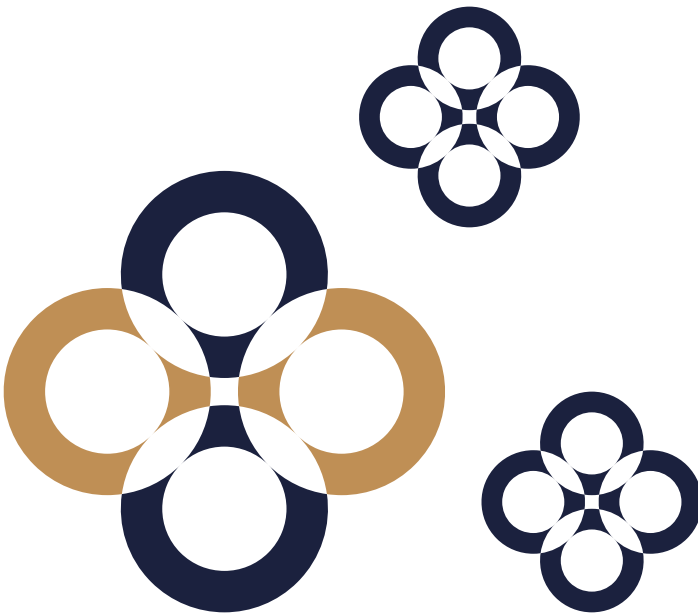


# Corvinus

# Research Highlights

July 2021





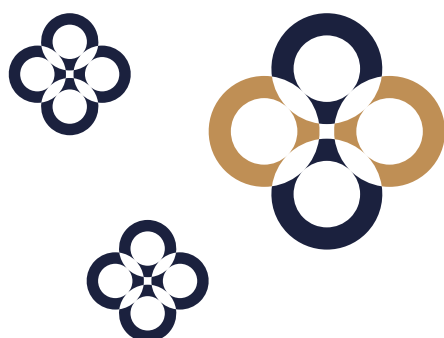
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# Foreword

## Dear Colleagues:

I am delighted to present the inaugural issue of *Corvinus Research Highlights 2020*; the first ever compilation of the best pieces from the annual research output of Corvinus faculty members.

*Corvinus Research Highlights 2020* is a collection of papers and books published and organized in volumes in 2020. From the 2020 research output of Corvinus Faculty, we selected 32 papers and eight books representing the research and teaching portfolio of Corvinus University; all of them are in English. The papers are from journals with Article Influence Scores in the upper 50% of all journals in the Journal Citations Reports by Clarivate Analytics. The books and edited volumes were published by highly ranked publishers. The papers and the books (edited volumes) are listed in alphabetical order by publishers.

Please immerse yourself in *Corvinus Research Highlights 2020* with a researcher's curiosity and feel free to contact the Corvinus authors if one of the covered topics triggers your interest.

