

SGH WARSAW SCHOOL OF ECONOMICS

COLLEGIUM OF SOCIO-ECONOMICS

**CAPTIVE AS INSURANCE FORMULA FOR RISK MANAGEMENT IN
OPERATIONS OF A COMPANY**

SUMMARY OF DISSERTATION

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1. Motivations for the selection of the research problem and objectives of the dissertation

The source of inspiration behind the research problem of an insurance captive formula for risk management in the operations of a company is the numerous shortcomings of commercial insurance as a method of risk management. These shortcomings are revealed in everyday practice of the so-called “insurance industry”, which arbitrarily identifies, defines and catalogues risks, and possible consequences of a loss or damage that can be financially compensated for by commercial insurers.¹ For companies managing risks, insurance offers of the insurance industry are rarely fully satisfactory, mainly due to the scope of the risks covered that might not match companies’ needs due to arbitrarily adopted definitions of the risks covered, often differing from their (policy holders’) understanding. Moreover, the procedures of monitoring insured risks are not always compatible with non-insurance methods and techniques used by the companies that neutralize the identified threats.² Under such circumstances, many companies attempt to manage risks by using a self-insurance (captive) method. The problem of the advantages and disadvantages of a captive solution is the subject of this dissertation.

Another source of inspiration had its origins in the lack of an exhaustive study of the selected research problem in economic literature as well as my personal curiosity.

All of the above led to defining the purpose of the subject matter of the dissertation with the following main problems related to using a captive insurer in a company:

1. Explaining what is the specificity of risk management from a captive and where it comes from;
2. Determining the specificity of the risk management method offered by a captive in comparison with commercial insurance companies, mutual insurance companies, and risk retention schemes in a company;
3. Explaining the role and place of a captive in the insurance system;

¹ R. Holly, *O ubezpieczeniowej teorii, doktrynie i metodzie...*, [in:] *O dobre prawo dla ubezpieczeń* księga jubileuszowa profesora Eugeniusza Kowalewskiego, praca zbiorowa, TNOK, Toruń 2019; and R. Holly, *Ideological and doctrinal assumptions of health care management in Poland*, *Journal of Health Policy, Insurance and Management*, XXXIII/XIII Supplement, vol. 4, pp. 37-93, <http://docplayer.pl/190024581-Journal-of-health-policy-insurance-and-management.html>, as accessed on 15.01.2021.

² R. Holly, *Overcoming the deadlocks in health care insurance developments*, XIX International Forum of Finance, Odessa, 2019.

4. Evaluating the efficiency and effectiveness of a captive insurer as a risk management formula that can be used by a company (a captive owner);
5. Analysing a captive as a tool that can help companies to break the impasse, which is about the commercial insurance market objectifying risks in such a way that its market offer may no longer match or not sufficiently meet the needs of companies;
6. Presenting benefits that can motivate to form a captive insurer and use it for risk management purposes in a company;

The choice of research problems also resulted from the need to verify the following views:

- captives can perform their role more effectively when their owners expect captives to engage in risk management. Captive owners can expect a captive to have full insight into insurable risk exposures of a company;
- the differences in approaches to insuring different kinds of risks between commercial insurers and captives, and opportunities to obtain risk management consulting from captives (information symmetry);
- the critical views on improper use of captives;
- the views on the lacking regulatory and infrastructure support for the development of captives in CEE countries (other than the minimum rules implemented as a result of the EU directives). Lacking regulatory does not encourage and promote risk management in a captive insurer formula to companies, nor it encourages relocating captives to CEE countries;
- the view according to which an insurance captive used as an insurance formula enriches the theory, doctrine and practice of risk management.

