

Received: 10.07.2021

Accepted: 5.10.2021

Wojciech Zalewski

University of Gdańsk, Poland

wojciech.zalewski@ug.edu.pl

ORCID ID: <https://orcid.org/0000-0001-5539-7162>

Piotr Majewski

School of Banking in Toruń, Poland

piotr.majewski@wsb.torun.pl

ORCID ID: <https://orcid.org/0000-0003-2532-7950>

The Dark Number of Insurance Crimes

Abstract: Insurance crime makes it difficult to interpret and measure the scale of undisclosed crime. In the insurance industry, the perpetrator can easily craft a false claim by simulating, for example a traffic accident, injury, or property damage. This causes difficulties in the evidential process and measuring the scale of the phenomenon. The aim of the article is to analyse the phenomenon of the dark number of insurance crimes. This paper includes the analysis of the definition of the term 'dark number' and other factors, such as the degree of market development, the effectiveness of detection, the level of insurance awareness, and the dimension of social consent in Poland and selected European countries. Defeating the problem of insurance crime and estimating the dark number of insurance crimes requires taking into account the specificity of individual markets and types of insurance. We prove that effective measurement and reduction of a dark number of insurance crime is not possible without the constant updating of knowledge about the phenomenon of insurance crime and the use of advanced IT tools.

Keywords: dark number of crime, insurance crimes, insurance fraud, undisclosed crime

Introduction

Undisclosed crime is generally a complex phenomenon, and in the field of economic crimes¹, especially insurance crime, difficulties grow. Varying levels of the dark number of crimes are due to several factors:

¹ O. Górnioł, Przestępcość gospodarcza i jej zwalczanie, Warsaw 1994, pp. 67–68.

- weight of the act committed (the more serious a crime, the more often it is reported and detected, *vide* – a low dark number in homicides);
- willingness to report a crime by the interested – victims who calculate the “profitability” of reporting a crime to law enforcement agencies, the reasons for not reporting are different- shame, costs, not only the financial, but also lost time and emotional commitment, trust in law enforcement agencies that they will do their job,
- law enforcement activities that focus on a selected group of crimes (*i.e.*, homicide...), results in a decrease in the dark number of crime.

In the field of insurance crime, one can observe an increase in the factors preventing crime reporting. Insurance crimes are seen as not very serious. In Poland, only state and local government institutions, which in connection with their activities learned about the committing of a crime prosecuted *ex officio*, are obliged to immediately notify the prosecutor or the Police and take necessary actions until the body appointed to prosecute the offenses or until the appropriate order is issued by that body, in order not to obliterate traces and evidence of the offense (Article 304 § 2 of Code of Criminal Procedure). The remaining entities have only the social obligation to notify about the crime.

It should be added that insurance companies are not interested in reporting crimes for business reasons. In addition, they minimize crime costs by transferring them to clients in the form of increasing the amount of insurance premiums. Insurance entrepreneurs understand the need to combat frauds, but they do not see the need to report them to the appropriate authorities, preferring to settle matters in a different way², especially in civil law. The prosecution of this type of crime is difficult in providing evidence and requires a lot of legal knowledge, but also economic and financial knowledge. As a result, an important group of cases is not considered, is not adjudicated, and the perpetrators are not responsible, which lowers civic sense of justice, does not shape legal awareness in the right way, and does not contribute to shaping pro-legal attitudes.

Knowing the dark number of crime is therefore important not only for criminological cognitive purposes, but above all, for economic (*i.e.*, assessment of cost calculation and, as a result, of the premium) and legal reasons, and in the wider perspective also for criminal prevention. Tolerating this crime is particularly dangerous. In Poland, in 2020, there were attempts to improper claims of compensation and benefits insurance in the amount of PLN 401 billion³. The difficulties in determining the overall amount of the loss in a relationship are rightly

2 See R. Połeć, Przestępcość ubezpieczeniowa w praktyce zakładów ubezpieczeń, Sopot 2021, p. 51.

3 <https://piu.org.pl> (1.06.2021).

pointed out⁴. It must be remembered, however, that official statistics do not include undisclosed crimes. The so-called dark number of crime in relation to the group of types of deeds in question seems particularly high⁵.

The basic thesis of the paper is: insurance crime is a criminal area with one of the largest percentages of undisclosed crime; in order to fight it effectively you need to know its real image.

In this text, we have reviewed the literature and analysed it, and collected and analysed statistical data. Before we go on to discuss the current research results on the estimation of insurance crime in Poland, it is advisable to make some general comments.

1. The Dispute about the Definition

Undisclosed crime in Poland is often defined as a “collection of crimes occurring in social reality, about which information did not reach, or has reached law enforcement agencies, but was not registered by them”.⁶ In criminological literature, undisclosed crime also functions under the term “the dark number of crimes”, that is, crimes committed but not formally controlled.⁷

The term “dark number” is used in a narrower way to determine the extent of undisclosed crime,⁸ as H. Schwind says “the sum of these crimes, which are not known to law enforcement agencies (police and judiciary) and therefore do not appear in criminal statistics (...).”⁹ In the second, broader sense, the “dark number” is treated as the ratio of the number of crimes actually committed to the number of crimes in which cases have been terminated by a valid conviction.¹⁰

The first approach seems more accurate.

Brunon Holyst, representing the second and, therefore, broader approach, distinguishes several areas of the “dark number” of crimes. The first are crimes that have not come to the attention of law enforcement. The second covers cases of

4 See M. Płonka, B. Oręziak, M. Wielec, Rynek Ubezpieczeniowy. Zapobieganie przyczynom przestępcości, Warsaw 2021, p. 13.

5 J. Błachut, Problemy związane z statystycznym opisem przestępcości w oparciu o dane statystyk policyjnych, „Archiwum Kryminologii” 2001, t. XXV, pp.123–140.

6 J. Błachut, Definicje przestępstwa – przestępcości, (in:) A. Marek (ed.), Zagadnienia ogólne, System Prawa Karnego, Tom 1, 2010, p. 150.

7 J. Błachut, Czy „ciemna liczba przestępstw” istnieje?, (in:) A. Kossowska et al. (eds.), Archiwum Kryminologii Tom XXIX – XXX, 2007 – 2008, Tom jubileuszowy dedykowany Panom Profesor Helenie Kołakowskiej – Przełomiec, Zofii Ostrowskiej, Dobrochnie Wójcik, Warsaw 2009, pp. 78–79.

