Visegrad Fund

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Modern Tools for Fraud Detection: Insights from the V4 and Ukraine

edited by
Iryna Chuy, Vilmos Lakatos and Piotr Luty

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Foreword

Fraud remains one of the most persistent challenges in modern economies, undermining financial stability, eroding public trust, and creating significant economic losses for governments, businesses, and individuals. As fraud schemes evolve in complexity, traditional detection methods struggle to keep pace. The need for innovative, data-driven approaches has never been greater. This book explores modern tools and strategies for fraud detection, with a particular focus on insights from the Visegrad Group (V4) countries – Poland, Czechia, Hungary, and Slovakia – and Ukraine.

The economic and political landscape of Central and Eastern Europe presents unique challenges for fraud detection and prevention. Countries in this region face issues such as tax evasion, occupational fraud, creative accounting, and corruption, which threaten economic development and financial integrity. Despite ongoing efforts by governments and international institutions to enhance transparency, the effectiveness of anti-fraud measures varies significantly across jurisdictions. This book highlights the lessons learned from the V4 countries and Ukraine, offering a comparative perspective on regulatory frameworks, enforcement mechanisms, and technological advancements in fraud detection.

Each chapter examines a specific aspect of fraud detection, offering theoretical insights, empirical research and case studies that illustrate both the challenges and best practices in combating fraudulent activities.

Chapter 1 explores the role of artificial intelligence (AI) in tax fraud detection. Traditional tax enforcement methods often lag behind sophisticated tax evasion tactics, but AI-driven solutions are increasingly being adopted to analyse vast datasets, identify anomalies, and predict fraudulent behaviour. The chapter highlights best practices from European tax authorities whilst considering Ukraine's unique tax fraud landscape.

Chapter 2 investigates tax security and its vulnerabilities. It presents key indicators of tax security, including fiscal burden, tax collection efficiency, and the shadow economy's impact. By analysing data from Ukrainian and international sources, the chapter offers recommendations on strengthening tax security through improved administration and enforcement.

Chapter 3 focuses on occupational fraud, a major issue affecting both private and public sectors. Employee fraud can be individual or organised, leading to significant financial and reputational damage. Using data from Transparency International and the Association of Certified Fraud Examiners (ACFE), the chapter provides an in-depth analysis of fraud trends in the V4 region and Ukraine, highlighting the importance of internal controls and digital solutions.

Chapter 4 scrutinises creative accounting practices, a deceitful technique used by businesses to manipulate financial statements. The chapter discusses the motivations behind these practices, detection models, and regulatory measures designed to mitigate financial misrepresentation.

Chapter 5 studies Ukraine's regulatory framework, the war's effects on financial reporting, and the barriers to achieving accounting transparency. It also provides recommendations for overcoming these obstacles through reforms, regulatory improvements, and professional development.

Chapter 6 addresses the controversial issue of bank account blocking by tax authorities. In many countries, tax administrations have the power to freeze accounts suspected of fraudulent activity. While intended to combat tax evasion, these measures often raise concerns regarding legal safeguards and economic impact.

Chapters 7 and 8 explore VAT fraud, particularly carousel fraud, one of the most damaging types of tax fraud in the EU. These chapters analyse how fraudsters exploit weaknesses in VAT systems, the impact of fraud on public finances, and the effectiveness of countermeasures. Real-world cases and international cooperation efforts are discussed to illustrate both successes and ongoing challenges.

Chapter 9 shifts the focus to corporate anti-corruption efforts through non-financial reporting. Businesses today are increasingly required to disclose their anti-corruption measures, reflecting a growing emphasis on transparency and ethical governance. This chapter analyses the reporting practices of Polish listed companies and assesses the role of corporate accountability in fraud prevention.

Chapter 10 provides recommendations for fighting corruption, CIT fraud, PIT fraud, VAT fraud, money laundering and using AI and modern tools for preventing fraud. The chapter sums up research and practices introduced during the project implementation.

By bringing together academic research, policy analysis, and real-world case studies, this book aims to bridge the gap between theory and practice in fraud detection. It provides valuable insights for policymakers, financial professionals, law enforcement agencies, and researchers seeking to enhance fraud prevention strategies. The lessons learned from the V4 countries and Ukraine offer broader implications for other economies grappling with similar fraud-related challenges.

Fraud is a constantly evolving threat, and combating it requires collaboration, technological innovation, and a commitment to transparency. This book serves as a resource for understanding modern fraud detection mechanisms and highlights the importance of adapting regulatory and technological solutions to an increasingly complex financial landscape.