Moreover, the dissertation discusses the following:

- advantages and disadvantages of captive insurers for captive owners;
- types of captives and domiciles in the world – the differences and classification criteria;
- effectiveness and efficiency of risk transfer (commercial insurers vs. captives);

- dictating insurance conditions, procedures of servicing insurance contracts and cost of transfer of risks (insurance premium) by commercial insurers, versus a transparent cooperation based on transparency, trust and information symmetry that exists between a captive owner and captive insurer;
- obtaining a competitive advantage by a captive owner on the market through a captive insurer.

In the title of the dissertation and throughout the text, the term formula has been used numerous times. The term formula has two meanings according to the Merriam-Webster dictionary. In the first meaning, it is understood as a mathematical or chemical formula. In the second meaning, formula means a plan or method for doing, making or achieving something, or an established form.³ The captive formula term used in this dissertation is meant as a method for achieving an effective and efficient risk management in operations of a company in which self-insurance (captive) solution is backed by risk management actions. The formula used in this dissertation is also meant as an operating principle, a formalized or informal algorithm that refers to a specific solution for captive parents used with the purpose to fulfil the tasks of effective and efficient risk management in operations of a company.

³Merriam-Webster dictionary, *Formula*, <https://www.merriam-webster.com/dictionary/formula>, as accessed on 01.02.2020.

2. Structure of the dissertation

This dissertation consists of 271 pages of text and includes an introduction, seven chapters, fourteen graphs, fifteen tables, bibliography of 134 books, 52 internet publications, and insurance and risk retention terms dictionary. It contains the main research problems, the purpose of the dissertation, the thesis and hypotheses, adopted method and data sources. The dissertation summaries are available in English and Polish.

The first chapter presents issues related to the genesis, history and the concept of a captive, as well as the place of an insurance captive in the insurance risk theory and doctrine. It also discusses types of captives. Moreover, it explains the process of forming a captive, operational management, regulatory supervision and minimum capital requirements for a captive set up.

The second chapter presents risk appetite vs. risk tolerance, approaches, ways and techniques used for risk management in a company's operations.

The third chapter presents insurance and non-insurance approaches and methods of managing risks in a company, including the captive insurance formula in Enterprise Risk Management.

The fourth chapter presents issues related to a captive as an insurance formula for risk management, effectiveness of risk transfer to a captive, in comparison to retaining risks in a risk retention scheme, the advantages and disadvantages of the captive formula, as well as the process of making a decision to form a captive.

The fifth chapter presents issues related to a captive as an appropriate risk management formula in a company, advantages and disadvantages of a captive in risk management, financial management of a captive, as well as the use of a captive in international insurance programs.

The sixth chapter evaluates the effectiveness of several types of captives, strategies in the development of captives, risk management of health risks of a company's employees and improper use and closing of captives.

The seventh chapter summarizes the research findings, which confirmed that in general, a captive insurer can become an appropriate formula for risk management in a company, and that a captive makes an important contribution to the insurance theory and doctrine.

3. Thesis and hypotheses

The thesis states “a captive insurer is an appropriate formula for risk management in a company”. It has been verified by hypotheses formed as the following questions/problems:

1. Whether a captive can be an appropriate formula for the type of risks that are specific to the business activities of a captive owner?
2. Whether a captive can be an appropriate formula for the intended business strategy of a captive owner?
3. Whether a captive can deliver risk management “know-how” and contribute to mitigation of losses?
4. Whether a captive can be an appropriate formula to support a captive owner’s financial management?
5. Whether a captive can be an appropriate formula for a captive owner in its insurance relationship with insurance and the reinsurance markets?

The contextual questions that needed to be answered are about the identification of significant differences between the transfer of risks to a commercial insurance company (i.e., joint-stock company) and the transfer of risks to a captive, and the consequences for risk assessment, risk management, claims settlement and reinsurance.

4. Research method and data sources

The thesis and hypotheses were verified mainly by comparing the ways of perceiving and treating risk by entities operating in the formula of a commercial insurance company and entities operating in the captive formula. Secondary comparative analyzes of various research in this area were conducted with the assumption that this is the most appropriate way to describe and characterize the captive as a separate, specific insurance formula. Various approaches, methods, and techniques of the company risk analysis were also used, conducted under the most commonly used analyses, such as ETA, FTA, HAZID, HAZOP, RCA, and others.