Sincerely,

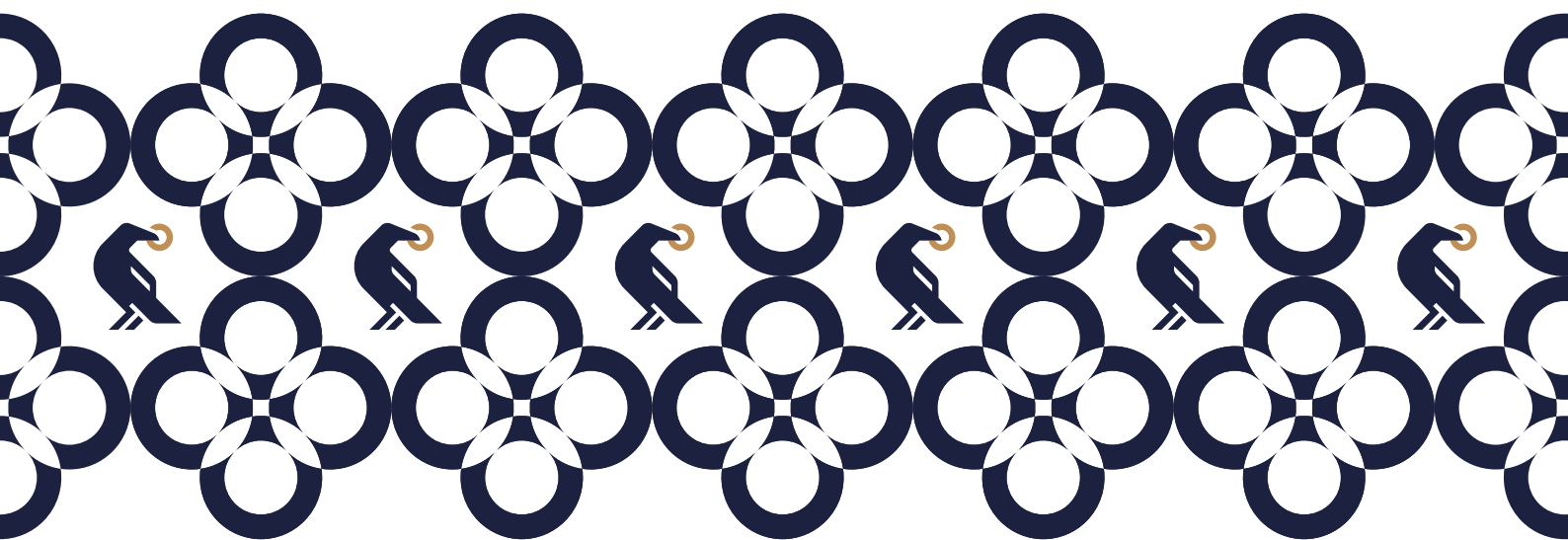


**GYULA VASTAG**

*Professor, Vice-Rector for Research  
Corvinus University of Budapest*



# Journal articles



**PÉTER BIRÓ**

*Associate Professor, Institute of Mathematics and Statistical Modeling / Department of Operations Research and Actuarial Sciences*

Haris Aziz, Péter Biró, Serge Gaspers, Ronald de Haan, Nicholas Mattei, Baharak Rastegari

## Stable matching with uncertain linear preferences

**ALGORITHMICA 0178-4617 1432-0541**

We consider the two-sided stable matching setting in which there may be uncertainty about the agents' preferences due to limited information or communication. We consider three models of uncertainty: (1) lottery model—for each agent, there is a probability distribution over linear preferences, (2) compact indifference model—for each agent, a weak preference order is specified and each linear order compatible with the weak order is equally likely and (3) joint probability model—there is a lottery over preference profiles. For each of the models, we study the computational complexity of computing the stability probability of a given matching as well as finding a matching with the highest probability of being stable. We also examine more restricted problems such as deciding whether a certainly stable matching exists. We find a rich complexity landscape for these problems, indicating that the form uncertainty takes is significant.

<https://link.springer.com/article/10.1007%2Fs00453-019-00650-0>





### ZSOLT BIHARY

*Associate Professor, Institute of Finance, Accounting and Business Law / Department of Finance*



### PÉTER CSÓKA

*Professor, Institute of Finance, Accounting and Business Law / Department of Finance*



### DÁVID ZOLTÁN SZABÓ

*Assistant Professor, Institute of Finance, Accounting and Business Law / Department of Finance*

Zsolt Bihary, Péter Csóka, Dávid Zoltán Szabó

## Spectral risk measure of holding stocks in the long run

**ANNALS OF OPERATIONS RESEARCH 0254-5330 1572-9338**

We investigate how the spectral risk measure associated with holding stocks rather than a risk-free deposit, depends on the holding period. Previous papers have shown that within a limited class of spectral risk measures, and when the stock price follows specific processes, spectral risk becomes negative at long periods. We generalize this result for arbitrary exponential Lévy processes. We also prove the same behavior for all spectral risk measures (including the important special case of Expected Shortfall) when the stock price grows realistically fast and when it follows a geometric Brownian motion or a finite moment log stable process. This result would suggest that holding stocks for long periods has a vanishing downside risk. However, using realistic models, we find numerically that spectral risk initially increases for a significant amount of time and reaches zero level only after several decades. Therefore, we conclude that holding stocks has spectral risk for all practically relevant periods.

