
Management and Data Processing of Quantitative Terrorism Research in the European Union and the Czech Republic

Submitted 04/09/21, 1st revision 28/09/21, 2nd revision 13/10/21, accepted 30/11/21

Radomír Ščurek¹

Abstract:

Purpose: The objective of this paper is to examine the discrepancy between a growing number of quantitative research on terrorism and the shortage of alternative sources of objective and reliable terrorism data.

Design/Methodology/Approach: It compares Global Terrorism Database (GTD) and Europol's TE-SAT reports for the key trends in number of incidents, casualties and country split for all 28 EU countries. In the case of Czechia the article adds also the national police statistics and illustrates the different perspectives and discrepancies generated by different data sets.

Findings: It discusses the long-standing concern on inconsistency and coding methodology and relevance of the application of the international humanitarian law in a country which is not involved in any kind armed conflict which may lead to over-qualification of violent incidents as acts of terrorism, but also notes a specific dimension: the language barrier in sharing and comparing data on the international level.

Practical Implications: The article calls for an intensified collaboration, prioritization of actions to address the existing evidence gaps and an increased responsibility of institutions funded by public budgets in collecting, processing and making available the terrorism data

Originality/value: In the terrorism research, aggregate data are valuable. We need a good understanding of the specifics of each data source, critically review and cross-check the data available for further research.

Keywords: Terrorism, data set, quantitative research, Global Terrorism Database (GTD), Europol's TE-SAT.

JEL codes : H12, H56.

Paper Type: Research study.

¹Assoc. Professor, Ph.D., WSB University in Dąbrowa Górnicza, Poland, ORCID: 0000-0002-2971-9313, e-mail: rscurek@wsb.edu.pl

1. Introduction

Before the outbreak of the COVID-19 pandemic, despite the declining number of terrorist attacks in the EU countries, terrorism used to be steadily perceived by public as the most serious threat in Europe, recently fuelled by the migration crisis and its supposed links to the terrorism threats (Crabtree and Kluch, 2017). The psychological bias described as the availability heuristic provides the explanation for overestimation of the terrorism threat due to the high-profile character of the terrorism incidents, not only on the level of an individual but potentially also on the institutional and policy-making levels. Decisions based on fears and mere perceptions may often lead to further polarization of the society, instability and empowerment of the political extremes. This is only one of the reasons why reliable and objective research on terrorism is so critical.

Aggregate data on terrorism are significantly valuable as they allow trend analyses and, to some extent, even forecasting (Bowie, 2017). As noted by Schuurman and Eijkman in their background note (Schuurman and Eijkman, 2013) on innovative approaches to the acquisition of primary data used by terrorism researchers and critical analysis of thereof, *research can only be as good as the data on which it is based*.

Quality of available terrorism data has been a subject to continuous scrutiny. The challenge of defining terrorism is nowadays not any less valid than in 2011 when Easson and Schmid identified *260 definitions of terrorism* applied by scholars, governments, international institutions as well as intelligence and law enforcement agencies (Easson and Schmid, 2011).

In a review of five most commonly used data sets (Sheehan, 2012), Sheenan concluded that the level of variability across datasets is high and *no one dataset is completely comprehensive or exhaustive*, mainly due to *different definitions, coding rules and reliance on the media sources*. Although *availability of quantitative terrorism related data has increased* (Bowie, 2018), many databases provide only regional and country-specific of data in various structures and data format, some services are based on commercial subscription fee, thus making cross-validation of data challenging if not impossible.

It is unfortunate that some of the international databases on terrorism have been discontinued and no updates are available. Funding challenges and political tensions affected also the operations of the Global Terrorism Database (GTD), the most cited global source of terrorism data, which temporarily limited the collection and publication of new 2018 data last year and most recently made the current year data accessible only to commercial license holders for organizational use (Global Terrorism Database, 2019).

However, it is important to also account some positive developments in the terrorism research. Silke (2009) noted a much more collaborative style of work and an encouraging growth in the use of inferential statistics (Silke, 2009). Schuurman's most recent review of data, methods, and authorship in the terrorism research recorded a considerable increase in the use of primary data and *application of a wider variety of data-gathering techniques, greatly diminishing the overreliance on literature reviews that was noted from the 1980s through to the early 2000s* (Schuurman, 2018).

The inherent benefit of a well sustained database over time is the enlargement of data available for further processing, examination and a more detailed segmentation. The growth in time series has recently encouraged a number of scholars and researchers to employ advanced statistical and machine learning methods on the terrorism data which provide promising results in the classification of terrorist incidents, threat assessment or prediction of the perpetrator(s) based on the features of the attacks (McKendrick and Artificial, 2019; Maniraj *et al.*, 2019; Xueli *et al.*, 2019; Brennan, 2017).

Yet the question on the quality of terrorism data – and the outcomes of research based on them – is not any less relevant. The trends in the number and severity of terrorist attacks, as well as their changing patterns have substantial political, budgetary and social impacts, not only in the affected country, but also for the whole region.

Timely, reliable and accessible data and evidence are essential for understanding how the phenomenon of terrorism evolves – and for putting in place adequate policies and programs to address the issue. In general, it raises the need of cross-checking and validation of conclusions based on the terrorism data, one of the greatest practical challenges refers to the availability of alternative sources thereof.

To illustrate the potential consequences of this challenge, this article analyses variances of the delineation on terrorism in the EU countries provided by the GTD and the annual TE-SAT reports published by Europol. On a specific example of the Czech Republic, a country with a low incidence of terrorism (National Police statistics, 2020), thus allowing for an analysis of the different terrorism records, it discusses existing discrepancies between data provided by the GDT, TE-SAT reports and statistical records of the national police. The issue of language barrier which makes it even more challenging to share and objectively review the data on the international level is also noted here.

2. Methodology

This article uses a multidisciplinary approach. The starting point for its elaboration was the current acumen in the field of security risk and threat assessment, which reflects the latest scientific and technical facts of the issue. The main element of the

work is, therefore, based on the review of relevant literature and the subsequent use of the information obtained in the processing of the work. The specific methods corresponding to the solution of the scientific used in this article are listed below:

- Analysis – primarily applied method ensuring the intellectual and methodological division of the subject into individual parts, aspects and links, which is used mainly in connection with the assessment of data sources for the study of terrorism and clarifying other aspects related to the issue.
- Analogy – used to apply risk analysis methods that are similar and therefore applicable to the same case, the use of analogous methods is used to subsequently verify the achieved results of risk analysis.
- Descriptive method – used mainly to describe the phenomenon, incidence statistics and a description of current trends in terrorism, with subsequent processing and drawing conclusions.
- Induction and deduction – used to draw conclusions from partial findings of the analysis.
- Comparison – used mainly in connection with data on terrorism and the development of terrorism as such.
- Logical method – used as a starting point in the process of assessing the factors of terrorist incidents, including the identification of factors influencing the differences between the datasets.
- Extrapolation – used to process time series of terrorist incidents in EU countries.
- Statistical methods – used to collect and sort data, quantify phenomena using probability, as well as to classify terrorist attacks in EU countries.
- Synthesis – used to obtain theoretical and practical conclusions, as well as for the unification of the results of partial review into a single unit in the form of tables with subsequent declaration of relevant conclusions.