The verification of the thesis and hypotheses have been based on the following data sources:

- study of insurance literature, in particular publications about captive insurers, reports, research, and expert opinions from captive conferences as well as historical analysis of the captive concept;
- desktop research, amongst them the surveys conducted by AON's Global Risk Management Consulting (AGRC). The surveys are web-based questionnaires made amongst large companies over many years, addressing qualitative and quantitative risk issues, and dealing with issues related to the management of insurance risks of large companies. The answers were provided by Risk Managers, Chief Risk Officers, Chief Financial Officers, treasurers, and others who provided feedback and insights into their insurance and risk management choices, interests, and concerns of insurance placed in commercial insurance companies and risks transferred to captives. Percentages for some of the responses may not add up to 100 percent due to rounding up or respondents being able to select more than one answer. AGRC conducted, collected and tabulated the responses;⁴
- conducted interviews with judges of competence such as senior management of insurance companies, management of captive insurance companies, captive managers, captive consultants, and the insurance regulator in Malta;
- conducted analyzes of selected legal acts, court judgments, and IRS tax decisions regarding insurance captives.

⁴AON Global Risk Management Consulting, <https://www.aon.com/2017-global-risk-management-survey/pdfs/2017-Aon-Global-Risk-Management-Survey-Full-Report-062617.pdf>, as accessed on 10.03.2019.

Studies that deserve special attention include:

- long-term international multi-faceted comparative studies conducted by Aon Global Risk Consulting,
- research conducted in this area in Poland by G. Trupczewski and M. Thlon on the use of the risk retention technique by enterprises in Poland.

The first part of the dissertation is based on the study of foreign and domestic literature. In the second part of the dissertation, secondary analyses of surveys, reports of advisory entities, as well as opinions of competent judges from the captive industry are mainly conducted.

5. Research results

The purpose of this dissertation was to research whether a captive insurer can be an effective and efficient formula for risk management in a company. The findings of the researched proved that a captive generally:

- 1) can be an appropriate formula for the type of risks that are specific to the business activities of a captive owner;
- 2) can be an appropriate formula for the intended business strategy of a captive owner;
- 3) can deliver risk management “know-how” and contribute to mitigation of losses;
- 4) can be an appropriate formula to support captive owners’ financial management;
- 5) can be an appropriate formula for a captive’s owner in its insurance relationship with insurance and reinsurance markets.

Moreover, the research confirmed that:

- a captive insurance formula enriches theory, doctrine and practice of insurance;
- using a captive formula should result in an increase in the knowledge of insurable risks in a company and increase motivation for risk management;
- a captive formula can support a company’s risk management initiatives;
- tax incentives provide an additional motivation for risk management initiatives of a captive and its parent;
- there is need for development of captive insurance laws in CEE countries.

Performance of a captive formula for risk management depends on several factors. Knowledge risk management, motivation and information symmetry between a captive parent and captive insurer are examples of those factors. Information symmetry is the outcome of captive ownership and unlimited time frame of future co-operation between both entities. As a result of information symmetry, a more precise risk identification, definition and assessment lead towards risks neutralization. Subsequently, the selection of insurance and/or non-insurance methods can take place. It is also possible to apply a mixed approach at the same time, for example, risk retention scheme in a company for some risks and a captive insurer formula for others.

Research of potential advantages and disadvantages of a captive insurer has been essential. This is because it helps in selecting the most appropriate type of captive, captive management company, as well as applying the most adequate resources for risk management, which in turn should lead to increased security and improved competitiveness of the captive parent.

In the past, risk management was not one of the main reasons for creating insurance captives. This has changed over the past two decades. According to AON’s Global Risk Management Surveys published between 2013 and 2017, the reasons for creating captives have evolved, as presented in the table below.