<https://link.springer.com/article/10.1007%2Fs10479-020-03678-6>



## LÁSZLÓ CSATÓ

*Associate Professor, Institute of Mathematics and Statistical Modeling / Department of Operations Research and Actuarial Sciences*

László Csató

# The UEFA Champions League seeding is not strategy-proof since the 2015/16 season

**ANNALS OF OPERATIONS RESEARCH 0254-5330 1572-9338**

Fairness has several interpretations in sports, one of them being that the rules should guarantee incentive compatibility, namely, a team cannot be worse off due to better results in any feasible scenario. The current seeding regime of the most prestigious annual European club football tournament, the UEFA (Union of European Football Associations) Champions League, is shown to violate this requirement since the 2015/16 season. In particular, if the titleholder qualifies for the first pot by being a champion in a high-ranked league, its slot is given to a team from a lower-ranked association, which can harm a top club from the domestic championship of the titleholder. However, filling all vacancies through the national leagues excludes the presence of perverse incentives. UEFA is encouraged to introduce this policy from the 2021-24 cycle onwards.

<https://link.springer.com/article/10.1007%2Fs10479-020-03637-1>

**KOLOS CSABA ÁGOSTON**

*Associate Professor, Institute Director, Institute of Mathematics  
and Statistical Modeling*

Kolos Csaba Ágoston, Márton Gyetvai

## **Joint Optimization of Transition Rules and the Premium Scale in a Bonus-Malus System**

**ASTIN BULLETIN: JOURNAL OF THE INTERNATIONAL  
ACTUARIAL ASSOCIATION 0515-0361 1783-1350**

Bonus-malus systems (BMSs) are widely used in actuarial sciences. These systems are applied by insurance companies to distinguish the policyholders by their risks. The most known application of BMS is in automobile third-party liability insurance. In BMS, there are several classes, and the premium of a policyholder depends on the class he/she is assigned to. The classification of policyholders over the periods of the insurance depends on the transition rules. In general, optimization of these systems involves the calculation of an appropriate premium scale considering the number of classes and transition rules as external parameters. Usually, the stationary distribution is used in the optimization process. In this article, we present a mixed integer linear programming (MILP) formulation for determining the premium scale and the transition rules. We present two versions of the model, one with the calculation of stationary probabilities and another with the consideration of multiple periods of the insurance. Furthermore, numerical examples will also be given to demonstrate that the MILP technique is suitable for handling existing BMSs.

<https://www.cambridge.org/core/journals/astin-bulletin-journal-of-the-iaa/article/abs/joint-optimization-of-transition-rules-and-the-premium-scale-in-a-bonusmalus-system/073850CDB524257BC3E5AF462651FC3C>



### GÁBOR HARANGOZÓ

*Associate Professor, Institute of Business Economics / Department of Logistics and Supply Chain Management*

Zoltán Kovács, Gábor Harangozó, Cecília Szigeti, Krisztián Koppány, Attila Csaba Kondor, Balázs Szabó

## Measuring the impacts of suburbanization with ecological footprint calculations

**CITIES: THE INTERNATIONAL JOURNAL OF URBAN POLICY AND PLANNING 0264-2751 1873-6084**

In this paper we present a complex Ecological Footprint (EF) analysis of one of the largest metropolitan regions in post-socialist East Central Europe, the Budapest Metropolitan Region. Our overall goal is to use both top-down and bottom-up approaches and measure the changes of footprint at a metropolitan scale between 2003 and 2013. Our specific objective is to explore how the spatial rearrangements of wealth, density and consumption influence the spatiotemporal changes of EF. The top-down (compound) calculations indicate growing footprint values both in Hungary and in the Budapest Metropolitan Region in the investigated period. However, household-level hybrid (component-based) calculations revealed decreasing footprint values for Hungary both in absolute and relative terms, and a growth for the metropolitan region. This finding suggests growing income disparities within the country. The indirect (consumption embedded) components of EF findings show that in the core city footprint values are higher due to higher disposable income. However, there is a gradual catching up in the suburban zone as younger and more affluent households arrive. On the other hand, direct per capita footprint values decreased in Budapest and grew in the suburbs between 2003 and 2013, mainly due to a higher heating footprint.

