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News from the world of the Hungarian and international criminal geography

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Linguistics reviewer: GABRIELLA ÜRMÖSNÉ SIMON Ph.D. associate professor (Ludovika University of Public Service)

All correspondence should be addressed to the chair of the editorial board

criminalgeography@gmail.com

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Designed by Antal Forró

CONTENTS

Lectori salutem.....	7
Andrékó, Zsolt Gábor: Carceral Landscapes: A 19th–21st Century Study of Prison Geographies.....	9
Bánáti, Tibor: Burglary on the map: the latest trends in case numbers according to statistics....	31
Márkus, Mária: The relationship between Artificial Intelligence and predictive profiling.....	51
Tamás, Szintia: Criminal geography in the Visegrad countries: theoretical foundations, advanced spatial analysis, and regional research foci.....	59
News from the world of the Hungarian and international criminal geography.....	71

LECTORI SALUTEM!

Dear Readers,

It is with great pleasure that we present the latest issue of the CGJ, dedicated to exploring the enduring relationship among crime, punishment, and space. In a field constantly evolving, our commitment remains to bridge historical analysis with cutting-edge technological and empirical research.

This issue provides a particularly diverse selection of articles that traverse time and geography. We open with a profound study, "Carceral Landscapes: A 19th–21st Century Study of Prison Geographies," which offers a critical historical and geographical examination of prison siting practices in East-Central Europe, revealing how political power and penal philosophy are spatially inscribed on the landscape.

Shifting to contemporary technological frontiers, the issue features an analysis of "The relationship between Artificial Intelligence and predictive profiling," which delves into the potential and ethical challenges of using sophisticated AI tools in criminal prediction and policing strategies.

Furthermore, our readers will find focused regional and empirical studies, including a deep dive into "Criminal geography in the Visegrád countries," examining the theoretical foundations and regional research foci of the V4 nations, alongside an empirical paper on "Burglary on the map: the latest trends in case numbers according to statistics," providing vital data for strategic crime prevention.

We trust that the breadth of research presented herein will prove to be an engaging and essential resource for both academic and applied professionals. We encourage you to share your comments and suggestions with the editorial board, as your input is invaluable to our continuous goal of fostering an insightful and interdisciplinary dialogue within criminal geography.

Wishing you an enjoyable and informative read!

If you have any comments or suggestions regarding the journal, please write them to the editorial board!

Miklós Tihanyi Ph.D.
member of the editorial board

Authors of this issue

Andrékó, Zsolt Gábor criminologist, Ludovika University of Public Service (Budapest, Hungary)

Bánáti, Tibor pol. lieutenant-colonel., Ph.D. student, Ludovika University of Public Service (Budapest, Hungary)

Márkus, Mária criminologist, Ph.D. student, Ludovika University of Public Service (Budapest, Hungary)

Tamás, Szintia Ph.D. student, Ludovika University of Public Service (Budapest, Hungary)

Lectors of this issue

Mátyás, Szabolcs Ph.D. associate professor (Ludovika University of Public Service, Hungary)

Németh, Ágota Ph.D. assistant lecturer (Ludovika University of Public Service, Hungary)

Palló, József Ph.D. associate professor (Ludovika University of Public Service, Hungary)

Sivadó, Máté Ph.D. associate professor (Ludovika University of Public Service, Hungary)

Tihanyi, Miklós Ph.D. associate professor (Ludovika University of Public Service, Hungary)

Vári, Vince Ph.D. associate professor (Ludovika University of Public Service, Hungary)

Andrékó, Zsolt Gábor criminologist

Ludovika University of Public Service

andreko.zsolt.gabor@uni-nke.hu

CARCERAL LANDSCAPES: A 19TH–21ST CENTURY STUDY OF PRISON GEOGRAPHIES

Abstract

This article examines the strategic location of prisons in East-Central Europe from the 19th century to the present (2025), linking site selection to patterns of power, control, and social governance. During the 19th-century "penal revolution," facilities were deliberately built in peripheral areas to isolate offenders and assert imperial presence (e.g., in the Russian, Prussian, and Habsburg empires).

The conversion of religious buildings into prisons (e.g., the Lukiškės complex case) served as an instrument of imperial rule, influenced by the Panopticon concept. In the 20th century, Soviet-type forced labour camps (e.g., Recsk) focused on isolation and labour exploitation. The post-socialist period (after 1989) shifted focus towards modernization and smaller, regional institutions (e.g., the Czech open prison) promoting rehabilitation, moving away from previous practices. The region's prison system still largely relies on century-old infrastructure, posing an ongoing challenge to the implementation of modern correctional philosophies.

Keywords: prison, criminal geography, forced labour camp, jail

1. INTRODUCTION

The location of prisons is not merely a neutral or logistical choice. It is deeply connected to historical legacies, political motivations, social conventions, economic considerations, and the evolution of penal philosophies. This article investigates how the selection of prison sites in East-Central Europe – a region characterized by intricate imperial histories, fluctuating national borders, and varied political systems – mirrors larger patterns of power, control, and social governance from the nineteenth century to 2025. While the primary focus of this paper is on East-Central Europe, it is often essential to consider the concepts surrounding prison construction beyond this area, as these foundational ideas have significantly influenced the

strategic positioning of detention facilities, impacting not only a specific historical period but also the lives of prison services into contemporary times.

By tracing the trajectory of penitentiary site selection across the Prussian, Habsburg, Russian, and newly-formed East-Central European states, this article illuminates how incarceration infrastructure spatially embodies notions of territorial control and penal policy. The study integrates empirical findings from various regional cases to identify key factors that influenced the “territorialization” of punishment over time.

2. HISTORICAL FOUNDATIONS OF PRISON PLACEMENT

2.1. The Nineteenth-Century Penal Revolution

The nineteenth century was a formative period for modern European prison systems, witnessing a paradigm shift from corporal and capital punishment toward incarceration as the dominant penal sanction. The term “penal revolution” in the title does not indicate a single event that changed the course of penology throughout Europe, but rather a slow but steadily shifting change in the way of thinking about the punishment and in time, the rehabilitation of prisoners over a century. In East-Central Europe, this transformation was deeply entwined with the state-building and legal codification processes ongoing within the Prussian, Habsburg, and Russian empires.

During this period, authorities pursued prison locations in peripheral or remote areas to both isolate offenders from urban populations and simultaneously assert imperial presence in contested borderlands. Ackermann’s examination of nineteenth-century Poland and Lithuania within the Russian and Prussian imperial spheres highlights this pattern, where solitary confinement and incarceration were not just penal tools but instruments of territorial governance and cultural domination.

2.2. Political and social influences

2.2.1. Authoritarian Legacies and Penal Exceptionalism

Central Europe has exhibited historically high incarceration rates relative to some other European regions, a phenomenon linked to its authoritarian governance traditions and specific

forms of penal populism. The location of prisons served as an extension of state power, territorial control, and sometimes political repression.

For instance, during the Austro-Hungarian and Russian imperial eras, prisons in minority or borderland regions were tools not only for punishment but for suppressing dissent and asserting cultural hegemony. This politicized use of incarceration has shaped ongoing debates about prison siting practices, which still bear traces of these historic authoritative frameworks.

2.2.2. The Role of Penological Innovation: Solitary Confinement

The growth of solitary confinement as a method of discipline significantly affected the architecture and placement of correctional facilities. Nilsson's examination of Sweden's penal history emphasizes that the effectiveness associated with the solitary system resulted in the establishment of prisons designed to take advantage of isolation – both in terms of social interaction and geographical positioning – to maintain order.

Although Sweden is situated just outside Central Europe, the spread of these concepts influenced nearby penal institutions, particularly in Russia and Austria-Hungary, where solitary confinement and isolation were modified to fit their respective political and social environments (Nilsson, 2003).

2.2.3. Social Perceptions and Prison Legitimacy

The placement of prisons significantly influenced their social legitimacy and the nature of their relationship with the public. Facilities located near or within communities frequently encountered opposition or stigma, which in turn affected the authorities' inclination to establish prisons in marginalized or economically disadvantaged areas. In contrast, certain historical epochs nurtured a sense of institutional pride associated with well-constructed prisons that embodied state ideals of order and reform.

Many observers have noted the heightened crime rates in specific regions, leading to the conclusion that offenders tend to reside and operate in areas where criminal activity is perceived to be widespread. This observation further suggests that certain neighbourhoods promote a lifestyle centred around crime. The idea of relocating criminals from these areas is foundational to the penal revolution, which cultivated the prevailing belief that individuals convicted of

crimes should be exiled as far as possible from these harmful communities. This rationale is also a crucial factor – among several others – accounting for the establishment of numerous correctional facilities in remote locations, far removed from mainstream society. (Carter – Youngs, 2017)

2.2.4. The influence of Jeremy Bentham

Jeremy Bentham (1748–1832) was a prominent English philosopher and jurist who significantly influenced criminology, particularly in the realm of penological thought. He is widely regarded as the progenitor of modern utilitarianism, a philosophy advocating for the state to operate as efficiently as possible, allocating only the essential minimum resources to governmental institutions and infrastructure.

Although his theories did not have a direct impact on the intellectual landscape of East-Central Europe, nor were they conceived in the nineteenth century, his ideas nonetheless influenced the penological frameworks of the major European empires that would later shape the region's future a century thereafter. Bentham conceptualized the panopticon – a prison designed with a circular layout, where inmates are housed in cells along the perimeter, monitored from a central guard tower. In theory, a single guard positioned in this tower would suffice to oversee all inmates. Despite the practical limitations of one guard being unable to observe every prisoner simultaneously, the uncertainty regarding when the guard is watching fosters a pervasive sense of surveillance among the inmates, thereby creating an illusion of omnipresence. (Forgács, 2021)

Although Bentham's concept of the panopticon prison was never realized, it influenced the construction of subsequent prisons. In East-Central Europe, numerous facilities were established that emulated the panopticon model, particularly in the design of inmate living quarters; however, elements of this concept can also be observed in the layout of inmate workstations. Over the next three centuries, the architectural design of various prisons continued to reflect this idea, persisting into the present day.

2.3. Case study of the nineteenth-Century Poland and Lithuania: Empire, Religion, and Remote Sites

Following the partitions of Poland, the authorities of Russia, Prussia, and the Habsburg Empire endeavoured to establish dominance over the newly annexed territories through the strategic establishment of prisons. Monasteries located in Poland and Lithuania were transformed into correctional facilities, serving not only the purpose of isolation but also to reinforce imperial power in these peripheral areas. This conversion utilized the reflective characteristics of monastic architecture for penal purposes, merging solitary confinement with religious education (Figure 1).

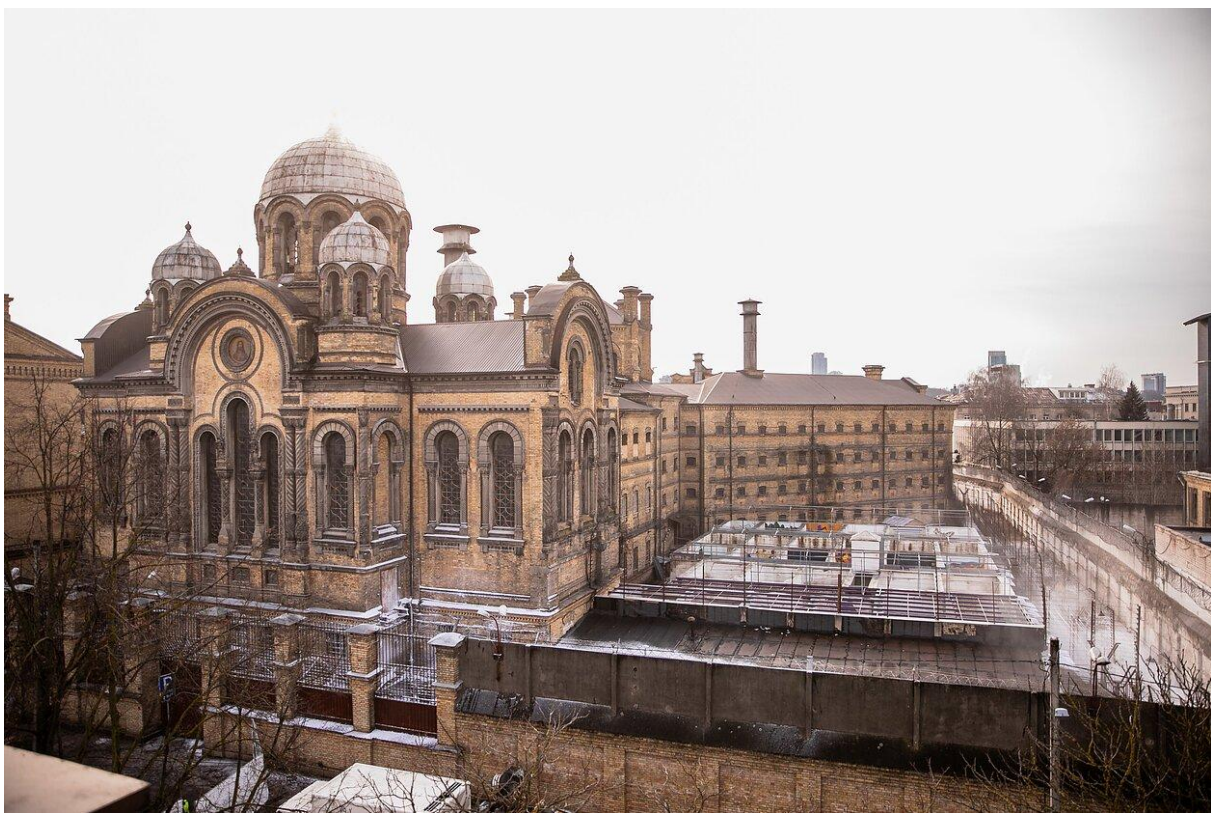


Figure 1: Lukiškės prison complex. Source: URL1

The Lukiškės prison complex serves as a notable illustration of the utilization of religious structures for the accommodation of detainees. The right section of the Russian Orthodox church was partially repurposed for the prison administration's use. Conversely, the central areas of the cell blocks were designated to meet the spiritual needs of Roman Catholic and Jewish inmates. Ironically, the circular prayer spaces intended for services on Saturdays and Sundays were both situated at the iconic central hub of the panopticon—placing the priest and the rabbi, during their respective worship, in the same vicinity as a prison guard. This spatial

arrangement also establishes a symbolic hierarchy within the prison: first, the prominent Russian Orthodox church located near the entrance; next, the Catholic chapel; and finally, at the farthest end, the Jewish prayer room, which acts as the focal point of the third building. Architect Aleksey Trambicki designed the prison with inspiration drawn from the panopticon concept (Ackerman, 2018).