An important element in this paper is also the author's practical and theoretical experience gained during his professional career.

3. Data Interpretation Regarding the Terrorism in the UE

Although there is a number of databases and data sources available, only a few of them cover all the EU countries in a longer time perspective.

The Global Terrorism Database (GTD), managed by The National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland, is an open-source database including information on terrorist events around the world from 1970 through 2018 (and later on a commercial basis). GTD currently represents the most cited source of data on terrorism due to a large number of variables available for each incident and its format compatible with the latest analytic techniques used in the social and computational sciences. Statistical information contained in the GTD is based on reports from a variety of open media

sources which are cross-checked for their credibility. To be included in the GTD, the incident must be intentional, i.e., a result of conscious calculation on the part of a perpetrator, and at the same time the incident must entail some level of violence or immediate threat of violence (including property violence, as well as violence against people).

The criteria and coding scheme used in the GTD were developed by the Advisory Committee, composed of recognized experts in both terrorism and data collection and processing. In addition, events included in the GTD since 1998 must meet at least two of the following three criteria:

1. The act of violence was aimed at achieving a political, economic, religious or social goal.
2. The act of violence included evidence of intent to coerce, intimidate or pass on a message to a wider public (or bystander) other than its immediate victims.
3. The act violated the principles of international humanitarian law. These criteria, which continue to be used by data processors in the post-2007 data collection, have been designed to allow analysts and academics flexibility in the application of different definitions of terrorism.

The TE-SAT report (The Terrorism Situation and Trend Report) (Europol, 2019) may be considered an alternative source of data on terrorism in the member countries of the European Union (EU). TE-SAT was established in 2001 as a reporting mechanism from the Terrorism Working Party (TWP) of the Council of the EU to the European Parliament. In 2006, TWP was replaced by the Europol. The methodology for the annual TE-SAT reports was developed by Europol and endorsed by the Justice and Home Affairs (JHA) in 2006. The content of the TE-SAT is based on information supplied by the police authorities of the EU member states, some third states and partner organisation Eurojust, as well as information gained from open sources.

The TE-SAT is published annually (usually in June) to provide an overview of the terrorism phenomenon in the EU from a law enforcement perspective. It seeks to record basic facts and assemble figures regarding terrorist attacks and arrests in the EU, the number of court proceedings in each country, number of individuals in concluded court proceedings, the number of convictions and acquittals and the type of terrorism. The report also aims to present trends and new developments identified from the information available to Europol.

The definition of the term ‘terrorist offences’ used in TE-SAT is based on the Council Framework Decision on combating terrorism (2002/475/JHA)¹, which all EU countries have implemented in their national legislation. This Framework Decision specifies that terrorist offences are intentional acts which, given their nature or context, may seriously damage a country or an international organisation when committed with the aim of seriously intimidating a population, or unduly

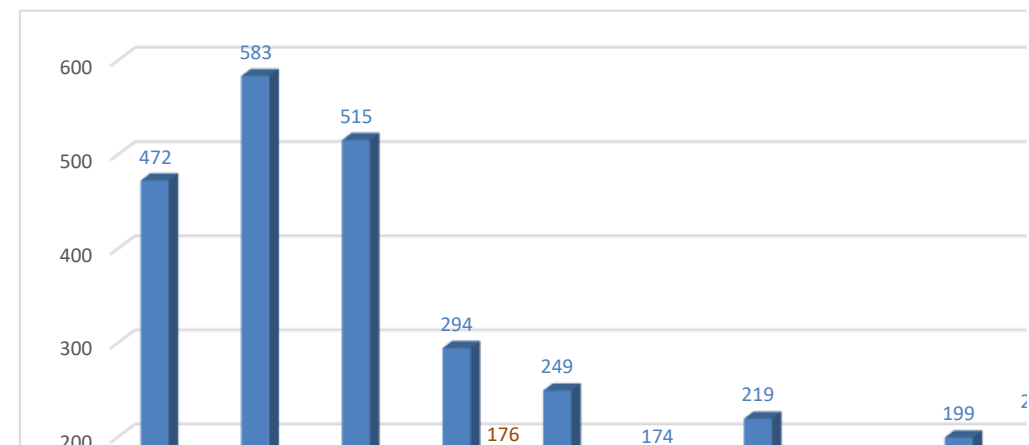
compelling a government or international organisation to perform or abstain from performing an act, or seriously destabilising or destroying the fundamental political, constitutional, economic or social structures of a country or an international organisation which is a definition widely reflected in the national legislation of the member states.

To understand the differences between GTD and TE-SAT reports, it is also important to note that in cases in which the wording of the Framework Decision leaves room for interpretation, TE-SAT respects member states' definitions of terrorist offences on their territories and the statistical data of the report exclusively reflect incidents reported as terrorism by the member states.

At times, it can be difficult to assess whether a criminal event should be regarded as an act of 'terrorism' or as an act of 'extremism'. In the editorial part, the TE-SAT reports usually mention also the incidents not reported by the member states as terrorism but exhibiting similar behavioural patterns and/ or with the potential to seriously destabilise or destroy the fundamental political, constitutional, economic or social structures of a country.

The TE-SAT reports are published as a pdf file and they do not allow direct processing of the data without prior manual transcription of the published figures, nor they provide any further details to the reported incidents. Figure 1–provides comparison of the number of terrorist incidents recorded by GTD and TE-SAT reports since 2006 when the TE-SAT methodology was adopted by Europol. Although TE-SAT data covering 2019 were published in June 2020, GTD open-access series ends at 2018 so the newer data were not included in the table.