Table 1. Reasons for creating captives (Table 5 in the dissertation)

Reasons for creating captives	2017	2015	2013
Strategic risk management tool	37%	33%	18%
Cost efficiencies	13%	16%	18%
Reduction of insurance premiums	10%	11%	12%
Risk Finance Expense Optimization	5%	8%	12%
Control on insurance programs	15%	10%	11%
Access to reinsurance market	5%	9%	7%
Risk finance expense optimization	8%	8%	12%
Cash flow optimization	3%	4%	7%
Ability to establish reserves	3%	4%	4%
Tax optimization	6%	4%	4%
Other	4%	4%	6%

On the basis of: AON Global Risk Management Survey 2017.⁵

Table 1 reveals a two fold increase in the percentage of formed captives since captive parents started to see them as strategic risk management tools (2013-2017).

The use of captives is presented in more detail in Table 2, which provides data from AON’s Global Risk Management Survey published in 2019. It reveals different uses of captives based on companies’ level of revenues.

⁵AON Global Risk Consulting, *Global Risk Management Survey 2017*, <https://www.aon.com/2017-global-risk-management-survey/pdfs/2017-Aon-Global-Risk-Management-Survey-Full-Report-062617.pdf>, as accessed on 07.04.2020.

Table 2. (Table 14 in the dissertation)

Type of benefits from using captives in relation to level of income of captives' parents (USD)

Type of benefits from using captives in relation to level of income for companies (captives' parents) in billions of USD	<1B	1B-4.9B	5B-9.9B	10B-14.9B	15B-19.9B	20B-24.9B	25B+
Strategic risk management tool	27%	49%	54%	42%	33%	67%	50%
Control on insurance programs	36%	49%	71%	63%	33%	78%	50%
Access to reinsurance market	13%	34%	39%	37%	50%	56%	50%
Cost efficiencies	63%	61%	71%	63%	67%	67%	68%
Ability to establish reserves	25%	25%	36%	21%	33%	33%	32%
Reduction of insurance premiums	42%	50%	68%	63%	50%	56%	59%
Tax optimization	22%	17%	21%	16%	67%	11%	26%
Cash flow optimization	42%	24%	29%	16%	67%	11%	26%
Finance uninsurable risks	17%	25%	32%	42%	50%	33%	18%
Risk finance expense optimization	27%	29%	36%	32%	33%	33%	35%
Other	8%	8%	0%	5%	0%	0%	6%

On the basis of: AON Global Risk Management Survey 2019.⁶

There are also other reasons for forming captives that are not listed in the tables, such as:

- a captive can play the role of an insurance “know-how” centre for the group of companies;
- use of a captive to manage international insurance programs (e.g., fronting);
- risk sharing between companies operating in a similar type of business (in the case of group captives).

According to Table 2, along with the increase in premiums written by captives, there has been a growing interest in using captives for risk management due to cost efficiency, control of the costs of insurance programs, access to the reinsurance market and reduction of insurance premiums (all of the above exceed 50%).

⁶AON Global Risk Consulting, *Global Risk Management Survey 2019*, <https://www.aon.com/2019-global-risk-management-survey/index.html>, as accessed on 20.07.2020.

Table 3. (Table 12 in the dissertation) – type of industries and percentage of companies that use captives