Similarly, the Prussian region of Poland, following the partition of the nation, witnessed the construction of prisons either adjacent to or on the grounds of church buildings. For example, the prison in Wronke was constructed around a church in a panopticon style, akin to its Russian counterparts, such as the aforementioned prison in Lithuania (Figure 2).

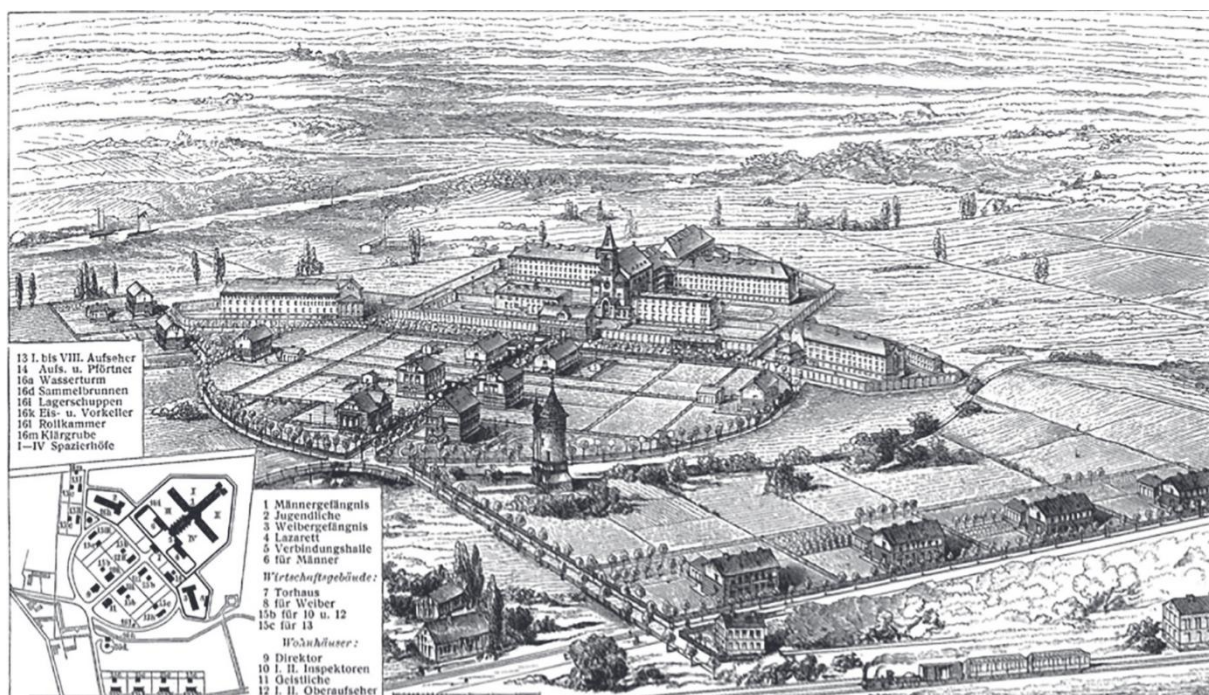


Figure 2: The Wronke prison. Source: *Zentralgefängnis für die Provinz Posen in Wronke*, Meyers Conversations-Lexikon, Leipzig 1904.

The imperial viewpoint regarding prisons is effectively illustrated by the previously mentioned examples. These examples demonstrate how prisons were established in proximity to religious structures in previously feudal societies, signifying the importance of religion in everyday life, even among offenders. Additionally, the instances underscore the vital function of surveillance in overseeing criminals within the empire. The main difference seems to be the predominant church in each empire: Orthodox churches were common in the Russian territories of partitioned Poland, while Protestant churches were utilized on the Prussian side.

In summary, the essential characteristics of prisons in East-Central Europe during that period included:

- Prisons located in isolated or peripheral areas, distant from imperial capitals.
- The repurposing of existing monasteries into prisons.
- The application of isolation as both a form of spatial punishment and a method of political control.
- Architectural designs that reinforced state authority by converting religious spaces into instruments of state power.

3. GEOGRAPHICAL DETERMINANTS IN PRISON LOCATION

3.1. The modernisation of the East-Central European region

Penitentiary reforms coincided with new architectural and administrative standards. Institutions were often located near infrastructure projects like railways or industrial sites, ensuring easy administrative control and surveillance, while reflecting emerging attitudes toward incarceration as a means of reform through discipline and order.

The primary motivations behind the strategic establishment of prisons were largely due to the absence of adequate detention facilities within the East-Central European region. In contrast, superpowers such as the German Empire, the Russian Empire, the Habsburg Monarchy, or the Ottoman Empire possessed either the necessary infrastructure, theoretical frameworks, or imperial perspectives that guided their multicultural states in developing penal systems capable of adapting to a continuously evolving environment. Conversely, the smaller Central European nations did not prioritize the creation of a sophisticated penal system, which led to the existence of a medieval-style dungeon system prior to the nineteenth century. By the end of the century, countries like Hungary and the western Slavic nations fell under imperial influence or control, resulting in political and legal reforms aimed at satisfying their conquerors. Due to the fact that these empires gained lands where written law was not yet introduced, it was essential to do so. This was done by forcing the already existing laws of the empires onto their newly acquired lands, often resulting in resistance from the local nobility. This period is often regarded as a dark chapter in history by many; however, it undeniably marked the emergence of the rule of law and the subsequent structuring of penal systems.

This era also witnessed the extensive development of prison facilities, establishing a correctional framework that had not been previously envisioned. In Hungary, for example, prisons have been built on a significant scale, designed to encompass the entire nation through the concept of "the network of courthouse-adjacent detention centres." These structures were similar in that, unlike traditional standalone prisons, these detention centres were situated within the same blocks as the courthouses, serving as a sort of 'backstage' for the judicial process. The reasoning behind this arrangement was clear: the judge, prosecutor, court staff, and the defendant could meet in a straightforward yet secure manner, unimpeded by unnecessary public disturbances (Forgács – Pallo, 2020).

3.2. Economic and Infrastructural Considerations

Geographical elements significantly influenced the selection of prison locations. In Russia, as examined by Averkieva, prisons were typically established in relation to economic activities like mining, industrial development, and the advancement of transport infrastructure. This strategic positioning facilitated the incorporation of penal labour into local economies, demonstrating a practical approach where incarceration also aligned with economic objectives (Averkieva, 2014).

Over the years, new prison facilities were constructed away from central urban locales, representing the increasing dominance of centralized imperial authority over local communities. This trend was particularly evident in Russia with the creation of Katonga penal colonies, which can be seen as a precursor to the notorious Gulag system. While the establishment of prisons in such isolated regions was less frequent and not as severe as in Russia, East-Central Europe also witnessed the construction of prisons distanced from society, highlighting the exclusion and ostracism of criminals from the civilized world. In Russia, these penal colonies were often situated near future railway lines, enabling prisoners to contribute to railway construction. The remoteness of these colonies made it exceedingly difficult for family members to visit their incarcerated relatives due to inadequate public transportation systems (Andrékó – Forgács, 2023).

In East-Central Europe, distant prisons not only served to penalize the inmates but also adversely affected their families, even though they were located much closer to society than those in Russia, where vast expanses of land permitted extreme isolation. The placement of

these prisons was frequently determined by their proximity to natural resources or burgeoning urban centres, providing labour opportunities for inmates and logistical benefits for authorities. These strategic decisions reflected a careful balance between reducing construction and operational expenses while pursuing broader political objectives, such as reinforcing territorial control.

4. ECONOMIC ASPECTS AND REGIONAL DEVELOPMENT

4.1. Intersections with Public Finance and Development Policy

From the perspective of public finance, the construction and placement of prisons are integral to the allocation of state resources, the pursuit of economic equity, and the strategies for regional development. The research conducted by Uzuner and Geyikçi in Turkey, although not situated within Central Europe, provides valuable insights into the tendency for political priorities to overshadow considerations of economic development in the decisions regarding prison locations (Uzuner – Geyikçi, 2021).

In Central Europe, analogous patterns can be observed: while economic factors such as cost-effectiveness, labour utilization, and infrastructure accessibility hold considerable importance, political motivations and aims associated with social control often dominate the decision-making process. A pertinent example is the Sopronkőhida Strict and Medium Regime Prison, which was built in the latter mid of the nineteenth century in a repurposed sugar factory on the town's periphery. This location was not only isolated but also easily reachable due to the pre-existing operational train tracks. The choice of this site enabled the repurposing of industrial facilities by making use of an already established industrial complex, thus creating job opportunities that capitalized on the existing site infrastructure.

4.2. Prison Infrastructure as Economic Agents

In certain instances, prisons act as economic stabilizers in remote or deteriorating areas, generating jobs and invigorating local economies. The historical analysis conducted by Korotkyi highlights intentional architectural and urban planning initiatives from the nineteenth century aimed at incorporating prisons into wider economic and social contexts (Korotkyi, 2024).

These initiatives illustrate the dual function of prisons, serving not merely as punitive establishments but also as tools that affect regional economic and spatial growth.

5. PRISON LOCATION DYNAMICS DURING THE SECOND HALF OF THE TWENTIETH CENTURY

5.1. Changing States, Borders, and Penal Systems

The twentieth century witnessed significant political transformations, including the disintegration of empires, global conflicts, the rise of Communist governments, and subsequent transitions away from Communism, all of which had a profound impact on prison systems and their geographical distribution in Central Europe.

Newly established nation-states, particularly in the East-Central European region, inherited and modified the penitentiary legacies of empires, reorganizing prison networks in response to evolving political priorities and ideologies. Throughout the Communist period, there was a notable increase in mass incarceration for both political and criminal offenses, leading to the expansion and relocation of correctional facilities, which often prioritized isolation and control in rural settings.

5.2. The effect of the Soviet penal system

Following the conclusion of the Second World War, East-Central Europe fell under the influence of the Soviet Union, which led to a transformation in the internal political landscape of these nations, resulting in the establishment of communist governments. In Russia and certain regions of East-Central Europe, some correctional facilities were strategically situated near industrial or mining hubs. This positioning enabled the authorities to utilize convict labour for extensive infrastructure initiatives, thereby linking the selection of prison locations to both economic considerations and regional development strategies. These penal colonies, frequently located in isolated areas, also served as catalysts for settlement and the expansion of extractive industries, particularly during the Soviet era. Concerning the geographical distribution of prisons, I have categorized the socialist period into two primary sub-periods: the time from the end of World War II until 1960, and the period from 1960 until the conclusion of the socialist era and the disintegration of the Soviet Union.

5.2.1. The Stalinist regime

The initial sub-era of socialism following the war was short-lived. Stalinist regimes arose in East-Central Europe after merely a few years of peace, but they disintegrated within approximately five years following the dictator's death in 1953, jeopardizing the very existence of socialist regimes and Soviet influence. The brief duration of this era did not allow the region sufficient time to fully adapt to a state operating under a stringent communist framework. However, this does not imply that it did not leave an impact on society, influencing not only the daily lives of individuals but also the penal services.

In Poland and Hungary, the Stalinist regimes managed to maintain their authority until 1956, indicating that the regime endured for nine years in Poland and seven years in Hungary, respectively. During this time, the Polish People's Republic did not construct new prisons. The transformations occurring in the country did not permit an increase in the number of penal facilities. The prison system in Poland from 1944 to 1956 was profoundly shaped by the legal framework and administrative regulations imposed during that time, which were marked by ideological control and pressure on prison personnel (Machewicz, 2023). This indicates that the prison infrastructure and administration were significantly influenced during this period, although it does not explicitly verify the establishment of new prisons. The history of imprisonment in Poland encompasses long-established facilities such as the Lamsdorf (Łambinowice) camps, which served various functions from the Franco-Prussian War until 1946. (Kobiałka, Michalski, Karski, Lokś, Pawleta, Rezler-Wasielewska, Wroniecki, Wysocka, & Czarnik, 2024). This historical continuity implies that many prison facilities were repurposed rather than newly constructed during the post-war era.

In contrast, Hungary made an effort to emulate Moscow by establishing work camps that were concealed from the broader society. The forced labour camps during the Rákosi period in Hungary were primarily created for the purposes of political oppression and economic exploitation. These camps were deliberately situated to optimize the use of forced labour for state initiatives, and the conditions within them were exceedingly severe, resulting in considerable suffering and loss of life among the inmates. Although this form of punishment – which was largely illegal due to being executed following a show trial, or in many cases, without any formal sentence – was not as prevalent as in the Soviet Union, it nonetheless left a grim mark on the region's history.

The most prominent of these detention facilities was located in Recsk, a small village in Hungary whose residents were oblivious to the camp's true function; however, there were additional, lesser-known camps at Hortobágy and Bánkút. While these camps were also smaller in scale, Recsk was the largest, housing approximately 1800 to 2000 individuals who endured the inhumane conditions of this unlawful punishment, (URL2) and they became a sombre emblem of an era that sought to replicate the Soviet camp system.

Czechoslovakia may be viewed under a somewhat different lens, as the communist regime managed to sustain itself peacefully for an extended duration until the Prague Spring of 1968, when a nationwide uprising prompted the Warsaw Pact to intervene and suppress the reforms intended to democratize the nation.

Throughout this era, the country witnessed the creation of forced labour camps, particularly in the westernmost region of the Czech portion of the country, adjacent to the German border. Jáchymov is a town renowned in the Czech Republic for its distinctive radium mine, which was the primary factor for the strategic placement of numerous labour camps in the area (Figure 3).