8 J. Błachut, A. Gaberle, K. Krajewski, Kryminologia, Warsaw 2007, p. 227.

9 H-D. Schwind, Kriminologie: Eine praxisorientierte Einführung mit Beispielen. Heidelberg 2008, p. 34.

10 B. Holyst, Kryminologia, Warsaw 2016, p. 111.

revealed crimes which perpetrators have not been detected. The third area is filled with offenses, the perpetrators of which were detected, but due to negative procedural reasons no indictment was made or no conviction was given. The fourth area are offenses for which the perpetrators have been convicted by a valid court judgment, although not all acts were known to the prosecution authorities and were included in the indictment. The view of B. Holyst somewhat obscures the picture, as areas 2–4 are “areas” of revealed, most frequently reported crimes, known to law enforcement agencies, thus “bright”, not “dark”. Specific procedural decisions in the form of, for example, discontinuation of proceedings in the absence of the perpetrator are the result of specific actions or omissions of the judicial authorities against revealed events, which were likely to commit a crime, if the proceedings were initiated.

For example, in German science, the term dark field (*das Dunkelfeld*) as the opposite of the clear field of crime (*das Hellfeld*) is taken to denote the phenomenon in question¹¹. Of course, it can be argued that as part of the “dark field”, there is a “dark number”, however, this does not go on for the discussion.

In criminology, researchers point to methodological problems occurring in both the clear¹² and dark¹³ fields (the dark figure of crime, Dunkelziffer, le chiffre noir, il cifro nero). In addition, there is a distinction between relative (relativen) and absolute (absolute Dunkelfeld) dark field.¹⁴ The relative dark field refers to parts of unregistered crimes that can be detected using various research methods. However, some of the actions remaining in the dark field cannot be detected in the research, for various reasons, for example, the parties do not perceive the behaviour as criminal or do not remember it, etc.

Criminologists have long studied this important and interesting phenomenon, already identified by A. Quetelet, who laid the foundations and shaped the criminal statistics.¹⁵ Currently, it is believed that Quetelet’s fundamental thesis that the mutual relationship of dark and clear crime number is constant, is now considered

11 S. Eifler, D. Pollich (eds.), *Empirische Forschung über Kriminalität*, Wiesbaden 2014.

12 S. Kersting, J. Erdmann, *Analyse von Hellfelddaten – Darstellung von Problemen, Besonderheiten und Fallstricken anhand ausgewählter Praxisbeispiele*, (in:) *Empirische Forschung über Kriminalität*, Wiesbaden 2014, p. 9.

13 S. Prätor, *Ziele und Methoden der Dunkelfeldforschung. Ein Überblick mit Schwerpunkt auf Dunkelfeldbefragungen im Bereich der Jugenddelinquenz*, (in:) *Empirische Forschung über Kriminalität*, Wiesbaden 2014, p. 31.

14 S. Prätor, *Ziele und Methoden der Dunkelfeldforschung*, Bundeskriminalamt 2010, p. 8. H. J. Scheider, (in:) H.J. Scheider (ed.), *Internationales Handbuch der Kriminologie. Band 1. Grundlagen der Kriminologie*, Walter de Gruyter, Berlin 2008, p. 309.

15 A. Quetelet, *Układ społeczny i jego prawa*, Warsaw1874. Nowadays, for example J. Błachut, *Problemy związane z statystycznym opisem przestępcości w oparciu o dane statystyk policyjnych*, „*Archiwum Kryminologii*” 2001, t. XXV, pp.123–140.

to be wrong. These relationships are variable in time and space.¹⁶ The dark number is estimated differently. One of the greatest criminologists of the twentieth century, Sir Leon Radzinowicz estimated that the number of crimes that were registered and punished, and therefore fully brought into the open, does not usually exceed fifteen percent of all committed.¹⁷ This means that according to the British criminology co-founder, born in Łódź,¹⁸ as many as 85% of crimes are not punished. Crimes are either not reported or not registered, and where crimes are registered, prosecutors either refuse to initiate proceedings against these crimes or proceedings are discontinued, and perpetrators are acquitted. Nowadays, the reasons for not reporting crimes are carefully classified. It is emphasized that some crimes are reported more frequently than others. Crimes against health and life (*i.e.*, homicide, severe damage to health) are more often reported, crimes against property (*i.e.*, theft, burglary) are reported much less frequently, especially minor ones. The subjective factor is also important, and therefore who is reporting whose crime. Crimes committed by strangers are more frequently reported, more often crimes are reported by middle-class victims, better educated, etc. On the other hand, crimes committed by the closest: spouses or relatives, crimes less serious in financial as well as corporeal consequences, are reported much less often.¹⁹

Despite the sexual revolution of the 1960s, the sphere of human sexuality is still a shameful, taboo sphere for many people. This crime is not mentioned, it is hidden, kept silent, and often blamed on the victim. Being raped still results in social stigma, victims prefer not to talk about it²⁰. The estimated dark number of crimes, and therefore undisclosed crime, is exceptionally high here. It is estimated that up to 65%, and in some studies even up to 95%, of sexual offenses remain undisclosed²¹. In Poland, similar data has been pointed out for a long time. For example, Andrzej Siemaszko has indicated a long time ago that the dark number of crimes is the ratio of actual crime to recorded crime. The indicated author claimed that every year three quarters of crimes are not registered²².

16 S. Eifler, D. Pollich (eds.), *Empirische Forschung über Kriminalität – methodologische und methodische Grundlagen*, Wiesbaden 2014, pp. 16, 35.

17 L. Radzinowicz, *Ideology and Crime. A Study of Crime in its Social and Historical Context*, London 1966, pp. 63–64.

18 W. Zalewski, Sir Leon Radzinowicz – refleksje w setną rocznicę urodzin wybitnego kryminologa, „Gdańskie Studia Prawnicze” 2006, t. 15, pp. 185–195.

19 J. Schwartz, A. Vega, *Sources of Crime Data*, (in:) B. Teasdale, M.S. Bradley (eds.), *Preventing Crime and Violence, Advances in Prevention Science*, Springer International Publishing Switzerland 2017, p. 155.

20 K.M. Helm, *Hooking Up: The Psychology of Sex and Dating*, Greenwood, 2015, p. 92.

21 K.M. Hess, Ch.H. Orthmann, H.L. Cho, *Criminal Investigation*, Boston 2015, p. 352.

22 See A. Siemaszko, *Przestępcość nieujawniona. Porównanie polskich rezultatów ICVS'96 i '92 (badania międzynarodowe)*, Archiwum Kryminologii 1997–1998, t. 23–24.