Types of industries	Yes (currently)	Yes (within the next three years)	No
Agribusiness	15%	7%	78%
Aviation	11%	7%	81%
Banking	26%	2%	72%
Beverages	11%	6%	83%
Chemicals	27%	0%	73%
Conglomerate	23%	2%	75%
Construction	20%	6%	75%
Consumer goods manufacturing	24%	1%	74%
Education	17%	0%	83%
Energy (oil, gas, mining, etc.)	26%	3%	71%
Food processing & distribution	10%	1%	88%
Government	0%	0%	100%
Health care	26%	0%	74%
Hotels & hospitality	4%	16%	80%
Insurance	13%	3%	84%
Investment & finance	10%	5%	86%
Lumber, furniture, paper & packaging	14%	5%	81%
Machinery & equipment manufacturers	16%	3%	81%
Metal milling & manufacturing	13%	2%	86%
Pharmaceuticals & biotechnology (life sciences)	31%	6%	64%
Power /utilities	21%	3%	76%
Printing & publishing	13%	13%	75%
Professional & personal services	12%	5%	82%
Real estate	16%	5%	79%
Restaurant	11%	11%	78%
Retail trade	24%	7%	69%
Rubber, plastics, stone & cement	5%	0%	95%
Technology	14%	5%	81%
Telecommunications & broadcasting	22%	0%	78%
Textiles	0%	0%	100%
Transportation manufacturing (non-aviation)	17%	7%	76%
Transportation services (non-aviation)	15%	3%	82%
Wholesale trade	6%	4%	90%

On the basis of: AON Global Risk Management Consulting.⁷

⁷AON Global Risk Consulting, *Global Risk Management Survey 2017*, <https://www.aon.com/2017-global-risk-management-survey/pdfs/2017-Aon-Global-Risk-Management-Survey-Full-Report-062617.pdf>, as accessed on 07.04.2020.

According to AON's Global Risk Management Survey published in 2019, almost all types of industries use captives, except for the textile industry and governments. The diversity amongst the industries using captives and variety of goals for using them impact development of captive strategies.

- reviewing all insured and uninsured risks in a company from the perspective of the owned captive that is perceived as the company's insurance and risk management centre;⁸
- identifying and analyzing hazards with such an approach to risk management that it takes into account the possible roles to be played by a captive;
- performing risk assessments in a company with the intention of managing the total cost of risk, taking into account the possibility of transferring insured risks from the commercial insurance market to the captive, increasing premiums written by the captive and greater diversification of risks;
- assessing the benefits of the current captive domicile and considering a strategic change of the domicile;
- developing an international strategy for the development of an insurance captive business, in line with the international strategy of the captive parent, using, for example, the freedom to provide insurance services (direct insurance contracts) in the European Economic Area (EEA) and/or indirect insurance strategies with the use of fronting;
- strategy of effectiveness and efficiencies of the captive's investments policy;
- strategy of using the captive for insuring third party risks;
- strategy of insurance distribution in order to have the cost-efficient distribution that is in compliance with the distribution law.

A captive in itself has no structural flaws that would prevent it from offering risk management consulting to the captive's parent(s), unless, due to some legal or capital requirements, it has limited potential because of the law or captive's size. A captive may not have the appropriate capital or expertise to insure all possible insurance risks, but even then,

⁸D. J. Riggan, *Guide to Captives and Alternative Risk Financing*, The National Underwriter Company, 2013, p. 17.

with the right strategy and support from external consultants, a captive can play a significant role in risk management in a company.

However, if a captive is improperly supervised by its board of directors, which, for example, lacks knowledge or vision about the potential use of a captive for risk management purposes, then the captive's management is less likely to ensure that risk management has an appropriate place in the captive parent's insurance strategy. As a result, there can be no risk management support requested by a captive parent. Failure to use a captive for risk management can result from the lack of appropriate "know-how" in a company and/or adequate information systems, a flawed insurance strategy, and/or lack of a risk management strategy.

Certainly, some captive managers might not have sufficient knowledge and/or experience in using a captive formula for risk management purposes, in the particular industry where the captive owner operates. However, this should not shed negative light on potential of a captive as a risk management formula.