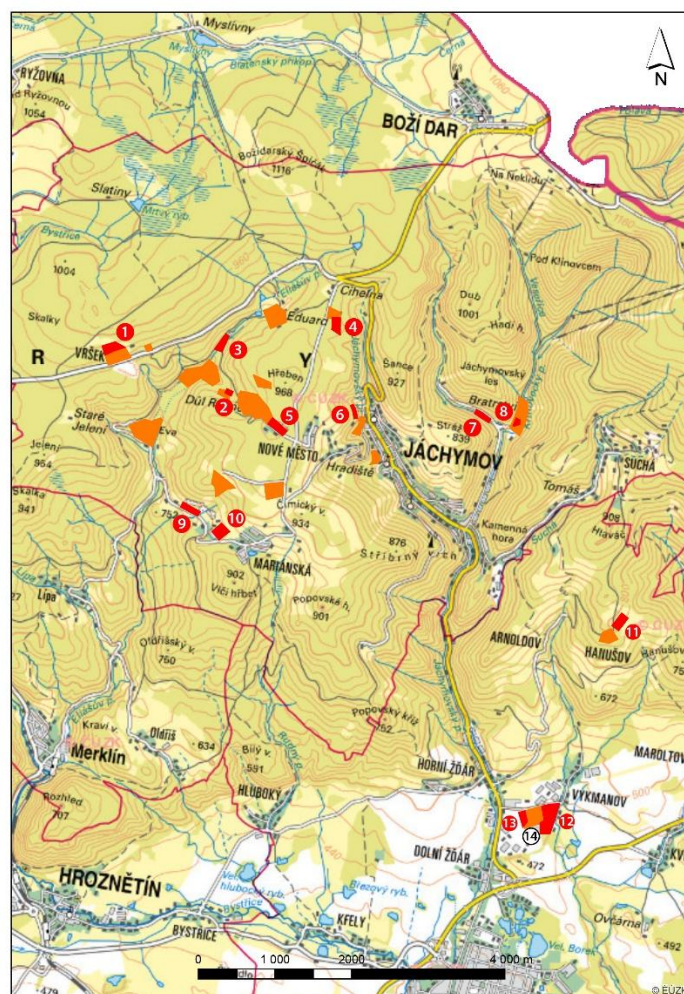


Figure 3: Jáchymov 'Uranium Gulag' (1949-1961). Red - penal and forced labour camps, orange - fenced mines and uranium ore-processing facilities; 1 - Vršek, 2 - Eliáš I, 3 - Eliáš II, 4 - Nikolaj, 5 - Rovnost, 6 - Svornost, 7 - Ústřední I, 8 - Bratrství, 9 - Mariánská I, 10 - Mariánská II, 11 - Plavno, 12 - Vykmanov I, 13 - Vykmanov II, 14 - the so called 'Red Tower of Death' (uranium ore-processing plant). Source: ags.cuzk.cz

The Stalinist period in the nation isolated this location from the broader society and transported prisoners here, who remained confined away from the general populace for extended durations. Individuals could be apprehended and sent to labour camps like this for periods ranging from three months to two years without any judicial proceedings (Holá – Bouwknecht, 2022).

A novel form of punishment, previously unfamiliar to East-Central Europe, was implemented uniformly across the region based on similar principles. These facilities functioned as remote camps where political detainees could be isolated from society, thereby eliminating any

existential threat they posed to the communist regimes. Furthermore, these camps served as places where such individuals could be utilized for labour over prolonged periods, all without ever facing a legal trial. The governments in the region struggled to sustain such systems, as they were unconventional within these societies. While the issues extended far beyond the penal system itself, the manner in which governments addressed their undesired citizens marked one of the most sombre chapters in the history of their penal institutions.

5.2.2. From the 1960-s to the collapse of the Iron Curtain

The 1960s marked the conclusion of the Stalinist regimes in the region, coinciding with a transformation in the political landscape of the USSR. This transition led to a significantly more relaxed and professional approach to penology, which, while still reflecting elements of socialism in its practices, facilitated a more effective organization of prison services and resulted in the closure of forced labour camps.

During this period, the focus was primarily on the transformation of prison services rather than the construction of new facilities. Although the East-Central European region predominantly relied on existing prisons established prior to this time, a limited number of new facilities were constructed across various countries, with the scale and purpose differing from one nation to another.

In Poland, Czechoslovakia, and Hungary, prison services exhibited similar behaviours in terms of construction during this era: a few new prisons were established, such as the Hubrieszow prison in Poland (URL3) and the Juvenile Prison located approximately 20 kilometres south of Budapest, Hungary, which was built in 1963 (Baráth 2023). Occasionally, older facilities were expanded; however, it cannot be claimed that this was a period characterized by extensive prison construction projects. Instead, the primary focus was on reforming and modernizing penal law, with a greater emphasis placed on the reintegration of prisoners. It can be argued that criminological perspectives regarding prison systems have shifted in a predominantly positive direction.

6. THE POST-SOCIALIST PERIOD

Across Central Europe, both during and after the Communist regime, numerous key pre-trial and full-term detention centres were situated in prominent urban areas. As political priorities evolved, particularly during the socialist period, the allocation of resources for new infrastructure diminished. Older facilities in cities such as Prague, Budapest, and Warsaw became congested and obsolete, yet they remained significant due to their closeness to courts, police stations, and administrative offices. The scarcity of financial resources for new construction solidified these problematic locations, undermining the fundamental needs for prisoner welfare and legal standards well into the 21st century.

The democratization process following 1989 and the integration into Europe brought about reforms that highlighted the importance of human rights and rehabilitation. This led to the renovation or closure of outdated facilities and established new criteria for the location of prisons, which included considerations for access to legal assistance, healthcare, and family connections.

6.1. Contemporary Trends and Challenges

As of 2025, the selection of prison locations in Central Europe illustrates the persistent tensions among historical legacies, societal expectations, and economic limitations. Notable contemporary trends encompass:

- The closure or repurposing of large, isolated correctional facilities established under previous penal models, supplanted by smaller, regional institutions emphasizing rehabilitation.
- A heightened focus on the social proximity of inmates, facilitating improved access to family and community services
- Political disputes regarding the establishment of new prisons, framing them as economic prospects for disadvantaged areas or subjects of local resistance.
- Legislative and human rights pressures prompting a decentralized spatial distribution that aligns with contemporary correctional philosophies.

The region has faced, and continues to confront, significant challenges concerning the placement of its prisons. The majority of correctional facilities in the area were constructed many years ago, during a time when the enforcement of written law and the adoption of imprisonment as the primary form of punishment were relatively novel.

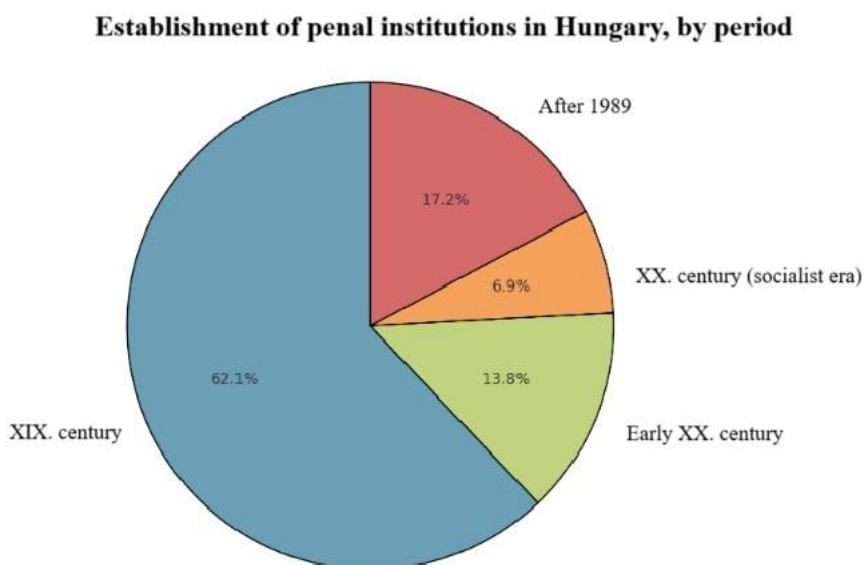


Figure 4: The establishment of currently operating penal institutions in Hungary, by period. Source: the author's diagram, based upon the founding documents of prisons found on: <https://bv.gov.hu/hu/intezetek>

While the construction of new facilities over the last three decades can be viewed as a positive development, it is noteworthy that a significant 75% of the currently functioning prisons in contemporary Hungary were established prior to the First World War. This indicates that the prison system continues to depend on infrastructure that is over a century old.

The aforementioned situation is mirrored in the East-Central European region, where nations share a common historical background. Numerous prisons that commenced operations during the imperial era are still in existence, with a limited number of facilities constructed during the period of the Iron Curtain, alongside new initiatives undertaken following the dissolution of the socialist regimes.

6.2. New perspective in the Czech Republic

The Prison Service of the Czech Republic has made a remarkable effort by inaugurating the first open prison in the East-Central European region in 2017, inspired by Scandinavian models of "open prisons." (Ürmösné 2019) A notable example is the minimum-security facility located in Jiříce, northeast of Prague. Rather than isolating inmates from society, this facility is designed to function like a self-sustaining village, focusing on rehabilitation and reintegration. The site was selected not for its seclusion, but for its proximity to local services and support networks, facilitating the transition of prisoners back into society. This initiative represents a conscious and humane shift away from previous practices of segregation and exclusion. The prison has a maximum capacity of 32 individuals, making it an ideal environment for observation (Kříž – Veteška, 2021).

It is evident that, although the East-Central European region lacked its own penological philosophies, the last two centuries have prompted the countries in the area to accelerate their development and establish their own policies regarding the management of their penal systems. The influence from the east remains perceptible throughout the region; however, an examination of the locations of newly constructed prisons indicates a gradual decline of this influence. Nonetheless, the region continues to confront significant challenges in reforming its prison systems, and each nation must ultimately decide which outdated penal institutions to close and where to build new ones.

7. CONCLUSION

The selection process for prison locations in East-Central Europe from the nineteenth century to 2025 illustrates a multifaceted interaction of historical demands, geographical factors, political influence, societal perceptions, and economic aspects. Initially, prisons functioned as instruments of empire and isolation, established in remote or disputed areas to exert governmental control and to apply emerging penal philosophies focused on discipline and rehabilitation.

As time progressed, economic motivations and infrastructural advancements began to shape the spatial distribution of correctional institutions. The region's distinctive legacy of authoritarian governance and penal exceptionalism influenced the territorialization of incarceration, with

locations serving not only punitive purposes but also reinforcing political dominance and societal stability.

Contemporary changes highlight the need to balance security with humanitarian objectives in correctional practices, leading to a reconfiguration of prison geography towards greater integration and accessibility, while still contending with the lasting impacts of historical punitive spatial frameworks (Table 1).

Table I. Summary table of location of prisons over the span of three centuries.

Source: made by the author

Period & Region	Strategic Factors	Example Location	Key Outcomes
19th c. Poland/Lithuania	Imperial/political	Converted monasteries	Reinforced imperial control, used isolation, symbolic power, rule of written law
Late 19th c. Hungary	Imperial/legal	Sopronkőhida Prison	Economic considerations, rule of written law
East-Central Europe/USSR (20th c. until the 1960-s)	Economic/industrial	Mining prison colonies and forced labour camps	Penal labour as economic engine, regional development
Socialist era (1960-s to the collapse of the Iron Curtain)	Practical	Hubrieszow, Juvenile Prison	Logistical convenience, focus on already existing prisons
20th/21st c. East-Central Europe	Tackling legal and professional expectations	Old prisons with an imperial legacy	Humanitarian correctional goals, outdated infrastructure
20th/21st c. Czech Republic	Social/humane reform	Jiřice “open prison”	Accessibility, rehabilitation, community focus

These case studies shed light on the interaction between political motivations, economic approaches, and evolving penal philosophies within the prison landscape of East-Central Europe, ranging from historical isolationist imperial strategies to contemporary initiatives focused on social reintegration. Each case study mirrors the larger historical trends, state formation, and societal views on punishment in the region.

Traditionally, numerous prisons were intentionally located in remote areas—such as mountains, thick forests, or border regions—to promote the social exclusion of offenders and minimize the chances of escape or civil disorder. In contrast, some facilities were later relocated nearer to urban areas for various reasons, including enhanced surveillance, better judicial coordination, and increased public visibility.

This conflict between isolation and accessibility illustrates the evolving penal philosophies, with the nineteenth century prioritizing seclusion and control, while the concerns of the twentieth and twenty-first centuries often highlight rehabilitation and community oversight.

Future strategies for prison placement in Central Europe are expected to continue navigating these tensions, drawing on historical insights while adapting to changing political, social, and economic landscapes.

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Dr. Bánáti, Tibor police Lieutenant Colonel, Ph.D. student

Ludovika University of Public Service

banati.tibor@uni-nke.hu

BURGLARY ON THE MAP: THE LATEST TRENDS IN CASE NUMBERS ACCORDING TO STATISTICS

Abstract

This article examines burglary trends in Hungary following the political transition, noting its significant impact on the public's subjective sense of security due to material loss and psychological trauma. Given the evolution of criminal methods, the paper advocates for a proactive policing approach, specifically the application of predictive policing tools.

The study first defines burglary as an aggravated form of theft involving force against property, differentiating it from residential burglary based on location for statistical purposes. It then introduces the role of crime geography and cartographic visualization, such as hot spot analysis, in resource allocation. The German PRECOBS software is presented as a best practice for forecasting near-repeat offenses.

The core of the analysis investigates the effect of the COVID-19 pandemic restrictions (2020–2022) on national and county-level burglary rates, using ENyÜBS statistical data from 2019–2024. As anticipated, the number of burglaries generally decreased during the restrictions – a "necessarily in-person" crime – and subsequently increased after their lifting, though variations across counties were significant.

The paper concludes that while the data partially confirms the hypothesis, relying solely on follow-up statistics (ENyÜBS) is insufficient for a complete causal analysis. It emphasizes the need for a combination of quantitative and qualitative methods, alongside modern crime mapping and predictive solutions, for effective prevention and resource deployment.

Keywords: crime analyses, crime geography, burglary, crime

Introduction

Since the political transition in Hungary, the number of burglary cases has been steadily increasing in the history of domestic criminality. The accumulation of private property and its

growing prominence over public or communal property has led to heightened criminal activity, with the homes of increasingly affluent private individuals becoming sought-after targets for perpetrators (Baráth 2022). Police representatives have repeatedly emphasized at press conferences and public forums that burglary is among the crimes that most strongly affect the public's subjective sense of security. There are several reasons for this. One is the material damage caused by the theft and vandalism committed by the offender; the other is the psychological trauma inflicted on the victims. It is particularly difficult to process the thought that the perpetrator was inside one's home, intruding upon one's private space, touching personal belongings, rummaging through and emptying drawers.

Beyond emotional distress and material loss, victims often experience significant frustration as well asking themselves why they did not implement better security measures, why they failed to install a surveillance system, and so on. Within law enforcement circles, a proactive approach is increasingly gaining ground over the previously dominant reactive, crime-fighting mindset. While investigation and detection cannot be replaced by the use of crime prevention tools and methods, the legitimacy of predictive tools is undeniable. The methods and tools used by both offenders and investigators are constantly evolving. Therefore, in addition to criminal investigation, greater emphasis must be placed on prevention. The need for the application of preventive policing tools and methods in Hungary is beyond dispute within professional law enforcement circles. However, in order to successfully adopt them, it is essential to study and evaluate the practices – commonly referred to as best practices – of foreign police forces that already use these methods proficiently.

2. Characteristics of burglary

Based on my experience as a crime analyst, I am compelled to advocate for the more prominent application of predictive policing methods and tools among colleagues working in the field of criminal investigation. I consider this especially important in the case of property crimes committed serially or by organized criminal groups.

Regardless of whether we prioritize reactive or proactive policing, it is essential to understand data that is relevant from a criminal standpoint. This knowledge is necessary to select the most appropriate methods and tools, whether for effective intervention or prevention. First, however, let us examine the specific crime that is the focus of this paper: burglary.

