

Quarterly Corvinus Research Highlights

July – September
2024



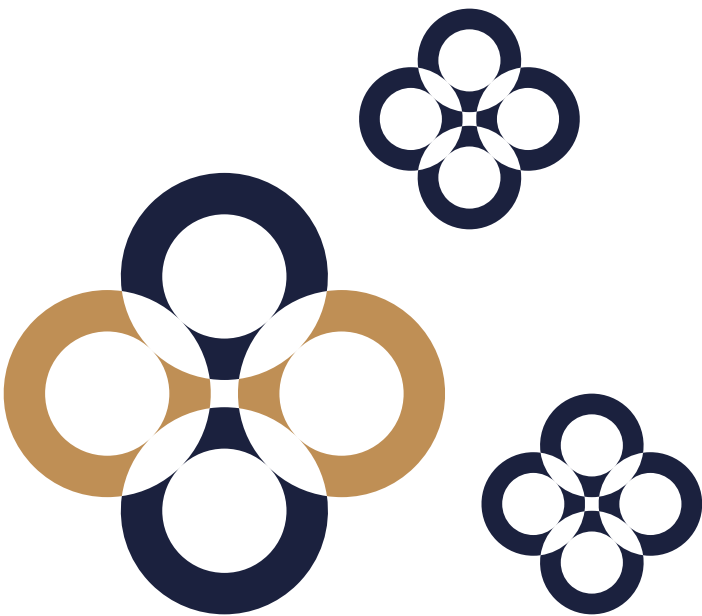


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FOREWORD

Dear Colleagues,

I am honoured to present the third issue of the Quarterly Corvinus Research Highlights for 2024 (July-September). We present a collection of 49 exceptional journal articles and 8 book chapters and one book, authored by the esteemed faculty members of Corvinus University of Budapest.

The Scimago-ranked D1-Q1 journal articles included in this collection have been subjected to a rigorous selection process, with the aim of ensuring the highlight of best quality publications. Impactful publications in leading international, peer reviewed journals with an AIP score of at least 70, uploaded to MTMT during the 3 month specified period, with at least 20% affiliation to the Corvinus University were selected.

I would like forward my congratulations to the researchers for their significant contributions to scientific advancement. Impactful publications uphold our university's reputation and also inspire the broader academic community.

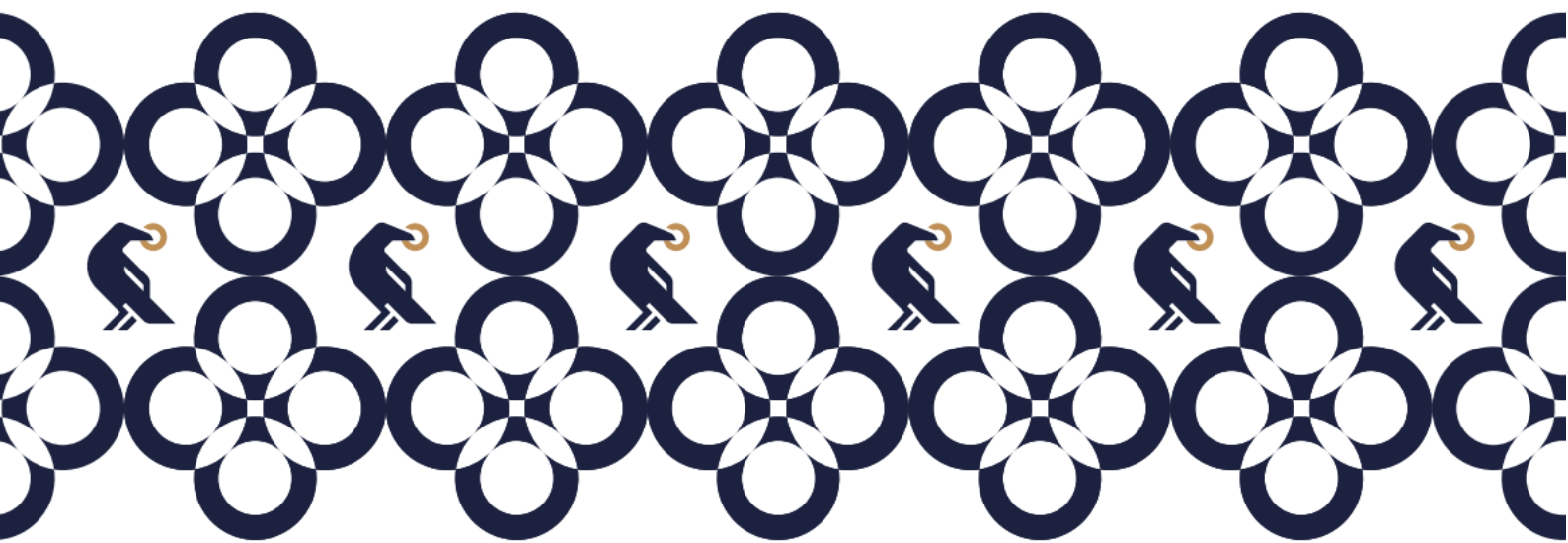
Sincerely,

Prof. Zoltán Oszkár Szántó

Vice-Rector for Faculty and Research



JOURNAL ARTICLES



Impacts of large-scale deployment of vertical bifacial photovoltaics on European electricity market dynamics

LASZLÓ SZABÓ; MAGDA MONER-GIRONA; ARNULF JÄGER-WALDAU; IOANNIS KOUGIAS; ANDRÁS MEZŐSI; FERNANDO FAHL; SÁNDOR SZABÓ

Nature Communications 2024 (15): 6681

Abstract

Self-sufficiency, climate change and increasing geopolitical risks have driven energy policies to make renewable energy sources dominant in the power production portfolios. The initial boom in the mid-2000s of global photovoltaic installations demonstrated the feasibility of the ambitious renewable energy targets. However, this rapid scale-up has introduced challenges, including price volatility and system integration issues. This communication calls the attention to these emerging challenges and offers quantitative insights on how rapid adoption of a more diversified photovoltaics deployment strategies can mitigate price volatilities, reduce fossil fuel dependence and steer Europe towards a forward-thinking sustainable energy pathway. The analysis reveals that as innovative bifacial photovoltaic systems are incorporated on a large-scale disruptive scenario, four main patterns emerge: economic value of solar production increases, base-load electricity price decreases, sun-rich countries expand their solar contributions, whereas nations with ample grid interconnections enhance their energy imports from neighbouring countries. It also underscores the importance of maintaining photovoltaics an attractive option for energy investors and traders in the future. Establishing this groundwork is critical since a successful integration of large-scale solar systems contributing to decrease price volatilities in Europe and US will carry significant repercussions for global energy policy formulation.

[Link to Paper](#)

Hydrogen and the sustainable development goals

FLAVIO PINHEIRO MARTINS; SOFÍA DE-LEON ALMARAZ; AMILTON BARBOSA BOTELHO JUNIOR; CATHERINE AZZARO PATEL; PRITI PARIKH

Renewable & Sustainable Energy 2024 (204): 114796

Abstract

Sustainable Development Goal 7 highlights the importance of affordable, reliable, and sustainable energy. Transition to clean energy is vital for achieving climate action goals. Hydrogen can serve as a clean energy carrier, with the potential to decarbonize industry, transportation, and other sectors. As of 2021, hydrogen was mainly produced using fossil fuels (grey hydrogen), and only about 1 % of global hydrogen output was produced with renewable energy (green hydrogen). The transition to green hydrogen requires new hydrogen production, storage, and distribution facilities which is challenging to implement due to a lack of associated infrastructure and high upfront costs. This study highlighted barriers and opportunities for hydrogen technologies by reviewing evidence and establishing links with the Sustainable Development Goals (SDGs). The review identified fifty-two opportunities and forty-six challenges linked to SDGs1, 2, 4.6, 7, 9, 11, 12 and 13. Out of all the hydrogen production technologies green hydrogen was the most common choice noted in the. Technical opportunities for green hydrogen production were found to have the potential to positively impact society and environment, but high costs were noted to be a barrier. To reduce economic barriers, recommendations include analysing the impact of subsidies and working further on the development of policies and regulations to support the scaling-up of green hydrogen systems.

Link to Paper

Conversing in the shadow of echoes - a scale development and validation of the dark side of organizational internal communication

AMITABH ANAND; ELENA SINITSYNA; SÁNDOR TAKÁCS; SERGEY KAZAKOV

Transportation Research: Part C Emerging Technologies 2024 146: 104669

Abstract

Purpose

This study aims to develop and validate the scales on the dark side of internal communication (IC) that capture a more nuanced perception of ineffectiveness, manipulation and miscommunication from the employee perspective. This study also examines this scale's effects on employee outcomes (such as employee loyalty and quiet quitting).

Design/methodology/approach

The authors developed the dark side of the IC scale through qualitative interviews and a review of relevant literature. Statistical techniques such as exploratory and confirmatory factor analysis, convergent validity and nomological validity were performed on the newly produced scales. The authors also examined the predictive validity effects of these scales on employee loyalty and quiet quitting using participants from Hungary.

Findings

The scale development resulted in a 15-item measuring three dimensions of the dark side of IC. After several statistical examinations, the scale exhibited robust psychometric properties and is reliable and valid.

Originality/value

This study empirically supported the new phenomenon of studying the dark side of IC, and the scale can be used to measure employee outcomes, the effectiveness of organizational communication, etc.

Link to Paper

Relaxed TS fuzzy model transformation to improve the approximation accuracy/complexity tradeoff and relax the computation complexity

PÉTER BARANYI

IEEE Transactions on Fuzzy Systems 2024 32(9): 5237-5247.