Many captives are small or very small organizational units that may not be adequately prepared to act as a risk management center for an international group of companies, however, the size and the type of a captive and its resources are decided by the owner. The lack of a risk management strategy for a captive can be the result of its parent having a poor risk management strategy. On the other hand, there are examples of companies (e.g., BP group, AstraZeneca) that own presently or had owned more than one captive in the past. This proves variety of insurance needs that can be looked after captives.⁹

The benefits coming from the ownership of captives, confirmed by AON's surveys, include lower insurance premiums because of captives' cost efficiencies and the use of captives for risk management. Important factors are: access to the reinsurance market, improved cash flow for captive owners, availability of insurance coverage that is needed by a company, the opportunity for tax optimization and maintaining technical reserves that may remain untaxed for a required period of time.

Challenges may occasionally arise with the cession of some types of risks from captives to the reinsurance market. Those challenges can limit the use of a captive formula in certain cases, but even then, captives can be used by companies to counteract any occurrence of loss

⁹Captive International, *AM Best rates BP's Vermont and Guernsey captives 'Excellent'*, <https://www.captiveinternational.com/news/am-best-rates-bp-s-vermont-and-guernsey-captives-excellent-2458>, as accessed on 27.04.2019.

events. Captives can offer consulting on retained risks by captive parents and take initiatives in the monitoring hazards and loss controls.

Knowledge risk management is defined as a systematic process of applying tools and techniques to identify, analyse and respond to risks associated with the creation, application and retention of organizational knowledge.¹⁰ In recent years, there has been a significant increase in the application of risk management as an area of knowledge with an emphasis on corporate risks, combined with the management of knowledge of risks in a company's operations. With this approach, a new area of research has emerged, known as Knowledge Risk Management (KRM). Insurance captives can be formed with the goals of collecting, storing, analyzing, and sharing knowledge about risks with captive parents and supporting them in managing risk knowledge.

There are captives owned by a single company and there are captives that are owned by two or more companies (group captives). Captives can be owned by associations, government agencies, US States or non-profit organizations, as well as by the police and military. All of these organizations can use captives for KRM.

There are many captive domiciles in the world. The oldest and largest domicile is Bermuda. As far as the European captive domiciles, the following can be considered:

1. For companies interested in using the EU/EEA freedom to provide insurance services, and at the same time having access to well-developed local captive management services:
 - Ireland,
 - Luxembourg,
 - Malta.

2. For companies interested in already developed local risk management consulting services:
 - Ireland,
 - Luxembourg,
 - Sweden.

¹⁰K. North, G. Varvakis, *Competitive strategies for small and medium enterprises*, Springer International Publishing AG Switzerland, p. 281, 2016, <https://nibmehub.com/opacs-service/pdf/read/COMPET~1.PDF>, as accessed on 02.04.2022.

3. For companies interested in lower corporate income tax, lower capital requirements due to existing PCC legislation, competitive costs of captive management, while at the same time having direct access to the EU/EEA markets:
 - Malta.
4. For companies interested in lower income tax, lower capital requirements due to existing PCC legislation, but without possibility of writing insurance directly into the EU/EEA markets:
 - Guernsey,
 - The Isle of Man,
 - Jersey.

Assigning a significant risk management role to a captive insurer has an impact on selecting a certain type of captive. In practice, it can often mean owning a captive with its own management team and employees, when external captive management companies are not able to deliver the required scope of support and risk management.

6. Conclusions and recommendations

The aim of the research was to establish whether a captive insurer can be an effective and cost-efficient insurance formula for risk management in operations of a company.

The analyses presented in my dissertation generally confirm the thesis that the main advantage of the risk management method in the captive formula comes from its focus on risks threatening the interests of a company, in more precise identification of loss events that can become a source of threats to a company, in more accurate defining and estimating of individual effects of losses that may be incurred by a company, on the easier introduction of preventive actions and on more effective and financially beneficial claims settlement. This makes risk management more effective and economically efficient. It is facilitated by precise definition and assessment of risks, and their neutralization with a properly selected insurance and/or non-insurance method.

Therefore, self-insurance in the captive formula allows a company to avoid situations in which by using an insurance offer of a commercial insurance company is doomed to view its own risks as imposed on the company by external service providers.