2.1 Legal Regulation

The terms "burglary" and "burglary theft" are used in criminological terminology; however, these expressions are not found in substantive or procedural criminal law. Substantive criminal law is represented by the Criminal Code, which, at the time of writing this paper, is Act C. of 2012. The legislator does not define burglary as a separate criminal offense, but rather as an aggravated form of theft. Section 370 of the Act defines the legal facts related to theft. The basic provision describes a behavior that has remained unchanged for centuries: *"Whoever takes someone else's movable property with the intent of unlawfully appropriating it commits theft..."* [Section 370 (1) of Act C of 2012 on the Criminal Code]

Following the basic provision, a list of aggravated forms of the offense is provided, among which the phrase *"with force against an object"* highlights burglary as a specific mode of commission.¹ In the case of burglary, the perpetrator uses force against an object in order to enter a building or a fenced area connected to it, with the intent of unlawful appropriation. Conceptually, it is possible for the offender to use physical strength to break in (e.g., pushing the door open with a shoulder or kicking it in), but practical experience suggests that entry is typically achieved using a tool (such as a crowbar, lock puller, master key, etc.). The use of force against an object clearly distinguishes burglary from other types of theft. For example, a "trick theft" occurs when someone enters a caravan or tent through deception or without the owner's knowledge and consent. However, if the perpetrator uses force against an object to gain entry (e.g., prying open the caravan door or cutting through the tent canvas), the act qualifies as burglary (Bánáti 2023).

2.3 Burglary or residential burglary?

Criminological terminology also appears in practice, particularly in the context of statistical reporting. The Ministry of Interior compiles the annual crime statistics using data from the ENyÜBS (Unified Criminal Statistics System of Investigation Authorities and Prosecutors), and I also relied on these data during the preparation of my paper. During the process of statistical data reporting, law enforcement agencies record information – such as the manner of committing a theft – based on a specific coding table. When a crime occurs at one of these specified locations, it is classified as a residential burglary. If the location falls outside of this

code range, the case is recorded as a burglary theft (i.e., a burglary not involving a residential property).

To put it simply: it is the *location* of the offense that determines whether it is categorized in the database – and thus in statistics – as a burglary theft or a residential burglary. In my research, I treated burglary theft and residential burglary together, since both involve *force against property* and thus fall under the criminological category of burglary, regardless of where they were committed.

3. Main Connections Between Burglary and Crime Geography

3.1 Crime Maps

Statistical crime data can be freely accessed by anyone, either through publicly available police reports or via real estate websites featuring crime maps. These are increasingly important, as more people are consciously seeking out the so-called *crime maps* when moving to a new residence or wanting to assess public safety in their current neighborhood. The crime situation in a given area is a key factor when renting or purchasing a home. Prospective tenants and buyers alike try to gain an understanding of the crime rates in the area they are considering. The simplest way to do this is through the official crime maps published by the police or by consulting official police crime statistics. This data is available free of charge; interested parties can have access to it without any cost. Publicly accessible crime data can be found at: <https://terkep.police.hu/portal/bunugyi>.

Professional journalists and media outlets seeking data can contact the Communications Department of the National Police Headquarters (ORFK) at: sajtougyelet@police.hu. Private individuals can also request official crime statistics. In this case, they can use the police's electronic administration portal, which requires a valid Client Gateway (KAÜ) registration. On the platform, the request must be submitted using the form titled *New Criminal Data Request* (URL1). The crime map contains data provided by the ORFK's Communications Department. However, this data does not come from the ENyÜBS database, but from the *Robotzsaru Neo Integrated Case Management and Processing System* (RZS NEO). This is significant because ENyÜBS operates under the principle of "follow-up statistics" and contains data from closed criminal proceedings, while RZS NEO contains data from investigations that have been completed and known to the police.

As a practicing crime analyst, I consider *cartographic visualization* – especially the use of so-called *hot spot analysis* – to be of primary importance. This method allows for the most efficient allocation of police resources and forces. Hot spot analysis, along with statistical regression and various data mining techniques, is capable of identifying where crimes are most likely to occur within a given time frame (Harmati – Szabó 2020).

3.2 A Predictive Opportunity: PRECOBS

In the 21st century, organized criminal groups cannot always be fully localized, but by combining information technology with mapping systems, key characteristics – such as locations of offenses and the perpetrators' routes of arrival and departure – can be precisely identified. By structuring crime-relevant data collected during investigations, crime analysts can create data repositories that, when evaluated and visualized cartographically, can not only confirm or rule out the serial nature of burglaries, but also accurately predict the likely future locations of such offenses (Bánáti 2023). In 2015, police departments in Stuttgart and Karlsruhe, in the German state of Baden-Württemberg, implemented the predictive policing software *PRECOBS*, which proved successful in forecasting burglary incidents. The use of PRECOBS (Pre-Crime Observation System), developed by a German company specializing in pattern-based forecasting, has achieved significant preventive results (Haake 2021).

This predictive policing software, designed for use by crime analysts, employs algorithms and historical crime data to identify the so-called *near-repeat* offenses. The Bavarian police forces, for example, use the system specifically to forecast burglary incidents – and with notable success (Egger 2015). According to findings summarized at the end of the pilot phase (June 30, 2018), the number of residential burglaries has been steeply declining not only in Germany but across Europe since 2015. However, due to the low number of cases, it has been difficult to precisely assess the impact of predictive policing software. Nonetheless, based on alerts received during the trial period, it was determined that targeted patrol deployment based on predictions led to approximately a 30% reduction in repeat offenses (Gerstner 2023).

4. Trends in the Number of Burglaries

Several factors influence trends in burglary rates, including population size, weather conditions (Mátyás 2024), social circumstances, the level of infrastructure development, road network density, and even geographical features.

In addition to these factors, a new and previously unknown external influence significantly affected the number of recorded cases in 2020: the COVID-19 pandemic. For the purposes of

analyzing trends in domestic burglary rates, I have taken into account the following relevant events and measures that occurred in relation to this global crisis (Table 1).

Event	Date
First confirmed COVID-19 case in Hungary	04.03.2020.
Establishment of the Operational Task Force	31.01.2020.
Declaration of nationwide state of emergency	11.03.2020.
Imposition of movement restrictions	28.03-11.04.2020.
Lifting of movement restrictions	18.05.2020.
Reopening of kindergartens and schools (in Budapest)	From 06.2020.
Introduction of hotel restrictions	11.11.2020.
Lifting of indoor mask mandate	07.03.2022.

Table 1: Key Milestones of COVID-19 Restrictions in Hungary (Bánáti 2022)
 (Source: the author's presentation at the 7th International Scientific Conference on Tourism and Security)

The listed measures introduced in Hungary – and the timing of their implementation – represent a crucial aspect in analyzing burglary trends. Based on these, the period between March 2020 and March 2022 must be examined closely in terms of changes in the number of burglary cases. These factors caused such a significant distortion in burglary data that understanding them is essential for properly interpreting the statistics.

Due to the imposed restrictions, a substantial decrease in burglary cases during this period was to be expected. The reason for this – if we may use a criminological paradox – is that burglary is a "*necessarily in-person*" crime; it can only be committed through the physical presence of the perpetrator(s) at the crime scene. Typically, burglaries target occupied or regularly visited premises. Under normal circumstances, the perpetrator exploits moments when a property is left unattended. However, during the pandemic, people were effectively confined to their homes due to lockdown measures, which theoretically prevented burglars from committing their offenses.

Using statistical data, I aimed to determine to what extent COVID-19 influenced the number of burglaries. In the interest of completeness, I also examined the period following the lifting of restrictions. Therefore, my study covers burglary-related data spanning from 2019 to 2024, using 2019 as the base year. A key focus of my analysis was to observe changes in crime volume. In this case, the variable was the number of recorded cases: specifically, the change in the number of burglaries before and during the COVID-19 pandemic, as captured by criminal statistics. These changes will later be visualized using maps for greater clarity. By analyzing the number of burglaries involving *force against property* known to the police during the study period, we can determine how the pandemic affected these types of offenses. Additionally, I present the evolution of case numbers following the end of restrictions, as well as the geographic distribution of burglaries.

5. Statistical Data

5.1 National Overview

As a first step, let me examine the data from the base year (2019), along with the number of recorded cases in the years immediately following the introduction of restrictive measures (Table 2).

Table 2: Trends in the Number of Property Crimes and Burglaries, 2019–2024

Year	Category	Number of Cases	Percentage Share
2019	Property crimes	81 244	
	Burglaries registered by the police	11 757	14,47%
2020	Property crimes	72 954	
	Burglaries registered by the police	10 710	14,68%
2021	Property crimes	64 558	
	Burglaries registered by the police	8 626	13,36%
2022	Property crimes	77 838	
	Burglaries registered by the police	9 154	11,76%
2023	Property crimes	86 298	
	Burglaries registered by the police	9 887	11,45%
2024	Property crimes	110 917	
	Burglaries registered by the police	10 670	9,61%

Source: ENyÜBS

From the data in the table, we can conclude that burglaries account for approximately 15% of property crimes, and this proportion did not show any significant change during the examined

period. The roughly 5% decrease can be explained both by the shift of property crimes into cyberspace and by the phenomenon of latency (i.e., unreported crimes). Overall, we can say that the percentage share of burglaries within property crime is showing a continuous downward trend (Table 3).

*Table 3: National Trends in the Number of Burglary Offenses in Hungary (2019–2024)
(Red numbers indicate an increase, blue numbers indicate a decrease.)*

Investigating authority (County)	2019.	2020.	2021.	2022.	2023.	2024.
BRFK	2 382	1 748	1 505	1 741	1 396	1 370
Baranya	559	507	242	312	269	335
Bács - Kiskun	698	721	688	685	668	625
Békés	338	249	218	211	202	172
Borsod - Abaúj - Zemplén	1 124	1 353	1 080	1 098	1 245	1 382
Csongrád - Csanád	198	148	193	144	144	192
Fejér	298	431	221	245	580	247
Győr - Moson - Sopron	400	412	491	404	358	305
Hajdú - Bihar	373	348	303	277	462	428
Heves	655	490	403	553	717	1 020
Komárom - Esztergom	211	182	218	149	148	95
Nógrád	275	234	164	242	211	367
Pest	1 611	1 242	917	1 142	1 321	1 418
Somogy	348	395	231	323	326	269
Szabolcs - Szatmár - Bereg	542	582	518	444	525	683
Jász - Nagykun - Szolnok	802	726	561	555	613	951
Tolna	235	374	202	172	177	213
Vas	192	206	144	141	171	198
Veszprém	258	202	191	138	197	297
Zala	258	160	136	178	157	103
Total number of cases:	11 757	10710	8626	9154	9887	10670

Source: ENyÜBS

By examining the data in Table 3, we can confirm that our earlier assumptions have proven to be correct. The figures clearly show that in 2020, the number of burglaries was more than one

thousand fewer compared to the base year (2019). However, in terms of geographic distribution, an interesting trend can be observed: not all counties (regions) experienced a decrease in case numbers. When analyzing the columns, it becomes evident that the 2020 and 2021 data show a significant decline, consistent with earlier projections. It was also anticipated that following the lifting of pandemic restrictions, there would be a steady, though not drastic, increase in the number of burglary cases. The data presented above confirms this assumption as well (Table 4).

Table 4. National Percentage Changes in the Number of Burglary Offenses in Hungary (2019–2024)

Investigating authority (County)	2020	2021	2022	2023	2024
BRFK	-26,62%	-13,90%	15,68%	-19,82%	-1,86%
Baranya	-9,30%	-52,27%	28,93%	-13,78%	24,54%
Bács – Kiskun	3,30%	-4,58%	-0,44%	-2,48%	-6,44%
Békés	-26,33%	-12,45%	-3,21%	-4,27%	14,85%
Borsod – Abaúj – Zemplén	20,37%	-20,18%	1,67%	13,39%	11,00%
Csongrád – Csanád	-25,25%	30,41%	-25,39%	0,00%	33,33%
Fejér	44,63%	-48,72%	10,86%	136,73%	57,41%
Győr – Moson – Sopron	3,00%	19,17%	-17,72%	-11,39%	14,80%
Hajdú – Bihar	-6,70%	-12,93%	-8,58%	66,79%	-7,36%
Heves	-25,19%	-17,76%	37,22%	29,66%	42,26%
Komárom – Esztergom	-13,74%	19,78%	-31,65%	-0,67%	35,81%
Nógrád	-14,91%	-29,91%	47,56%	-12,81%	73,93%
Pest	-22,91%	-26,17%	24,54%	15,67%	7,34%
Somogy	13,51%	-41,52%	39,83%	0,93%	17,48%
Szabolcs – Szatmár – Bereg	7,38%	-11,00%	-14,29%	18,24%	30,10%
Jász – Nagykun – Szolnok	-9,48%	-22,73%	-1,07%	10,45%	55,14%
Tolna	59,15%	-45,99%	-14,85%	2,91%	20,34%
Vas	7,29%	-30,10%	-2,08%	21,28%	15,79%
Veszprém	-21,71%	-5,45%	-27,75%	42,75%	50,76%
Zala	-37,98%	-15,00%	30,88%	-11,80%	34,39%

Source: own calculations

By examining the data in the table illustrating percentage changes, we can observe the full spectrum of variation – from the smallest value (Csongrád-Csanád in 2023: 0.00%) to the most extreme fluctuations (Fejér in 2023: +136.73%, then -57.41% in 2024). Such a sharp decline followed by a slow, continuous increase in the number of cases clearly reflects the implementation and subsequent lifting of pandemic-related restrictions.

However, when analyzing the national-level data, it becomes evident that the changes in magnitude cannot be attributed solely to the restrictions introduced in response to COVID-19. Naturally, in the case of burglaries, the issue of latency – i.e., crimes that go unreported – must also be taken into account.

5.2. Changes in County-Level Data in 2019

As shown in Figure 1, based on the data from the base year (2019), the descending *ranking* of counties by the number of registered burglaries begins with the Budapest Police Headquarters (hereinafter: BRFK), followed by the counties of Pest, Borsod-Abaúj-Zemplén, Jász-Nagykun-Szolnok, and Bács-Kiskun (Figure 1).