Afterword

Fraud remains a major challenge for governments, businesses, and financial institutions worldwide. This book provides an in-depth exploration of modern tools and strategies for fraud detection, focusing on insights from the Visegrad Four (V4) countries – Poland, Czechia, Hungary, Slovakia – and Ukraine. Throughout eight chapters, it examines tax fraud, occupational fraud, financial manipulation, and corruption, highlighting innovative technologies, regulatory challenges, and policy recommendations.

The Role of AI in Tax Fraud Detection – modern technologies such as artificial intelligence (AI), blockchain, and predictive analytics are revolutionising tax fraud detection. AI-powered solutions enable real-time anomaly detection, automated risk assessments, and cross-border data verification, significantly improving tax enforcement efficiency. However, AI alone is not a complete solution – it must be complemented by human oversight to ensure accuracy, fairness, and legal compliance. The integration of AI with expert auditing can strengthen tax compliance, reduce administrative burdens, and promote fiscal transparency.

Ukraine faces significant tax security challenges, including widespread tax evasion through grey imports, smuggling, and under-the-table salaries. The COVID-19 pandemic and the ongoing war have further strained tax revenue stability. Strengthening tax security requires a multi-faceted approach: reducing the tax burden on labour, increasing fiscal oversight, improving tax administration efficiency, and enhancing anti-evasion measures. Reforming tax authorities, introducing progressive taxation, and fostering a culture of voluntary compliance are key steps toward a more resilient tax system.

Occupational fraud poses a major threat to organisations in the V4 region and Ukraine, affecting financial stability, corporate reputation, and operational security. The most common types of fraud include asset misappropriation, corruption, and financial reporting manipulation. While whistleblowing systems and advanced analytics have improved fraud detection rates, significant gaps remain in internal controls, legal frameworks, and resource allocation. Strengthening anti-fraud mechanisms, increasing awareness, and adopting AI-driven fraud detection tools are critical to mitigating occupational fraud risks.

Creative accounting, or the manipulation of financial statements, distorts the true financial health of companies and undermines market integrity. While such practices can offer short-term financial advantages, they pose long-term risks, including legal penalties, loss of investor confidence, and financial instability. The widespread use of creative accounting in Czechia highlights the need for stricter regulatory oversight and better financial reporting transparency. New technologies, such as data analytics and forensic accounting tools, can help detect and prevent financial misrepresentation.

The ability of tax authorities to block bank accounts raises significant concerns regarding legal safeguards and the economic consequences. While intended to prevent tax evasion and money laundering, account blocking measures often lack transparency and can disrupt legitimate business operations. In Poland, recent legal rulings have clarified the responsibility of tax authorities and financial institutions, emphasising the need for procedural fairness. Greater legal certainty, improved oversight mechanisms, and clearer guidelines for account blocking procedures are necessary to protect taxpayers’ rights.

Value Added Tax (VAT) fraud, particularly carousel fraud, remains a significant problem within the European Union, causing billions in lost tax revenue annually. Czechia and the other V4 countries have implemented mechanisms such as VAT control statements, domestic reverse charge, and transaction monitoring to combat fraudulent schemes. However, fraudsters continually adapt to new regulations, exploiting legal loopholes and weak enforcement. Effective VAT fraud prevention requires a combination of legislative reforms, enhanced international cooperation, and stricter due diligence by businesses.

Corporate non-financial reporting plays a crucial role in strengthening transparency and anti-corruption efforts. A study of Polish listed companies revealed significant gaps in anti-corruption disclosures, highlighting the need for standardised reporting practices. The implementation of the EU's Corporate Sustainability Reporting Directive (CSRD) is expected to improve corporate accountability and provide stakeholders with clearer insights into anti-corruption measures. Enhanced regulatory frameworks and increased public awareness can drive ethical business practices and reduce corruption risks.

This book underlines the importance of modernising fraud detection strategies through the adoption of new technologies, improved legal frameworks, and stronger institutional cooperation. While AI, blockchain, and big data analytics offer promising solutions, they must be integrated with traditional auditing and regulatory oversight to be fully effective. The experiences of the V4 countries and Ukraine provide valuable lessons for other economies facing similar fraud-related challenges.

Moving forward, policymakers, financial institutions, and businesses must prioritise proactive fraud prevention measures. Strengthening international collaboration, investing in advanced fraud detection technologies, and fostering a culture of compliance are essential in combating financial crimes and ensuring long-term economic stability.

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