Abstract

The primary goal of the article is to introduce the relaxed TS fuzzy model transformation, a method that enhances the original TS fuzzy model transformation in two ways. First, it focuses on achieving a more efficient reduction of the number of antecedent fuzzy sets—hence, the fuzzy rules of the TS fuzzy models—while minimizing the approximation error. Second, it aims to reduce the computational load required for the transformation process. With the first enhancement, the proposed transformation strikes a better balance between the number of fuzzy rules and the approximation accuracy of TS fuzzy models. With the second enhancement, a unique pre- and postprocessing of the TS fuzzy model transformation is introduced leading to the radical computational improvements. The core part of the original TS fuzzy model transformation is the higher order singular value decomposition (HOSVD) used to balance the approximation quality with the number of fuzzy rules by truncating singular values. The HOSVD itself is a computationally intensive algorithm, the possibilities for advancements in its implementation seem to be limited as much research has focused on its optimization in the past and had reached its pinnacle in terms of computational complexity more than a decade ago. Therefore, the approach presented in this article does not concentrate directly on enhancing HOSVD further, but instead proposes a unique pre- and postprocessing technique for the tensor on which HOSVD is applied, tailored to the special characteristics of the TS fuzzy model and the system model under consideration. Following a description of the proposed enhancements, the article presents numerical examples and two examples of real-world engineering models to demonstrate the effectiveness of the relaxed TS fuzzy model transformation compared to the original TS fuzzy model transformation.

[Link to Paper](#)

A model for investment type recommender system based on the potential investors based on investors and experts feedback using ANFIS and MNN

ASEFEH ASEMI; ADELEH ASEMI; ANDREA KÓ

Journal of Big Data 2024 11: 128

Abstract

This article presents an investment recommender system based on an Adaptive Neuro-Fuzzy Inference System (ANFIS) and pre-trained weights from a Multimodal Neural Network (MNN). The model is designed to support the investment process for the customers and takes into consideration seven factors to implement the proposed investment system model through the customer or potential investor data set. The system takes input from a web-based questionnaire that collects data on investors' preferences and investment goals. The data is then preprocessed and clustered using ETL tools, JMP, MATLAB, and Python. The ANFIS-based recommender system is designed with three inputs and one output and trained using a hybrid approach over three epochs with 188 data pairs and 18 fuzzy rules. The system's performance is evaluated using metrics such as RMSE, accuracy, precision, recall, and F1-score. The system is also designed to incorporate expert feedback and opinions from investors to customize and improve investment recommendations. The article concludes that the proposed ANFIS-based investment recommender system is effective and accurate in generating investment recommendations that meet investors' preferences and goals.

[Link to Paper](#)

Subsample, generate, and stack using the spiral discovery method: A framework for autoregressive data compression and augmentation

ÁDÁM B. CSAPÓ

IEEE Transactions on Fuzzy Systems, Man, and Cybernetics: Systems
2024 54(11): 7129-7142.

Abstract

This article addresses the challenge of efficiently managing datasets of various sizes through two key strategies: 1) dataset compression and 2) synthetic augmentation. This article introduces a novel framework, referred to as subsample, generate, and stack (SGS), which can be used to implement both of these strategies while maintaining the statistical characteristics of the original data. While SGS can be paired with a variety of generative methods, this article specifically demonstrates its application using the spiral discovery method (SDM)—an autoregressive data generation model that allows for the exploratory manipulation of numerical data. The uniqueness and widespread applicability of this approach stems from its support for the fine-grained optimization of exploration versus exploitation goals through an interpretable set of hyperparameters. The effectiveness of the SGS framework combined with SDM is validated on two benchmark examples—one focusing on compression and the other on augmentation—showcasing its potential as a tool for dataset management in engineering contexts.

[Link to Paper](#)

Government ideology and labour policy reform in good times and bad

MATTHEW E. BERGMAN; WOLFGANG C. MÜLLER; HANNA BACK

Journal of European Public Policy 2024

Abstract

Which governments implement interventionist or liberalising labour policy reforms, and does the economic context matter? Drawing on the previous literature on government ideology and public policy, we hypothesise that leftist governments are more likely to implement interventionist labour policies. However, we also expect that economic circumstances influence parties' room to manoeuvre, and we thus hypothesise that the impact of government partisanship on labour policy reform will be weaker during troublesome economic circumstances. The main contribution of this paper is empirical, in that we take seriously the 'dependent variable problem' of policy studies that look to aggregate measures to detect instances of retrenchment, by making use of a new dataset on the directionality of 1,446 individual labour reform measures enacted across 13 nations between 1978 and 2017, allowing us to compare government labour policy during periods of varying levels of budgetary deficit, employment, and debt levels. Our results show that left-wing governments implement more interventionist labour policies, but only during less economically 'challenging' periods – during dire economic circumstances, economic orthodoxy seems to trump ideology in governmental policy-making processes.

[Link to Paper](#)

Healthcare 4.0 value creation – The interconnectedness of hybrid value propositions

MÁRTA ARANYOSSY; PÉTER HALMOSI

Technological Forecasting and Social Change 2024 208: 123718

Abstract

Healthcare 4.0, the digital transformation of the healthcare sector through Industry 4.0 technologies, promises to improve patient outcomes, enhance access to healthcare services, improve operational efficiency, empower patients, and even improve the health of nations. This paper contributes to the understanding of the economic and public value creation potential of Healthcare 4.0 technologies. A qualitative content analysis of 21 innovator interviews provides rich data on the value proposition of Healthcare 4.0 technologies for different stakeholders. The findings highlight previously under-researched stakeholder perspectives, the existence of new types of value creation, the relevance of technology in promoting foundational public values and the interconnectedness of the different value elements.

[Link to Paper](#)

Consumer disposition toward fairness in agri-food chains (FAIRFOOD): Scale development and validation

MARGHERITA DEL PRETE; ARTYOM GOLOSSENKO; MATTHEW GORTON;
BARBARA TOCCO; ANTONELLA SAMOGGIA

Journal of Business Ethics 2024

Abstract

Fairness in agri-food supply chains receives increasing consumer, industry, and political attention but is currently under-conceptualized and lacks appropriate frameworks for measurement. Therefore, building on a theoretically grounded conceptualization of consumer dispositions toward fairness in agri-food supply chains, we developed and validated a 14-item fairness measurement scale (FAIRFOOD). The scale comprises of four dimensions (economic, environmental, social, and informational) which are manifestations of the same construct (higher-order structure). We empirically validate the scale and its reliability using four studies and eight independent samples from Italy ($n = 1386$) and the UK ($n = 1379$). The findings reveal that FAIRFOOD is related, yet distinct from theoretically relevant constructs such as ethical consumption and pro-environment behavior. The FAIRFOOD scale is a strong predictor of outcomes such as willingness to purchase Fairtrade certified products, as well as boycott and negative Word of Mouth intentions if a brand treats other supply chain actors unfairly. Regarding business strategy, rather than focusing on one dimension of fairness independently, managers should adopt a holistic approach, devising initiatives that address all four dimensions in tandem.

[Link to Paper](#)

Genetic modification optimization technique: A neural network multi-objective energy management approach

MUTAZ ALSHAFEEY; OMAR RASHDAN

Energy and AI 2024 18: 100417

Abstract

In this study, a Neural Network-Enhanced Gene Modification Optimization Technique was introduced for multi-objective energy resource management. Addressing the need for sustainable energy solutions, this technique integrated neural network models as fitness functions, representing an advancement in artificial intelligence-driven optimization. Data collected in the European Union covered greenhouse gas emissions, energy consumption by sources, energy imports, and Levelized Cost of Energy. Since different configurations of energy consumption by sources lead to varying greenhouse gas emissions, costs, and imports, neural network prediction models were used to project the effect of new energy combinations on these variables. The projections were then fed into the gene modification optimization process to identify optimal configurations. Over 28 generations, simulations demonstrated a 46 percent reduction in energy costs and a 9 percent decrease in emissions. Human bias and subjectivity were mitigated by automating parameter settings, enhancing the objectivity of results. Benchmarking against traditional methods, such as Euclidean Distance, validated the superior performance of this approach. Furthermore, the technique's ability to visualize chromosomes and gene values offered clarity in optimization processes. These results suggest significant advancements in the energy sector and potential applications in other industries, contributing to the global effort to combat climate change.

[Link to Paper](#)

Strong law of large numbers for generalized operator means

ZOLTÁN LÉKA; MIKLÓS PÁLFIA

Advances in Mathematics 2024 457: 109933

Abstract

Sturm's strong law of large numbers in CAT (0) spaces and in the Thompson metric space of positive invertible operators is not only an important theoretical generalization of the classical strong law but also serves as a root-finding algorithm in the spirit of a proximal point method with splitting. It provides an easily computable stochastic approximation based on inductive means. The purpose of this paper is to extend Sturm's strong law and its deterministic counterpart, known as the “nodice” version, to unique solutions of nonlinear operator equations that generate exponentially contracting ODE flows in the Thompson metric. This includes a broad family of so-called generalized (Karcher) operator means introduced by Pálfia in 2016. The setting of the paper also covers the framework of order-preserving flows on Thompson metric spaces, as investigated by Gaubert and Qu in 2014, and provides a generally applicable resolvent theory for this setting.

[Link to Paper](#)

Convergence of semi-convex functions in $CAT(1)$ -spaces

HEDVIG GÁL; MIKLÓS PÁLFIA

Calculus of Variations and Partial Differential Equations 2024 63: 213

Abstract

We generalize the results of Kuwae–Shioya and Bačák on Mosco convergence established for $CAT(0)$ -spaces to the $CAT(1)$ -setting, so that Mosco convergence implies convergence of resolvents which in turn imply convergence of gradient flows for lower-semicontinuous semi-convex functions. Our techniques utilize weak convergence in $CAT(1)$ -spaces and also cover asymptotic relations of sequences of such spaces introduced by Kuwae–Shioya, including Gromov–Hausdorff limits.