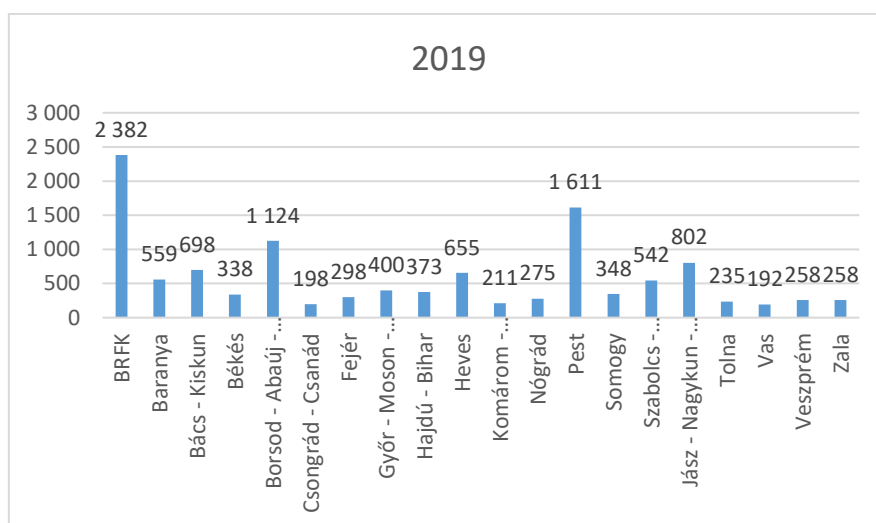


Figure 1: National Number of Burglary Offenses in 2019
(Source: ENyÜBS)

The fewest cases (192) were recorded in Vas County. This ranking is also illustrated on the Figure 2 below.

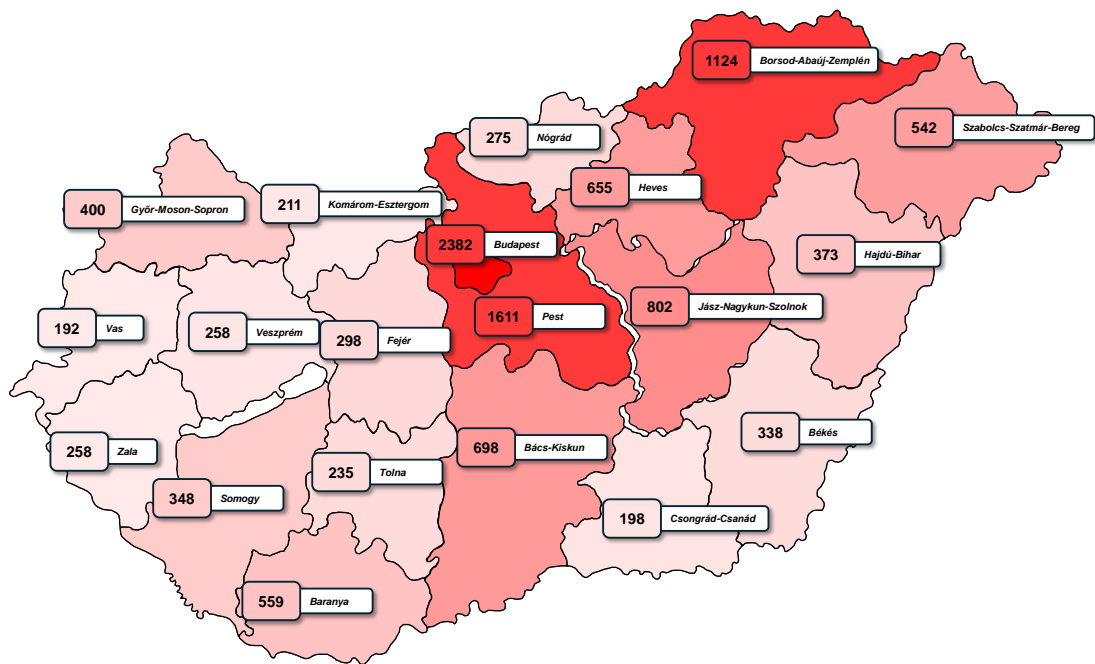


Figure 2: Number of Burglary Offenses in 2019 by County
(Source: ENYÜBS)

5.3. Changes in County-Level Data in 2020

The restrictive measures introduced in March 2020 had a significant impact on the number of recorded burglary cases. It is clear that Budapest continued to hold the top position, followed by the counties of Borsod-Abaúj-Zemplén, Pest, Jász-Nagykun-Szolnok, and Bács-Kiskun. In this year, the fewest burglaries (148) were reported in Csongrád-Csanád County (Figure 3).

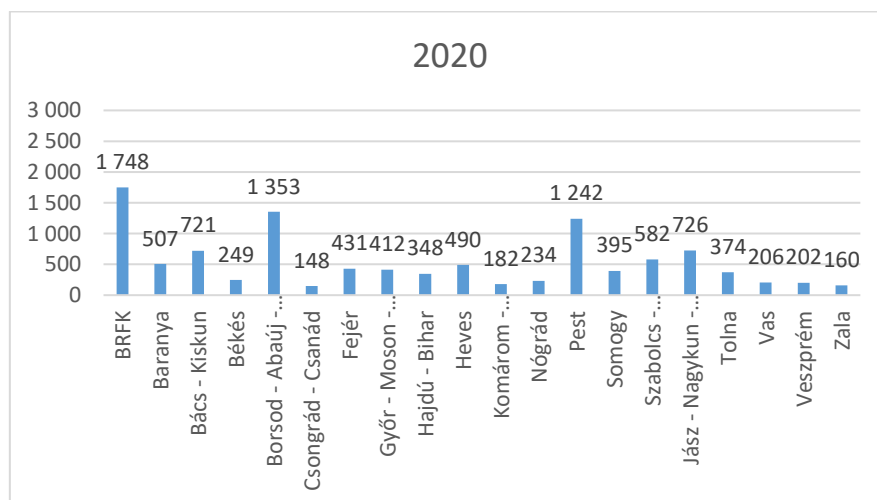


Figure 3: National Number of Burglary Offenses nationwide in 2020
(Source: ENYÜBS)

However, an interesting pattern can be observed: while Budapest saw a substantial decrease in case numbers, some counties – such as Borsod-Abaúj-Zemplén – experienced an increase in the number of registered burglaries. These changes are clearly visible on Figure 4.

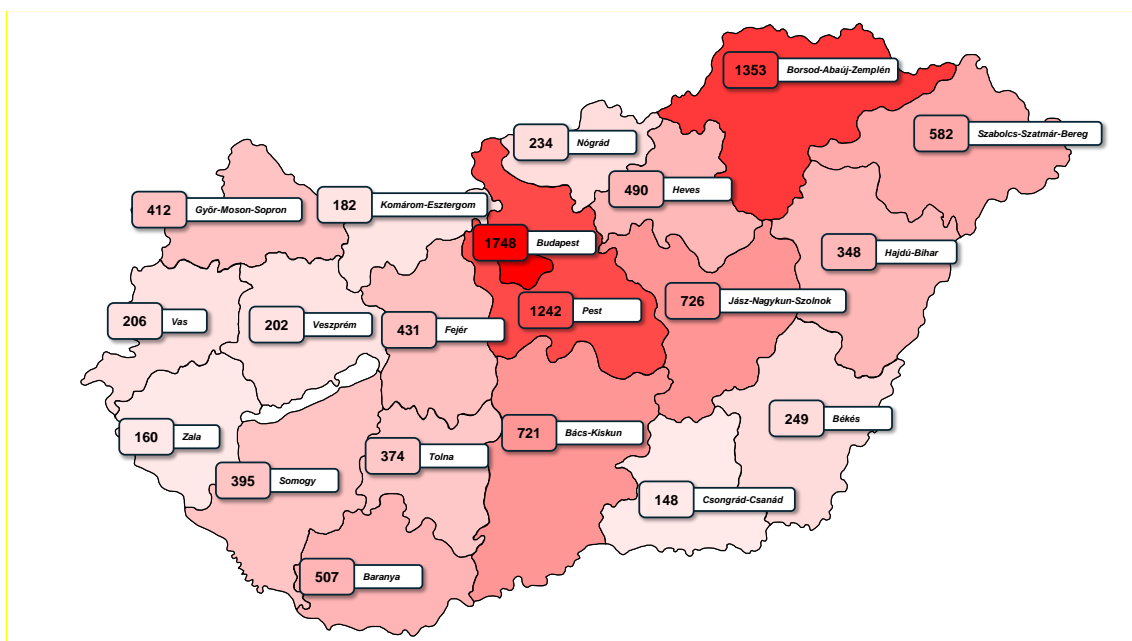


Figure 4: Number of Burglary Offenses in 2020 by County
(Source: ENyÜBS)

5.4. Changes in County-Level Data in 2021

Based on the data from Figure 5 – which confirms earlier projections – Budapest continues to lead, showing a decrease of approximately 200 cases. It is followed by Borsod-Abaúj-Zemplén County, which experienced a similar reduction, then Pest, Bács-Kiskun, and finally Jász-Nagykun-Szolnok County.

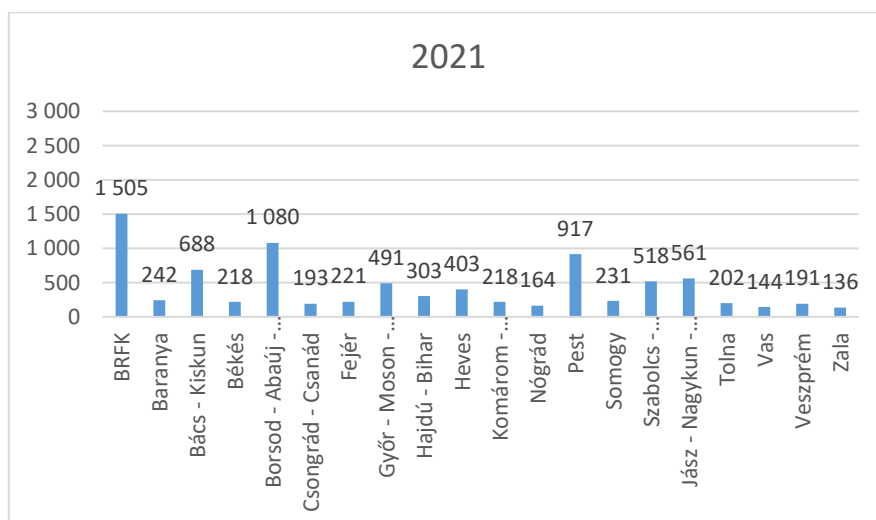


Figure 5: National Number of Burglary Offenses nationwide in 2021
(Source: ENyÜBS)

The lowest number of cases during this period (136) was recorded in Zala County. These regional changes can also be observed on Figure 6

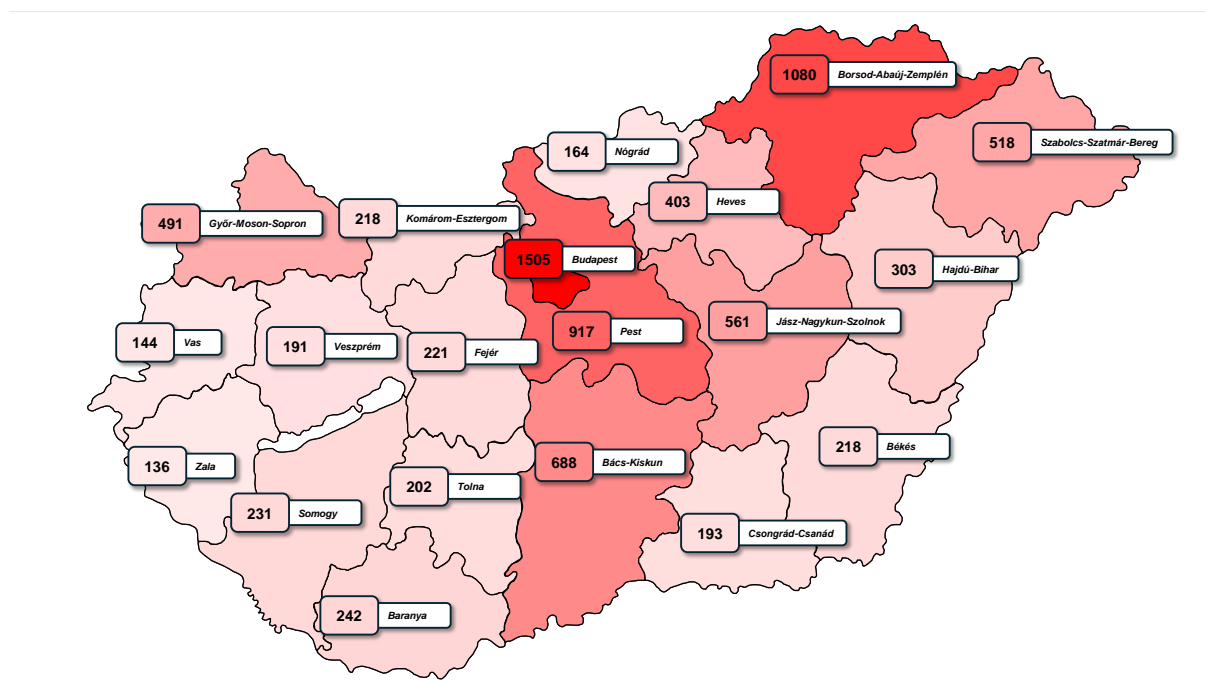


Figure 6: Number of Burglary Offenses in 2021 by County

(Source: ENyÜBS)

5.5. Changes in County-Level Data in 2022

According to Figure 7, Budapest maintained its leading position in the rankings, and notably, the approximately 200-case decrease recorded the previous year was effectively offset in 2022.

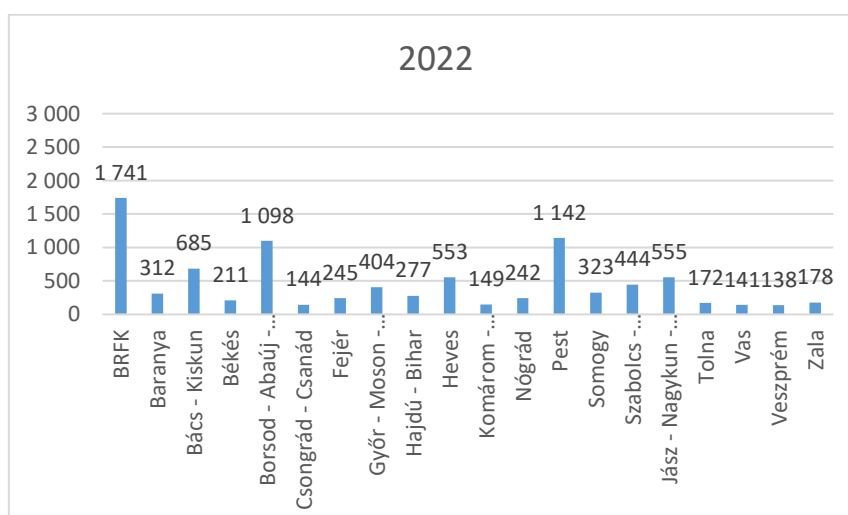


Figure 7: National Number of Burglary Offenses nationwide in 2022

(Source: ENyÜBS)

Pest County was the second place, which showed a similar increase, followed by Borsod-Abaúj-Zemplén County, which remained largely unchanged and thus took third place. Bács-Kiskun County, with roughly 400 fewer cases than the third-ranked county and similarly showing no major change compared to the previous year, came next, while Jász-Nagykun-Szolnok County once again ranked last among the top five. The lowest number of cases in 2022 (138) was recorded in Veszprém County. The relevant figures are displayed on Figure 8.