<https://www.sciencedirect.com/science/article/abs/pii/S0264275119307590?via%3Dihub>

**DÁNIEL HORN***Habilitation Associate Professor, Institute of Economics***HUBERT JÁNOS KISS***Habilitation Associate Professor, Institute of Economics*

Tünde Lénárd, Dániel Horn, Hubert János Kiss

## Does politicizing 'gender' influence the possibility of conducting academic research? Evidence from a randomized controlled trial

**ECONOMICS LETTERS 0165-1765**

We detect a significant negative effect of mentioning 'gender' as a research topic on conducting academic research in Hungary. Using a randomized information treatment involving a comprehensive sample of Hungarian education providers we find that they are less willing to cooperate in a gender-related future research compared to a research without this specification. Our results also indicate that this negative sentiment is clearly against gender and not against any topic covering social inequalities in general.

<https://www.sciencedirect.com/science/article/pii/S0165176520300458?via%3Dihub>

**BARNA BAKÓ***Associate Professor, Institute of Economics***GÁBOR NESZVEDA***Assistant Professor, MNB Institute*

Barna Bakó, Gábor Neszveda

## The Achilles' heel of Salience theory and a way to fix it

### **ECONOMICS LETTERS 0165-1765**

Salience theory has been successfully used to explain a wide range of empirical and experimental phenomena such as the Allais paradox, framing effect, the preference reversal phenomenon or the decoy and compromise effects. In this paper we show that salience theory carries a notable flaw and under certain circumstances it suggests that a salient thinker may prefer a dominated option even when a strictly dominant alternative is available to her. To solve this problem we propose a possible alteration of the theory and show how it accounts for the same phenomena as the salience theory.

<https://www.sciencedirect.com/science/article/pii/S0165176520301804?via%3Dihub>



## ATTILA VÍG

*Assistant Lecturer, Institute of Finance, Accounting and Business Law / Department of Finance*

Olivér Hortay, Attila A. Víg

# Potential effects of market power in Hungarian solar boom

**ENERGY 0360-5442 1873-6785**

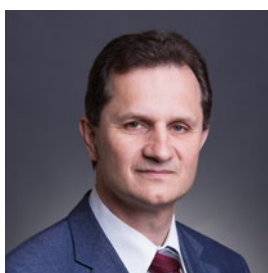
The Hungarian Government intends to increase the photovoltaic capacities installed in the country sixfold between 2020 and 2030. New investment is encouraged by a floating premium support system in which producers sell electricity on the market and can thus have a direct impact on prices. This article simulates hourly volumes and price data in a Cournot equilibrium model, taking into account the technical and economic characteristics of electricity producers. The model was calibrated with Hungarian data from 2019 and then a theoretical year of 2030 was simulated at different market concentrations. The results show that if prices are above premium levels, operators may reduce their production and thus increase prices as market concentration increases. This phenomenon could dampen the expected price reduction despite the increasing penetration of zero marginal cost solar capacities and threaten the country's renewable production commitments for 2030. Below the premium level, the effect of market power does not prevail, and prices can nose-dive. In this case, renewable production targets are achieved, but the state's premium subsidy payments are significantly increased. Sensitivity analysis shows that the amount of new photovoltaic capacities and increased electricity demand both increase the effects of market power.

