# BOOK OF ABSTRACTS

SCIENTIFIC CONFERENCE

**AI AND DIGITALISATION IN THE CONTEXT OF TAX EVASION: THEORETICAL AND EMPIRICAL APPROACHES**

VEGA Project No. 1/0714/26

Faculty of Economics, Matej Bel University in Banská Bystrica, Slovakia

10 September 2026

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# Preface

This Book of Abstracts presents the research contributions submitted to the Scientific Conference AI and Digitalisation in the Context of Tax Evasion: Theoretical and Empirical Approaches, held on 10 September 2026 in Banská Bystrica, Slovakia. The conference was organised within the framework of VEGA Project No. 1/0714/26.

The abstracts collected in this volume reflect the interdisciplinary character of research on artificial intelligence, digitalisation and tax compliance. The contributions address several closely connected research streams, including the digital transformation of tax administration, the use of artificial intelligence and data analytics in tax-risk assessment, VAT and corporate income tax compliance, transfer pricing, cybersecurity and digital readiness, as well as the broader organisational and economic consequences of technological change. Particular attention is also devoted to the role of firms and financial institutions within increasingly data-driven compliance systems, the cybersecurity preparedness of small and medium-sized enterprises, managerial trust in artificial intelligence, corporate taxation and firm value, and the digitalisation of local tax and fee collection. Together, these contributions connect public finance and taxation with corporate finance, banking, management, information systems, cybersecurity, regional economics, behavioural research and tourism. Methodologically, the volume combines theoretical and conceptual perspectives with a broad range of empirical approaches, including descriptive and comparative analysis, panel econometric modelling, fixed-effects specifications, data envelopment analysis, hierarchical clustering, primary survey research, experimental designs, qualitative interviews and case-study analysis.

The Editors would like to express their sincere appreciation to all authors for contributing their research and perspectives to the conference and to this Book of Abstracts. We are equally grateful to the members of the Scientific Committee and the Organisational Committee for their expertise, support and contribution to the preparation of the conference, and to the reviewers for their careful assessment of the submitted contributions. We also acknowledge the institutions represented by the contributors, in particular the Faculty of Economics of Matej Bel University in Banská Bystrica, the Faculty of Economics of the Technical University of Košice, and the Faculty of Economics and Finance of the University of Economics and Business in Bratislava. Their participation and academic cooperation have contributed to the disciplinary diversity of the conference and to a broader discussion of the opportunities and challenges associated with artificial intelligence and digitalisation in contemporary taxation, finance and economic policy.

The Organisers

Banská Bystrica, September 2026

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# Debt Capacity in Transfer Pricing: Implications for Digital and AI-Supported Tax Risk Assessment

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**Abstract:** The paper examines corporate debt capacity in the context of transfer pricing of intra-group financial transactions and discusses its relevance for the digitalisation of tax risk assessment. Building on the OECD Transfer Pricing Guidelines, particularly Chapter X, the study evaluates whether the amount of intra-group debt can be considered economically acceptable under the arm's length principle. The empirical analysis uses 2024 financial data of Slovak companies from the FinStat database and applies descriptive statistics and quartile analysis to two key indicators - the debt-to-EBITDA ratio and the interest coverage ratio - across ten selected industries. The results reveal meaningful industry differences, especially in companies' ability to cover interest expenses, and confirm that debt capacity cannot be assessed through a single universal threshold. The identified interquartile ranges therefore provide industry-specific external benchmarks that can support the assessment of individual borrowers, while qualitative factors and transaction-specific conditions remain essential. The paper also proposes a structured procedure combining quantitative indicators, external benchmarking and qualitative assessment for evaluating debt capacity in intra-group financing. In the context of the VEGA project "AI and Digitalisation in the Context of Tax Evasion: Theoretical and Empirical Approaches", the findings provide an empirical basis for further development of digital and AI-supported tools for identifying potentially excessive intra-group indebtedness and tax-planning risks. Such tools may strengthen data-driven risk selection by tax administrations and contribute to more transparent and consistent assessment of financial transactions, while preserving the need for case-specific professional judgement.