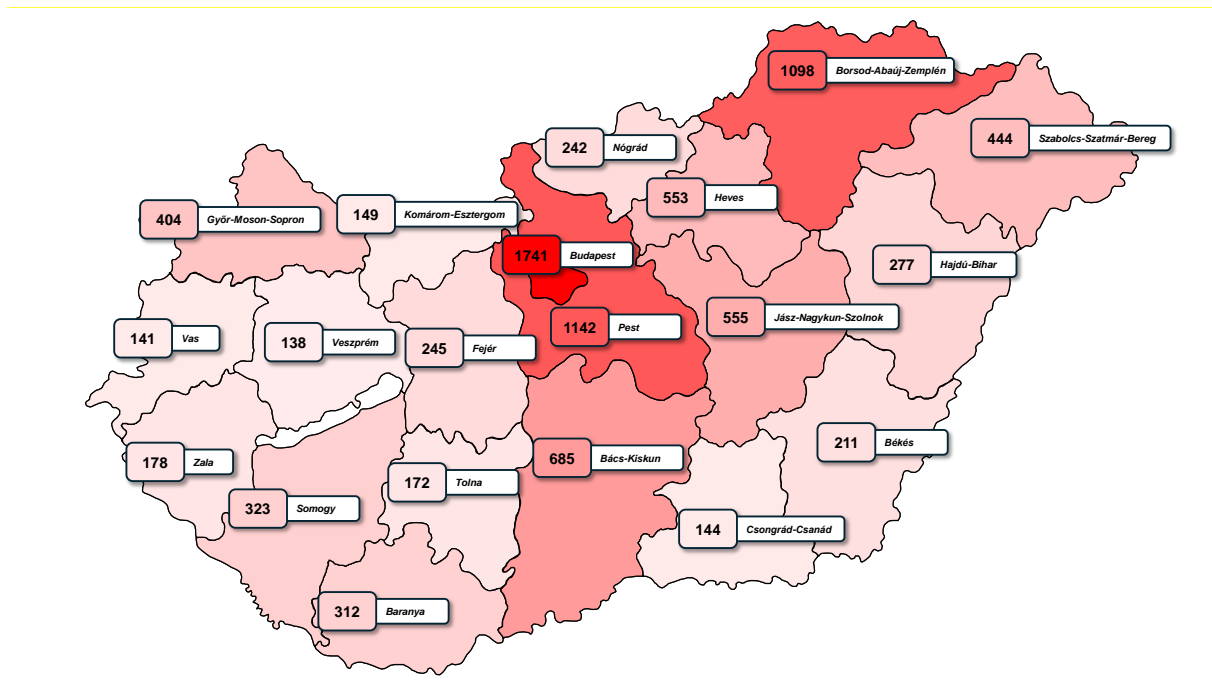


Figure 8. Number of Burglary Offenses in 2022 by County
(Source: ENyÜBS)

5.6. Changes in County-Level Data in 2023

As clearly shown in Figure 8, Budapest remained in first place despite a drop of approximately 300 cases. Close behind, Pest County – which registered just under 200 more burglaries than the previous year – took second place.

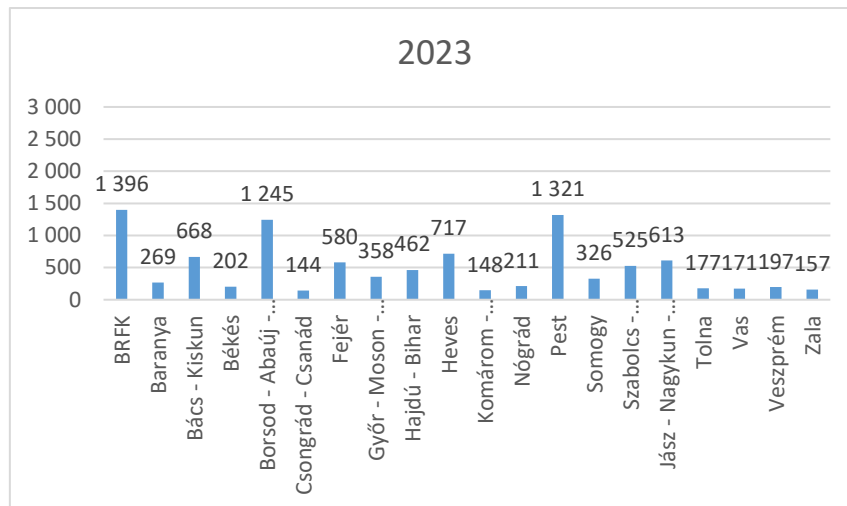


Figure 9: National Number of Burglary Offenses nationwide in 2023
(Source: ENyÜBS)

In third place was Borsod-Abaúj-Zemplén County, which saw an increase of around 150 cases. The county ranked fourth was Heves, with 717 recorded cases. In the fifth place stood Bács-Kiskun County, where the number of cases remained stable compared to the previous year. At the bottom of the list was Csongrád-Csanád County, with 144 cases. Upon reviewing the data, it becomes apparent that the previously significant differences in case numbers between the top three counties have now been greatly reduced. The data presented in the chart is also visualized on Figure 10.

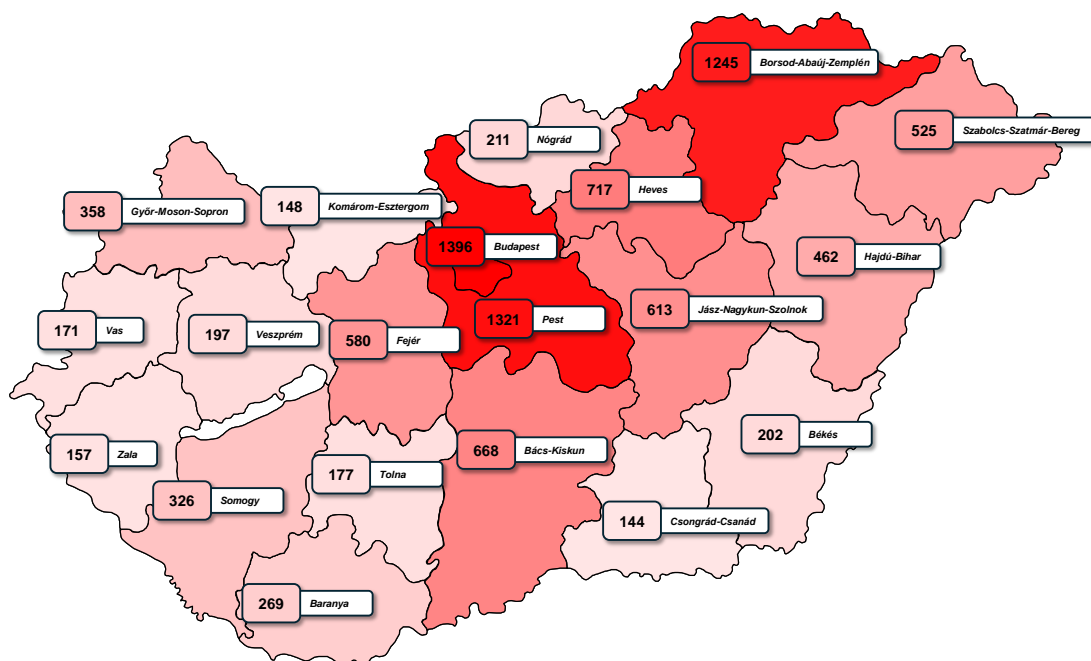


Figure 10. Number of Burglary Offenses in 2023 by County
(Source: ENyÜBS)

5.7. Changes in County-Level Data in 2024

The data for 2024, marking the final year of the examined period, is presented in Figure 10. Unlike previous trends, Pest County took first place, registering nearly 100 more burglaries compared to the previous year. In second place was Borsod-Abaúj-Zemplén County, which recorded 137 more cases than in 2023. Budapest, which had consistently held the top spot in earlier years, experienced no significant change in case numbers, causing it to fall to third place.

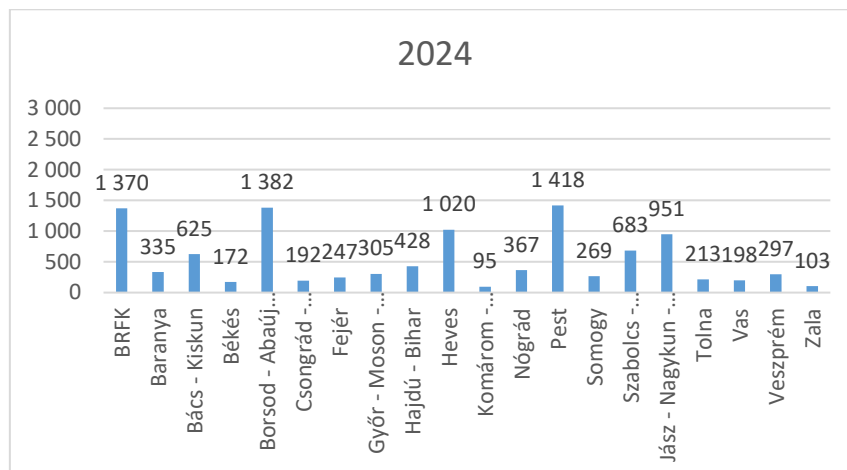


Figure 11: National Number of Burglary Offenses nationwide in 2024
(Source: ENyÜBS)

In fourth place, once again, was Heves County, which saw a notable increase of 300 cases in 2024. Jász-Nagykun-Szolnok County took fifth place, with more than 300 additional burglaries compared to the previous year. At the bottom of the list stood Komárom-Esztergom County, with only 95 registered cases.

We can conclude that while Budapest, which consistently ranked first throughout the earlier years, dropped to third place in 2024 due to stagnant figures, Pest and Borsod-Abaúj-Zemplén Counties – previously in second and third place – overtook the capital with their 150–200 case increases, topping this rather unenviable list. These findings are illustrated in Figure 12.

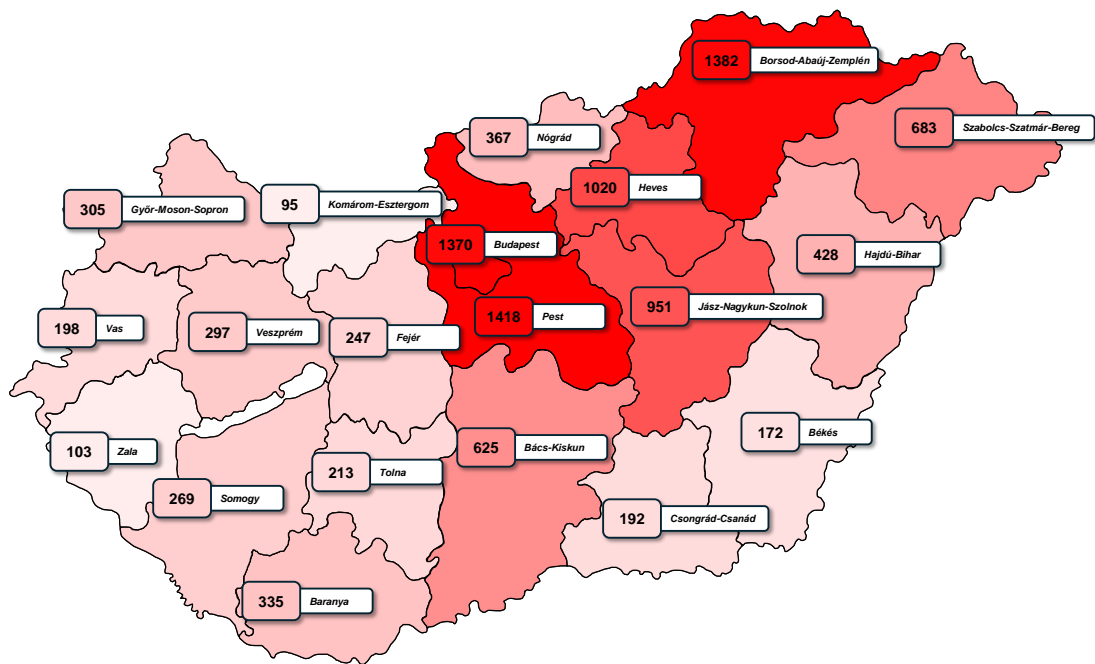


Figure 12: Number of Burglary Offenses in 2024 by County
(Source: ENyÜBS)

6. Summary

As noted in the first part of this paper, burglary by definition requires the physical presence of the perpetrator(s) at the scene, using force against property – without which the crime cannot be committed. It logically follows that the restrictive measures introduced due to COVID-19 were expected to result in a decrease in burglary cases.

This hypothesis is partially confirmed by the data examined; however, several important considerations must be addressed. Due to the restrictions introduced in 2020 – such as changes to public transportation policies and mandatory quarantine regulations – infected individuals were forced to remain inside their homes or designated properties for extended periods. As a result, burglary numbers understandably decreased, since the presence of occupants discouraged perpetrators. It was also presumed that after the pandemic subsided, burglary numbers would return to pre-pandemic (baseline) levels and the data confirm this assumption. However, the extent of the decline and the subsequent increase varied significantly across counties.

At the same time, it must be emphasized that the ENyÜBS data used in this study do not provide clear evidence that changes in burglary statistics were caused exclusively by COVID-19 restrictions. The dataset reflects the number of successfully closed criminal proceedings within a given timeframe not the actual number of burglaries committed, nor the number of investigations initiated during that period. It is an undeniable fact that all COVID-related

restrictions had a substantial impact on daily life altering how we traveled, shopped, and handled administrative matters. With the rise of remote work (home office) and an increased number of mandatory quarantines, the opportunity for residential burglaries naturally decreased. However, this assumption cannot be confirmed or refuted solely on the basis of ENyÜBS data.

The analysis of ENyÜBS statistics highlighted that relying exclusively on such data does not provide a sufficiently accurate or complete answer to our research question. To fully understand the dynamics of various crimes, including property-related offenses, and the underlying causes of their fluctuations, a combination of quantitative and qualitative methods, along with accurate and reliable data, are essential. It is now widely accepted that crime geography is a crucial component of effective policing, deployment planning, and crime prevention. The use of modern cartographic visualization tools, remote sensing data (Ioannidis et al. 2024), and predictive mapping solutions significantly supports both investigation and evidence gathering in criminal procedures, while also aiding law enforcement in making informed resource allocation decisions.

Ultimately, to fully understand the real factors behind fluctuations in crime figures – in our case, the dynamics of burglary – we must go beyond criminal statistics and also consider sociological and economical data through interdisciplinary analysis.