<https://www.sciencedirect.com/science/article/pii/S0360544220319642?via%3Dihub>



### ANDRÁS MEZŐSI

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### BALÁZS FELSMANN

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### LÁSZLÓ SZABÓ

*Head Of Research Centre,  
Regional Centre for Energy Policy Research*

András Mezősi, Balázs Felsmann, Lajos Kerekes, László Szabó

## Coexistence of nuclear and renewables in the V4 electricity system: Friends or enemies?

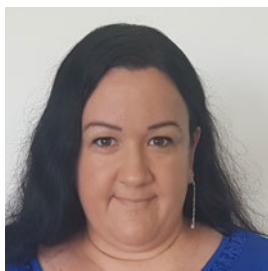
### ENERGY POLICY 0301-4215

The paper examines the interactions between nuclear and variable renewable generation capacities (vRES) under various assumptions in the broader V4 region. Four exploratory scenarios are analysed with high and low penetration levels of vRES and nuclear applying electricity dispatch and unit commitment models. The assessment quantifies the impacts of the joint evolution of these technologies, measuring the effect on utilisation rates, wholesale prices, market values of vRES, energy not supplied (ENS) and the changing production and trading patterns in the projected 2035 electricity system. The results are indicative of a 'double competition' between (i) nuclear and vRES technologies within the merit order and (ii) between the NPPs in the region. If the ambitious V4 nuclear plans are indeed execute, NPPs will compete for limited export opportunities during times of high vRES production periods. Thus, coordination of long term



energy policies within the V<sub>4</sub> region is critical to manage nuclear and vRES developments and trade patterns with the aim of improving flexibility and security of supply to mitigate the negative economic impact on the electricity system.

<https://www.sciencedirect.com/science/article/abs/pii/S0301421520302020?via%3Dihub>



### ADRIENN SELEI

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### BORBÁLA TAKÁCSNÉ TÓTH

*Researcher, Regional Centre for Energy Policy Research*

Borbála Takácsné Tóth, Péter Kotek, Adrienn Selei

## Rerouting Europe's gas transit landscape - Effects of Russian natural gas infrastructure strategy on the V4

### ENERGY POLICY 0301-4215

The Russian gas transit through Ukraine and the possibility of circumnavigating the historically dominant route poses a serious challenge to European gas markets. With the application of market modelling tools, this paper examines Russian export strategies to Europe using different transit route combinations. Although the cessation of Ukrainian transit would not endanger the security of gas supply in Europe, it would result in higher prices in all scenarios. In scenarios that include Nord Stream 2 and TurkStream 2, Ukrainian transit is non-essential for Russia to maintain its current share of EU gas imports. At the same time, the results show that limiting Ukrainian transit is less profitable for Russia: even if all the planned infrastructure is completed, shutting this route would result in losses of close to 5 billion € per year in Russian gas sales. Since it appears inevitable that Nord Stream 2 and TurkStream 2 will be built, a no transit scenario is a real possibility thereafter. In this case the V4 should lobby for Balkan Stream, with investment costs borne by Gazprom. However, if there are continued deliveries via Ukraine there is no need for Balkan Stream.

<https://www.sciencedirect.com/science/article/abs/pii/S0301421520304717?via%3Dihub>



### BALÁZS R. SZIKLAI

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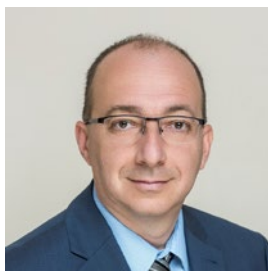
Balázs R. Sziklai, László Á. Kóczy, Dávid Csércsik

## The impact of Nord Stream 2 on the European gas market bargaining positions

### ENERGY POLICY 0301-4215

We investigate the impact and the possible consequences of the construction of the Nord Stream 2 pipeline. We model the European gas network as a cooperative game between regions as players over the pipeline network. Our model offers several novelties compared to earlier cooperative studies. Firstly, we focus on cost saving rather than on the profits of cooperation. Secondly, we introduce liquefied natural gas as a player. Thirdly, we apply an iterative linear program to account for the long term bilateral contracts that still drive the gas market. This modelling technique also allows us to identify individual gas flows. We focus on the change of influence of the players in three different scenarios. We investigate how the power of the agents shift when the Nord Stream pipeline is expanded, when the Ukrainian pipeline is shut down and finally when both of these happen. Our calculations show that when Nord Stream 2 is operational, Russia and Western Europe improve their position compared to the base scenario, while other suppliers, notably Norway, together with Central- Eastern- and Southern Europe suffer losses, especially when the Ukrainian route is dismissed. The results highlight that both the supporters and adversaries of Nord Stream 2 are governed by self-interest and solidarity and trust, the values proclaimed by the EU and the Energy Union, remain but a slogan.