Crime measurement has long been a problem, not only within a dark number. A clear number is also objectionable. Criminal statistics are not complete in all countries, and data is not always collected consistently and systematically.²³ Exemplary, though far from perfect, are crime data collection systems in the US. The two most important sources of data on the one hand come from the Unified Crime Reports (UCR), and on the other from National Crime Victimization Survey (NCVS). Data in the UCR has been collected almost from the beginning of the FBI, and thus over eight decades. Meanwhile, NCVS, and so victimization reports, are younger, because they have been systematically accumulated only since 1973.²⁴ UCR reports provide data with a clear number, while NCVS reports on a dark field. For almost fifty years, scientists have been trying to obtain a comprehensive picture of the actual number of crimes on the basis of both groups of data.²⁵ The conclusions are unfortunately pessimistic. It was not possible, as illustrated by van Dijk, to find the "Holy Grail" of criminologists, and therefore the full and real number of crimes. What is worse, the studies, especially of Lynch and others, seem to prove that this goal is almost impossible to achieve.²⁶

The sources of failure in data collection vary widely. In the "bright field", it is not uncommon for data to be falsified for political, economic, or opportunistic reasons. An excellent illustration is the proven example of statistical distortions committed by US middle and senior police officers in entering data into "the Compstat" criminal statistics system²⁷. The problems started when promotions and bonuses were made conditional on lower criminal rates, and when political pressure began to be exerted to reduce crime, for example in New York. Police officers began to report less than the actual number of crimes, especially against property, lowering e.g., the assessment of the value of stolen goods, not accepting reports, etc.

Also in Europe, the so-called statistical "institutional inertia, where the system responds to changes in crime with a delay, means that official statistics do not

23 M.F. Aebi, K. Aromaa, B. Aubusson de Cavarlay, G. Barclay, B. Gruszczynska, H. von Hofer, V. Hysi, J.-M. Jehle, M. Killias, P. Smit, C. Tavares, European Sourcebook of Crime and Criminal Justice Statistics 2006. Den Haag: Home Office, Swiss Federal Statistical Office, Cesdip, Boom Juridische uitgevers, Wetenschappelijk Onderzoek-en Documentatiecentrum, <http://www.europeansourcebook.org> (15.06.2021).

24 J. van Dijk, Revisiting the 'dark number of crime', (in:) M. Herzog-Evans (dd.), Transnational Criminology Manual Nijmegen: Wolf Legal Publishers (WLP) 2010.

25 J. Pepper, C. Petrie, S. Sullivan, Measurement Error in Criminal Justice Data, (in:) A.R. Piquero, D. Weisburd (eds.), Handbook of Quantitative Criminology, Descriptive Approaches for Research and Policy: Innovative Descriptive Methods for Crime and Justice Problems, New York Dordrecht Heidelberg London, 2010 pp. 353–374.

26 J.P. Lynch, L.A. Addington (eds.), Understanding Crime Statistics; Revisiting the Divergence of the NCVS and UCR, Cambridge 2007.

27 R. Kall, NYPD Cops Fudged Crime Stats in Compstat Model Program Now Used in 100s of US Cities, <https://www.huffingtonpost.com> (15.06.2021).

correspond to reality. Van Dijk points out that in each of the European countries studied by him, the justice systems have specific capacity, beyond which there is an overload and pressure is put on strict control of the impact of cases. Such a situation, well documented, took place, for example, in the Netherlands in the 1970s, where prosecutors and police officers refused to initiate cases in small cases against property, as a result of which the number of thefts decreased statistically²⁸.

Statistical distortions are related to the level of trust in the justice system in a given country. Officially, crime statistics in post-communist countries tend to show lower crime rates than in the West, where it exceeds on average 4,300 crimes per 100,000 inhabitants. This does not mean, however, that it is the actual case. It is indicated that the dark crime rate in the East was much higher than in the West, which was linked to a distrust of law enforcement in the former Soviet bloc. Recently, the political and bureaucratic influence on crime statistics seems to be greater. Penal populists winning votes through anti-crime slogans are not interested in demonstrating crime reduction²⁹.

Also, the first research on the victims, and so the dark field research, was motivated more politically than cognitively or scientifically. It is indicated that in many respects these studies were aimed at learning unknown victimization and questioning public opinion about the stereotypical victim of crime and demonstrating the low risk of criminal victimization. The British Crime Survey, which was first conducted in 1982, was just calming down the mood. It is suggested that the Home Office believed that distorted and exaggerated ideas about the level of crime were widespread among the public. The study has been partly planned to at least achieve what can be called “normalization” of crime – to create a less alarming and more balanced climate of opinion on law and order, to demonstrate the “irrationality” of fear of becoming a victim of crime.³⁰

Investigations of the dark number from the essence are even more difficult, although it seems that Franz Exner, who believed that these tests are the crux of criminal statistics, was right.³¹ Nowadays, a number of problems are pointed out, the most important of which concern methodology. The experiment as to whether the participant observation has obviously very limited application, although it was also used for it. An example is Blankenburg's 1973 experiment with shoplifting. This research raises moral objections, but goes to criminal acts that the researcher provokes, tolerates, or participates in without informing the authorities.³²

28 J. van Dijk, Revisiting the ‘dark number of crime’, *ibidem*.

29 J. van Dijk, Revisiting the ‘dark number of crime’, *ibidem*

30 T. Kearon, B.S. Godfrey, Setting the scene: a question of history, (in:) S. Walklate (ed.), *Handbook of Victims and Victimology*, London, New York, 2011, p. 45

31 F. Exner, *Kriminologie*, Springer 1949, p. 11.

32 S. Prätor, *Ziele und Methoden ... op. cit.*, p. 31.

Surveys still remain the best tool. Despite the fact that this type of research is often methodologically questionable because the respondents may not immediately “capture reality”, they can only present it in a way “chosen” by their memory. First, it is necessary to decide who is to be tested and select the appropriate sample. In this context, perpetrators or victims can be investigated. In the case of examining the perpetrators, we encounter limitations in their readiness to admit. Respondents tend to provide socially desirable responses that are oriented to the expectations of others, especially in the case of serious and socially harmful crimes, and therefore conceal socially undesirable behaviour or experiences. In addition, it is particularly important to ensure the anonymity, and thus confidentiality, of data in the context of the interrogation of perpetrators, which is now standard in any form of dark field research. In addition to the tendency not to report appropriate behaviour (“false negative” information), there is the problem of “false positive” responses, especially in adolescence. In this case, for example, the surveyed teenager confirmed the information about the criminal behaviour, although in reality it did not take place, for example, to gain recognition by a peer group. There are also difficulties in formulating questions. Precise questions may not be understood, while using colloquial expressions, one has to take into account the erroneous “subsumption” of the incriminating behaviour by the interlocutors. All attempts to ‘extrapolate’ sample results to larger populations are limited in scope. Sometimes it is possible to defuse this problem by retrying the test and asking the same sample several times at the same time intervals and asking questions with clear reference to the same time intervals³³.

