporządzenie Rady Ministrów z 22 listopada 2021 roku w sprawie wysokości dopłat do składek z tytułu ubezpieczenia upraw rolnych i zwierząt gospodarskich w 2022 roku, Dz. U. 2021 poz. 2159.

In order for the process to be carried out properly, insurance undertakings conclude appropriate insurance contracts with agricultural producers until the limit of subsidies for a given year is exhausted, the amount of which is specified in the subsidy agreements for a given insurer.

It is worth noting that in 2022, a total of over PLN 1.4 billion (including the PLN 500 million reserve) was allocated to subsidies, which constitutes PLN 500 million more than in 2021. The reduction in the amount of subsidies in 2021 was caused, among others, by the transfer of budgetary resources to overcome the COVID-19 pandemic and support the economy<sup>58</sup>.

It should be emphasised that the system of support for agricultural insurance payments continues to be ineffective, despite the efforts made. This is evidenced, for example, by the results of the inspection carried out by the Supreme Chamber of Control in 2017–2019 (i.e. before the coronavirus pandemic). The Chamber pointed out that relatively few farmers insure their crops even despite the obligation to secure them through an insurance contract<sup>59</sup>. Therefore, the surcharge effects assumed by the State in the form of an increase in the insured area were not achieved, despite the increase in the insurance tariffs and the verification of the rules for calculating the amount of premiums. According to the Supreme Chamber of Control, such a situation was influenced by financing and aid from the State Treasury budget. This aid related to the effects of damage caused by climatic events, mostly outside the insurance system and despite the failure to comply with the crop insurance obligation<sup>60, 61</sup>.

58. Kancelaria Prezesa Rady Ministrów, projekt rozporządzenia Rady Ministrów dot. wysokości dopłat do składek z tytułu ubezpieczeń upraw rolnych i zwierząt gospodarskich w 2022 roku, <https://www.gov.pl/web/premier/projekt-rozporzadzenia-rady-ministrow-w-sprawie-wysokosci-doplat-do-skladek-z-tytulu-ubezpieczenia-upraw-rolnych-i-zwierzat-gospodarskich-w-2022-r2>, access 22.03.2022; M. Rematowska, *W 2022 r. nie zabraknie pieniędzy na ubezpieczenia upraw i zwierząt gospodarskich*, [www.krir.pl](http://www.krir.pl), access 17.02.2022.

59. A comparison of the number of concluded insurance contracts with the number of direct payments granted shows that at least 50% of crops were insured in 2017 by 15.2% of agricultural producers, and 17.6% in 2018, Najwyższa Izba Kontroli, *Informacja o wynikach kontroli, Wspieranie środkami publicznymi systemu ubezpieczeń rolniczych*, KRR.430.009.2019, nr ewid. 21/2020/P/19/047/KRR, Warszawa 2020, p. 30–31, [www.nik.gov.pl](http://www.nik.gov.pl), access 16.02.2022, see also A.M. Olkiewicz, *Ubezpieczeniowe instrumenty wpięcia gospodarstw rolnych w zakresie upraw*, „Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu” 2018, t. 20, z. 4, p. 139–145.

60. Najwyższa Izba Kontroli, *Informacja o wynikach kontroli, Wspieranie środkami publicznymi systemu ubezpieczeń rolniczych*, KRR.430.009.2019, nr ewid. 21/2020/P/19/047/KRR, Warszawa 2020, [www.nik.gov.pl](http://www.nik.gov.pl), access 16.02.2022.

61. In accordance with the results of the NIK audit, in 2017–2019 support was provided outside the insurance system for a total amount of PLN 2,821,142.4 thousand. It consisted in providing direct financial assistance and applying concessions by lowering the rent and postponing the payment deadlines or dividing the receivables into instalments. At the same time, in the same period, subsidies to agricultural insurance premiums amounted to PLN 1,540,300 thousand, while after annexing contracts – PLN 1,462,817 thousand, Najwyższa Izba Kontroli, *Informacja o wynikach kontroli, Wspieranie środkami publicznymi systemu ubezpieczeń rolniczych*, op. cit., p. 22–28.

The other elements that determine the lower popularity of insurance than expected are primarily<sup>62</sup>:

- low profitability of agricultural production,
- lack of universality of insurance,
- not insuring crops with a high risk of damage (e.g. flood plains),
- no obligation to enforce insurance,
- complicated claims settlement procedure.

The proposed changes in the system of agricultural insurance subsidies should therefore be considered a step in the right direction. The government's draft act on the Agency for the Restructuring and Modernisation of Agriculture provides for the possibility of remitting part of the liabilities towards the Agency to farmers, as well as for the transfer by the farmer of part of the direct payments to his insurance premium, regardless of the fact that it does not contain the required insurance obligation<sup>63</sup>.

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## Conclusions

The pandemic, which results in the COVID-19 disease, is only an example of types of risks, the source of which are numerous natural, social or economic events. They bring effects that may cause crisis with often a huge scale of misfortunes and potential for destroying the population, including the conditions of its management and subsistence.