[Link to Paper](#)

The impact of a short-term fuel price cap on market prices after its removal: Evidence from Hungary

ZOMBOR BEREZVAI; DÁNIEL HELFRICH

Energy Strategy Reviews 2024 54: 101472

Abstract

In 2022, energy prices in the European Union reached record highs, accompanied by a significant increase in fuel prices. In response, the Hungarian government imposed a price cap on retail fuel prices from November 15, 2021 to December 6, 2022. This study empirically examines the effect of the elimination of the price cap on fuel prices. The aim is to determine whether the removal of the price cap resulted in subsequent price increases. The study employed a synthetic control method, comparing actual observed prices with prices estimated by the synthetic control after the intervention. In the ten-month period following the removal of the price cap (December 2022 to September 2023), the actual price was on average 12 % higher than the price projected by the synthetic control. The largest difference was observed in January 2023, with a price premium of 16 %. There was a moderation in the difference between February and September, but even during these months, the gap remained slightly higher than 11 %. This difference may be attributed to distortions of competition due to the price cap.

[Link to Paper](#)

Social sustainability on European food festival websites: A multimodal discourse analysis

ANNA IRIMIÁS; BENCE CSAPODY; MELINDA JÁSZBERÉNYI

Turism Management Perspectives 2024 53: 101280

Abstract

Food festival websites often showcase the commitment of events towards a socially relevant issue. However, it is challenging to communicate how events contribute to the well-being of communities. This paper analyses European food festival websites to explore to what extent events' social benefits are represented in their online communication. The research is based on a multimodal discourse concerned with the interaction between visual, textual, and design elements. Findings show that intergenerational connections, awareness of physical and mental health, and the preservation of local food heritage are the most salient discourses related to social sustainability when these are represented on the websites. In most cases, sustainability initiatives to assure access and inclusion of diverse community members stay hidden. Food festival organizers are advised to use inclusive online communication to foster a sense of community, inclusivity, and social equity.

[Link to Paper](#)

The beautiful risk of participatory education: An empirical example of teaching strong sustainability

GABRIELLA KISS; ALEXANDRA KÖVES; GÁBOR KIRÁLY

Management Learning 2024

Abstract

The grand challenges of our times are seriously interlinked: ecological crises cannot be tackled separately from social problems. In the strong sustainability approach, a good life for all must be achieved within ecological boundaries. To respect the planetary boundaries, it is required to provide critiques for the current economic, social and political order and suggest concrete actions that may lead to strong sustainability transformation. Business schools must address these challenges and provide solutions through educational content and innovative teaching methods. In this article, we argue that participatory education is the appropriate tool to teach strong sustainability in business schools. Building on Paulo Freire's critical pedagogy and Gert Biesta's participatory education theories, we developed a theoretical framework to understand how these theories can strengthen strong sustainability education. Using the analytical framework, we explore the risks of participatory education in our Degrowth course and bring empirical examples of its impacts on students by analysing the reflection articles of 37 students. According to our findings, this particular type of education creates both positive emotions, like enjoyment and enthusiasm, and negative ones, like anxiety and helplessness.

[Link to Paper](#)

Environmental policy and stakeholder engagement: Incident-based, cross-country analysis of firm-level greenwashing practices

JUDIT LILLA KERESZTÚRI; EDINA BERLINGER; ÁGNES LUBLÓY
Corporate Social Responsibility and Environmental Management 2024

Abstract

In this study, we investigate how internal and external monitoring systems can help combat greenwashing. We propose a novel, incident-based measure to investigate the greenwashing behavior of 1218 large and mid-cap companies across different industries between 2008 and 2020. These companies are constituents of the MSCI World Index, covering 23 developed market economies. We consider a company to be engaged in greenwashing if it improves its environmental ESG subscore while simultaneously being responsible for severe environmental damage. According to our greenwashing indicator, about 7% of the companies were involved in greenwashing at least once during the 13-year sample period. The proportion of greenwashing companies is highest in the energy, utilities, and materials industries. We find evidence that both internal and external monitoring mechanisms can be effective in deterring companies from adopting greenwashing strategies. Firms with more independent board members, attracting more attention from the investors, and headquartered in countries where the population is more environmentally aware are significantly less likely to engage in greenwashing. The awareness of the population is a key factor especially in the energy, utility, and material sectors.

[Link to Paper](#)

An indifference result for social choice rules in large societies

DEZSŐ BEDNAY; BALÁZS FLEINER; ATTILA TASNÁDI

European Journal of Operational Research 2024

Abstract

Social choice rules can be defined or derived by minimizing distance-based objective functions. One problem with this approach is that any social choice rule can be derived by selecting an appropriate distance function. Another problem comes from the computational difficulty of determining the solution of some social choice rules. We provide a general positive indifference result when looking at expected average distances by showing that on ‘average’ each social choice rule performs equally well with respect to a very large class of distance functions if the number of voters is large. Our result applies also to the frequently employed Kendall, Spearman rank correlation and Spearman footrule ‘distance functions’.

[Link to Paper](#)

Optimal trading with regime switching: Numerical and analytic techniques applied to valuing storage in an electricity balancing market

PAUL JOHNSON; DÁVID ZOLTÁN SZABÓ; PETER DUCK

European Journal of Operational Research 2024 319(2): 611-624.

Abstract

Accurately valuing storage in the electricity market recognizes its role in enhancing grid flexibility, integrating renewable energy, managing peak loads, providing ancillary services and improving market efficiency. In this paper we outline an optimal trading problem for an Energy Storage Device trading on the electricity balancing (or regulating) market. To capture the features of the balancing (or regulating) market price we combine stochastic differential equations with Markov regime switching to create a novel model, and outline how this can be calibrated to real market data available from NordPool. By modelling a battery that can be filled or emptied instantaneously, this simplifying assumption allows us to generate numerical and quasi analytic solutions.

We implement a case study to investigate the behaviour of the optimal strategy, how it is affected by price and underlying model parameters. Using numerical (finite-difference) techniques to solve the dynamic programming problem, we can estimate the value of operating an Energy Storage Device in the market given fixed costs to charge or discharge. Finally we use properties of the numerical solution to propose a simple quasi-analytic approximation to the problem. We find that analytic techniques can be used to give a benchmark value for the storage price when price variations during the day are relatively small.

[Link to Paper](#)

Nonresponse in name generators across countries and survey modes

RICARDO GONZALEZ; ESTEBAN MUÑOZ; ADOLFO FUENTES

Societal Networks 2024 79: 93-103.

Abstract

Past research indicates interviewer effects lead to an underestimation of network size and higher nonresponse to the “important matters” name generator. Self-administered surveys offer a potential solution, but evidence is mixed and context-specific. We employ a logistic multilevel regression, estimated using a Bayesian Markov Chain Monte Carlo approach, to analyze nonresponse to this name generator from 33 post-electoral surveys across 21 countries in the Comparative National Election Project. We find higher nonresponse in interviewer-administered surveys compared to self-administered surveys, particularly among specific demographic groups. Finally, we discuss the trade-offs in selecting survey modes for collecting ego-network data using this instrument.

[Link to Paper](#)

Retail traders and co-movement: Evidence from Robinhood trading activity

AFSHIN HAGHIGHI; ROBERT FAFF; BARRY OLIVER

International Review of Financial Analysis 2024 95(B): 103431

Abstract

We find evidence that retail trading activity by Robinhood traders is associated with lower levels of return co-movement and liquidity co-movement. We demonstrate the significance of these relationships primarily employing a two-way fixed effects panel data regression model covering cross-sectional and time-series observations of US stock trades from May 2018 to July 2020. The findings hold true across various cross-sectional subsamples and across subperiods before and after March 2020, coinciding with the stock market crash induced by heightened risks of the COVID-19 pandemic. With regard to returns, our analysis identifies three co-movement channels: 1) increased correlated trading by retail traders, 2) extended delay in incorporating market-wide information, and 3) a direct effect influenced by the integration of firm-specific information into prices. In contrast, for liquidity co-movement, we fail to identify evidence of plausible channels relating to either volatility or correlated trading. However, it appears that the significant direct effects that we document stem from a broadened array of trading strategies when retail traders contribute to the market. Collectively, these findings have important implications as return co-movement limits investors' ability to diversify investments and manage risks, while liquidity co-movement heightens market vulnerability to crashes.

[Link to Paper](#)

Beyond profit margins: Orchestrating social, economic, and environmental sustainability within the Norwegian Salmon Food Supply Chain

ARIJIT DE; AKHIL KALAVAGUNTA; MATTHEW GORTON; MOHIT GOSWAMI
Journal of Environmental Management 2024 366: 121914

Abstract

Food Supply Chains (FSCs) have become increasingly complex with the average distance between producers and consumers rising considerably in the past two decades. Consequently, FSCs are a major source of carbon emissions and reducing transportation costs a major challenge for businesses. To address this, we present a mathematical model to promote the three core dimensions of sustainability (economic, environmental, and social), based on the Mixed-Integer Linear Programming (MILP) method. The model addresses the environmental dimension by intending to decrease the carbon emissions of different transport modes involved in the logistics network. Several supply chain network characteristics are incorporated and evaluated, with a consideration of social sustainability (job generation from operating various facilities). The mathematical model's robustness is demonstrated by testing and deploying it to a variety of problem instances. A real-life case study (Norwegian salmon supply chain) helps to comprehend the model's applicability. To understand the importance of optimizing food supply networks holistically, the paper investigates the impact of multiple supply chain permutations on total cost, demand fluctuations and carbon emissions. To address fluctuations in retail demand, we undertook sensitivity analysis for variations in demand, enabling the proposed model to revamp Norway's salmon supply chain network. Subsequently, the results are thoroughly examined to identify managerial implications.

[Link to Paper](#)

The added value of the cognition, dining, gastrointestinal problems, sleep and tiredness bolt-on dimensions to the EQ-5D-5L in patients with coeliac disease

MERCÉDESZ M. ANGYAL; MATHIEU F. JANSSEN; PÉTER L. LAKATOS;
VALENTIN BRODSZKY; FANNI RENCZ

European Journal of Health Economics 2024

Abstract

Objectives

Multiple studies suggest that the EQ-5D may overestimate health-related quality of life (HRQoL) in patients with coeliac disease (CD). We aimed to develop and psychometrically test potentially relevant bolt-on dimensions to improve the measurement performance of the EQ-5D-5L in CD patients.