Figure 1. Evolution of the number of terrorist attacks in the EU countries in different data sources - data in total numbers



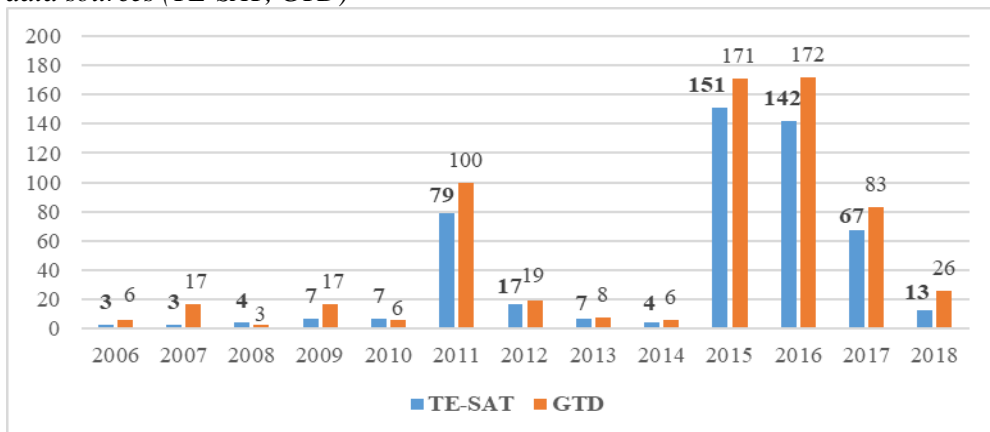
Source: TE-SAT records; Global Terrorism Database (GTD).

Despite year-on-year fluctuations, the trend lines differ substantially, while GTD data show a slow gradual increase of terrorist attacks in the EU over the years, the TE-SAT reports contradict that trend with a declining trend curve. Europol explains this drop by a significant decline in separatist attacks in the previous decade, accounted for the largest share of attacks reported by Member States, especially in France, Spain and the United Kingdom.

This difference of data trends between TE-SAT and GTD is even more interesting as it will be shown later that GTD in general tends to exaggerate the number of attacks as some of the general crime and other types of violent incidents reported by the media may meet the GTD criteria and be labelled as terrorism.

Overall, the differences can be attributed to the different methodologies for collecting and processing data in each of these two data sets. The GTD, as a database collecting data from public (mainly media) sources, naturally includes less records of the failed attacks as they do not catch the eyes of the journalists; and inherently cannot contain data on foiled attacks that are recorded by the country's security forces, that are, on the contrary, reported to the Europol database and published in the TE-SAT report. Sole number of attacks does not say much about the phenomenon and its effects on the society. A large number of incidents of a purely demonstrative nature require a qualitatively different response from one or just a few isolated but very serious attacks with significant material and human damage. Particular attention is therefore paid to the most serious types of attacks that lead to casualties.

Figure 2. Evolution of the casualties of terrorism in the EU countries in different data sources (TE-SAT, GTD)

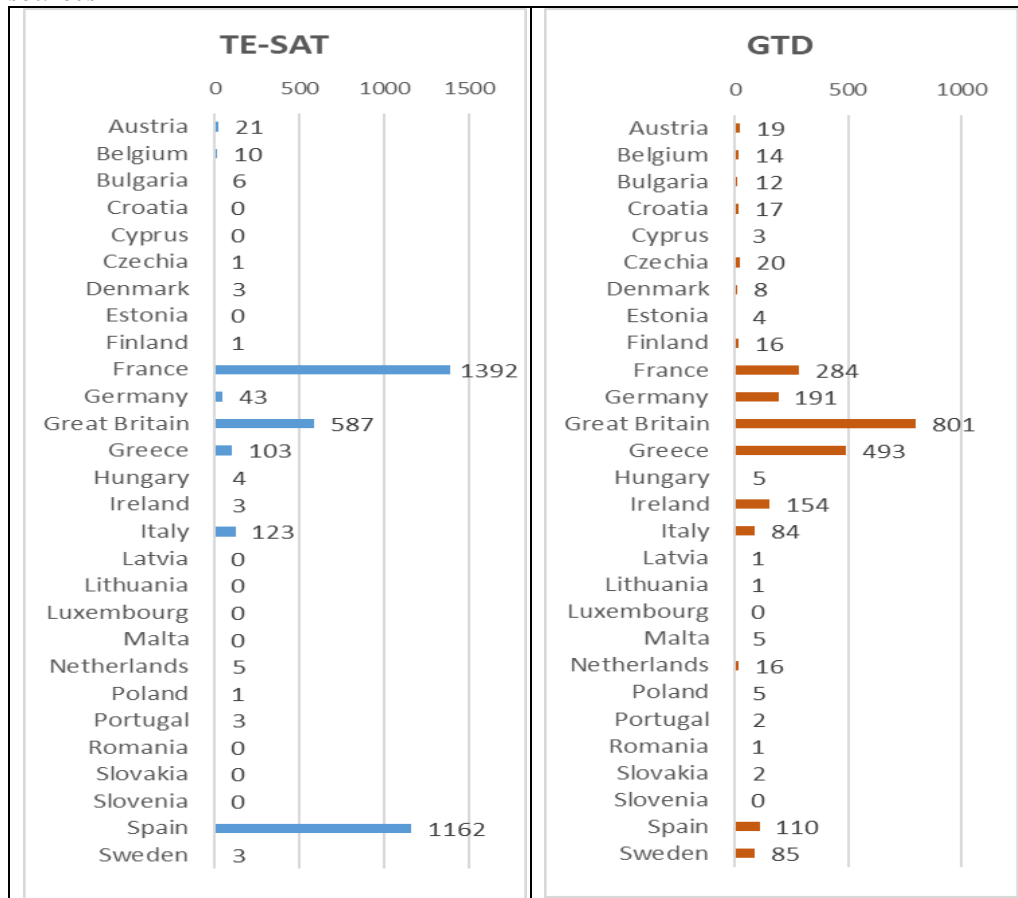


Source: TE-SAT records, Global Terrorism Database (GTD).

Figure 2 shows that the GTD and TE-SAT data on the casualties have a similar dynamics and both capture the same climaxes and declines over the years. One extremely serious incident (such as the Anders Breivik's attacks in Norway in July

2011 that the TE-SAT report included in its report despite the fact that Norway is not an EU member state) fundamentally affects the total data for that year. On a country level, the GTD records terrorist incidents also in several countries where in the period 2006 – 2018 police authorities have not reported any incident (Figure 3).

Figure 3. Number of terrorist attacks in each of the EU countries in different data sources



Source: TE-SAT records, Global Terrorism Database (GTD).

Substantial variations (in both directions) are evident in several countries. For example, according to the GTD, 110 terrorist incidents took place in Spain between 2006 and 2018 but the Spanish police reported to Europol a striking total of 1,162 incidents during the same period. Although the difference may be due to the large number of attacks set back by police, such a high number is unlikely. A qualitatively opposite case is Greece, where, according to public sources (GDT), 493 terrorist incidents took place in the same period, while the Greek police reported only 103 incidents to Europol.

Substantial variations can be identified also in the records of France, Ireland or Sweden, while in countries like Belgium, Great Britain or Italy both GTD and TE-SAT tell a similar story. A more detailed analysis, however, would be possible only if TE-SAT reports provided details about each of the attacks reported by the national police authorities and the researchers could analyse the differences on case-by-case basis. Such comparison might also produce a more profound understanding of how much the national police statistical methodology differs among the countries.