The impact on the attitude to the term “dark number” has even a specific criminological paradigm. According to Błachut, criminologists of juridical orientation do not use either the concept of real or undisclosed crime, or the notion of a “dark number of crimes”. The latter, on the basis of accepted assumptions that crimes in social reality do not exist, because in reality only human units exist and their behaviours, which become crimes due to giving them such meaning by competent bodies (initially law enforcement agencies, and finally the court) – loses the reason for being. Crimes are in fact behaviours that were revealed in social reality and then classified as a leap in the legal process of interpretation. Undisclosed behaviours could not be subjected to this process.³⁴

J. Błachut says in this context that “the use of the term” dark number “to determine the extent of undisclosed crime does not seem justified. This number was dark, *i.e.*, unknown, because the method of determining it was unknown. However, when the methodology of empirical research developed, new possibilities of obtaining data on social phenomena appeared (self-report methods) or victimization, and thus the

33 See M. Bock, *Kriminologie, Für Studium und Praxis*, München 2013, pp. 300

34 J. Błachut, *System..., op. cit.*, pp. 151–152.

measurement of undisclosed crime became possible – the number of undisclosed crimes is no longer dark and unknown, but established and determined".³⁵

An important element of the strategy to fight against economic crime is establishing close cooperation between the judiciary and the private sector, in particular with insurance companies. It has been pointed out for years that allies should be recruited in the fight against economic crime.³⁶ An example of such cooperation is the establishment, in the United Kingdom, of a special unit; the Insurance Fraud Enforcement Department. In 2011, the insurance industry agreed to participate in the unit's maintenance costs. The Strategic Council, consisting of representatives of the insurance industry, specifies the individual's priorities and analyses trends in insurance crime.³⁷ Also established, was the so-called Action Fraud³⁸, a national fraud information centre, designed for individuals and representatives of small and medium business. The transmission of information about fraud is done via the Internet or by telephone. Collecting data under AF contributes to reducing the "dark number" of insurance crimes. This is particularly important in relation to economic crimes, the number of which is traditionally considered to be too high.

The literature indicates that the following factors influence the high level of the dark number of economic crimes:

- it is conducted in a way that is not noticeable (detection of this type of crime would require professional and often meticulous control);
- there are visible problems in identifying the damage;
- the perpetrators are characterized by high qualifications (this is due to their excellent knowledge of their profession, and the frequent use of modern technical means that help to erase traces causing problems in their detection);
- perpetrators of economic crimes due to their high material and social status also have broad (and often unlimited) possibilities of defense;
- these acts are committed to a large extent by people who have enormous social confidence;
- the mechanism of committing economic crimes, due to its complexity, is incomprehensible to the average citizen;
- there is a belief in impunity in relation to economic crimes (colloquially referred to as the "golden number of crimes").³⁹

³⁵ *Ibidem*.

³⁶ O. Górnior, Przestępcość gospodarcza..., *op. cit.*, pp. 199–200.

³⁷ G. Krysztofiuk, Zwalczanie przestępcości gospodarczej w Polsce na tle doświadczeń brytyjskich – wybrane zagadnienia, „*Justitia*” 2013, no. 3, p. 139.

³⁸ The service is run by the City of London Police working alongside the National Fraud Intelligence Bureau (NFIB), <https://www.actionfraud.police.uk/what-is-action-fraud> (20.06.2021).

³⁹ D. Jagiełło, Wybrane aspekty odpowiedzialności karnej w prawie gospodarczym, (in:) M. Bidziński, D. Jagiełło (eds.), *Prawo gospodarcze – zagadnienia wybrane*, C.H. Beck 2016.

This crime also takes the form of the so-called professional crime, which is rightly assessed as the main threat to socio-economic relations. This is particularly visible in the statistical picture, as these acts account for approx. 10% of all crimes (found in preparatory proceedings).⁴⁰

2. The Scale of the Phenomenon

Insurance crime is a serious problem affecting all insurance markets in Europe and in the world. Insurance crime is one of the most complicated areas of economic crime. To commit them a certain level of knowledge about the functioning of the insurance industry is required.

International research and the experiences of business practitioners indicate insurance fraud as one of the main threats to the development of insurance markets.⁴¹⁴²⁴³

The scale of the phenomenon is very serious, and amounts from several to a dozen percent of the value of compensations paid, depending on the conditions related to market development, product characteristics, and the socio-economic environment.

There are many definitions of insurance crime that are used in practice.⁴⁴ Not all of them refer directly to the fraudulent obtaining of compensation and often include all acts directed against the insurance company. For this reason, a coherent definition of insurance crime has been developed for the needs of the insurance industry. According to Insurance Europe, insurance crime is a claim for unjustified compensation or compensation for it through fraud.⁴⁵ This procedure creates many unfavourable consequences for insurers in the form of direct financial losses, increased costs, and time of loss adjustment processes, as well as loss of clients' trust. Direct financial losses, estimated on a European scale, are several percent of contributions.

40 Miesięcznik Biuletynu Statystycznego (styczeń grudzień 2009/2010), przygotowany przez Wydział Analizy Kryminalnej Komendy Głównej Policji (WK-IV-1152/2010), pp. 3, 22–24; D. Jagiełło, Wybrane aspekty..., *op. cit.*

41 Deloitte Report, The Future of Financial Services, How disruptive innovations are reshaping the way financial services are structured, World Economic Forum, Prepared in collaboration with Deloitte Final Report, Deloitte 2015, p. 80

42 PwC Report, Insurance Banana Skins 2015, The CSFI survey of the risks facing insurers, PwC 2015, p.18

43 EIOPA report, Fifth Consumer Trends Report, EIOPA 2016, p. 35

44 R. Derring, Insurance Fraud, "The Journal of Risk and Insurance" 2002, vol. 69, no. 3, pp. 271–287.

45 Report, The impact of insurance fraud, Insurance Europe, <http://www.insuranceeurope.eu/uploads/Modules/Publications/fraud-booklet.pdf> (13.10.2019).

Before discussing in detail the results of research on the scale of insurance crime, the scope of particular variants of the definition should be clarified. According to the commonly known division, insurance crime is:⁴⁶

Real insurance crime – all offenses consisting in gaining a financial advantage at the expense of an insurance company (in particular undue compensation or insurance benefit) and at the same time combining with the use of insurance relationships that were committed at a given time and in a given area. The number or structure of these crimes is unknown.

Insurance crime disclosed – all acts for which information was obtained by law enforcement authorities and therefore initiated preparatory proceedings regarding the suspicion of an insurance offense. The disclosed crime is also called apparent crime, because not all acts that have been classified as crimes at the time of the pre-trial investigation are actually crimes.

Insurance crime confirmed – all acts that as a result of the pre-trial investigation were confirmed as insurance offenses.

Insurance crime judged – all acts which character as insurance offenses was confirmed as a result of court proceedings and in which there was a conviction.

The problem of the dark number in insurance crime is the ratio of the real crime value (which we can only estimate) to the disclosed (which value is presented in Tables 2 to 5). Another difficulty in measuring this multithreaded phenomenon is the fact that for many reasons, not every facet of revealing the fraud is reported by the insurers to law enforcement agencies. The length and cost of proceedings, the massive use of so-called “Poles” (natural persons used by criminals while making economic frauds) cause that insurance companies which are primarily driven by an economic calculation, deviate from the legal path and focus on the refusal of claims and elimination of dishonest entities from among their clients.