**JEL Classification:** H26; G32; F23; H25; C10

**Keywords:** debt capacity, transfer pricing, digitalisation, artificial intelligence, tax evasion

# Artificial Intelligence, Automation Bias and Tax Compliance: Behavioural Effects of AI-Assisted Tax Decision-Making

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**Abstract:** The increasing use of artificial intelligence (AI) in tax administration creates new opportunities for detecting tax evasion and improving tax compliance. At the same time, AI may affect the behavior of taxpayers and managers by changing how tax-related decisions are evaluated and made. This study examines whether reliance on AI-generated recommendations can influence the willingness of decision-makers to adopt aggressive tax strategies. Drawing on behavioural finance, tax compliance theory, and literature on trust in automation, the study focuses on automation bias, perceived AI competence, perceived probability of detection, and personal responsibility for tax-related decisions. The proposed research distinguishes between decisions based on human expert advice, AI-generated recommendations, and AI recommendations accompanied by an explanation. An experimental design is proposed to examine whether the source and presentation of a recommendation affect perceived ethicality, perceived risk, trust, personal responsibility, and the willingness to adopt an aggressive tax strategy. The study further investigates whether automation bias mediates the relationship between trust in AI and tax-related decision-making and whether perceived detection probability moderates this relationship. The expected contribution is twofold. First, the study extends the behavioural tax compliance literature by incorporating AI-assisted decision-making and automation bias. Second, it contributes to the broader debate on the potentially dual role of AI in taxation: while AI may strengthen the state's capacity to detect tax evasion, its use by taxpayers may simultaneously create new behavioural mechanisms affecting tax compliance. The findings may provide implications for the design of AI-based tax systems, tax-risk communication, and policies aimed at mitigating the unintended behavioural consequences of digitalisation.

**JEL Classification:** H26; D81; O33

**Keywords:** Artificial Intelligence, Automation Bias, Tax Compliance

# Digital Transformation of Tax Administration and Corporate Income Tax Evasion: The Role of Artificial Intelligence and Data Analysis

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**Abstract:** This article focuses on the role of digitalisation and artificial intelligence in identifying and reducing tax evasion in the area of corporation tax. Particular attention is paid to the use of digital tax administration tools, data analytics and artificial intelligence methods in identifying high-risk taxpayers and transactions. The research is focused on the assumption that the digitalisation of tax administration can reduce information asymmetry between taxpayers and tax authorities whilst increasing the effectiveness of tax audits. At the same time, the opposite effect of digitalisation is also considered, whereby the growing technological capacity of businesses may create scope for more sophisticated forms of tax planning and tax avoidance. The main objective of the research is to identify the relationship between the level of digitalisation of tax administration and the extent of tax non-compliance in the area of corporation tax. A secondary objective is to assess the potential for using artificial intelligence in predicting tax risk and selecting entities for tax audits more effectively. Methodologically, the research is based on a combination of comparative analysis, panel econometric methods and machine learning techniques. At the macroeconomic level, it is possible to examine the relationship between the digitalisation of tax administration and the corporate tax gap, whilst at the microeconomic level, indicators such as Cash ETR, GAAP ETR and book-tax differences can be used as proxy variables for corporate tax behavior. Econometric analysis may utilize fixed-effects models, difference-in-differences methods and event-study approaches to identify the causal effects of digitalisation reforms. The expected contribution of the research is the creation of an analytical framework linking the measurement of the tax gap, the digitalisation of tax administration and the application of artificial intelligence in detecting tax evasion. The results may contribute to a more effective use of digital technologies in tax administration and to improving the efficiency of corporate income tax collection.