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Referenced Legislations

- Act C of 2012 on the Criminal Code of Hungary
- ENyÜBS Data Entry Guidelines, Ministry of Interior – Office of the Prosecutor General, in force since 1 November 2023

Mária, Márkus sociologist, criminologist, economist, Ph.D. student

Ludovika Univesity of Public Service

markusmaria0308@gmail.com

THE RELATIONSHIP BETWEEN ARTIFICIAL INTELLIGENCE AND PREDICTIVE PROFILING

Abstract

People have long been interested in the analysis, prevention and prediction of crime. Nowadays, with the rise of Artificial Intelligence, we have the possibility to infer whether certain crimes will happen or not by using different databases and software. In my article I would like to draw attention to these methods and the importance of profiling.

Keywords: artificial intelligence, predictive profiling, preventive policing, criminal geography

1.The concept of Artificial Intelligence

We call ourselves *Homo sapiens*, man the wise, because our intelligence is so important to us. For thousands of years we have tried to understand how we think; that is, how a mere handful of matter can perceive, understand, predict and manipulate a world far larger and more complicated than itself. But artificial intelligence (AI) goes even further still: it attempts not just to understand but also to build intelligent entities.

AI is one of the newest fields of science. Work began immediately after the end of the Second World War, and the term *artificial intelligence* was coined in 1956. AI now spans a huge range of subfields, from general-purpose areas such as perception and learning to specific tasks such as mathematical theorem proving, machine learning or medical diagnosis. AI systematises and automates tasks that require intellectual skills, and is thus potentially relevant to all domains of meaningful human action. In this sense, AI is truly a universal science (Russel - Norvig 2005). Artificial intelligence (AI) refers to the human-like capabilities of machines, such as reasoning, learning, planning and creativity. It enables technology to sense its environment, deal with what it perceives, solve problems and plan its actions to achieve a specific goal. The computer not only receives data, but also processes and reacts to it. These systems are also capable of modifying their behaviour to some extent by analysing the effects of their previous actions and working autonomously (European Parliament 2020).

2. The rise of Artificial Intelligence

AI is invisible but ubiquitous in our everyday lives, and at the current rate of development, it is almost impossible to predict where the world will go in this respect. Whether there will be robots or "simply" intelligences in cyberspace that can communicate with us in a human way. However, Csaba Fenyvesi argues that it is more than likely that the laws of robotics will need to be applied in real life, and it is only a matter of time before the moment comes when it will be necessary (Fenyvesi 2021).

In the course of time, human thinking systems, human acting systems, rational thinking systems and rational acting systems, i.e. all four trends of artificial intelligence, have found followers. But as expected, there is a tension between the human-centred and the rational-centred strands. The anthropocentric tendency is necessarily an empirical science, with hypotheses and empirical verification. The rationality-centred approach relies on mathematics and engineering.

3. Criminal profiling

According to Katalin Cseh, profiling can be carried out for crimes where there are traces of physical violence by the perpetrator at the scene, i.e. where there is some kind of relationship between the perpetrator and the victim. This method can be used to identify the perpetrator in cases of homicide, robbery, or a series of violent crimes of a sexual nature. Whichever profiling approach is considered, the key word is probability and accuracy of match.

Profile analysis helps to provide characteristics about an unknown offender and an offence that can be used to initiate an investigation. By creating a profile, you are not identifying a specific person, you are not looking for an answer to who specifically could have committed the crime, but what kind of person could have committed it. Some of the characteristics given relate to the alleged perpetrator, others to the alleged circumstances or motive.

It narrows down the possible perpetrators, helping to detect the crime on the basis of clues found at the scene. Profiles can be drawn up for offenders, victims, events, locations, tools used, or a combination of these. In Hungary, the sociological approach to profiling is generally used, as it is based on data that are most readily available in the investigation, or, if not, can be obtained quickly (Cseh).

Profiling generally takes two forms: descriptive and predictive. In the first case, the main objective is explanatory, and in the second, predictive. In the present case, predictive profiling may become particularly important in the analysis of crime because of its predictive nature.

"Psychological profiling is, for a given crime, primarily the summarization, evaluation and analysis of psychological data and the determination of probable psychological characteristics

of the offender and his or her actions through the application of psychological theories, methods and research findings." (Pásztor - Mityók - Németh 2009)

Profiling can be approached from both a personal and an offence perspective. On the personal side, it can include the offender's physical characteristics, living conditions, social relationships and other easily verifiable data. Profiling has three main objectives: to evaluate the social characteristics of the offender, to determine psychological attributes and to establish interrogation techniques and procedures (Holmes - Holmes 1996).

In 2006, Tompsett et al. investigated the differences between profiling in 'normal' situations and profiling in cyberspace. The researchers found that the latter can be used to identify new criminal trends and report them to criminal authorities before threats become a serious problem (Tompsett - Marshall - Semmens 2005).

4. Predictive analytics

Predictive analytics is one of the most important methods in data science. It consists of categorising data according to specific characteristics and predicting a certain future behaviour in a given situation based on past behaviour (Tessényi - Kazár 2012).

It is a set of mathematical, statistical, econometric methods that find correlations within databases and help to make better decisions. Shmueli and Koppius define predictive analytics as consisting of two components:

- empirical predictive models (statistical models and other methods, such as data mining algorithms) that make predictions based on observations
- the evaluation of the methods, the predictive power of the model, i.e. its predictive ability (predictive accuracy). A model is able to generate an accurate prediction in which 'new' data can be interpreted in time, i.e. at a future time in the observations (Shmueli - Koppius 2010).

4.1. The concept of probability

One way of approaching forensic work is that every fact that is discovered or partially established is considered to be true until a substantive disproof becomes known, so that even the most convincing evidence may be questioned as to its plausibility. Consequently, in order to avoid or at least reduce the occurrence of miscarriage of justice, any new fact that arises in connection with an investigation or evidence must lead experts and investigators to reexamine the validity and relevance of their previous claims (Orbán 2017).

4.2. Predictive profiling

The behavioral characteristics that determine the probability of a conversion are called predictors. Predictors can be, among others, time, duration, or even location and physical proximity. The more predictors available, the more accurate the predictive analysis can be. Predictors should also be combined within a model to be effective.

According to András László Szabó, the essence of the statistical data-based method is that it is possible to use the tools of psychology to identify potentially dangerous groups and lone offenders based on activity in virtual space (Szijártó 2014). The direction of the screening, i.e. the persons who are potentially dangerous, must be matched with the method of predictive analysis.

With the help of predictive analysis, a certain future behaviour in a given situation is predicted on the basis of specific characteristics based on past behaviour (Tessényi-Kazár 2012). The result of the analysis is the identification of predictors, i.e. the persons who are likely to commit terrorist acts by transforming the psychological characteristics of the perpetrators of acts alone, in a planned manner, without external influence, into predictors. The final assessment is carried out by a team of experts based on the risk analysis.

Human behaviour is unpredictably predictable. Human behaviour is unpredictable and random, but experts say that is perhaps precisely why it is foreseeable. By summarising the above concepts and transforming the sociological, psychological, criminological characteristics of the perpetrators of lone attacks that have already occurred into an algorithm, it is possible to perform a large-scale screening. However, in the case where the potential individual does not have a virtual footprint, it is possible for the actors in the above threefold system of crime prevention to identify potential lone offenders.

According to József Haller, a profile can be correct without being useful. This can be complemented by the fact that a profile can be both correct and useful in every respect if the information on which it is based was not available at the time the profile was requested. An example of this can be seen in the case of post-hoc profiles, where the researchers constructed the profile with the full investigative material in hand, even though very little information was available at the early stages of the case (Haller - Petőfi - Mészáros 2021).

4.3. Criminal geography

According to Szabolcs Mátyás, both natural and social factors influence the quantity and the quality of crime. In Hungary, the impact of natural factors such as geographic location, topography, terrain, hydrography, climate is less important for crime, although in some cases

(e.g. extreme weather conditions) and even in the case of certain police areas (e.g. border police), geography can play a very important role (Mátyás 2017a).

According to Antal Tóth, "...criminal geography is the study of crime as a social phenomenon of mass, examining its spatial and temporal aspects of crime, and an inter-sub-discipline between criminology and applied social geography. The spatial structure and extent of crime, trends and dynamics, spatial intensity, socio-economic background, the socio-economic processes taking place, and its expected spatial displacement, and contributes to the development of area-specific crime prevention strategies" (Tóth 2007, 10-11).

4.4. Geographical profiling

Geographical profiling is defined by Szabolcs Mátyás as "for most criminals, like animals, it is possible to identify the area ('hunting ground') within they are most likely to commit crimes. For animals, too, the area (territory) they are reluctant to leave can be defined. They hunt there, they mate, and they live there. People live their daily lives according to the same principles." (Mátyás 2017a)

We know about ourselves that we are reluctant to leave the area defined by our favourite shop, restaurant, theatre or pub. It is where we can get our needs met most quickly, but so are the offenders. They have a certain comfort zone that they are reluctant to leave. A lot of research has shown that offenders 'like' to commit crime close to their residence, where they feel safe. Geographical profiling can be used primarily to detect serial offenders. The literature focuses mainly on homicides and sexual offences as two areas where it can be successfully applied. However, in cases where there are some significant geographical characteristics of the offence, even in the case of a single offence the method may be applied. (Mátyás 2017b).

In addition to the above two offences, Rossmo identifies several types of offences for which geographical profiling can also be used. These include robbery, arson, bombings, kidnapping, home burglary, car theft, credit card fraud and graffiti (Rossmo 2014).

5. Concluding thoughts

Human behaviour is unpredictable, as changes in our lives alter our thinking and actions, so perhaps predictive forecasting will not always be correct. Our actions are influenced by external and internal factors, and our psychological, mental and emotional state in the moment affect the way we will act in the minutes or hours ahead. In some situations, however, the way we react to certain phenomena can still predict with a high degree of probability the possible future actions of individuals (Szabó 2019). As technological advances makes it easier and faster to

spot potential crimes in the present and learn how to protect against future events, we still have hope that the world will be made an even safer place with the help of data analytics (www.nobledesktop.com).

6. Summary

We cannot know how future changes will affect our lives in the long term. However, we can be sure that this is only the beginning of the digitalisation process, and that it will change almost every aspect of our lives to an even greater extent than before.

It is therefore conceivable that we may not be moving towards a more perfect, 'smarter' world with AI, but towards poverty, which will affect the lower strata of society first. It is possible that AI will take control of our lives and play too large role in them. But we can and must do something about it.

AI is a strategic technology with many benefits for citizens, businesses and society as a whole, provided it is human-centred, ethical, sustainable and respects fundamental rights and values. AI offers significant efficiency and productivity gains that can strengthen the competitiveness of European industry and improve the well-being of citizens. It can also contribute to more accurate medical diagnoses, help in the fight against crime and cancer, make cars safer and address some of the most pressing societal challenges, including climate change, challenges related to sustainability and demographic change, protecting our democracies, and even support the fight against crime. But unfortunately, as the potential of Artificial Intelligence spreads, we will also see it increasingly used for dangerous or malicious criminal purposes. But despite this, the opportunity is within our grasp to ensure that we use AI technologies only in positive ways, and to minimise the harm they cause to others (Marr 2019). AI should be for the benefit of people and for useful societal purposes.

"...in complex environments, perfect rationality - always doing the right thing - is impossible to achieve." (<http://mialmanach.mit.bme.hu>) However, Russel and Norvig hypothesize that understanding perfect decision making can be a good starting point. In their view, it seems likely that the success of Artificial Intelligence following its widespread deployment - the creation of intelligence at or above human levels - would change the lives of the majority of humanity. It would transform the intrinsic nature of human work, as well as views on intelligence and consciousness, and possibly even the future fate of the entire human race. It is conceivable that AI systems could pose a direct threat to human autonomy, freedom, and even our very survival, and therefore the ethical implications of studying AI cannot be divorced from its implications.

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Tamás, Szintia Ph.D. student

Ludovika University of Public Service, Doctoral School of Public Administration

tamas.szintia@uni-nke.hu

**CRIMINAGEOGRAPHY IN THE VISEGRAD COUNTRIES: THEORETICAL
FOUNDATIONS, ADVANCED SPATIAL ANALYSIS, AND REGIONAL
RESEARCH FOCI**

Abstract

Criminogeography in the Visegrad Countries is a dynamic, interdisciplinary field that fundamentally analyzes crime as a spatial phenomenon. The foundation was established by the German school, which created a dualism between the broader geographical and the strictly territorially focused criminological approaches. Hungarian experts interpret this intellectual dualism as being on the border between social geography and criminology, primarily focusing on revealing the spatial structure of crime and laying the groundwork for practical, territory-specific crime prevention strategies. Following the post-socialist transition, Poland and the Czech Republic have modernized the field with advanced GIS and statistical methods. Polish research supports the prevention of crime by mapping urban “hot spots” linked to socio-economic factors. At the same time, Czech analyses identify crime clusters in economically declining industrial areas, incorporating both objective and subjective perceptions of safety. In contrast, Slovak criminological literature, despite its regional foci, shows a critical theoretical deficiency in the area of environmental crime. Overall, criminal geography in the Visegrad Countries utilizes advanced, multi-level methodologies to enhance public safety and develop sustainable crime prevention interventions.

Keywords: Visegrad Countries; criminal geography; criminology; crime clusters.

1. Introduction

German criminal geographical research, often referred to as “Kriminalgeographie”, is of outstanding importance in the international development of the discipline and, as the domestic literature also points out, has a very long history. Among domestic experts, it is worth mentioning Dr. Antal Tóth and Dr. Szabolcs Mátyás. Although most of the key works cited originated in the 1960s and 1970s, for example, from Hans Von Hentig, Joachim Hellmer, and

Horst Herold, the investigation of the relationship between crime and space in Germany dates back even further.

A key fact about the German approaches is that, even within the German-speaking area, a completely unified position on the scientific classification of the discipline has not been established. This duality fundamentally shaped the thinking about the concept, giving rise to two main directions.

One is the criminological approach, whose prominent representatives, were Joachim Hellmer (1972) or Horst Herold (1973), who became known as the police chief of Nuremberg, clearly regarded criminal geography as an integral part of criminology. In their interpretation, this discipline primarily focuses on the territorial distribution of crime, the criminogenic factors that influence it, and the spatial differences in law enforcement. Herold's work is particularly significant because he also translated the theory into practice, emphasizing that the structure and strategy of the police organization must adapt to the local crime characteristics.

The other is the broader, geographical approach. Its representatives, for example, Hans Von Hentig (1961), examined the topic from a much wider perspective. According to Hentig's definition, criminal geography is the description of the complex system of relationships that exist, on the one hand, between crime and, on the other hand, the physical environment, including climate, geographical landscape, and socio-economic factors such as history, economics, and population movements.

significant impact on the further development of the discipline, including criminal geographical research in Hungary.

2. Defining the Concept of Criminal geography in the Domestic Context

The definition of the concept of criminal geography is not unified; it varies depending on the scientific field represented by the researcher, such as criminology or geography. Criminal geographical research, as we read in the introduction, has a long history.