Methods

The development and selection of bolt-ons were informed by a literature review on HRQoL in CD, expert and patient input. A cross-sectional online survey was conducted amongst 312 adult CD patients. Respondents completed the EQ-5D-5L, two condition-specific bolt-ons newly-developed for the present study [dining (DI) and gastrointestinal problems (GI)] and three existing bolt-ons [cognition (CO), sleep (SL) and tiredness (TI)]. The following psychometric properties were tested: ceiling, informativity, convergent and known-group validity, and dimensionality (confirmatory factor analysis).

Results

Adding the TI, SL, GI, DI and CO individual bolt-ons reduced the ceiling of the EQ-5D-5L (39%) to 17%, 23%, 24%, 26% and 37%, respectively. GI excelled with strong convergent validity with the Gastrointestinal Symptom Rating Scale total score ($r_s=0.71$) and improved the discriminatory power for all known-groups. GI was the only bolt-on loading on a different factor from the five core dimensions, whereas the other four bolt-ons loaded onto the same 'psychosocial health' factor as the EQ-5D-5L anxiety/depression dimension.

Conclusion

The DI, GI, SL and TI bolt-ons, especially the GI, enhance the validity of EQ-5D-5L in patients with CD, suggesting their value in capturing important HRQoL aspects potentially missed by the five core dimensions. These bolt-ons can be used in sensitivity analyses supporting health technology assessments and subsequent resource allocation decisions.

[Link to Paper](#)

Comparing EQ-5D-5L, PROPr, SF-6D and TTO utilities in patients with chronic skin diseases

ÁKOS SZABÓ; VALENTIN BRODSZKY; FANNI RENCZ

European Journal of Health Economics 2024

Abstract

Objectives

We aim to compare the measurement properties of three indirect (EQ-5D-5L, PROPr, SF-6D) and one direct (time trade-off, TTO) utility assessment methods in patients with chronic skin diseases.

Methods

120 patients with physician-diagnosed chronic skin diseases (psoriasis 39%, atopic dermatitis 27%, acne 19%) completed a cross-sectional survey. Respondents completed the EQ-5D-5L, PROMIS-29+2 and SF-36v1 questionnaires and a 10-year TTO task for own current health. Utilities were computed using the US value sets. Ceiling, convergent and known-group validity were compared across the utilities derived with these four methods. Known-groups were defined based on general, physical and mental health. The agreement between utilities was assessed using intraclass correlation coefficients (ICC).

Results

Mean utilities for the EQ-5D-5L, PROPr, SF-6D and TTO were 0.79, 0.47, 0.76 and 0.89. In corresponding order, the ceiling was 28%, 0%, 2% and 65%. The SF-6D showed excellent agreement with the EQ-5D-5L (ICC = 0.770). PROPr demonstrated poor agreement with the EQ-5D-5L (ICC = 0.381) and fair with SF-6D utilities (ICC = 0.445). TTO utilities showed poor agreement with indirectly assessed utilities (ICC = 0.058–0.242). The EQ-5D-5L better discriminated between known groups of general and physical health, while the SF-6D and PROPr outperformed the EQ-5D-5L for mental health problems.

Conclusion

There is a great variability in utilities across the four methods in patients with chronic skin conditions. The EQ-5D-5L, despite its higher ceiling, appears to be the most efficient in discriminating between patient groups for physical health aspects. Our findings inform the choice of instrument for quality-adjusted life year calculations in cost-utility analyses.

[Link to Paper](#)

From Rust to High-Tech Hubs: FDI-Led Upgrading of Urban Economies in East Central Europe

GERGŐ MEDVE-BÁLINT

Studies in Comparative International Development 2024

Abstract

In the semi-peripheral-dependent market economies (DME) of East Central Europe (ECE), foreign investors are major contributors to economic growth and tend to establish low value-added operations. At the same time, they enjoy superior bargaining power over central governments. The domination of FDI constrains domestic agency in shaping economic outcomes, thereby locking DMEs into the semi-periphery. Moving to the sub-national level, this paper challenges these views by arguing that there is considerably more scope for local development agency in DMEs than the comparative political economy literature suggests. Moreover, FDI-led upgrading, defined as multinational companies engaging in high value-added activities, can take place at the local level even without the direct involvement of the state. The paper draws on fieldwork conducted in two formerly declining industrial cities in ECE (Cluj and Gdańsk) that have recently emerged as knowledge-intensive hubs targeted by high value-added FDI. The paper shows that FDI-led upgrading in Gdańsk occurred with the active contribution and cooperation of both local private and public economic actors, whereas in Cluj, upgrading took place with the contribution of local universities and through the forging of business links between foreign capital and local firms established by expatriates and local engineers.

[Link to Paper](#)

Competition, confidence and gender: Shifting the focus from the overconfident to the realistic

TÜNDE LÉNÁRD; DÁNIEL HORN; HUBERT JÁNOS KISS

Journal of Economic Psychology 2024 104: 102746

Abstract

The gender gap in competitiveness is argued to explain gender differences in later life outcomes, including career choices and the gender wage gap. In experimental settings, a prevalent explanation attributes this gap to males being more (over)confident than females (we call this the compositional channel). While our lab-in-the-field study using data from students in 53 classrooms ($N > 1000$) reproduces this finding, it also uncovers a second, potentially more impactful channel of confidence contributing to the gender gap in competitiveness (the preference channel). To disentangle the two channels, we propose a more precise measure of confidence based on whether the subjects' believed performance rank exceeds, coincides with or falls short of their actual performance in a real-effort task. We label categories of this Guessed - Actual Performance (GAP) difference as overconfident, realistic or underconfident, respectively. Surprisingly, there is no gender difference in competitiveness within the over- and underconfident subgroups, while a significant gender gap exists among the realistic. So, even if both genders had the same level of confidence, a persistent gender gap in preference (or taste) for competition would remain in the realistic group. This finding is robust across all specifications, challenging previous theories about the overconfidence of men being the main driver of the relationship between confidence and the gender gap in competition.

[Link to Paper](#)

Dynamic margin optimization

EDINA BERLINGER; ZSOLT BIHARY; BARBARA DÖMÖTÖR

Finance Research Letters 2024 68: 105999

Abstract

In response to the Global Financial Crisis of 2007–2009, by now, most of the financial transactions must be cleared through central counterparties operating a dynamic margin setting mechanism. High margin calls can reduce counterparty risk in a turbulent market, but at the same time, increase liquidity risk and escalate systemic risk. In this paper, we construct a theoretical model to address this challenge, deriving an optimal margin setting policy framed as a stochastic control problem. Our analysis reveals that an adaptive, countercyclical approach is superior to a purely risk-sensitive strategy, primarily by minimizing the expected loss for the clearing institution.

[Link to Paper](#)

Asymmetry, earnings announcements, and the beta-return relation

DEOK-HYEON LEE; AYOUNG-KYU MIN; **ROBERT FAFF**; YOUNG-MEE KIM
Finance Research Letters 2024 67(B): 105942

Abstract

We find that the beta–return relationship is asymmetric around earnings announcements. The security market line has a positive slope in the days leading up to earnings announcements, but a negative slope in the days that follow. This striking shift in the risk–return trade-off is driven primarily by high-beta stocks. Moreover, a modified conditional market-timing beta strategy, incorporating the timing of earnings announcements, enhances profitability. Overall, the results lend empirical support to the theoretical predictions of Hong and Sraer (2016), which posit that beta amplifies disagreements regarding the stock market's prospects.

[Link to Paper](#)

The EQ-5D-5L valuation study for Trinidad and Tobago

HENRY BAILEY; MARCEL F. JONKER; ELEANOR PULLENAYEGUM; FANNI RENCZ; BRAM ROUDIJK

Health and Quality of Life Outcomes 2024 22: 51

Abstract

Purpose

The 2016 EQ-5D-3L value set for Trinidad and Tobago (T&T) allows for the calculation of EQ-5D-5L values via the crosswalk algorithm. The 2016 value set was based on methods predating the EQ-VT protocol, now considered the gold standard for developing EQ-5D value sets. Furthermore, direct elicitation of EQ-5D-5L is preferred over crosswalked values. This study aimed to produce an EQ-5D-5L value set for T&T.

Methods

A representative sample (age, sex, geography) of adults each completed 10 composite Time Trade-Off (cTTO) tasks and 12 Discrete Choice Experiment (DCE) tasks in face-to-face interviews. The cTTO data were analyzed using a Tobit model that corrects for heteroskedasticity. DCE data were analyzed using a mixed logit model. The cTTO and DCE data were combined in hybrid models.

Results

One thousand and seventy-nine adults completed the valuation interviews. Among the modelling approaches that were explored, the hybrid heteroskedastic Tobit model produced all internally consistent, statistically significant coefficients, and performed best in terms of out-of-sample predictivity for single states. Compared to the existing EQ-5D-5L crosswalk set, the new value set had a higher number of negative values (236 or 7.6% versus 21 or 0.7%). The mean absolute difference was 0.157 and the correlation coefficient between the two sets was 0.879.

Conclusion

This study provides a value set for the EQ-5D-5L for T&T using the EQ-VT protocol. We recommend this value set for QALY computations relating to T&T.