**JEL Classification:** H25; H26

**Keywords:** corporate income tax, digitalisation, artificial intelligence, tax evasion

# Digitalisation of Accommodation Tax Collection Through the eTurista System: A Case Study from Czech Republic

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**Abstract:** The digitalisation of public administration processes represents one of the key instruments for improving the efficiency of local tax and fee collection. This paper focuses on the analysis of the "eTurista" system as a tool for enhancing the collection of accommodation tax, specifically the local accommodation fee. The study is based on the case of the planned implementation of the "eTurista" system in the Czech Republic, which relies on the mandatory registration of accommodation providers and the electronic recording of overnight stays through a centralised digital platform. The aim of the paper is to identify the potential economic benefits of a digitalised accommodation registration system for local fee collection and to assess the applicability of a similar solution within the Slovak Republic. The research employs a case study approach complemented by secondary data analysis. The analysed dataset includes information on overnight stays, accommodation capacities, revenues generated from local accommodation fees, and estimates of unregistered accommodation facilities. The methodological framework is based on the comparison of data derived from official statistical sources, mobile network data, and administrative records in order to identify discrepancies between the potential and the actual collection of accommodation fees. Subsequently, descriptive and comparative analytical methods are applied to quantify the fiscal impacts of the implementation of the "eTurista" system. The findings indicate the existence of a substantial volume of unregistered or insufficiently reported overnight stays, which negatively affects local government revenues. The analysis estimates the gap between actual and potentially achievable accommodation fee revenues at approximately CZK 1.58 billion annually. The implementation of a centralised registration system could therefore contribute to greater transparency, reduced administrative burden associated with fee collection, and more effective utilisation of tourism data for destination management and public policy decision-making.

**JEL Classification:** H23; H71; L83; Z38

**Keywords:** accommodation tax, public administration digitalisation, tourism, fiscal efficiency

# Artificial Intelligence, Digitalisation and Tax Administration Efficiency in the EU: A Two-stage DEA Approach

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**Abstract:** The increasing use of artificial intelligence and digital technologies is transforming tax administration and creating new opportunities to strengthen tax compliance and reduce revenue losses. This study examines how efficiently tax administrations in the European Union use their human and financial resources to support timely tax compliance while limiting the VAT compliance gap, and whether differences in this efficiency are associated with the adoption of artificial intelligence and digitalisation tools. The empirical analysis covers EU Member States over the period 2019 – 2023 and combines data from ISORA, Eurostat and the European Commission VAT Gap database. In the first stage, tax administration efficiency is evaluated using a slack-based data envelopment analysis framework that accounts for an undesirable output and the intertemporal nature of the data. The model considers staffing and operating expenditure as administrative resources, the timely filing of VAT returns as a desirable output, and the VAT compliance gap as an undesirable output. In the second stage, the estimated efficiency scores are analysed in relation to the prior adoption of artificial intelligence and electronic invoicing. Differences in the economic and structural environment of tax administrations are controlled for using GDP per capita and the share of self-employed persons. By integrating administrative resources, compliance outcomes and technological adoption within a two-stage efficiency framework, the study provides new empirical evidence on the relationship between digital transformation and the performance of tax administrations in the EU.

**JEL Classification:** C14; H26; H83; O33

**Keywords:** artificial intelligence, digitalisation, tax administration efficiency, VAT compliance gap, data envelopment analysis

# Artificial Intelligence, Cybersecurity and VAT Compliance in the European Union: Does Digital Readiness Reduce the Tax Gap?

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**Abstract:** The rapid digitalisation of European economies is transforming not only business processes but also the capacity of public authorities to detect, prevent and respond to tax non-compliance. At the same time, the growing use of artificial intelligence, cloud technologies and interconnected information systems creates new dependencies on the quality of cybersecurity and institutional digital capacity. This study investigates whether differences in digital readiness, artificial intelligence adoption and cybersecurity preparedness are systematically associated with the VAT compliance gap across European Union member states. The empirical analysis combines country-level data on the VAT Compliance Gap published by the European Commission with indicators of enterprise digitalisation, artificial intelligence adoption and information and communication technology security obtained from Eurostat. The framework is complemented by macroeconomic and institutional control variables capturing differences in economic development, government effectiveness and the broader environment in which tax compliance takes place. The analysis is designed as a longitudinal country panel and employs fixed-effects specifications, time effects and robust inference, supplemented by lagged models and alternative specifications as robustness checks. Particular attention is devoted to interaction effects between digitalisation and cybersecurity, allowing the analysis to test whether the potential compliance benefits of greater digital intensity depend on the security and institutional capacity supporting digital transformation. The study contributes to the emerging literature linking technological change with tax compliance by treating digitalisation, artificial intelligence and cybersecurity as interconnected rather than isolated dimensions of the modern tax environment. Its findings are expected to provide policy-relevant evidence on whether technological adoption alone is sufficient to support tax compliance or whether its effectiveness depends on complementary cybersecurity and institutional capabilities.