4. Digitalization - a Way to a Higher Quality of Reports from Europol

In one of the cornerstone publications on terrorism research, Silke suggests that *providing policy makers and the wider world with the findings of balanced and reliable research on terrorism has long been recognised as essential to producing effective strategies and policies to counter and prevent terrorism* (Silke, 2004).

As noted by Porta, *police files are generally reliable* (Della Porta, 2006) with the reservation that *the information within them is not collated with the intention of providing as neutral a perspective on the activities of the suspects as possible, but with the specific aim of collecting evidence to substantiate a criminal charge*. When it comes to terrorism, governments and publicly funded institutions have a great responsibility going beyond the minimum legal obligations. The absence of a reliable, detailed, comprehensive and quality alternative source of data on terrorism in Europe is worrisome. Any efforts invested into improving and expanding the available data on terrorism would therefore be very beneficial and desirable for security research.

Schuurman noted that *government agencies, such as police forces and intelligence organisations, represent a valuable source of primary data on terrorism*. The higher quality research that can result from access to this type of data *will almost certainly outweigh the potential privacy risks and security concerns* (Schuurman and Eijmman, 2013; Kozel *et al.*, 2017). A lot of effort and resources are certainly invested into the collection and processing of the terrorism data from 27 EU countries which is required for the preparation and publication of TE-SAT annual reports. However, the informative value of a report aggregating the number of attacks, broken down by country and motivation (plus information on court cases and the number of arrested and convicted perpetrators) which, above all, is published in a format that does not allow computer processing, is very limited.

Terrorism research would greatly benefit if the data provided by individual member states and published in the TE-SAT online reports included the basic characteristics of each reported incident, such as the date and place of the incident, number of killed, wounded, extent of damage, the type of weapon(s), target(s) and the execution of the attack, as structured by the GTD, preferably in CSV or XML format.

Disclosure of these factual data cannot compromise security of the countries involved; on the contrary, richer research data will provide a better understanding of terrorism trends, dynamics and patterns, and can inform specific recommendations for prevention or adequate measures.

5. Even a More Complex Picture: GTD, TE-SAT and Police Records in the Czech Republic as a Low Incidence Country

Czechia, a country of 10.5 million people located in Central Europe, does not make the international headlines when it comes to terrorism. The country has experienced only a few isolated incidents of terrorism in its recent history. The low base of terrorism incidents provides a unique opportunity to connect individual incidents and review the completeness and reliability of data available in the different data sets. Since 1993, when then Czechoslovakia split into two countries – the Czech Republic and Slovakia, the GTD records a total of 29 terrorism incidents in the Czech Republic (country code 54). For the comparability of the data provided by the TE-SAT reports, this article reviews only the incidents from 2006 onwards. The summary of findings follows:

- There are 16 terrorism incidents recorded in the GTD in the period 2006 - 2018, two of them are doubted („doubttrerr = 1“)².
- 5 incidents were not successful (incl. 2 doubted incidents).
- 2 people died (including one person who committed suicide by detonating a grenade) and 26 people were wounded in the reported incidents.
- The number of incidents is distributed unevenly over the years, with the highest number of incidents reported in 2014 and 2015 in connection with the anarchist organization Network of Revolutionary Cells.
- 11 incidents (69 %) occurred in Prague, the capital of the country.
- Most incidents targeted the Police, government officials and companies (each representing 22% of the incidents), followed by private citizens and property (17%).
- As for the type of incident, explosives and attack on infrastructure predominate (each representing 39%), again related to the activity of the so called Network of Revolutionary Cells in 2014 and 2015.
- With regards to the primary source of the data for the incidents, Prague Monitor, an English-language electronic daily about the Czech Republic, makes a majority (37.5%), followed by foreign news agencies (Reuters, The Philippines News Agency and a private news agency from Azerbaijan) that represent 31.3%.

²Both entries with the same date refer to the same incident when two envelopes containing the poison were sent to the minister of finance and the interior minister. Both envelopes were sent from abroad and were captured before they reached their targets. The State Institute of Nuclear, Chemical and Biological Protection confirmed that they contained a lethal dose of cyanide-based poison. No group has claimed responsibility for the incident and no political, economic, religious, or social requests were made.

The remaining citations come from the Czech News Agency (18.8%) and foreign blogs (12.4%).

When connected to the local information sources (public media, court decisions and the Police press releases) and explored into more depth, the picture is slightly different and classification of at least some incidents as an act of terrorism need to be re-considered.

Table 1. *Overview of the terrorist incidents in the Czech Republic in the period 2006 – 2017 as recorded in the GTD, with complementary comments of the authors*

Year Place Target	GTD specifics	Comments
2008 Praha Private Citizens & Property	ID: 200806120025 In a vehicle parked near a shopping centre, home-made explosive device was discovered by the security staff. The pyrotechnic has identified the system non-functioning. No one claimed responsibility, no statement related to a political, economic, religious, or social goal was made.	The incident was intentional and the placement of an imitated or non-functional explosive device (which turns out only as a result of professional examination) at a public place needs to be considered a violent threat. However, the incident does not meet the GTD criterion 1 (the pursuit of systemic change).
2008 Brno Private Citizens & Property	ID: 200806280004 40 masked right-wing extremists attacked the participants of the Gay Pride in Brno with a tear gas grenade.	The dividing line between terrorism and extremism is thin. The incident does not meet the GTD criterion 1 (the pursuit of systemic change) and it is unclear if the attackers intended to convey a message to a larger audience (criterion 2).
2009 Praha Business	ID: 200907090023 In a restaurant in Prague, one of the guests fired a hand grenade brought in a briefcase. The explosion injured four people, including the perpetrator, and damaged the restaurant. In a trial in which he was sentenced to 15 years in prison, he claimed that he wanted to commit a suicide. No political, economic, religious, or social requests were made.	The incident does not meet the GTD criterion 1 (the pursuit of systemic change) and although the perpetrator had to be aware that detonating a grenade in a restaurant represents a serious threat to public, there is no evidence that he had other intentions than committing a suicide.
2011 Praha Business	ID: 201109020008 An unknown assailant placed an explosive system in the trash bin at the IKEA store in Prague, which was discovered by the cleaning staff member. In the same period, explosives were also found at the stores in Belgium, the Netherlands, France and Germany. The company headquarters in Stockholm got a blackmailer letter requesting six million euros.	Potentially a violent threat to a larger audience, however the incident does not meet the GTD criterion 1 (the pursuit of systemic change).
2013 České	ID: 201301190012 An Austrian citizen detonated a hand grenade	The incident does not meet the GTD criterion 1 (the pursuit of systemic