[Link to Paper](#)

Shades of Resistance: Factors Influencing Populist Mobilization Against the EU Budgetary Conditionality Regime

RÓBERT CSEHI

Politics and Governance 2024 12: 8171

Abstract

Although the past decade has shown how populist governments may challenge the EU's budgetary framework, we still lack an understanding of the circumstances under which populists are more likely to mobilize against EU-level decision-making in this field, and what this mobilization may look like. Combining the literature on populism as an ideology and EU decision-making, the article zooms in on the negotiations regarding the general regime of conditionality in EU budgetary politics and argues that economic and political factors have influenced populist mobilization. A qualitative comparison of the nine cases where populist parties feature in the government highlights that only two countries, Poland and Hungary, have actively opposed the introduction of the so-called rule-of-law conditionality. A closer look indicates that a combination of Euroscepticism, European Parliamentary affiliation, membership in the European Public Prosecutor's Office, and the political power that populist parties possess at home, along with key macroeconomic indicators, have influenced populists in government to mobilize against the conditionality mechanism. In the second part of the analysis, the article showcases the actions of the Hungarian government, highlighting it as a specific example of populist mobilization. Viktor Orbán's government has built a populist narrative around the issue, questioned the norm of the decision-making process, exerted a veto to block the agreement temporarily, and later challenged the regulation in court—in short, it engaged in unpolitics.

[Link to Paper](#)

Favoritism under multiple sources of social pressure

GÁBOR BÉKÉS; ENDRE BORZA; MÁRTON FLECK

Economic Inquiry 2024 62: 1748-1769.

Abstract

When social pressure leads to favoritism, policies might aim to reduce the bias by affecting its source. This paper shows that multiple sources may be present and telling them apart is important. We build a novel and granular dataset on European football games and revisit the view that supporting crowds make referees help the host team. We find this bias to remain unchanged even in stadiums closed due to Covid-19. Instead, influential host organizations emerge as the source of social pressure. This has an adverse effect on maintaining the ranking of influential teams and hindering the progress of smaller teams.

[Link to Paper](#)

“Friends Are Thieves of Time”: Heuristic attention sharing in stable friendship networks

ANASTAS P. TENEV

Journal of Economic Behavior & Organization 2024 (224): 785-809.

Abstract

This paper studies a model of network formation in which agents create links following a simple heuristic — they invest their limited resources proportionally more in neighbours who have fewer links. This decision rule captures the notion that when considering social value more connected agents are on average less beneficial as neighbours and node degree is a useful proxy when payoffs are difficult to compute. The decision rule illustrates an externalities effect whereby an agent’s actions also influence his neighbours’ neighbours. Besides complete networks and fragmented networks with complete components, the pairwise stable networks produced by this model include many non-standard ones with characteristics observed in real life networks like clustering and irregular components. Multiple stable states can develop from the same initial structure — the stable networks could have cliques linked by intermediary agents while sometimes they have a core–periphery structure. The observed pairwise stable networks have close to optimal welfare. This limited loss of welfare is due to the fact that when a link is established, this is beneficial to the linking agents, but makes them less attractive as neighbours for others, thereby partially internalising the externalities the new connection has generated.

[Link to Paper](#)

Investigating the impact of fuel price shocks on bicycle sharing usage in Budapest

ZOMBOR BEREZVAI; VINCENZO BASILE; ANDRÁS KÁLECZ-SIMON;
BARNA BAKÓ

Scientific Reports 2024 14: 18355

Abstract

The creation of sustainable urban communities is contingent upon the establishment of a sustainable, efficient, and fast transportation system. Bicycle sharing systems (BSS) are one of the most sustainable and inclusive ways of transportation in cities. An important question is how to increase BSS ridership and whether it can effectively replace cars in cities, hence contributing to achieving the 11th Sustainable Development Goal and creating sustainable urban communities. This paper aims to contribute to this stream of research by investigating the effect of fuel prices on BSS ridership. We exploit a natural experiment from Budapest, Hungary, where fuel prices were capped between November 15, 2021, and December 6, 2022. Once the price cap was suddenly eliminated, fuel prices increased by around one-third immediately leading to a very substantial and rarely observable one-time price increase. The difference-in-difference regression results indicate a 2–6% increase in BSS ridership after the elimination of the fuel price cap. The geographical pattern of the change shows that BSS usage mainly increased in the outer part of the city; however, some areas observed a decline. The regression results are also reinforced by survey findings. Understanding these dynamics is crucial for effective urban planning and transportation policymaking.

[Link to Paper](#)

AI and ethics: Investigating the first policy responses of higher education institutions to the challenge of generative AI

ATTILA DABIS; CSABA CSÁKI

Humanities and Social Sciences Communications 2024 11: 1006

Abstract

This article addresses the ethical challenges posed by generative artificial intelligence (AI) tools in higher education and explores the first responses of universities to these challenges globally. Drawing on five key international documents from the UN, EU, and OECD, the study used content analysis to identify key ethical dimensions related to the use of generative AI in academia, such as accountability, human oversight, transparency, or inclusiveness. Empirical evidence was compiled from 30 leading universities ranked among the top 500 in the Shanghai Ranking list from May to July 2023, covering those institutions that already had publicly available responses to these dimensions in the form of policy documents or guidelines. The paper identifies the central ethical imperative that student assignments must reflect individual knowledge acquired during their education, with human individuals retaining moral and legal responsibility for AI-related wrongdoings. This top-down requirement aligns with a bottom-up approach, allowing instructors flexibility in determining how they utilize generative AI especially large language models in their own courses. Regarding human oversight, the typical response identified by the study involves a blend of preventive measures (e.g., course assessment modifications) and soft, dialogue-based sanctioning procedures. The challenge of transparency induced the good practice of clear communication of AI use in course syllabi in the first university responses examined by this study.

[Link to Paper](#)

Navigating the playing field: Reimagining the sports industry in the face of accelerated climate change

ATTILA SZATHMÁRI

International Review for the Sociology of Sport 2024

Abstract

Does faster-than-expected climate change represent a feasible challenge or an irresolvable dilemma for the sports industry? This paper acknowledges the sports sector's environmental impact. It aims to challenge the prevailing belief in constant economic growth by proposing integrating Degrowth principles into sports to support the shift towards sustainable practices. The study presents an innovative participatory mixed-method technique that entailed backcasting and a Delphi survey involving 21 sports experts worldwide in a meaningful discussion about the strategic awareness of climate change. The discoveries emphasise the importance of (i) sharing resources and inclusive access (ii) adopting a community-centric and low-impact practices approach, in addressing climate change. The findings focus on the pressing requirement for the sports sector to take a proactive stance and could have a considerable impact on the ongoing debate about the need for a systemic overhaul of sports that draws upon the principles of ecological economics and Degrowth.

[Link to Paper](#)

Guaranteed cost solution for discrete-time uncertain/nonlinear dynamic games

ÉVA GYURKOVICS; TIBOR TAKÁCS

Journal of the Franklin Institute 2024 361(14): 107094

Abstract

Motivated by an example of fiscal and monetary policy interaction of a national economy, the problem of uncertain/nonlinear two players discrete-time noncooperative games is investigated. Since the models of the systems are uncertain, the notion of Nash equilibrium solution is not suitable, instead, new Nash guaranteeing strategies and Nash guaranteed costs are defined. The system's uncertainties and/or nonlinearities are assumed to be of quadratically bounded type. First, conditions of the Nash guaranteeing strategies are derived for general uncertain nonlinear systems. These results are specified for systems that have linear nominal part and quadratic cost functions. Approximate solutions are obtained by tractable quadratic matrix inequalities. To illustrate the application of the proposed method, two numerical examples are given.

[Link to Paper](#)

Conic Optimization and Interior Point Methods: Theory, Computations, and Applications

TIBOR ILLÉS; FLORIAN JARRE; ETIENNE DE KLERK; GORAN LESAJA
Journal of Optimization Theory and Applications 2024 (202): 1-10.

We are pleased to present the Special Issue **Conic Optimization and Interior Point Methods: Theory, Computations, and Applications** in honor of Professor Cornelis (Kees) Roos' 80th and Professor Florian A. Potra's 70th Birthday. The idea of a Special Issue originated from the US Naval Academy Optimization & OR Conference that was organized June 2–4, 2021, to mark the occasion of Prof. Roos' and Prof. Potra's birthdays.

The contributions of Prof. Roos and Prof. Potra to the field of optimization in general and to the area of interior-point methods in particular are significant and far-reaching and they continue to influence and inspire further research in these and related areas.

In what follows we first give a brief biographical sketch of Prof. Roos and Prof. Potra highlighting their achievements and accomplishments. Next, we group the papers of the Special Issue by topics and briefly summarize the contribution of each paper.

[Link to Paper](#)

How to win the first Olympic medal? And the second?

GERGELY CSURILLA; IMRE FERTÓ

Social Science Quarterly 2024

Abstract

Objectives

We investigate the determinants of Olympic success. We distinguish between the probability of winning a medal and the overall Olympic success. Furthermore, we examine the impact of the three superpowers (China, Russia, and the United States). Beyond Olympic success as measured by medals, we also investigate the impact of other dependent variables considering additional rankings.

Methods

We use sport-level data for seven Summer Olympic Games (1996–2021), applying weighted market share as a performance indicator to differentiate types of medals and rankings. We employ zero-inflated beta regressions to estimate separately the probability of having zero market share at the Olympics and the determinants of Olympic success.

Results

Our estimations suggest that population positively influences Olympic success. Estimations highlight the role of superpower countries and sports-level effects in explaining Olympic success. Better economic status is associated with winning a medal at the Olympic Games, but not with the number of medals that have been won. When using different outcome variables for Olympic success, considering not only medal rankings, the determinants of success change significantly.

Conclusion

Countries without previous Olympic success should collect economic and human resources to obtain their first medal at the Games.