The actual magnitude of the sentence consisting mainly of deprivation of liberty is not a sufficient motive for the financial industry to take legal steps against the perpetrators. The business approach seeks to take away the spray of economic benefit from the crime, which, especially in the case of scattered criminal groups, may be a daunting task.

In addition, many cases are already thwarted at the stage of the claim, and they do not occur at all thanks to the quick response of the insurer. The scale of crime revealed in the research is the best indicator showing the state of development of this phenomenon on the market. In view of the facts cited above, criminal prosecution amounts to only a few dozen convictions per year and does not reflect the value of the acts committed. For this reason, the use of statistics from the judiciary is not

46 J. Talarek, Przestępcość ubezpieczeniowa w ubezpieczeniach komunikacyjnych w Polsce na tle wybranych krajów, (in:) VII Międzynarodowa Konferencja Przestępcość Ubezpieczeniowa – materiały konferencyjne, SZCZECIN-EXPO, Szczecin 2004, p. 6.

authoritative. Official evidence of crime events concerning insurance criminality is placed in Table 1.

Table 1. The number of offenses established in art. 298 of Code of Criminal Procedure

Year	The number of offenses
2012	93
2013	113
2014	161
2015	104
2016	126
2017	57
2018	75
2019	270
2020	111

Source: Own research based on www.policja.pl.

It should be remembered that the “dark number” is not only a theoretical indicator. One of the most important applications in the area of economic crime is the estimation of the actual scale of losses suffered by a given market sector as a result of criminal activities. In the insurance area, this is extremely important for determining the future level of costs of undue claims and benefits. Research conducted in Poland and Europe shows that, depending on the type of insurance, and the level of market maturity, the insurance industry loses 10–12% of the cost of criminals to payments to customers.⁴⁷

Due to the above-mentioned limitations, the “dark number” value can only be estimated with low accuracy, and its value changes over time and is different for individual markets and product groups.

3. The Results of Research Concerning the Disclosed and Estimated Scale of Insurance Offenses

The data contained in Tables 2 to 5 come from periodic surveys conducted by the Polish Chamber of Insurance – an insurance self-governing body appointed by way of an act, which is compulsory for all insurance companies operating in the Polish market. The annual survey covers all insurance companies operating on the Polish market. They fill out questionnaires by reporting fraud in terms of quantity and

47 Report, The impact of insurance fraud, *op. cit.*

value, and broken down by types of insurance, both in Section I and in Section II.⁴⁸ The quoted numbers include both cases classified as attempts and actual fraud, both detected in internal proceedings and reported to law enforcement agencies. Care was also taken to divide the recorded acts into: acts identified in the area of payment of benefits (insurance crime *sensu stricto*), as well as those occurring in the processes of insurance sales and service.

Over the years, a strong tendency to increase the value of disclosed cases in both Sections is noticeable. Tables 2 to 5 below show the scale of the phenomenon over the years.⁴⁹

Table 2. Insurance crime in Poland – payout area (PLN million)

Year	Life Insurance	Non-life insurance
2014	10.3	151.7
2015	11.3	179.9
2016	13.7	211.9
2017	17.9	195.4
2018	18.1	214.6
2019	42.8	351.0

Source: Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r/> (1.12.2020).

Approximately 85% of the values cited in Table 2 above constitute attempts to commit scams effectively frustrated by insurance companies in the claims handling process.

Table 3. Participation of insurance crime in Poland in payment of benefits

Life insurance	Non-life insurance
0.23 %	1.57 %

Source: Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r/> (1.12.2020).

48 Section I – Life insurance, Section II – Non Life insurance

49 P. Majewski, Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r/> (1.12.2020).

The percentages of the non-life insurance area cited in Table 3 above indicate clearly how much the value of detected offenses differs from the previously quoted estimated scale of the phenomenon, amounting to more than 10%. Therefore, in the case of non-life insurance, the undiscovered nominal scale of funds lost to criminals is almost 8–10 times higher than the disclosed value. In the case of life insurance, discrepancies may be even greater, however, due to the less advanced detection efficiency of this type, the comparison could lead to wrong conclusions.

As it is shown in Table 4, in the Polish market, for many years the most popular and most acute crime in terms of value is the illegal obtaining of the death benefit of the insured person. This trend has been practiced since the beginning of the research. This is caused by problems of citizen evidence in database systems held by country authorities.⁵⁰

Table 4. Insurance crime by type of insured event (Life insurance in 2019)

Type of irregularity	Number	Value (PLN)
Death of the insured	656	25 776 602
Death of the insured in the event of an emergency	8	6 430 000
Serious illness	167	5 170 413
Permanent disability or damage due to an emergency	253	882 596
Inability to work	39	511 570
Hospital treatment or operations	1216	3 610 445
Birth of a child / birth of a dead child	30	43 065
Death of a parent / parent-in-law/ spouse / child	18	63 240
Other*	42	355 754
Total	2 429	42 843 684

Source: own study based on data Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r/> (1.12.2020).

Malfunctions of medical treatment evidence systems enable the high popularity of the method of fraud involving the submission of false circumstances of occurrence of injuries, or concealment of existing disease, prior to the conclusion of the insurance

50 P. Majewski, Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r/> (1.12.2020).

contract. These offenses are mainly related to group insurance and numerous additional contracts.

Detection of insurance fraud in property insurance are enabled by the database systems of the Insurance Guarantee Fund.⁵¹ Until the year 2020, they only consist of data concerning motor insurance. This can explain why motor insurance is the most serious threat to insurers, as shown in Table 5. Criminal events in other types of insurance are far more difficult to detect because of the lack of a central claim database.

Table 5. Insurance crime by type of fraud (Non life insurance in 2019)

Type of irregularity	Number	Value (PLN)
Third Party Motor insurance (property)	6082	79 088 884
Third Party Motor insurance (personal)	3161	96 607 891
Car insurance	2494	96 081 682
Farmers' insurance	201	7 825 932
Burglary theft insurance (business)	35	5 132 442
Insurance against fire and other elements (business)	78	5 309 869
Insurance of apartments and houses	931	7 319 952
Travel Insurance and Assistance	28	310 250
Insurance of consequences of accidents	426	4 467 655
Other third-party insurance	851	19 493 492
Loan, Financial, D&O insurance	15	1 150 016
Insurance guarantee	2	1 975 676
Other (mainly cargo and corpo)*	376	26 244 591
Total	14 680	351 008 331

Source: own study based on data *Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r/> (1.12.2020).*

Analysis of the average value of fraud in particular product groups proves a high level of risk associated with business and financial insurance. In the case of business entities, you can create and modify your identity without any restrictions, which