Velenice Unknown	in his mouth in front of a building where a woman with whom he was infatuated lived. He left two farewell letters addressed to his wife and the woman who refused his romantic proposals. The police investigated the incident as a suicide.	change) and it was not intended as a violent threat to a larger audience.
2014 Osov u Berouna Business	ID: 201401150065 In a blast caused by a letter bomb sent to a manager of a company producing swimming pools, the addressee died and the receptionist of the company was injured. No one claimed responsibility for the incident. The police classified the attack as a public threat, possibly changing into a murder. Despite their efforts, the assassin has not been identified.	The incident does not meet the GTD criterion 1 (the pursuit of systemic change) nor criterion 2 as it was not intended as a violent threat to a larger audience.
2014 Praha Private Citizens & Property	ID: 201406020050 A group of people placed an explosive device under a Lexus car of a Russian-speaking owner in Prague. It was detonated when the engine started. Although no one was injured, the front part of the vehicle was damaged by the explosion.	Potentially a threat to by-passers and surrounding infrastructure, however the incident does not meet the GTD criterion 1 (the pursuit of systemic change) and most probably also fails on the intention to threaten a larger audience (criterion 2).
2014 Ústí nad Labem Police	ID: 201408300085 An attacker set a police vehicle on fire in Usti nad Labem. A group calling itself „A Network of Revolutionary Cells“ claimed responsibility for the incident and stated that the attack had been carried out to raise awareness about the anarchist prisoners who had been imprisoned for their opinions.	The incident meets the GTD criterion 1 (the pursuit of systemic change). Repeated targeting of police vehicles may be understood as coercion, intimidation or publication, thus the criterion 2 was met as well.
2014 Prague Government (General)	ID: 201411240034 and 201411240035 An envelope containing poison was sent to the minister of finance and the interior minister. Both envelopes were sent from abroad and were captured before they reached their targets. The State Institute of Nuclear, Chemical and Biological Protection confirmed that they contained a lethal dose of cyanide-based poison. No one claimed responsibility and no political, economic, religious, or social requests were made.	According to GTD, „there is doubt that this incident meets terrorism-related criteria, given that it may have been a reaction to the Czech government's anti-drug activities or to the government's involvement in Iraq“.
2015 Prague Government (General)	ID: 201506070066 An unknown perpetrator threw four incendiary bottles at the house of the minister of interior at night. A person of Russian origin was arrested later but not convicted by the court. The man was expelled from the Czech Republic for assisting in the spraying of Ruzyně prison (an act of vandalism). During the trial, he supported the principles of anarchism.	The incident does not meet the GTD criterion 2 (targeting only the immediate victim) and as no claims were made with regards to the attack, the criterion 1 (the pursuit of systemic change) is also doubtful.
2015 Most	ID: 201506150149 Between 15th and 30th June 2015, the	The incident meets the GTD criterion 1 (the pursuit of systemic change).

Police	attackers set fire to two police vehicles in Most. The Network of Revolutionary Cells has claimed responsibility for the incident and stated that the attack was carried out as a retaliation for police action in April 2015	Repeated targeting of police vehicles may be understood as coercion, intimidation or publication, thus the criterion 2 was met as well.
2015 Prague Police	ID: 201507040109 Ignition of the Czech Police Service Car near Prague - Bubny railway station. The Network of Revolutionary Cells has claimed responsibility for the incident and stated that the attack was carried out as a retaliation for police action in April 2015.	The incident meets the GTD criterion 1 (the pursuit of systemic change). Repeated targeting of police vehicles may be understood as coercion, intimidation or publication, thus the criterion 2 was met as well.
2016 Prague Other	ID: 201507040109 20 masked attackers threw Molotov cocktails at the Clinic Community Centre helping refugees. No group has claimed responsibility for the incident; sources attribute the attack to neo-Nazis.	The incident does not meet the GTD criterion 1 (the pursuit of systemic change) and it is unclear if the attackers intended to convey a message to a larger audience (criterion 2) or just targeted the immediate victim(s).
2016 Prague Government (General)	ID: 201608250032 During the official visit of the German Chancellor in Prague, an attacker tried to push the police cars from the convoy out of the road. In the trunk, a telescopic baton, tear gas and handcuffs were found. Police investigated the case on suspicion of violence against the official representative.	As no statement was made, it is unclear if the incident intended to pursue a systemic change and/or intimidate a larger audience, or it was just an extreme expression of disapproval of the actions made by the Chancellor. Worth noting is the fact that although GTD mentions Firearm in the field "weaptype1_txt" and Unknown Gun Type in the "weapsubtype1_txt" field, Police did not discover any of these.

Source: *Global Terrorism Database with application of segmentation on Czechia (GTD).*

Assessment whether an incident meets the terrorism criteria may be particularly difficult when it comes to extremism but a simple clash between the followers from the opposite sides of the value and opinion spectrum should not be considered an act of terrorism, unless it has a bigger political, economic, religious, or social objective and intends to address a larger audience (Zaeadzki, 2020).

As indicated in the following Table 2, with more detailed and sustained local information, a part of the incidents recorded in the GTD might be re-qualified as common crime, minor offence or extremism. As seen in the Table and as suggested by the author, a number of incidents recorded as terrorism in the GTD would not pass a detailed scrutiny based on the local sources which are not available in English (and thus not available for review by the GTD administrators).

An illustrative example is the incident recorded under ID: 201301190012 in the GTD which meets all three terrorism criteria and the value of doubtterror variable is 0 (no doubt that the incident is terrorism). The review of local media sources has shown that rather than terrorism, it was an unfortunate act of private tragedy when a

man in love detonated a hand grenade in his mouth in front of a building where a woman with whom he was infatuated lived. He left two farewell letters addressed to his wife and the woman who refused his romantic proposals. The police rightly investigated the incident as a suicide. The act did not have any social, political or religious purposes and did not target any other individuals than the perpetrator himself.

Table 2. Suggested re-classification of selected GTD incidents in the Czech Republic by the authors, highlighted in colour (GTD)

Incident identification			Original GTD assessment				Proposed assessment			
Event id	year	city	crit1	crit2	crit3	doubterror	crit1	crit2	crit3	Doubt terror
			Political, economic, religious or social goal	Intention to coerce, intimidate or publicize to larger audience(s)	Outside international humanitarian law		Political, economic, religious or social goal	Intention to coerce, intimidate or publicize to larger audience(s)	Outside international humanitarian law	
06120025	2008	Prague	1	1	1	0	0	1	1	1
06280004	2008	Brno	1	1	1	0	0	1	1	1
07090023	2009	Prague	1	1	1	0	0	1	1	1
09020008	2011	Zlicin	1	1	1	0	0	1	1	1
01190012	2013	Velenice	1	1	1	0	0	0	1	1
01150065	2014	Osov	1	1	1	0	0	0	1	1
06020050	2014	Prague	1	1	1	0	0	0	1	1
08300085	2014	Usti	1	1	1	0	1	1	1	0
11240034	2014	Prague	0	1	1	1	0	0	1	1
11240035	2014	Prague	0	1	1	1	0	0	1	1
06070066	2015	Prague	1	1	1	0	1	1	1	0
06150149	2015	Most	1	1	1	0	1	1	1	0
07010144	2015	Prague	1	1	1	0	1	1	1	0
07040109	2015	Prague	1	1	1	0	1	1	1	0
02060074	2016	Prague	1	1	1	0	0	0	1	1
08250032	2016	Prague	1	1	1	0	1	0	1	1

Source: Global Terrorism Database (GTD), secondary analysis of the author.