A captive formula is an insurance method combined with risk management, aimed at delivering effective and efficient insurance covers for a company. It is guided by certain criteria and codified solutions that are different from other approaches to insurance.

A captive can offer insurance services along with risk management based on algorithms, understood as processes, rules, and techniques for risk management. The purpose of a captive is to provide insurance cover to its captive parent that fully meets its needs and that can be additionally supported by appropriate risk management advice. This is possible thanks to the information symmetry that exists between a captive parent and captive insurer, and because of the knowledge that has been accumulated during many years of mutual cooperation. The investments made by a company in a captive and in activities of a captive parent itself are aimed at reducing the frequency of loss events, reducing an average value of a loss, and reducing the time needed to return to a situation prior to when a loss event occurred, and thus generate savings for the captive owner.

The insurance protection offered by a captive is not/should not be objectified in the same way as it is with commercial insurers. The purpose of a commercial insurance company is primarily to generate profit for the shareholders, and not to act in the best interest of the policyholders/insureds, while the objective of a captive is different because of the fact that the captive parent is, and the risk management agenda.

However, the problem of having proper procedures or an algorithm to execute appropriate risk management activities, that guarantee accurate identification and proper definition of potential threats to the company's interests, has largely been unsolved. Helpful, in this respect, can be the concept of understanding risk in the light of moderate realism that has been under development for several years now by R. Holly.¹¹ According to the concept, it is the object itself (in our case, a company), which can separate from the chain of cause-and-effect events, that one fragment, which as a result of the change taking place, can lead to a state that threatens the interests of a company.

The next steps, according to the concept, are:

- 1) identifying drivers (causative factors) stimulating the course of the fragment in the process of change that interests us (chain of cause-effect events);
- 2) parameterization of the drivers that allow for estimation of the drivers' strength and direction of influence;
- 3) estimating the probability of the anticipated course of the change implemented;
- 4) assessment of the degree of consistency – inconsistency of probable effects of the change taking place, against the interests of a company to which the change relates.¹²

Captive formula is meant as a method that combines self-insurance with risk management. The main recommendation coming out of this dissertation is for a company to use an existing captive insurer for risk management purposes.

Captives are usually profitable, although profit is not the main purpose of their existence. The reasons for owning a captive insurer come mainly from inadequate availability of insurance protection on the market and the opportunities that come with risk management, e.g., long-term reduction of the cost of insurance. Other main objectives of a captive are improving the identification of risk, and therefore having more adequate protection for the insured, improving premium cash flow, aiming at a lower cost of insurance coverage, and achieving full symmetry of information between the insurer and the captive insurer resulting in enhanced transparency and mutual trust. Investments made in risk management, both in a

¹¹Contrary to metaphysical realism, which recognizes risk as being objectively existing, independently of a subject exploring risk (a company), the moderate realism gives risk the status of a hypothetical construct used for description/knowledge of reality, according to R. Holly, *Zarządzanie ryzykiem – czyli czym*, [in:] W. Sułkowska (red.), *Rynek ubezpieczeń*, Difin, Warszawa, 2013.

¹²R. Holly, *How the risk exists and what we can do with it*, Paper on International Scientific and Practical Conference – The World Health 2021. Ministry of Health of Ukraine, Kyiv, 02.04.2021; Also: R. Holly, *Risk as a subject matter of management*, *Journal of Health Policy, Insurance and Management*, No. XXIII/XII, vol. 4, pp. 103-105.

captive and in the operations of a company, aim to reduce the frequency of loss events, and the value of an average loss and thus, generating long-term savings.

Critical analysis of practical applications of the captive formula should become a significant stimulus for the further development of a captive as a risk management formula. Undoubtedly, there is a need for further research on the use of a captive insurer that would take into account many variables, such as types of industries, the relevancy of identified vs. insured types of risks, and continuous examinations of emerging risks that can potentially become new threats to a company's interests.