**JEL Classification:** H26; O33; C23; M15; H21

**Keywords:** VAT compliance gap, artificial intelligence, cybersecurity, digitalisation, tax evasion

# Managerial Roles in Building Trust and Facilitating Artificial Intelligence Adoption in Firms

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**Abstract:** As artificial intelligence (AI) moves beyond assisting humans to increasingly performing tasks on their behalf, a fundamental organisational question emerges: how much should firms trust AI before allowing it to shape decisions, processes, and work? Although AI adoption has been extensively examined through technological and organisational perspectives, the managerial role in building trust and navigating the uncertainties surrounding AI remains comparatively underexplored. This study examines how trust in AI and top management support shape the adoption of AI technologies and how managers make sense of the opportunities and risks associated with this transition. Drawing on a qualitative approach, the study employs semi-structured interviews with top managers to explore the influence of senior management on AI adoption and the technical and organisational challenges encountered during implementation. The findings suggest that strong managerial support and confidence in AI can create a favorable environment for technological adoption. At the same time, managers do not view AI adoption as a purely technological decision. Their perspectives reveal a tension between the potential of AI to enhance organisational capabilities and concerns about what may be lost or disrupted in the process. Three central concerns emerge from the interviews: intellectual property and related risks; uncertainty arising from the rapid and continuous evolution of AI technologies; and the changing role of human knowledge, expertise, and capabilities following AI adoption. These findings position managerial trust not simply as an enabler of AI adoption, but as a critical element in determining how organisations approach increasingly autonomous technologies. The study contributes to the emerging AI adoption literature by bringing managerial perspectives to the forefront and highlighting the need to balance technological potential with trust, risk, and human considerations.

**JEL Classification:** O33; M15; O32

**Keywords:** Artificial intelligence (AI), IT management, Managerial roles, AI adoption

# Corporate Tax Burden and Firm Value in an Increasingly Transparent Business Environment

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**Abstract:** Corporate taxation is increasingly discussed not only as a financial issue but also in relation to transparency, governance, and responsible business conduct. The digitalisation of financial reporting and tax administration has further increased the availability and analytical use of corporate tax information by regulators, investors, and other stakeholders. Against this background, this study examines whether observed corporate tax outcomes contain information relevant to the market valuation of European listed firms. Accounting Tax Burden is measured as the ratio of income tax expense to accounting income before tax, while firm value is represented by Tobin's Q. The empirical analysis employs panel data on European listed companies and accounts for major firm-specific financial characteristics as well as firm and time effects. Particular attention is devoted to the interpretation of low observed tax burdens. Such outcomes may arise from legitimate tax planning, accounting effects, investment decisions, international activities, or other firm-specific circumstances and therefore cannot be directly interpreted as evidence of tax avoidance or tax evasion. The study places the relationship between corporate taxation and market valuation within a broader environment characterised by increasing tax transparency, digital reporting, and regulatory scrutiny. In doing so, it contributes to the discussion on how observable corporate tax outcomes may function as financial information for market participants without treating accounting tax measures as direct indicators of non-compliance.