[Link to Paper](#)

Entangled AI: artificial intelligence that serves the future

ALEXANDRA KÖVES; KATALIN FEHER; LILLA VICSEK; MÁTÉ FISCHER
AI and Society 2024

Abstract

While debate is heating up regarding the development of AI and its perceived impacts on human society, policymaking is struggling to catch up with the demand to exercise some regulatory control over its rapid advancement. This paper aims to introduce the concept of entangled AI that emerged from participatory backcasting research with an AI expert panel. The concept of entanglement has been adapted from quantum physics to effectively capture the envisioned form of artificial intelligence in which a strong interconnectedness between AI, humans, society, and nature is reflected. Entanglement assumes that AI should serve nature, social well-being, justice, and the resilience of this intertwined network simultaneously and promote a dynamic balance among these factors. This approach allows us to understand the pervasive role of this technology and the scope of human agency in its development. The study shows how such concepts seem to transcend the dominant discourses related to expectations, technological determinism, and humanism. An additional aim of this paper is to demonstrate how backcasting can contribute to generating useful understandings of the future of AI and fruitful insights for policymaking.

[Link to Paper](#)

Tax Compliance Motivations During Corruption Scandals in a Fragile Democracy: A Before-and-After Study

ATTILA BARTHA; ZSOLT BODA

Europe-Asia Studies 2024 76(7): 1055-1077.

Abstract

Fostering tax morale and reducing tax evasion is particularly challenging for the fragile democracies of Eastern Europe and post-Soviet Eurasia. This study investigates enforced and voluntary tax compliance motivations in Hungary, where democratic decline and a taxation policy shift towards deterrence measures occurred simultaneously. We compare the tax compliance motivations of citizens before and after a series of corruption scandals related to the tax authority. Our findings demonstrate that these scandals undermined trust in the tax authority and voluntary tax compliance. An important policy implication is that the tax regimes of fragile democracies should include measures to build trust in national tax authorities.

[Link to Paper](#)

How consumers' privacy perceptions influenced mobile payment acceptance during the COVID-19 pandemic

YULING WEI; MIRKÓ GÁTI; ATTILA ENDRE SIMAY

International Journal of Bank Marketing 2024

Abstract

Purpose

Our research investigated how the perceived effectiveness of privacy, perceived privacy risk, and perceived security influenced consumers' behavioral intention to use mobile payment applications during the COVID-19 pandemic.

Design/methodology/approach

We applied a quantitative method using a cross-sectional online survey conducted over three years. We collected a sample of 1,471 survey responses focused on ages 18–39. Using descriptive statistics, confirmatory factor analysis, and structural equation modeling, we tested our hypotheses with SPSS 27 and AMOS 27.

Findings

Results of the study indicate that the perceived effectiveness of privacy positively influences perceived privacy risk, perceived security, and behavioral intention. Moreover, perceived privacy risk has a positive effect on perceived security. We found no significant relationship between perceived privacy risk and behavioral intention, although perceived security has a positive effect on behavioral intention. Further mediation analyses showed that perceived privacy risk and perceived security mediate the relationship between the perceived effectiveness of privacy and behavioral intention.

Originality/value

This research sheds new light on the role of perceived privacy effectiveness in mobile payment adoption in Hungary, particularly during the COVID-19 pandemic. Our research also explains why and how perceived privacy effectiveness influences consumers' perceived privacy risk, perceived security, and behavioral intention.

[Link to Paper](#)

A sensitivity analysis of composite indicators: Min/max thresholds

ADÉL KELEMEN; ZSUZSANNA KATALIN SZABÓ; SÁNDOR BOZÓKI;
ZSOMBOR SZÁDOCZKI; ÁRON DÉNES HARTVIG

Environmental and Sustainability Indicators 2024 (23): 100453

Abstract

The aim of composite indicators is to express the overall performance of countries/regions with respect to a complex goal including sustainability, competitiveness, and innovation. Some of the indices play an important role in real governmental and strategic decisions on allocating sources. Sensitivity analyses usually include the changes in weights (of importance), the evaluations with respect to the criteria and the aggregating functions. In contrast, we investigate the effect of setting the minimal and maximal thresholds of the scoring functions used in the assessment. Thus, only the effect of this transformation is investigated, while the input data and criteria weights are not modified or stochastic. It is demonstrated that even such a seemingly innocent modification of the min/max thresholds might lead to remarkable changes in the ranking. Results are presented in detail on the examples of the Environmental Performance Index (EPI) and the Digital Economy and Society Index (DESI). However, the phenomenon is general: further 15 composite indices, applying the min/max threshold, have also been collected. The choice of min/max threshold is functioning as an implicit (re-) weighting of the criteria: criteria with smaller min/max ranges are overweighted. Thus, the steps of weighting and assessment are not independent. This research provides an alternative sensitivity analysis to test the robustness of the rankings.

[Link to Paper](#)

Large language models reduce public knowledge sharing on online Q&A platforms

MARIA R. DEL RIO-CHANONA; NADZEYA LAURENTSYEVA; JOHANNES WACHS

Pnas Nexus 2024 3(9)

Abstract

Large language models (LLMs) are a potential substitute for human-generated data and knowledge resources. This substitution, however, can present a significant problem for the training data needed to develop future models if it leads to a reduction of human-generated content. In this work, we document a reduction in activity on Stack Overflow coinciding with the release of ChatGPT, a popular LLM. To test whether this reduction in activity is specific to the introduction of this LLM, we use counterfactuals involving similar human-generated knowledge resources that should not be affected by the introduction of ChatGPT to such extent. Within 6 months of ChatGPT's release, activity on Stack Overflow decreased by 25% relative to its Russian and Chinese counterparts, where access to ChatGPT is limited, and to similar forums for mathematics, where ChatGPT is less capable. We interpret this estimate as a lower bound of the true impact of ChatGPT on Stack Overflow. The decline is larger for posts related to the most widely used programming languages. We find no significant change in post quality, measured by peer feedback, and observe similar decreases in content creation by more and less experienced users alike. Thus, LLMs are not only displacing duplicate, low-quality, or beginner-level content. Our findings suggest that the rapid adoption of LLMs reduces the production of public data needed to train them, with significant consequences.

[Link to Paper](#)

Geopolitical risks and tourism industry interactions: Evidence from tokens and equity markets

SAMET GUNAY; DESTAN KIRIMHAN; JAMES E. PAYNE

Turism and Economics 2024

Abstract

Geopolitical risk can have an impact on investment behavior and rates of return. We explore the time-varying relation between the daily geopolitical risks index (GPRD) and tourism market. We use tourism tokens (TTI) and tourism equity market indices (WHRL) as proxies of the tourism industry. Results from DCC-GARCH analysis depict weak co-movements between GPRD-TTI and GPRD-WHRL pairs. However, concerning time-varying Granger causality, the GPRD-WHRL pair exhibited longer periods of a significant relationship along with bidirectional causality during the Russia-Ukraine war, whereas the COVID-19 pandemic's effect was weak in both pairs. Spillovers identified through Q-VAR analysis revealed more pronounced effects of GPRD on each variable during both market events, albeit with a more apparent and stronger influence on WHRL. These findings suggest that the cryptocurrency market may not consistently and effectively incorporate geopolitical risk factors, whereas equity markets demonstrate a greater capacity to capture and respond to such risk factors.

[Link to Paper](#)

Metric property of quantum Wasserstein divergences

GERGELY BUNTH; JÓZSEF PITRIK; TAMÁS TITKOS; DÁNIEL VIROSZTEK
Physical Review A 2024 110(2): 022211

Abstract

Quantum Wasserstein divergences are modified versions of quantum Wasserstein distances defined by channels and they have been conjectured to be genuine metrics on quantum state spaces by De Palma and Trevisan. We prove triangle inequality for quantum Wasserstein divergences for every quantum system described by a separable Hilbert space and any quadratic cost operator under the assumption that a particular state involved is pure and all the states have finite energy. We also provide strong numerical evidence suggesting that the triangle inequality holds in general for an arbitrary choice of states.

[Link to Paper](#)

The Associations of Peer-Rated Popularity and Likeability With Dark Triad Personality Traits in Adolescent Groups

ZSOLT PÉTER SZABÓ; NATÁLIA ZSUZSANNA OROSZ; RÉKA GULYÁS; ANDRÁS LÁNG

Europe's Journal of Psychology 2024 20(3): 165-177.

Abstract

One of the most significant challenges in adolescence is the pursuit of social acceptance, which can manifest in various forms, including likeability and popularity. Achieving social acceptance is associated with positive outcomes, while its absence is linked to adverse consequences. Existing research into the personality determinants impacting the ability to elicit likeability or gain popularity remains limited, primarily focusing on the influence of Big Five traits. This study aimed to explore the relationships between self-reported Dark Triad traits - encompassing Machiavellianism, subclinical psychopathy, and subclinical narcissism- and peer-rated likeability and popularity in a naturalistic high school classroom setting. The sample comprised 184 secondary students (98 females, 86 males) with an average age of 16.29 (SD = 1.36). Participants self-reported their Dark Triad traits and provided peer ratings through sociometric questions related to likeability and popularity. Our findings indicated that narcissism was significantly and positively associated with both likeability and popularity. In contrast, psychopathy and Machiavellianism exhibited minimal associations with measures of social acceptance. We discuss the theoretical and practical implications of these findings.

[Link to Paper](#)

Target firm's integrity culture and M&A performance

BALASINGHAM BALACHANDRAN; ROBERT W. FAFF; SAGARIKA MISHRA;
SYED SHAMS

Journal of Business Finance and Accounting 2024

Abstract

This study investigates whether the attribute of integrity culture (derived from target firms' annual reports) influences merger and acquisition (M&A) performance. We find that a target firm's integrity culture, measured from its 10-K reports, has a positive and significant effect on market reaction to the bidder firm's M&A announcement. Our study's analysis is found to be robust to sample selection bias by utilising the entropy balancing technique and to endogeneity concerns by employing an instrumental variable approach. Our results are also robust to alternative measures of integrity culture and when controlling for a target firm's religiosity and corporate social responsibility, an acquirer firm's fixed effects, chief executive officer's fixed effects, governance for corporate control and advisor quality. We identify the retention of a target firm's directors and of its customers as channels that underlie our main findings. Furthermore, we find that acquisition synergies improve, with decreased time taken to complete the deal, for acquisitions of target firms with a higher integrity culture.