GTD is constructed on the basis of open source information, mainly media reports, which is even more challenging in a country out of the linguistic mainstream where information sources in English (or other major languages) are limited to a few and foreign sources usually cover only major incidents and simply cannot provide objective, detailed and comprehensive information about every potential terrorist event. In addition, foreign media tend to inform about the incidents on their onset but very rarely consistently follow the case at the later stages of investigation and judicial proceedings when more details about the intentions and goals of the perpetrators are available, thus allowing to make an informed judgement about the incident.

Another challenging aspect of the GTD is the universal application of the international humanitarian law (Criterion 3) on incidents in a country without any armed conflict. As the table suggests, it may lead to an increased terrorism

occurrence as more incidents meet at least two criteria set by GTD. The administrators of the GTD are aware of this potential issue stating that “*the magnitude of the database (more than 180,000 discrete incidents) means that occasionally an error will evade detection and appear in the database or a valid incident will not be recorded*”, and encourage its users to actively report considered errors – which happened in this case as well.

In the Europol’s TE-SAT reports, The Czech Republic appears only sporadically. Since 2006, when Europol has applied the same methodology in the TE-SAT reports, only one case³ of a terrorist attack in the Czech Republic has been reported, when an unknown attacker fired an incendiary bottle at the door of the Greek Embassy in Prague in 2010⁴. An anarchist group claimed responsibility for the attack later, stating that “*it was an act of solidarity with the Greek anarchists and the whole proletariat*” (Statement retrievable, 2010).

However, the TE-SAT reports in different years mention a number of incidents that were not reported by the Czech authorities as a terrorist attack, but are considered worth publishing by Europol. Most of them are likely to be among the manifestations of extremism, such as the case of 2013, when the Czech police arrested five suspected right-wing extremists. They were charged with the illegal possession of firearms, explosives and ammunition. The 2014 TE-SAT reports also notes the incident when Czech government officials received a number of suspicious letters and threats in the Republic, including letters containing a cyanide compound⁵. In 2014 and 2015, the Czech Police investigated a number of arson attacks against symbolic targets, especially police cars, to which a previously unknown anarchist group called the Network of Revolutionary Cells claimed responsibility⁶. A year later, three members of the same anarchist group were arrested and charged with preparation of a terrorist attack on a train carrying military equipment. In 2017, the TE-SAT report mentions the activities of the neo-Nazi clusters Generation Identity and the Pro-Vlast movement.

An alternative source of quantitative data on terrorism in the country is represented by the statistics collected and published online by the Police of the Czech Republic on an annual basis as a part of the Evidence-Statistical Database of Crime (Statistical overview of crime in the Czech Republic, 2018). The data are entered by the different police units and include cases known publicly as well as the cases on which information have not been released or are restricted. Registered act is understood as

³In 2019, the Czech Republic reported 2 cases of a single-issue terrorism to Europol. As the GTD data are not yet available for this period, it is not considered in this article.

⁴This case was not recorded in the GTD.

⁵These incidents were recorded in the GTD under the ID 201411240034 and 201411240035.

⁶These incidents were recorded in the GTD under the IDs 201408300085, 201506070066, 201506150149 and 201507040109.

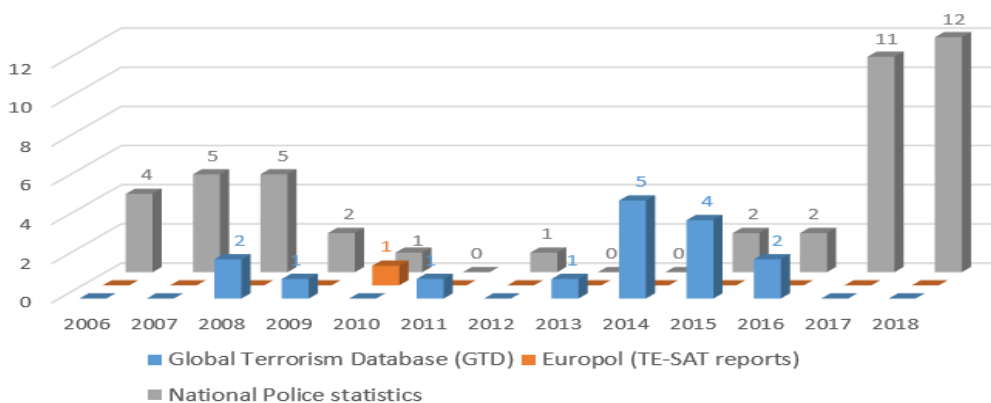
a criminal offense for which criminal proceedings have been initiated in the period in question and is still pending or terminated in certain ways.

The system records detected crimes according to individual sections of the Criminal Code. From the point of view of terrorism, the most important part is the classification of "Crimes against the Foundations of the Czech Republic, Foreign State and International Organization" covering crimes that may endanger or damage the constitutional system, sovereignty, territorial integrity, defence and security of the Czech Republic or other state or defence and international organization security (line 902 in the annual statistical surveys). On request, the Police provides detailed record of registered criminal acts for each individual provision of the Criminal Code, including §311 (Terrorist Attack) and §312 (Terror), plus support, including financing of terrorism.

6. Differences of Data Sources for one Country

The prerequisite for systematic risk assessment is the availability of reliable and timely quantitative data. Is the number of terrorist attacks growing or declining? Are the attacks more severe, or not? How much shall we be concerned? The answers – at least in a low incidence country, such as the Czech Republic - may well depend on which source of data are considered as illustrated in the chart below.

Figure 4. Comparison of terrorism incidents in the Czech Republic as reported by GTD, TE-SAT and the Police statistics (GTD, TE-SAT, National Police statistics)



Source: TE-SAT records, Global Terrorism Database (GTD), Police statistics of the Czech Republic.

Each of the data source has its own distinctive specifics, starting from the definition of terrorism and the methodology applied on the collection of data to the purpose why data is collected, processed and published.