**JEL Classification:** G32; H25; M41; M48

**Keywords:** corporate taxation, accounting tax burden, firm value, tax transparency, digitalisation

# Digitalisation, Cybersecurity and Compliance Readiness of SMEs: A Regional Approach in Slovakia

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**Abstract:** Small and medium-sized enterprises (SMEs) account for more than 99% of the Slovak business sector, yet they continue to lag behind large enterprises in terms of cybersecurity, despite growing digitalisation and the increasing use of artificial intelligence in business processes, which raise the demands placed on their digital resilience. Slovakia is undergoing significant regulatory change, as the transposition of the NIS2 Directive since 2025 has extended the scope of obligated entities to include part of medium-sized enterprises operating in critical and important sectors. The real effectiveness of this regulation, however, depends on the regionally uneven availability of IT expertise, human capital, advisory capacities, and institutional support, factors that differ substantially across Slovakia's eight self-governing regions. Despite this, the regional dimension of SMEs cybersecurity remains largely unexplored. Available official data cover predominantly large, formally audited entities in critical sectors, while ordinary SMEs outside this regulatory framework remain statistically uncaptured. Insufficient cybersecurity preparedness may weaken the trustworthiness of digitalized business processes and create room for their misuse, yet the connection between regional differences in digitalisation and enterprises' cybersecurity preparedness remains empirically unverified. The paper draws on the theory of regional inequality (Myrdal, Krugman) and the concept of the regional digital divide, according to which capital, skilled labour, and knowledge capacities tend to concentrate in economically more developed regions. It formulates the premise that nationally aggregated cybersecurity indicators may conceal substantial intra-national disparities relevant for policy design. The aim of further research is to quantitatively examine cybersecurity preparedness among Slovak SMEs using a primary empirical instrument with a regional approach, determining whether statistically significant regional differences exist, particularly among micro and small enterprises as the most vulnerable segment. Resilient cybersecurity is a precondition for trustworthy digital and tax compliance, and findings aim to inform regionally differentiated support policies.

**JEL Classification:** K24; O33; R11; L86

**Keywords:** cybersecurity, small and medium-sized enterprises, regional disparities, digitalisation

# Loss Aversion and Trust in AI: A Psychological Perspective on Digitalisation

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**Abstract:** Public institutions across Europe are increasingly relying on artificial intelligence to support decisions that used to be made by people. But we still know surprisingly little about the psychology behind it: what actually happens in someone's mind when it is an algorithm, not a person, making a judgment about them? This paper brings together two strands of research that rarely meet. From behavioural economics comes the idea of loss aversion and the sense of fairness that shapes how people judge decisions that affect them (Kahneman & Tversky, 1979; Kahneman, Knetsch & Thaler, 1986). From psychology comes a related concept, algorithm aversion, and its counterpart, algorithm appreciation, describing when people come to trust, or distrust, automated decisions. A recent integrative review and meta-analysis suggest that which one wins out often depends on how capable the system seems and how personalised the decision needs to be (Mahmud, Islam, Ahmed & Smolander, 2022; Jussupow, Benbasat & Heinzl, 2024; Qin et al., 2025). Put together, these ideas suggest that people do not simply recalculate outcomes once AI enters the picture. They react emotionally, depending on whether the system feels transparent or feels like a black box. A closed, unexplained algorithm may trigger suspicion and resistance, while one that is explained clearly, and still checked by a human, may earn more trust and, in turn, more willingness to accept its decisions. The paper also asks whether some groups are more sceptical of these systems than others, building on earlier findings that status and social comparison shape how young Slovaks think about their careers and about working abroad. Rather than testing these ideas empirically, the paper sets out a series of hypotheses that could guide future research and reflects on what this means for designing AI tools that people are actually willing to trust.

**JEL Classification:** D91; D81; O33; D83

**Keywords:** artificial intelligence, algorithm aversion, trust, behavioural economics, digitalisation

# Digitalisation, Bank Business Models and the Infrastructure of Tax Compliance: Evidence from European Banks

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**Abstract:** Digitalisation of tax administration is changing the tax administration itself, but also the financial institutions which increasingly are part of the information and reporting infrastructure on which modern tax compliance depends. Banks are at the heart of digital finance, regulatory oversight and economic transparency as payments, financial records, regulatory reporting and interactions with public authorities become more data-driven. But European banks differ considerably in the organisation of their operations, raising the question whether different organisational structures respond differently to the economic pressures that accompany this transformation. This paper seeks to investigate whether the determinants of bank profitability are different across the various organisational business models. For a panel of 20 listed European commercial banks over the period 2000-2024, we identify different organisational configurations using a hierarchical cluster analysis based on branch network size and headcount. Separate panel regressions are then estimated for each cluster, with return on assets (ROA) and return on equity (ROE) used as alternative measures of profitability. Three distinct organisational models emerge from the analysis. Profitability determinants vary systematically across them, with particularly pronounced heterogeneity in the ROA specifications. By contrast, ROE is associated with a more stable set of bank-specific characteristics, while operational efficiency, measured by the cost-to-income ratio, emerges as the most consistent determinant across organisational models. Estimates using one-year-lagged explanatory variables confirm the robustness of the main findings. The results highlight an important institutional dimension of digital transformation: regulatory and reporting innovations are implemented within a heterogeneous banking sector rather than through organisationally identical intermediaries. This has implications for increasingly digital and data-intensive frameworks supporting financial transparency, regulatory reporting and tax compliance. Policies that impose uniform technological or reporting requirements may therefore generate different operational and economic effects across banking business models.