Domestic geographers have also approached the concept in various ways. Zoltán Kovács interprets criminal geography as an interdisciplinary relationship between criminology and social geography, which does not primarily examine the territorial distribution of crimes, but the spatial rules of crime, its social background, and forecasts the expected territorial shifts based on social processes. István Berényi, based on the German “Kriminalgeographie”, considers it a branch of social geography that deals with the correlations between space, social groups, and crimes (Kovács 1989).

Dr. Antal Tóth's interpretation is one of the most detailed: according to him, criminology is "an applied social geographical branch, an inter-subdiscipline between criminology and social geography, which examines the spatial and temporal aspects of crime as a mass social phenomenon". This discipline examines the spatial structure, dynamics, territorial intensity, and socio-economic background of crime, and based on the knowledge of these processes, contributes to the development of territory-specific crime prevention strategies (Tóth 2007).

Dr. Szabolcs Mátyás's position is that criminal geography is "the common intersection of several scientific fields", which is most closely related to criminology, criminalistics, and geography, specifically social geography. In his definition, it is a branch of social science that examines the spatiality (including crimes, offenders, and victims) and territorial distribution of crime, based on knowledge of social and economic factors. Its goal is to answer questions about future territorial changes, thereby aiding effective law enforcement (Mátyás-Sallai 2014).

In summary, we can see that domestic geographers fundamentally define criminal geography as an interdisciplinary field situated at the intersection of social geography and criminology. This discipline examines the spatial distribution, rules, dynamics, and socio-economic background of crime as a social phenomenon (Mátyás 2016). Although the emphases differ, the common goal of the definitions is to understand the territorial processes. Ultimately, based on this knowledge, they prognosticate the future territorial changes of crime, contributing to effective, territory-specific crime prevention and law enforcement.

3. Criminal geographical research in Poland

Criminal geography in Poland has matured into a significant research field, primarily fueled by post-regime change socio-economic transformations, the adoption of advanced statistical methods, and the widespread use of Geographic Information Systems (GIS). This interdisciplinary approach, drawing from criminology, urban planning, geography, and sociology, provides crucial insights into the spatial dynamics of crime (Sypion-Dutkowska 2010).

3.1 Defining Research Foci and Methodological Advancement

Polish criminal geographical research primarily focuses on understanding the territorial distribution of crime and its correlation with various socio-economic and environmental factors. A key research direction is the analysis of how urbanization and social variables – such as unemployment rates, the proportion of people living alone, and divorce figures – influence

crime rates in specific areas. These variables are understood to strongly condition the propensity for an opportunity to commit crimes (Sypion-Dutkowska 2012).

Furthermore, studies meticulously examine the spatial appearance of specific crime types, including burglaries, robberies, and drug-related offenses (Bélai 2024), often utilizing detailed statistical modeling at the city level (e.g., Szczecin, Łódź). The impact of legal, IT developments, and shifting educational levels on crime registration and its spatial structure is also a continuous subject of analysis (Sypion-Dutkowska 2012).

Methodologically, Polish researchers employ a sophisticated, mixed-methods approach, which includes classic spatial statistical techniques, such as Moran's I and regression models, to describe patterns, complemented by detailed crime mapping using GIS. Supplementary methods, such as questionnaire-based data collection, are used to gauge the public's sense of security and fear, which local studies confirm is highest among young women (Sypion-Dutkowska 2014).

3.2 Regional differences and urban concentration

A significant finding across Polish metropolises (Warsaw, Kraków, Łódź, Szczecin) is the non-uniform distribution and significant concentration of crime. Research consistently shows that crime is concentrated in specific districts, particularly historic downtown areas and large apartment complexes (Drozdowski et al., 2023).

This territorial concentration is attributed to two main factors:

1. **Social Structure:** Areas with accumulated social problems, high unemployment, and weakened community control provide fertile ground for criminal activity.
2. **Built Environment:** Physical characteristics, such as poorly visible streets, enclosed residential areas, and complex transport hubs, contribute to the formation of "dangerous places."

Studies also correlate high crime rates with a greater density of alcohol-selling establishments and catering facilities, which often act as crime hotspots. Conversely, the presence of robust family support programs and social benefits can, in some areas, mitigate the occurrence of certain crimes, suggesting that social welfare acts as a protective factor. (Drozdowski et al. 2023)

3.3 Societal significance and practical application

The findings of criminal geographical research possess considerable practical significance for public safety and urban management in Poland.

By precisely identifying crime "hot spots," law enforcement agencies can strategically and effectively allocate police resources, enhancing presence and improving response times in critical zones. Furthermore, the research directly informs preventive urban planning, enabling planners to design public spaces – through appropriate lighting, open visibility, and transport hub arrangements – in a way that actively discourages criminal activity (Sypion-Dutkowska & Leitner, 2017).

In conclusion, Polish criminal geography, through the seamless integration of sophisticated spatial and socio-economic analyses, not only advances scientific understanding but also directly improves the capacity of local governance and law enforcement to respond effectively to the rapid and complex changes occurring in urban environments. It actively supports the effectiveness of crime prevention strategies, the maintenance of public safety, and the broader goal of fostering safer, more integrated urban spaces.

4. Criminal geographical research in Slovakia

The social and economic transition of post-socialist countries presented significant challenges to criminology, demanding new regional and thematic approaches to the phenomenon of crime. Slovak academic literature, which focuses on post-1989 crime trends and spatial distribution, provides valuable insight into how research addresses crime as a factor in regional development, while also highlighting a critical theoretical gap in modern criminology, specifically in environmental crime.

4.1 Crime as a factor in regional development: the Bratislava focus

One of the primary pillars of Slovak criminological research is the examination of the relationship between crime and regional development, as exemplified by the analysis of the Bratislava region. The diploma thesis, "Vývoj kriminality po roku 1989 a jej vplyv na rozvoj bratislavského regiónu" (Development of Crime after 1989 and its Influence on the Development of the Bratislava Region), treats crime not merely as a social problem, but as a negative externality directly affecting regional competitiveness and quality of life. The work sheds light on how the rapid socio-economic transition after 1989 generated new forms of crime and deepened regional inequalities. The analysis's complex methodology – which links criminal, economic, and demographic indicators using statistics, maps, and SWOT analysis –

supports the view that understanding crime trends is essential for developing a sustainable regional strategy (Kaličáková 2011).

4.2 Theoretical foundations of crime geography and spatial patterns

In explaining the spatial distribution of crime, Slovak researchers strive to apply classic Western theories. This effort is reflected in A. Michálek's article, "An aetiology of crime in the suburbs – the case study of Bratislava suburbs", examines the crime patterns of Bratislava's suburbs between 2010 and 2019. The work utilizes the theoretical frameworks of the Routine Activity Theory, the Rational Choice Theory, and the Geometry of Crime. This approach moves beyond mere description to explain how the function of an area influences the occurrence of crime by concentrating on the factors of motivated offenders, suitable targets, and the absence of capable guardianship in specific spatial hotspots. This work theoretically grounds spatial analysis, which is crucial for targeted prevention strategies (Michálek 2022).

Concurrently, R. Kmet's work, "Crime index as one of the main indicators of safety", showcases the practical application of police statistics. The author argues that instead of merely summing police data, the development of a complex security index is necessary to describe the local security situation. This index is crucial not only for the objective measurement of crime but also for informing the interpretation of subjective safety among the population, which in turn impacts social cohesion and local economic activity (Kmet & Dvorak 2020).

4.3 The absence of green criminology: a critical gap

Despite the strong focus on regional and conventional crime, the academic literature review reveals a significant thematic deficiency: the almost complete lack of theoretical frameworks for environmental crime (green criminology). According to J. Lazíková et al.'s article, "Environmental Crimes in the Rural Regions", the concept of "green criminology" is scarcely present in Slovak criminological literature (Lazíková & Rumanovská & Takáč & Lazíková 2016).

The reasons for this gap are rooted in:

1. **Dominance of Traditional Criminology:** Slovak criminology, consistent with post-socialist traditions, remains heavily focused on conventional crime, overlooking crimes targeting the environment and the ecosystem.
2. **Thematic Segregation:** Acts causing environmental damage are often analyzed not within a criminological framework, but rather in the context of agricultural studies,

environmental law, or administrative regulations. Consequently, the geographical perspective on crime only appears implicitly, lacking an explicit theoretical framework.

3. Lack of Critical Theory: Green criminology aims not only to examine illegal environmental violations but also to critically analyze legal yet ethically and ecologically harmful corporate or state activities. The absence of this broader, critical theoretical perspective hinders the topic from developing into a distinct discipline commensurate with its social significance.

In conclusion, Slovak criminological literature demonstrates a strong regional sensitivity, expertly analyzing the impact of social transition on crime and regional development through the case of the Bratislava region, and successfully applying classic crime geography theories to explain spatial patterns. However, the marginal treatment of environmental crime constitutes a significant deficiency. This gap prevents Slovak research from effectively responding to contemporary challenges such as the effects of climate change or the illegal exploitation of natural resources in rural areas. The task for future research is to integrate the theoretical foundations of green criminology into the national criminological discourse, thereby completing the spectrum of regional and thematic approaches to crime in Slovakia.

5. Criminal geographical research in the Czech Republic

The phenomenon of crime has traditionally been the focus of legal and sociological sciences. However, within the modern Czech academic environment – particularly thanks to the Faculty of Science at Charles University in Prague and the Prague University of Economics and Business – a geographical and statistical approach has gained increasing prominence. This school of thought treats crime fundamentally as a spatial and data-driven phenomenon, where its distribution is closely linked to the socio-economic characteristics of specific areas.

5.1 Where is crime concentrated?

A central objective of these studies is to reveal the spatial differentiation of criminal acts at the level of police districts. The "Spatial differentiation of crime and its conditions in the Czech Republic" project at Charles University employed tools of spatial statistics to identify these patterns. A practical outcome of this work is the study prepared for the Czech Statistical Office (Český statistický úřad), titled "Prostorový vzorec kriminality v Česku," which used Ward's hierarchical clustering method to create homogeneous territorial groups (Jíchová & Temelová 2012).

This analysis clearly demonstrated that crime is not randomly distributed; instead, it concentrates in well-defined, high-risk regions. The studies identified typical crime clusters in economically declining, industrial-depressed areas, particularly in Northwest Bohemia and North Moravia. This finding confirms the role of geographic determinants: social problems caused by economic restructuring directly contribute to rising crime rates (Jíchová & Temelová 2012).

5.2 Structure, scales, and subjective reality

The mapping of crime does not stop at absolute rates. The Czech school places a significant emphasis on examining the structure of crime. J. Jíchová's chapter, "Struktura kriminality v Česku," highlights the differences across regions, between urban and rural areas, and within peripheral territories. The structure of crime in cities and the patterns in rural regions fundamentally differ, requiring varied prevention responses.

Furthermore, the "Spatial patterns of crime and the perception of safety in Czechia" project introduces a crucial, human-geographic dimension: subjective perceptions of safety. This research combines objective statistical analysis with qualitative methods to investigate the extent to which residents' fears align with actual crime statistics. The multi-scale approach ensures that the investigation spans from street-level "hot spots" up to regional correlations (Jíchová 2013).

5.3 Panel data and modern criminometrics

The Czech school is also at the forefront of applying sophisticated statistical techniques. The VŠE 2025 BSc thesis exemplifies the evolution of criminometrics. This work examines property crime using an analysis of district-level panel data from 2016 to 2024, employing fixed-effects models. This method allows researchers to filter out unobserved, constant regional effects that might otherwise bias the estimation of factors influencing crime.

The investigation into the impact of mobility changes during the COVID-19 period is particularly timely. The use of the Local Moran's I statistic guarantees that the analysis precisely identifies local, neighbourhood-level crime clusters, beyond just general trends (Jíchová 2013).

6. Summary

The German school established the intellectual dualism that continues to define the discipline. Key figures, such as Hans von Hentig, developed a broader geographical approach, defining "Kriminalgeographie" as the relationship between crime and both the physical environment

(e.g., climate) and macro-socioeconomic factors. Conversely, representatives like Joachim Hellmer and Horst Herold championed a criminological approach, focusing narrowly on the territorial distribution of crime and its integration into practical law enforcement strategies. This foundational thinking cemented the recognition of crime not just as a social phenomenon, but explicitly as a spatial one.

This German duality had a profound influence on the conceptual definitions in the region, particularly in Hungary. Hungarian experts, such as Dr. Antal Tóth and Dr. Szabolcs Mátyás, define criminal geography as an interdisciplinary field situated at the intersection of social geography and criminology. The consensus across domestic definitions emphasizes examining the spatial structure, dynamics, and socio-economic background of crime, with the unified practical goal of prognosticating future territorial changes and developing territory-specific crime prevention strategies. This reflects a regional need to harmonize theoretical German approaches with urgent and useful applications.

In Poland and the Czech Republic, the discipline has transitioned toward sophisticated spatial data analysis, particularly after the socio-economic upheavals of the 1990s. The widespread adoption of Geographic Information Systems and advanced statistical methods characterizes this modernization.

Poland exemplifies the focus on urban concentration, consistently identifying crime as non-uniformly distributed and concentrated in specific “hot spots”, primarily historic downtowns and large housing estates. Polish research meticulously correlates these concentrations with socio-economic factors and the Built Environment, allowing for strategic police resource allocation and preventive urban planning.

The Czech Republic utilizes sophisticated criminometrics to analyze crime as a data-driven phenomenon. Studies demonstrate clear spatial differentiation, with crime clustering in economically declining, industrial areas. The Czech school also introduces a crucial human-geographic dimension by integrating objective crime statistics with the subjective perception of safety among the population.

Slovak criminological research shares the regional focus, using the post-1989 development of the Bratislava region as a primary case study. Researchers successfully apply classic Western theories to explain spatial patterns influenced by regional function and urban infrastructure. However, the Slovak literature highlights a critical regional deficiency: the almost complete absence of environmental crime from the theoretical discourse. Acts of ecological damage are typically analyzed under administrative law rather than a criminological framework. This significant gap prevents Slovak research from fully addressing contemporary challenges, such

as the illegal exploitation of natural resources, in contrast to the detailed spatial analysis of conventional crime scenes in other parts of the region.

Criminal geography in Central Europe is a robust field united by its commitment to analyzing crime as a spatial phenomenon influenced by local socio-economic characteristics. Building on German theoretical foundations, the discipline in Hungary, Poland, Slovakia, and the Czech Republic has responded to post-socialist transitions by adopting advanced, multi-scale methodologies. While countries like Poland and the Czech Republic lead the way in applying spatial data science for practical urban safety, all nations share a common goal of leveraging territorial knowledge to enhance public safety and inform sustainable, context-specific crime prevention strategies.

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