51 Insurance Guarantee Fund, Raport Roczny UFG 2018, https://www.ufg.pl/UCMServlet3/ucmservlet3?dDocName=UCM_UFG_449545 (1.12.2020).

significantly hampers investigative and preventive actions.⁵² Particularly noteworthy is the category “other” containing damage to companies and cargo. Results of an unpublished pilot research for the Polish market in 2020 show that the amount and value of insurance crimes cases will increase.⁵³

4. Insurance Crime in Selected EU Countries

The scale of insurance crime detected in Poland is significantly different from the values disclosed in other EU countries. Apart from the obvious nominal differences resulting from the size of particular markets, interesting conclusions are provided by the analysis of relative values characterizing the share of revealed frauds in the general volume of compensations paid. Fraud scale data from selected European countries are cited in the following part of the paper.⁵⁴,⁵⁵,⁵⁶

Great Britain has been recognized as a leader in the fight against insurance crime in Europe for years. The country has a rich tradition and a number of organizational solutions that translate into high efficiency in combating and detecting insurance crimes. Research in Great Britain is conducted by the Association of British Insurers (ABI) – the equivalent of Polish Chamber of Insurance on that market.

The ABI report⁵⁷ also includes a reference to the results of research included in international literature. The estimates of the scale of the threat of insurance fraud in selected countries were cited. Sample estimates of the total value of frauds in proportion to the total amount of compensation paid out are 10–15% in non-life insurance and 10–20% in motor insurance. The data comes from the following countries: USA, Australia, Canada, Germany, and Spain.

In 2008, the value of detected frauds, and thus the total savings due to unpaid criminal claims amounted to approximately GBP 730 million, which is approx. 4.2% of claims paid out at that time. This value in 2004 was approximately GBP 250 million (1,8%). The amount is increased by 20–25% year to year.

52 P. Majewski, Insurance crime in Poland. Characterization and evolution of the phenomenon, “Insurance Review” 2014, vol. 4/2013, pp. 121–132, https://piu.org.pl/public/upload/ibrowser/WU/WU4_2013/majewski.pdf, p. 127 (1.08.2021).

53 This conclusion is the result of research held by Commission of Insurance Fraud Prevention in Polish Chamber of Insurance.

54 P. Majewski, Analiza danych dotyczących przestępstw ujawnionych w 2016 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw2017, <https://piu.org.pl/raport-o-przestepczosci-ubezpieczeniowej-2016/> (1.12.2020).

55 <https://www.gdv.de/de/medien/aktuell/sorge-der-versicherer--corona-gibt-betruegern-auftrieb-61842> (1.08.2021).

56 <https://www.abi.org.uk/news/news-articles/2020/09/detected-insurance-fraud/> (1.08.2021).

57 Cited in: P. Majewski, Analiza danych dotyczących przestępstw ujawnionych w 2014 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2015, <https://piu.org.pl/raport-o-przestepczosci-ubezpieczeniowej-2015/> (1.12.2020).

ABI test results include an estimate of the total value of undetected frauds. This is the equivalent of the so-called dark number of insurance crimes reported in Polish literature. To obtain this result, the researchers conducted research at British insurance companies, carried out consumer research, interviewed experts and analysed international literature on the subject. The basis for estimating the value of undetected fraud was the calculation of the so-called “undetected fraud risk multiplier”. The value of this parameter is about 3, which corresponds approximately to the ratio of 25%:75% between cases detected and undetected. The value quoted for the British conditions, which may serve as a reflection of a specifically defined dark number, differs significantly from the previously mentioned value characterizing the Polish market. This discrepancy is mainly due to differences in the effectiveness of detection between Poland – a country with a relatively underdeveloped market, and Great Britain, considered to be the undisputed leader.

Experts from ABI have pointed out a number of reasons that in the following years British insurers are able to detect more and more frauds, and the refusal rate has increased from 2 to 4% of the value of claims. Considering that, for Poland this value is about 1,5%. These reasons include:⁵⁸

- establishment of special fraud teams in insurance companies,
- introduction of advanced IT systems to handle reporting of damages and specifying suspicious claims,
- the use of special methods of conducting conversations based on psychological and cognitive techniques in the call-centre dealing with the receipt of claims,
- education and building awareness of the risk of frauds among all employees of the insurer, including sales departments,
- building insurance awareness, fighting with social consent, and introducing the possibility of anonymous information about the fraud,
- better use of publicly available databases providing customer information and reported damage.

In the opinion of experts,⁵⁹ the above actions requiring involvement and investment on the part of insurers are justified, they turn and result in an increasing number of detected frauds and, therefore, measurable savings. The ABI report also cites the results of consumer surveys, which show that between 7 and 11% of citizens admit to reporting a false claim.

58 P. Majewski, Analiza danych dotyczących przestępstw ujawnionych w 2020 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2021, <https://piu.org.pl/analiza-przestepczosc-ubezpieczeniowa-w-2020-r/> (1.08.2021).

59 *Ibidem.*

Analogous research is also conducted in Germany – another country that is considered to be a leader in combating insurance crime in Europe.

German experts estimate that about 10% of the value of property damages is fraudulent. This indicator is very different in individual product groups, and the greatest threat is seen in the insurance of portable electronic equipment, e.g., smartphones, where every second claim is described as suspicious. German specialists attach great importance to conducting educational campaigns aimed at making the public aware of the many harmful effects that insurance crime incurs. The side effect of this campaign is to make potential offenders aware of the fact that the problem of frauds is well recognized and that insurers are efficient in capturing cases of fraud. This is a kind of preventive effect, especially in the case of the most common minor frauds related to household insurance.⁶⁰

Particular attention is paid to the fact that there is a high level of social acceptance for committing the scams that characterize German society. 23% of respondents in the research agree with the statement: "Almost everyone cheats the insurer". 12% of households admitted having an incentive to commit insurance fraud, the incentive usually came from a circle of friends.⁶¹

Apart from countries with exceptionally rich traditions in combating frauds, such as Germany or the United Kingdom, it is worth quoting the results of research carried out in the Czech Republic. This country stands out against other post-communist countries in the area of counteracting insurance crime.

Attention is drawn to the large number of cases detected in all types of insurance. Despite three times smaller market capacity in life insurance, it is 7,660 cases, in property 8383. It is about 10 times more for the life market than in Poland. The value for the property market is comparable. The effectiveness of detection also surprises in terms of value. The share of frauds in the premium is 0.46% for life insurance, 1.36% for property. Similar indicators for the Polish market (in the time of comparison) for the life and property sector are: 0.058% and 0.66% respectively. Therefore, in Section II, Czech insurers are twice as effective, and in Section I it is 8 times as much. (Czech research is based on the participation of frauds in the volume of collected premiums, and not as previously reported in paid damages.)