**JEL Classification:** G21; L22; C38

**Keywords:** organisational structure, bank profitability, hierarchical clustering, panel regression, European financial institutions

# Cybersecurity Readiness of SMEs as a Precondition for AI-Enabled Digital Tax Administration

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**Abstract:** Artificial intelligence and digitalisation are transforming tax administration through e-invoicing, online reporting, automated data matching and data-driven risk assessment. Their effectiveness, however, depends not only on the analytical capacity of tax authorities but also on the security and reliability of the digital environment in which firms create, store and transmit tax-relevant data. This study examines the cybersecurity readiness of Slovak small and medium-sized enterprises (SMEs) as a precondition for trustworthy AI-enabled digital tax administration. The empirical component draws on a 2026 survey of 504 Slovak SMEs conducted within the APVV project Cybersecurity in Small and Medium Enterprises (CSME, VV-MVP-24-0272). The analysis considers cybersecurity awareness and governance, implemented technical and organisational safeguards, incident preparedness, investment in cybersecurity, and perceived cyber risks. These dimensions are subsequently interpreted in relation to digital tax processes, particularly e-invoicing, electronic reporting, data integrity, and AI-assisted risk assessment. The paper does not equate cyber incidents with tax evasion; instead, it identifies cybersecurity weaknesses that may compromise the confidentiality, integrity, availability, or authenticity of tax-relevant information and thereby reduce the reliability of digital compliance and enforcement mechanisms. The study contributes to the tax-digitalisation literature by introducing taxpayer-side cybersecurity capability as an institutional and technological condition of effective digital tax administration. It also provides policy-relevant evidence for integrating SME cybersecurity capacity-building with the design of increasingly data-intensive and AI-supported tax systems. Such integration is essential if digitalisation is to strengthen compliance and enforcement without creating new vulnerabilities or disproportionate burdens for SMEs.

**JEL Classification:** H26; H83; M15; O33; L26

**Keywords:** cybersecurity readiness, SMEs, digital tax administration, tax compliance, artificial intelligence

# Can Digitalisation Close the VAT Gap? EU Evidence and AI-Enabled Tax Administration

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**Abstract:** Digital transformation is reshaping tax administration through greater data availability, automated reporting and AI-assisted risk assessment. This paper examines whether higher digital readiness is associated with a lower VAT compliance gap in EU Member States and considers how AI-enabled tax-administration tools may reinforce this relationship. The study combines a literature review with descriptive and comparative secondary-data analysis. It uses European Commission VAT gap estimates for 2013–2023 and DESI scores for 2018, 2020 and 2022, supplemented by MIMIC-based shadow-economy estimates for 2013, 2017 and 2020. Trend analysis and cross-country scatter-plot comparisons are complemented by case evidence on Poland's STIR system, Italy's Ve.R.A. algorithm and Spain's SII real-time reporting system. The results show that the average EU VAT gap fell from 18.0% in 2013 to 9.6% in 2023, although the decline was uneven and partly reversed after its 2021 minimum. Higher DESI scores are generally associated with lower VAT gaps: Finland, Sweden, Denmark and the Netherlands combine high digital readiness with relatively low gaps, whereas Romania shows the opposite pattern. Slovakia reduced its VAT gap from 29.8% to 10.5% while improving its digital readiness. VAT gaps also show a positive, but non-linear, association with MIMIC-based shadow-economy estimates. Outliers such as Malta indicate that digitalisation alone is insufficient; institutional quality, implementation capacity, tax morale and external shocks also matter. The findings suggest that digitalisation provides the infrastructure for AI-assisted, proactive tax control, but effective outcomes depend on reliable data, interoperable systems and capable institutions.

**JEL Classification:** H26; H83; O33; E26

**Keywords:** VAT gap, digitalisation, artificial intelligence, tax administration, European Union

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