As seen in Figure 4, the highest number of terrorism incidents has been recorded in the Police statistics. The increased number of records in 2017 and 2018 may be supposedly linked to a number of cases published in the media, among others a foiled preparation of a bomb attack by a man who converted to radical Islam and supported the Islamic State, three Czechs (including an ex-imam of Prague) who were accused of participating in a terrorist group, supporting and promoting terrorism and financing terrorism or a case of a 73-year-old pensioner who cut trees on the railroad tracks in the Central Bohemian region imitating the attacks of Islamist terrorists with the aim to spark an anti-immigration sentiment (National Police statistic, 2017-2018).

The GTD records actual attacks and although it may include failed attacks, it does not include foiled or failed plots (which, on the contrary, might be included in the Police statistics). Likewise, the GTD does include attacks in which violence is threatened as a means of coercion, but does not include threats to attack where no action is taken. Worth noting is the fact that the Police did not record any terrorism act in 2014 when both GTD and TE-SAT noted the activity of the Network of Revolutionary Cells. A possible explanation is that the Police did not record these incidents as criminal acts but a common offense (e.g., vandalism) in their internal statistics.

There is also an interesting discrepancy between the number of incidents recorded by the Police locally and the number of incidents reported to Europol in the TE-SAT. For the researchers and external professionals who work with the public data, it is impossible to understand the reason why the number of cases reported to the international institution is so much lower than the national Police records and if it relates only to one country or is it a more common practice among the EU member states.

National police authorities in the Czechia and across the EU may bring light to these areas and increase understanding of the relevance and reliability of reports prepared by Europol on aggregated data from the member states by publishing their statistics in the formats allowing further review and analysis (Stobiecki and Kuczabski, 2021). As seen in Table 3, each of these data sources has its characteristic advantages and disadvantages, resulting from the method of data collection, purpose of use, length of data series, scope of processed information, nature of users, frequency of publication and other technical parameters. The advantage of TE-SAT reports is that the statistics also include foiled and unrealized terrorist attacks, about which national security forces have information but are not available to the general public.

However, the format and frequency, as well as the low range of information on individual incidents, preclude their use for the purpose of quantitative analysis. The same goes for the National Police statistics which provide only the number of recorded incidents that have entered into investigation but no other characteristics that would allow segmentation and further analysis of the incident is available.

Table 3. Comparison of the main attributes of the different datasets available for quantitative terrorism research

Criterion	Global Terrorism Database (GTD)	TE-SAT reports	Czech Police statistics
Time frame	1970 – 2017 ⁷	2006 - 2018	2009 onwards ⁸
Geographical range	World (206 countries, including abolished states, e.g. Rhodesia, Czechoslovakia)	EU member states ⁹	Czech Republic
Source of data	Public sources, mainly media	Police reports from individual states	Primary records from the police investigations
Definition of terrorism	general (based on characteristics)	legal (based on the common EU law, further on the assessment of the reporting authorities of the country)	legal (Criminal Code)
Number of variables	Up to 120, of which 75 based on uniform coding	Cannot be determined numerically, in principle, the number of attacks, arrests and convictions by state and motivation	None
Format of publishing	online search function, source data available for download (after providing personal, contact and institutional data)	PDF file	XLS file
Further processing of data	data file compatible with common software including MS Excel	not possible, only by manual transcription	data file compatible with common software
Frequency of publication	continuously ¹⁰	once a year, usually in June of the following year	published by months, usually with a 2-month delay
Administrator	START/ University of Maryland	Europol	National Police

Source: Author's processing of data from GTD, TE-SAT, National Police statistics.

⁷Except for 1993.

⁸Introduction of the new Criminal Code with specific provision for terrorism.

⁹Data provided by several other partner countries incl. Croatia, Columbia., Switzerland and USA.

¹⁰At present, there is a small delay in publishing, most recent data are available in the paid access.

The only relevant alternative to the source of quantitative data for research on terrorism is therefore the Global Database of Terrorism (GTD), which allows further mathematical and statistical processing by the range of variables in the published format.

7. Conclusions

Terrorism is a phenomenon that – directly or indirectly – affects the lives of all. It is high on the agenda of the governments as well as international organizations and the budgetary allocations on counter-terrorism measures are not going to decline anytime soon. Not every bomb blast is the act of terrorism, nor is every attack on a government official. Regardless of the notorious problems related to the definition of terrorism, it is important to differ between terrorism and violent crimes motivated by individual profit, retaliation, vigilantism, pathological violence or simply an act of a mentally unstable individual, as discussed in the comments on the incidents recorded in the Global Terrorism Database (GTD). Yet the tools to objectively evaluate terrorism threats and analyse the trends as they evolve are limited.

The analysis of number of terrorism incidents in the EU countries based on the datasets from TE-SAT reports and GDT provides an ambiguous picture: while GTD data show a gradual increase of terrorist attacks in the EU, the TE-SAT reports contradict that trend with a declining trend curve. The severity of incidents measured by the number of casualties has a similar dynamics in both datasets: although the total numbers of casualties in specific years differ, they capture the same climaxes and declines over the years.

On the case of the Czech Republic, the article highlights some challenges linked to the use of GTD, in particular the reliance on media reports in a non-English speaking country and the application of the international humanitarian law on a country without any armed conflict as one of the key criteria to label an incident as terrorism. The small number of terrorism incidents in the Czech Republic allows a detailed analysis of each record in the different datasets as the article explores the national police statistics and the TE-SAT reports prepared by Europol for the EU member countries as alternative sources of quantitative data on terrorism to the segmented data from the GTD.

Parallel to the overview on the EU level, this one-country comparison gives an equally ambiguous picture: the data and trends show very little similarities. While the national police statistics show a significant growth in the number of terrorism incidents in the years 2017 and 2018, according to the GTD terrorism climaxed in 2014 and 2015 and the TE-SAT reports indicate that terrorism does not exist at all in the Czech Republic.

This case study thus adds another layer of complexity and a need of caution when interpreting statistics on terrorism. It is critical to understand the specifics of each of

the data sources, starting from the definition of terrorism and the methodology applied on the collection of data to the purpose why data is collected, processed and published.

This paper examined two alternative sources of objective and reliable terrorism data in the EU countries (national police statistics and TE-SAT reports) with the conclusion that at present, there is no adequate substitute to GTD in its geographical scope, length of time series and range of variables describing each incident. The paper suggest that institutions funded from the public budgets, such as the national police authorities and Europol, might improve the availability of the collected data for research by making their format compatible with the analytic techniques used in the computational sciences (in case of the TE-SAT reports), publishing the data in the local language as well as English (the Czech police statistics) and providing more details about each of the incident that would allow the scholars and researchers to tap into their potential (both).

In the terrorism research, aggregate data are very valuable. However, they require a good understanding of the specifics of each data source, as well as critical review and cross-checking of the data available and exploration of alternative sources of quantitative data for further research, especially when such analysis informs political and public decisions. Terrorism keeps evolving and so should the data available.