[Link to Paper](#)

A social problem or a sacred promise? Explaining the mechanisms driving fee-free educational policy change in Ghana

GABRIEL ASANTE; GYÖRGY GAJDUSCHEK; ATTILA BARTHA

Policy Studies 2024

Abstract

Explaining policy change has been one of the major concerns of educational policy studies. Guided by the multiple streams framework (MSF), this article aims to explain the specific dynamics of cost-elimination policies at the high school level in Ghana. Through the thematic analysis of interviews, documents, and other resources, we argue that an exceptional confluence of problems, policies, and politics has shaped the Ghanaian educational policy process and generated policy change. Our findings demonstrate the pivotal role of partisan electoral politics, helping explain why political parties, governments, and policymakers shifted towards the adoption of fee-free educational policies. Although the problem stream contributed to the opening of the policy window during agenda-setting and the problem and the policy streams played a non-negligible role in policy adoption, the political stream dominated both stages. Accordingly, the study argues that the electoral interests of political actors were the main driver of the adoption of fee-free educational policies in Ghana.

[Link to Paper](#)

Popular autocrats: why do voters support Viktor Orbán's government in Hungary? A quantitative analysis

ÁRON HAJNAL

Public Choice 2024

Abstract

Authoritarian populism has become an increasingly prevalent subtype of hybrid regime and is characterized by weakened democratic institutions and a leader who relies on populist appeals. Authoritarian populist regimes limit citizens' freedom, undermine accountability and the rule of law, and are likely to be more corrupt than democratic regimes. Nevertheless, certain authoritarian populist regimes appear to enjoy broad popular support. Based on the European Social Survey database and my calculations of respondents' personal income tax rates, I investigate the factors that influenced voters' support for Viktor Orbán's government in Hungary from 2010 to 2020, which may be considered an exemplary case of an autocratic populist regime. The analysis shows that voters' support for the government was influenced by their perceptions of the economy and government performance, political beliefs (i.e., policy congruence and ideology), and basic human values (i.e., self-transcendence and conservation). By contrast, changes in voters' individual economic conditions were not found to be associated with their support for the government. The findings indicate that, in addition to explanations of government support that specifically focus on hybrid regimes, economic voting theory, which originated from and has typically been applied in democratic contexts, also provides viable explanations for understanding support for authoritarian populist regimes. More broadly, the findings also lend support to the altruistic and expressive voter hypotheses.

[Link to Paper](#)

State space reconstruction of Markov chains via autocorrelation structure

ANTAL JAKOVÁC; MARCELL T. KURBUCZ; ANDRÁS TELCS

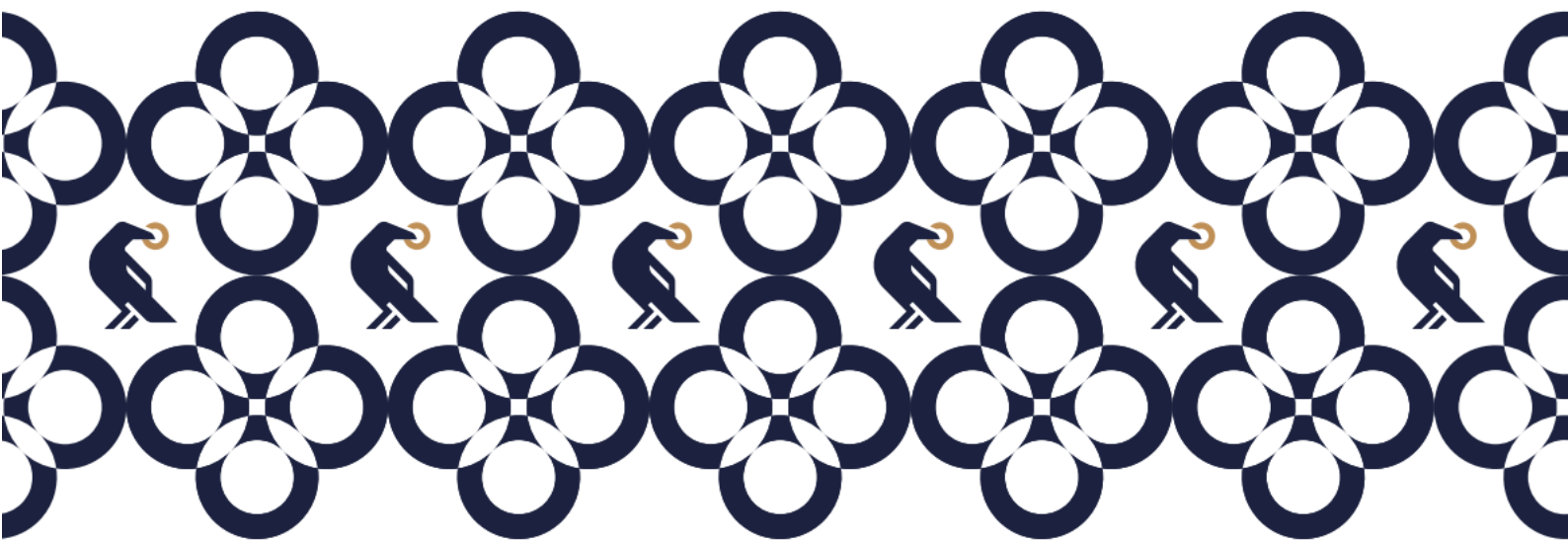
Journal of Physics A: Mathematical and Theoretical 2024 57: 315701

Abstract

Understanding the state space of observed Markov processes is essential for advancing causal inference in a wide range of scientific fields. This paper demonstrates how the previously unknown state space can be reconstructed by exploring the spectrum of the time-delay embedding matrix derived from the autocorrelation sequence of the observed series. It also highlights that the eigenvector associated with the smallest eigenvalue can provide valuable insights into the hidden data generation process itself. The presented results provide a deeper understanding of the complex dynamics of Markov chains and hold promise for enhancing various scientific applications.

[Link to Paper](#)

BOOK CHAPTERS



Slovenia: The rise and fall of Janez Janša

DŽENITA ŠILJAK

In: István Benczes (ed): Economic policies of populist leaders. 2024 pp. 148-168.

Routledge

Abstract

Slovenian populism is cultural, ethno-nationalist and partially economic. The origin of populism in Slovenia can be found in the country's history. The representative of the ideology is Janez Janša, the person who has been the major figure since the country's independence in 1991. Janša has tried to "protect" Slovenia from everything that is not European and from migrants, and while he was in power, Slovenian institutions became less efficient, corruption increased and the media became more repressed. What makes him, nevertheless, still atypical is that he is a Europhile who led Slovenia into Europe's Economic and Monetary Union. It has also been atypical that Janša has had only one-fourth of the support from Slovenian voters and he had to govern the country always in coalitions.

[Link to Book Chapter](#)

Economic Sanctions

JÚLIA KIRÁLY; DÓRA GYÓRFFY

In: László Mátyás (ed): Central and Eastern European Economies and the War in Ukraine. 2024 pp. 1-31.

Springer Nature

Abstract

The chapter provides a brief overview of the concept, history, and effectiveness of sanctions, as well as a stocktaking of the sanctions against Russia and their potential impact on the Central and Eastern European economies (CEEE). Given the limited non-energy trade and financial ties with Russia, individual, trade, and financial sanctions are likely to have affected the CEEE only to a limited extent. Notwithstanding the heavy dependence of the region on imports of Russian commodities, the impact of energy-related sanctions was also mitigated by several factors. First, the sharp increase in coal, petroleum, and natural gas prices started before the war in Ukraine, and reversed in the second half of 2022 despite the ongoing announcements on sanctions. Second, in order to minimize disruptions to supply, sanctions related to oil included several exemptions for countries with limited alternative options. Third, against the backdrop of high dependence on Russian imports, no sanctions were introduced on natural gas. Nonetheless, the assessment of the impact of sanctions is a challenging task as it requires a distinction between the impact of the war and sanctions, and thus an understanding of a no-sanction counterfactual scenario under which there could still be major disruptions to supply, and shocks to prices given the elevated uncertainty caused by the war.

[Link to Book Chapter](#)

Inflation Shock and Monetary Policy

SZILÁRD BENK; PÉTER HORVÁTH; NORBERT SZEPESI

In: László Mátyás (ed): Central and Eastern European Economies and the War in Ukraine. 2024 pp. 101-126.

Springer Nature

Abstract

The war in Ukraine triggered the most substantial surge in inflation rates in decades, posing a formidable challenge for the central banks of Central and Eastern Europe (CEE) to curb inflation without compromising the ongoing post-Covid recovery. This chapter provides a brief discussion of the factors contributing to the inflationary pressure and evaluates the monetary policy responses in the region. The root cause of the inflationary pressure lies primarily in supply-side shocks disrupting international trade channels as a consequence of the war. Countries with loose monetary conditions witnessed the most pronounced spike in inflation rates in the aftermath of the war. Despite these challenges, central banks responded promptly, implementing aggressive interest rate hikes, keeping monetary conditions tight throughout 2022 and well after inflation rates began to decrease in 2023.

[Link to Book Chapter](#)

Shots in the Dark: Immunisation in Zones of Armed Conflict in Sub-Saharan Africa

PÉTER MARTON; BUYISILE NTAKA

In: János Besenyő, Moses Khanyile, David Vogel (eds): Terrorism and Counter-Terrorism in Modern Sub-Saharan Africa. 2024 pp. 253-276.