In the opinion of many centres and experts, both spontaneous catastrophic events and the effects of centuries-old adverse changes in the natural environment, as well as living conditions and human activities, can lead to the specific types of risks with the potential to even destroy the life of our planet.

Despite the often even apocalyptic visions of the world, in order to implement particular interests, the current rulers have not yet decided to create the necessary and universally applicable legal principles of human behaviour in order to counteract the effects of such events. The necessary funds have not been set up to effectively compensate for the damage caused. This also applies to undertaking various actions to secure the further destruction of the human environment. The selfishness of self-interest (considering the potential opportunities) is pushed to such an extent that, in view of

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62. Ibidem.

63. Kancelaria Prezesa Rady Ministrów, *Projekt ustawy o Agencji Restrukturyzacji i Modernizacji Rolnictwa*, adopted by the government on 28 December 2021, addressed to the Sejm on 5 January 2022, <https://www.gov.pl/web/premier/projekt-ustawy-o-zmianie-ustawy-o-agencji-restrukturyzacji-i-modernizacji-rolnictwa2>, access 25.02.2022.

the European Union's leading preventive-financing activities, there are accusations of excessive interventionism and unnecessary investment in protective projects.

Unfortunately, Poland is not seen in the group of leaders of the necessary changes. This is due to various reasons, both of an economic nature and social and systemic conditions. The degree of technological progress regarding subsistence and management (e.g. problems of coal-based energy), prosperity or economic underdevelopment are also important here. The problems are further aggravated by the mental considerations of a large part of society and the rulers.

Let us recall that so far, unfortunately, the state has not worked out an adoption of statutory standards comprehensively securing the legal, organizational and financial system of the state, its bodies and organizations and entities in cases of catastrophic damage.

According to the presented analysis, the national business insurance system did not sufficiently respond to the protective needs of the human and economic nature caused by the occurrence of the catastrophic phenomenon, which is undoubtedly the coronavirus pandemic.

Better results in the distribution of insurance pandemic products should be found in the portfolio of insurance contracts already concluded and functioning. Especially among entities and persons previously covered by mass group life and related insurance, in mass sales networks and in the development and implementation of new products, also in the area of property insurance.

The products and offers of insurance coverage currently appearing on the Polish market are not adequate to the scale of economic needs and community expectations, also due to their promotional and acquisition shortcomings.

Therefore, considering the hypotheses about the insurance of pandemic risk and the need for compulsory insurance of the effects of the pandemic risk on the life and health of natural persons as reasonable, measures should be taken to:

- 1) conduct an appropriate analysis of the expediency among the representatives of the practice and science of insurance;
- 2) the introduction of universal, compulsory insurance for this risk;
- 3) request EU bodies to introduce an obligation with the relevant legal acts;
- 4) create a dedicated compensation fund, without having to resort to public funds, as the leading or only source of compensation.

According to the authors, risk management in agriculture also requires greater activity of the state and a comprehensive approach to the problem, especially in the face of mass events, such as catastrophic phenomena caused by weather or sanitary anomalies. Above all, actions are needed to identify the sources of risk on farms,

to educate farmers towards the use and application of risk management and compliance tools, and to support risk prevention and mitigation<sup>64</sup>.

One form of using the insurance method of transferring the risk associated with the operation of a farm may be greater application of insurance reciprocity than before<sup>65</sup> and the application of compulsory insurance in relation to the life and health of persons managing a farm and insurance related to loss of income and breaks in activity.

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64. More on the subject in the project regarding *Ubezpieczenia z uwzględnieniem stabilizacji dochodów, jako instrumenty zarządzania ryzykiem w rolnictwie*, Ministerstwo Rolnictwa i Rozwoju Wsi, <https://www.gov.pl/web/rolnictwo/ubezpieczenia-rolnicze>, access 21.02.2022.

65. Prime Minister M. Morawiecki spoke about the plans to implement a new insurance system for farmers on the basis of membership reciprocity at the meeting of the Sejm's Committee on Agriculture and Rural Development on 10 February 2022, *Premier: Wdrażamy nowy system ubezpieczeniowy dla rolników*, <https://forsal.pl/business/rolnictwo/artykuly/8353958,nowy-system-ubezpieczeniowy-dla-rolnikow.html>, access 23.02.2022. Similarly, Deputy Prime Minister, Minister of Agriculture Henryk Kowalczyk: “The new insurance system in agriculture, which is currently being prepared, will enable immediate assistance by insurance companies, relieving the state budget in this respect (...). We have purchased shares in TUV Pocztowy and we are building an insurance offer. I hope that in the second half of February we will have an insurance offer, beneficial for farmers, with a subsidy from the budget of approx. ⅔ to the insurance premium. We want the insurance to be comprehensive, for all risks, including drought”, *Kowalczyk: Nowy system ubezpieczeń rolnych odciąży budżet państwa*, <https://forsal.pl/biznes/rolnictwo/artykuly/8344338,nowy-system-ubezpieczen-rolnych-budzet-panstwa-henryk-kowalczyk.html>, access 23.02.2022.

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