Particularly noteworthy is the high effectiveness of anti-fraud operations in the life part of the market. This is an excellent proof that fraudsters do not bypass life insurance. In total, the value of these irregularities exceeds the volume of revealed frauds in communication twice.

60 Gesamtverband der Deutschen Versicherungswirtschaft GDV, <https://www.gdv.de/de/themen/positionen-magazin/versicherungsbetrug-62938>, <https://www.gdv.de/de/themen/news/fast-jede-zehnte-schadenmeldung-mit-ungereimtheiten-11376>, (1.08.2021).

61 Gesamtverband der Deutschen Versicherungswirtschaft GDV, J. Karsten, Versicherungsbetrug: aktuelle Entwicklungen, Muster und ihre Abwehr, GfK Finanzmarktforschung. GDV 2011.

5. The Role of Education in Revealing, Combating, and Preventing Insurance Crime and Social Consent for Insurance Crimes

In Poland, the level of social acceptance for crimes against the common good is relatively high.⁶²

Table 6. Acceptance of crime insurance

Determination of indifference to insurance crimes	2011	2013	2015
I DO NOT AT ALL That someone is fraudulently obtaining insurance compensation	19.8 %	19.2 %	18.6 %
I DO NOT CARE MUCH That someone is fraudulently obtaining insurance compensation	23.8 %	23.5 %	23.6 %

Source: Based on: J. Czapiński, T. Panek, *Diagnoza Społeczna 2015, Report*, www.diagnoza.com (1.12.2020).

In the study shown in Table 6, the indicators of sensitivity to the common good have slightly improved over the last few years. It should be remembered that in Poland the society is characterized by a strong distrust towards the insurance industry. Only 1/3 of the population trusts insurance companies. The basic reason for this is the extremely low level of insurance awareness resulting in a lack of understanding of the mechanisms of insurance products. It is also worth mentioning the examples of unethical insurers' actions reflecting the wide social echo, concerning, among others, irregularities in the liquidation of motor claims or life insurance problems with the insurance capital fund.

The level of social acceptance for committing insurance offenses depends on individual personal characteristics. Committing effective crimes in the financial industry requires an adequate intellectual level. Therefore, the picture of a typical embezzler is usually that of a mature person with a social and professional position, high professional skills, and good relations with the environment. People of this type are unfortunately a role model for others.⁶³⁶⁴

As has been shown above, the high level of social acceptance for insurance offenses also applies to countries with rich insurance traditions and proves the need to conduct research and education campaigns in this area.

62 J. Czapiński, T. Panek, *Diagnoza Społeczna 2015, Raport*, www.diagnoza.com (1.12.2020).

63 KPMG Report, Global profiles of the fraudster White-collar crime – present and future, KPMG 2013, p. 10

64 KPMG Report, Who is the typical fraudster – KPMG analysis of global patterns of fraud, Executive summary, KPMG 2011, p. 7

It is necessary to emphasize the importance of continuous research and popularization of knowledge about frauds not only among employees of the insurance industry, but also people cooperating (law enforcement agencies, experts, workshops) and the clients of insurance companies themselves.

The latter group plays an especially important role in passively participating in the process of so-called social consent for insurance crimes, which still enjoy a high degree of social acceptance.

Conclusions

To sum up, the dark number of insurance crimes is the ratio of the actual crime to the disclosed scale of frauds. Its value can be determined only by way of approximation. The value of the “dark number” depends mainly on the effectiveness of crime detection, which in turn results both from the technology used and the readiness of the public to inform about known crimes. The smaller the value of the dark number, the more accurately the actual losses incurred by the industry can be estimated.

The authors formulated a few general assumptions about the value of a dark number in insurance crimes:

- The value of the dark number of insurance crime is inversely proportional to the effectiveness of fraud detection.
- The value of the dark number of insurance crime is higher for markets with high levels of social acceptance and low level of insurance awareness.
- The effective reduction of the dark number of insurance crime is not possible without the use of advanced IT tools based on a comprehensive database.

The analysis of the above data and experience from European countries allows us to attempt to estimate the value of the dark number of insurance crime for the property insurance market in Poland. The current detection efficiency is about 1% of the value of paid claims and benefits, and it is about 3 to 4 times lower than for the British market, which is the most advanced in combating crime, where similar values were recorded about 10–15 years ago. Progress in Poland in the development of central data bases suggests that within 5 years it is likely to achieve the level of detection in property insurance in excess of 2%. Pan-European estimates of the scale of real crime in property and especially in property insurance amount to approximately 10–12% of the volume of payments. A simple comparison of these values allows a rough estimate of the dark number of insurance crimes in Poland at around 10 in non-life insurance. This translates into more than PLN 2 billion in losses per year for the property insurance industry. In the case of life insurance, data deficiencies and the lack of database tools cause that the estimates would have too

high error margin. However, it should be assumed that its value many times exceeds the result for property insurance.

It should be remembered that even a perfect estimate of the value of the dark number of insurance crime only applies to a given moment in time, because the dynamically developing insurance market awakens the perpetrators to search for new methods of insurance fraud. This results in the necessity of continuing further research in relation to new areas of the market, such as changes in the insurance distribution model, electronisation of customer contact or the shopping habits of new generations of customers.

REFERENCES

- Aebi M.F., Aromaa K., Aubusson de Cavarlay B., Barclay G., Gruszczynska B., von Hofer H., Hysi V., Jehle J.-M., Killias M., Smit P., Tavares C., European Sourcebook of Crime and Criminal Justice Statistics 2006. Den Haag: Home Office, Swiss Federal Statistical Office, Cesdip, Boom Juridische uitgevers, Wetenschappelijk Onderzoeken Documentatiecentrum, <http://www.europeansourcebook.org>.
- Błachut J., Definicje przestępstwa – przestępcości, (in:) A. Marek (ed.), Zagadnienia ogólne, System Prawa Karnego, t. 1, C.H. Beck 2010
- Błachut J., Czy „ciemna liczba przestępstw” istnieje?, (in:) A. Kossowska et al. (eds.), Archiwum Kryminologii Tom XXIX – XXX, 2007 – 2008, Tom jubileuszowy dedykowany Panom Profesor Helenie Kołakowskiej – Przełomiec, Zofii Ostrichanskiej, Dobrochnie Wójcik, Warsaw 2009.
- Błachut J., Gaberle A., Krajewski K., Kryminologia, Warsaw 2007.
- Błachut J., Problemy związane z statystycznym opisem przestępcości w oparciu o dane statystyki policyjnych, “Archiwum Kryminologii” 2001, t. XXV.
- Czapiński J., Panek T., Diagnoza Społeczna 2015, Raport, www.diagnoza.com.
- Deloitte Report, The Future of Financial Services, How disruptive innovations are reshaping the way financial services are structured, World Economic Forum, Prepared in collaboration with Deloitte Final Report, Deloitte 2015.
- Derring R., Insurance Fraud, “The Journal of Risk and Insurance” 2002, vol. 69, no. 3.
- Eifler S., Pollich D. (eds.), Empirische Forschung über Kriminalität – methodologische und methodische Grundlagen, Wiesbaden 2014.
- EIOPA Report, Fifth Consumer Trends Report, EIOPA 2016.
- Exner F., Kriminologie, Springer 1949.
- GDV, <https://gdv.de>.
- Górniok O., Przestępcość gospodarcza i jej zwalczanie, Warsaw 1994.
- Handschke, J., Kompleksowe, ujednolicone i konsekwentne podejście zakładu ubezpieczeń do przestępcości ubezpieczeniowej jako warunek skutecznego przeciwdziałania temu zjawisku, Przestępcość Ubezpieczeniowa, Szczecin-Expo, Szczecin 2010.
- Hołyś B., Kryminologia, Warsaw 2016.