Springer Nature

Abstract

Sub-Saharan Africa's population continues to suffer from a considerable burden related to infectious diseases. Against the latter, prevention by vaccination is not merely effective: importantly, it is an economical and feasible means of relieving poorly resourced health systems of major stress. The history of immunisation in the region cannot be told without reference to the story of efforts to reach difficult-to-access outlying areas, often impeded by armed conflict. Getting to the areas concerned creates opportunity for a broad spectrum of health interventions, including inter alia, immunisation, mass drug administration (MDA) and screening programmes. A complete history of the struggle for this kind of access is challenging to reconstruct, as it is a politically sensitive topic both for the internationally recognised governments lacking control over their de jure territories and for the intergovernmental organisations that have to work with said governments as their primary partners. In this chapter, we undertake to tell a rudimentary history of the interaction between programmes (and campaigns) of immunisation and armed conflict in Sub-Saharan Africa. We conclude our overview with an assessment of recent developments during the SARS-CoV-2/COVID-19 pandemic and the implications these hold for global security. The latter section also offers a chance to review the tentative narrative emerging from the preceding historical overview, according to which a post-colonial/Cold War era of more centralised and governance-orientated insurgent movements was ensued by the dark times of post-Cold War "new wars" and, especially post-2011, an even darker era of increasingly violent Islamist insurgencies. Regardless of its merits, this narrative stands in contrast with the great overall progress made in the region prior to the SARS-CoV-2/COVID-19 pandemic, including in terms of the actual (albeit uneven) increase of vaccination coverage and the eradication of certain diseases.

[Link to Book Chapter](#)

The (Un)bearable Whiteness of AI Ethics

SYED MUSTAFA ALI; **BEÁTA PARAGI**; ANGELA C. DALY; ADELA
GJORGJIOSKA; LUKE HESPANHOL; XAROULA KERASHIDOU; SOROYA
KOUADRI MOSTZFAOUI; OLUYINKA OYENIJI; ANA TOMOCIC

In: David J. Gunkel (ed): Handbook on the Ethics of Artificial Intelligence. 2024 pp. 218-231.

Edward Elgar Publishing

Abstract

This chapter aims to explore the complexities and limitations of AI ethics, with a particular focus on how this field is entangled with whiteness. The authors examine the ways in which AI ethics has been used as a tool to maintain and expand dominant power, as well as to displace questions of ‘whether or not’ and ‘for the benefit of whom’ with questions of ‘how’, thereby perpetuating systemic inequalities through a process of discursive masking. The chapter begins by exploring the concept of “bearability” in relation to whiteness. It then goes on to discuss the implications of such bearability for AI ethics. The authors question the efficacy of current efforts to offer alternative bottom-up and ‘pluriversal’ approaches to AI ethics, respectfully suggesting that such approaches might amount to little more than regional dialects within a global language (game) established by dominant power.

[Link to Book Chapter](#)

United Fruit Company: Impact on Host Countries and Involvement in Coups

PÉTER MARTON; BERNADETT LEHOCZKI

In: Péter Marton, Gry Thomassen, Csaba Békés, András Rácz (eds): The Palgrave Handbook of Non-State Actors in East-West Relations. 2024 pp. 1-13.

Springer Nature

Abstract

The chapter consists of two parts. The first part offers a general discussion of the United Fruit Company's (UFC) history of involvement in the banana business and the cultivation of other dessert-economy cash crops in Central America and the Caribbean. This is accompanied by an appraisal of the political, social, and environmental implications of the company's activities. The latter have left a mixed legacy of relative socioeconomic and infrastructural development (largely confined to areas where UFC operated) on the one hand and reinforced inequalities and major environmental harms on the other. As a key mechanism of environmental damage, the quasi-nomadic nature of the banana plantation economy is presented. The second part of the chapter considers the company's role in coups – understood broadly as violent extra-legal attempts at changing a government – that UFC is associated with by various sources in the period from 1911 to 1961. Guatemala (1952–1954) is introduced as a clear case of such involvement. Uncertainties are pointed out as to UFC's surmised indirect role in Honduras (1911). Allegations concerning UFC's role in the Bay of Pigs invasion (1961) are found to be unsubstantiated.

[Link to Book Chapter](#)

Disinformation under the guise of democracy: lessons from Hungary

GÁBOR POLYÁK; ÁGNES URBÁN; PETRA SZÁVAI; KATA HORVÁTH

In: Martin Echeverría, Sara Santamaría García, Daniel C. Hallin (eds): State-Sponsored Disinformation Around the Globe. How Politicians Deceive their Citizens. 2024 pp. 231-249.

Routledge

Abstract

Over the past decade, the Hungarian media system has become one of the most frequently cited illustrations of politically controlled, captured media systems. The starting point for this chapter is that the repression of media freedom and the establishment of political control over the media system cannot be understood without the broader constitutional, economic, and social context that has eroded the instruments available to counter attacks on media freedom. The Fidesz government has used unlimited public funds to create a media system that is the perfect vehicle for the spread of state disinformation. State disinformation is of such a scale and effectiveness that the term “firehose of falsehood”, used to describe Russian propaganda, is perfectly applicable. In the last part of this paper, we will present one of the emblematic instruments of this disinformation flood, the institution of the so-called national consultation.

[Link to Book Chapter](#)

The Terror of War: Ever Present and Always in Error?

PÉTER MARTON

In: Scott N. Romaniuk, Animesh Roul, Amparo Pamela Fabe, János Besenyő (eds): Handbook of Terrorist and Insurgent Groups. 2024 pp. 111-120.

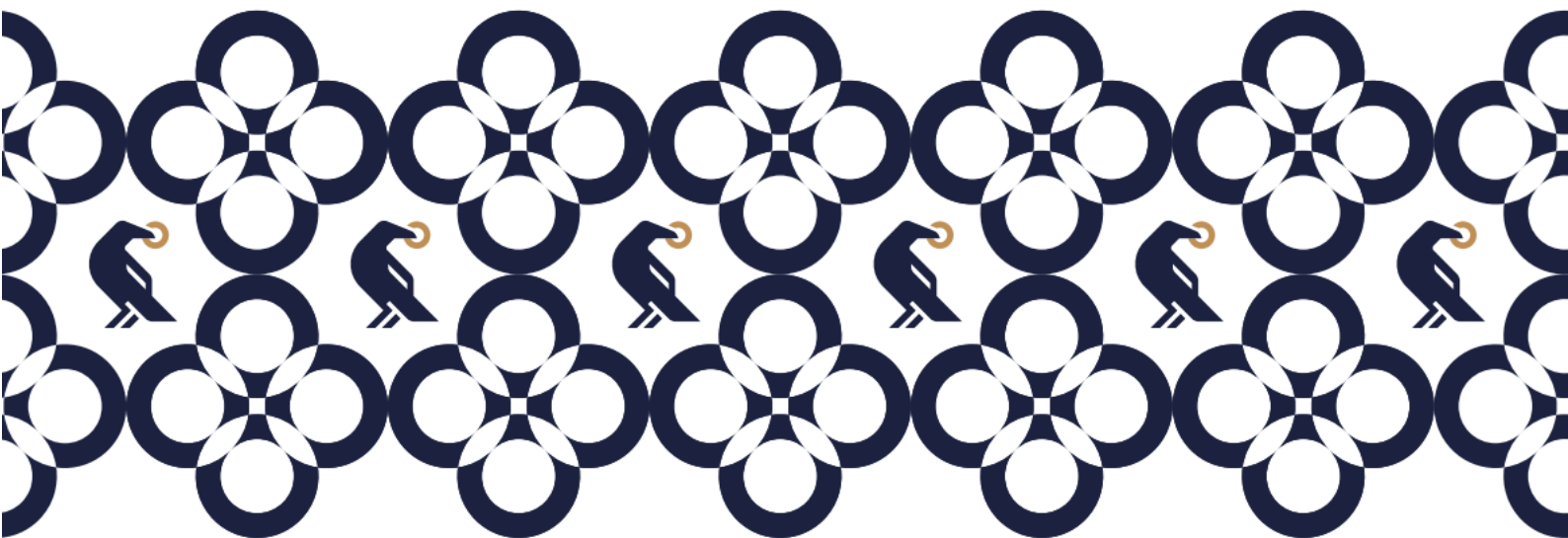
CRC Press

Abstract

For the purposes of this chapter, terrorism is defined as the use of violence (or the threat thereof) against civilians to create fear in a secondary audience with political aims. War terrorism is the use of violence (or the threat thereof) against people hors de combat¹ to create fear in a secondary audience of non-combatants and/or combatants with the purpose of furthering war aims. Based on these definitions, the chapter studies the occurrence of war terrorism in armed (intra-state as well as international) conflicts. Beyond identifying and evaluating a few prominent historical examples of war terrorism without the intention of providing a complete historical overview of the phenomenon, its strategic and ethical implications are discussed, the latter mostly with regard to how the relativisation, in a moral sense, of war motives and war actions should not in fact follow from observing the frequent occurrence of war terrorism in armed conflicts around the world, even as war terrorism itself is generally rightly condemned.

[Link to Book Chapter](#)

BOOKS



Screening by International Aid Organizations Operating in the Global South: Mitigating Risks of Generosity

BEÁTA PARAGI

2024

Springer Nature

Overview

Aid organizations usually embrace the idea of digitalization, both in terms of using diverse technologies and processing data digitally for improving their services, making their operations more efficient and even mitigating various risks. While digital fundraising, the use of biometric ID systems or digitalized cash and voucher assistance enjoys widespread attention both in academic and practitioner circles, it is less known how aid organizations navigate between counterterrorism legislations and data protection laws in technical terms. Limiting the discussion to the EU General Data Protection Regulation and by conceptualizing screening – commonly used to prevent the use of donor money for illicit purposes, money-laundering, terrorism finance or corruption – as a data processing operation conducted by larger international aid organizations operating in the Global South, this book focuses on the matter of ‘transparency’ and ‘right to information’ being at the nexus of surveillance studies and privacy studies. By means of legal and social science methods, it simultaneously explores screening in light of classic surveillance and analyses whether opacity around screening by NGOs (data controllers) is in line with the spirit of European Union data protection regime from the perspective of individuals (data subjects). In so doing, Paragi also contributes to the discussion on the politics of transparency and highlights the dilemmas and challenges aid organizations operating in authoritarian regimes or conflict settings may face.

[Link to Book](#)

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