References:

- Algorithms and Terrorism: Giorithms and Terrorism: The malicious use of artificial Intelligence for Terrorist purposes. 2021. A Joint Report by UNICRI and UNCCT. United Nations Interregional Crime and Justice Research Institute, UNICRI.
- Bowie, N.G. 2017. Terrorism Events Data: An Inventory of Databases and Data Sets, 1968-2017. Perspectives on Terrorism, XI(4), Available at:
<http://www.terrorismanalysts.com/pt/index.php/pot/article/view/622/html>;
<https://www.universiteitleiden.nl/binaries/content/assets/customsites/perspectives-on-terrorism/2018/issue-5/bowie.pdf>.
- Bowie, N.G. 2018. 30 Terrorism Databases and Data Sets: a New Inventory. Perspectives on The Global Terrorism Database. Available at: <https://www.start.umd.edu/gtd/>.
- Brennan, P. 2017. A machine learning approach to the analysis of terrorism. DOI: 10.13140/RG.2.2.11569.89449.
- Della Porta, D. 2006. Social Movements, Political Violence, and the State, 2nd ed. Cambridge University Press, 18-19, Cambridge.
- Easson, J.J., Schmid, A. P. 2011. 250+ Academic, Governmental and Intergovernmental Definitions of Terrorism. In: Schmid, A.P. (Ed.). The Routledge Handbook of Terrorism Research. Routledge. New York and London, 99-200.
- Edaich, S., Dymek, L. 2020. Sharia Finance Managing Risks: The Case of Covid-19. European Research Studies Journal, XXIII(2), 1057-1067.
- Europol. 2019. Internet Organised Crime Threat Assessment (IOCTA). Europol. Accessible at: <https://www.europol.europa.eu/activities-services/main-reports/Internet-organised-crime-threat-assessment-iocta-2019>.

- GTD Global Terrorism Database. 2018. Information on more than 200,000 Terrorist Attacks, Available at: <https://www.start.umd.edu/gtd>.
- GTD Global Terrorism Database. 2018. Codebook: Inclusion Criteria and Variables. START. Available at: <https://www.start.umd.edu/gtd/downloads/Codebook.pdf>.
- Farid, H. 2020. Artificial Intelligence and Countering Violent Extremism: A Primer, Global Network on Extremism and Technology and Radical Filter Bubbles. GNRTT paper, no 8. <https://farid.berkeley.edu/downloads/publications/arxiv20.pdf>.
- Institute for Economics & Peace. Global Peace Index 2019: Measuring Peace in a Complex World, Sydney, June 2019. Available at: <http://visionofhumanity.org/reports>.
- Institute for Economics & Peace. 2020. Global Terrorism Index 2020: Measuring the Impact of Terrorism. Sydney. Available at: <http://visionofhumanity.org/reports>.
- Koncepce ochrany měkkých cílů ČR na 2017-2020, Ministerstvo vnitra ČR. Available at: <https://www.databaze-strategie.cz/cz/mv/strategie/koncepce-ochrany-mekkych-cilu-pro-roky-2017-2020>.
- Kozel, R., Hys, K., Vilamová, Š., Hawrysz, L., Hudak, M. 2017. ISO 9001 as a standard of quality management in Poland and Czech Republic: an analysis based on the global data. *Problems and Perspectives in Management*, 15(3), 266-275.
[http://dx.doi.org/10.21511/ppm.15\(3-1\).2017.10](http://dx.doi.org/10.21511/ppm.15(3-1).2017.10).
- Maniraj, S.P., Chaudhary, D., Hari Deep, V. 2019. Data Aggregation and Terror Group Prediction using Machine Learning Algorithms. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4).
- Maziarz, B., Bohdan, A., Dornfeld-Kmak, A. 2020. Migration Trends in the World and in Poland versus National Security. *European Research Studies Journal*, 23(1), 264-278.
- McKendrick, K. 2019. Artificial Intelligence Prediction and Counterterrorism. International Security Department, Chatham House, 79-81.
- Schuurman, B., Eijkman, Q. 2013. Moving Terrorism Research Forward: The Crucial Role of Primary Sources. ICCT Background Note. Available at: <http://www.icct.nl/download/file/Schuurman-and-Eijkman-Moving-Terrorism-Research-Forward-June>.
- Sheehan, I.S. 2012. Assessing and Comparing Data Sources for Terrorism Research. In: Lum C., Kennedy L. (Eds.) *Evidence-Based Counterterrorism Policy*. Springer Series on Evidence-Based Crime Policy, Springer, NY. Available at: https://doi.org/10.1007/978-1-4614-0953-3_2.
- Silke, A. 2009. Contemporary Terrorism Studies: Issues in Research, in *Critical Terrorism Studies: A New Research Agenda*, ed. Richard Jackson, Marie Breen Smyth, and Jeroen Gunning. Abingdon/ New York, 39-48.
- Schuurman, B., 2018. Research on Terrorism, 2007–2016: A Review of Data, Methods, and Authorship, *Terrorism and Political Violence*. Available at: <https://doi.org/10.1080/09546553.2018.1439023>.
- TE-SAT reports, Available at: <https://www.europol.europa.eu/activities-services/main-reports/eu-terrorism-situation-and-trend-report>.
- Silke, A. 2004. Research on Terrorism: Trends, Achievements and Failures, Chapter: An Introduction to Terrorism Research, Routledge, Editors, 1-29.
- Statement, Available at: <https://jailbreaking.noblogs.org/post/2010/04/28/utok-na-reckou-ambasadu-v-praze/>.
- Statistical overview of crime in the Czech Republic, The Police of the Czech Republic, Available at: <https://www.policie.cz/clanek/statisticke-prehledy-kriminality-za-rok-2018.aspx>.

- Stobiecki, P., Kuczabski, M. 2021 in press. Analysis of threats during the election campaign and parliamentary elections in 2019. In: Social control rooms in the era of information war, Świeboda, H. (Ed.), ASzWoj, Warsaw.
- Szpyra, R. 2020. Russian information offensive in the international relations. Security and Defence Quarterly, 30(3).
- Świeboda, H. 2019. Actions in the information war against the state and the possibilities of defense. In: Between knowledge and power, Bajor, P., Gruszczak, A. (Eds.) Księgarnia Akademicka, Kraków.
- Xueli Hu, G., Lai, F. Chen, G. et al., 2019. Quantitative Research on Global Terrorist Attacks and Terrorist Attack Classification, Sustainability, 11(5), 1487.
- Zaeadzki, T., Walecki, T., Świeboda, H., Szpyra, R., Kuczabski, M., Stobiecki, P. 2020. Introduction to Methods of Modelling Information Wars as a 21st Century Threat, European Research Studies Journal, 23(2), 1011-1026.