Insurance Guarantee Fund, Raport Roczny UFG 2018, https://www.ufg.pl/UCMServlet3/ucmservlet3?dDocName=UCM_UFG_449545.

Jagiełło D., Wybrane aspekty odpowiedzialności karnej w prawie gospodarczym, (in:) M. Bidziński, D. Jagiełło (eds.), Prawo gospodarcze – zagadnienia wybrane, C.H. Beck 2016.

Kearon T., Godfrey B. S., Setting the scene: a question of history, (in:) S. Walklate (ed.), Handbook of Victims and Victimology, London, New York 2011.

Kersting S., Erdmann J., Analyse von Hellfelddaten – Darstellung von Problemen, Besonderheiten und Fallstricken anhand ausgewählter Praxisbeispiele, (in:) Empirische Forschung über Kriminalität, Wiesbaden 2014.

KPMG Report, Global profiles of the fraudster White-collar crime – present and future, KPMG 2013.

KPMG Report, Who is the typical fraudster – KPMG analysis of global patterns of fraud, Executive summary, KPMG 2011.

Krysztofiuk G., Zwalczanie przestępcości gospodarczej w Polsce na tle doświadczeń brytyjskich – wybrane zagadnienia, „Justitia” 2013, no. 3.

Lynch J.P., Addington L.A. (eds.), Understanding Crime Statistics; Revisiting the Divergence of the NCVS and UCR, Cambridge 2007.

Majewski P., Analiza danych dotyczących przestępstw ujawnionych w 2014 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2015, <https://piu.org.pl/raport-o-przestepczosci-ubezpieczeniowej-2015>.

Majewski P., Analiza danych dotyczących przestępstw ujawnionych w 2016 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2017, <https://piu.org.pl/raport-o-przestepczosci-ubezpieczeniowej-2016>.

Majewski P., Analiza danych dotyczących przestępstw ujawnionych w 2019 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2020, <https://piu.org.pl/analiza-przestepstw-ubezpieczeniowych-w-2019-r>.

Majewski P., Analiza danych dotyczących przestępstw ujawnionych w 2020 roku w związku z działalnością zakładów ubezpieczeń – członków Polskiej Izby Ubezpieczeń, PIU, Warsaw 2021, <https://piu.org.pl/analiza-przestepczosc-ubezpieczeniowa-w-2020-r>.

Majewski P., Insurance crime in Poland. Characterization and evolution of the phenomenon, „Insurance Review” 2014, vol. 4/2013, https://piu.org.pl/public/upload/ibrowser/WU/WU4_2013/majewski.pdf.

Majewski P., Przyzwolenie społeczne na przestępcość ubezpieczeniową – wyniki badań, „Przestępcość Ubezpieczeniowa”, Szczecin-Expo, Szczecin 2012.

Miesięcznik Biuletynu Statystycznego (styczeń grudzień 2009/2010), przygotowany przez Wydział Analizy Kryminalnej Komendy Głównej Policji (WK-IV-1152/2010).

Pepper J., Petrie C., Sullivan S., Measurement Error in Criminal Justice Data, (in:) A.R. Piquero, D. Weisburd (eds.), Handbook of Quantitative Criminology, Descriptive Approaches for Research and Policy: Innovative Descriptive Methods for Crime and Justice Problems, New York Dordrecht Heidelberg London 2010.

PIU, <https://piu.org.pl>.

- Płonka M., Oręziak B., Wielec M., Rynek Ubezpieczeniowy. Zapobieganie przyczynom przestępcości, Warsaw 2021.
- Połeć R., Przestępcość ubezpieczeniowa w praktyce zakładów ubezpieczeń, Sopot 2021.
- Prätor S., Ziele und Methoden der Dunkelfeldforschung, Bundeskriminalamt 2010.
- Prätor S., Ziele und Methoden der Dunkelfeldforschung. Ein Überblick mit Schwerpunkt auf Dunkelfeldbefragungen im Bereich der Jugenddelinquenz, (in:) Empirische Forschung über Kriminalität, Wiesbaden 2014.
- PwC Report, Insurance Banana Skins 2015, The CSFI survey of the risks facing insurers, PwC 2015.
- Quetelet A., Układ społeczny i jego prawa, Warsaw 1874.
- Radzinowicz L., Ideology and Crime. A Study of Crime in its Social and Historical Context, London 1966.
- Report, The impact of insurance fraud, Insurance Europe, <http://www.insuranceeurope.eu/uploads/Modules/Publications/fraud-booklet.pdf>.
- Scheider H.J., (in:) H.J. Scheider (ed.), Internationales Handbuch der Kriminologie. Band 1. Grundlagen der Kriminologie, Walter de Gruyter, Berlin 2008.
- Schwartz J., Vega A., Sources of Crime Data, (in:) B. Teasdale, M.S. Bradley (eds.), Preventing Crime and Violence, Advances in Prevention Science, Springer International Publishing Switzerland 2017.
- Schwind H-D., Kriminologie: Eine praxisorientierte Einführung mit Beispielen, Heidelberg 2008.
- Szumlicz T., Problem przyzwolenia społecznego na przestępstwa ubezpieczeniowe, Przestępcość Ubezpieczeniowa, Szczecin-Expo, Szczecin 2010.
- Talarek J., Przestępcość ubezpieczeniowa w ubezpieczeniach komunikacyjnych w Polsce na tle wybranych krajów, (in:) VII Międzynarodowa Konferencja Przestępcość Ubezpieczeniowa – materiały konferencyjne, SZCZECIN-EXPO, Szczecin 2004.
- van Dijk J., Revisiting the ‘dark number of crime’, (in:) M. Herzog-Evans (ed.), Transnational Criminology Manual Nijmegen: Wolf Legal Publishers (WLP) 2010.
- Zalewski W., Sir Leon Radzinowicz – refleksje w setną rocznicę urodzin wybitnego kryminologa, “Gdańskie Studia Prawnicze” 2006, t. 15.