<https://www.sciencedirect.com/science/article/pii/S0301421520304201?via%3Dihub>



**GÁBOR MICHALKÓ**

*Professor,  
Institute of Marketing / Department of Tourism*

Gergely Jakab, Zoltán Szalai, Gábor Michalkó, Marianna Ringer, Tibor Filep, Lili Szabó, Gábor Maász, Zsolt Pirger, Árpád Ferincz, Ádám Staszny, Péter Dobosy, Attila Csaba Kondor

## Thermal baths as sources of pharmaceutical and illicit drug contamination

**ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH**  
**0944-1344 1614-7499**

Despite the fact that there are tens of thousands of thermal baths in existence, knowledge about the occurrence of pharmaceutically active compounds (PhACs) in untreated thermal wastewater is very limited. Because used thermal water is typically legally discharged into surface waters without any treatment, the effluent poses environmental risks for the receiving water bodies. The aim of this study was to show the occurrence patterns and spatiotemporal characteristics of 111 PhACs in thermal wastewater. Six thermal water outflows of different thermal baths were tested in different seasons in the Budapest metropolitan region (Hungary), and diurnal analysis was performed. After solid-phase extraction, the samples were analysed and quantified by coupling supercritical fluid chromatography and mass spectrometry to perform simultaneous multi-residue drug analysis. The results confirm that water discharge pipes directly transport pharmaceuticals into surface water bodies; 34 PhACs were measured to be over the limit of quantification at least once, and 21 of them were found in more than one water sample. The local anaesthetic drug lidocaine, antiepileptic carbamazepine, analgesic derivative tramadol and illicit drug cocaine were detected in more than half of the samples. Caffeine, metoprolol and bisoprolol (cardiovascular drugs), benzoylecgonine (cocaine metabolite), diclofenac (NSAID), citalopram (antidepressant) and certain types of hormones also have a significant frequency of 30-50%. However, the occurrence and concentrations of PhACs vary according to the season and number/types of visitors. As demonstrated by the diurnal fluctuation, drug contamination of thermal waters can significantly vary, even for similar types of baths; furthermore, the quantity and types of some pollutants rapidly change in the discharged thermal wastewater.

<https://link.springer.com/article/10.1007%2F511356-019-06633-6>



## LÁSZLÓ CSATÓ

*Associate Professor, Institute of Mathematics and Statistical Modeling/ Department of Operations Research and Actuarial Sciences*

László Csató, Csaba Tóth

# University rankings from the revealed preferences of the applicants

**EUROPEAN JOURNAL OF OPERATIONAL RESEARCH**  
**0377-2217 1872-6860**

A methodology is presented to rank universities on the basis of the lists of programmes the students applied for. We exploit a crucial feature of the centralised assignment system to higher education in Hungary: a student is admitted to the first programme where the score limit is achieved. This makes it possible to derive a partial preference order of each applicant. Our approach integrates the information from all students participating in the system, is free of multicollinearity among the indicators, and contains few ad hoc parameters. The procedure is implemented to rank faculties in the Hungarian higher education between 2001 and 2016. We demonstrate that the ranking given by the least squares method has favourable theoretical properties, is robust with respect to the aggregation of preferences, and performs well in practice. The suggested ranking is worth considering as a reasonable alternative to the standard composite indices.

<https://www.sciencedirect.com/science/article/abs/pii/S0377221720302228?via%3Dihub>



**PÉTER ELEK**

*Associate Professor,  
Institute of Economics*

Anikó Bíró, Péter Elek

## Caesarean delivery and the use of antidepressants

EUROPEAN JOURNAL OF PUBLIC HEALTH 1101-1262 1464-360X

### Background

The high ratio of caesarean sections (C-sections) is a major public health issue in the developed world; but its implications on maternal mental health are not well understood. **Methods** We use individual-level administrative panel data from Hungary between 2010 and 2016 to analyze the relationship between caesarean delivery and antidepressant consumption, an objective indicator of mental health. We focus on low-risk deliveries of mothers without subsequent birth in 3 years, and include around 135 000 observations.

### Results

After controlling for medical and socio-economic variables, antidepressant use before delivery is associated with an elevated risk of C-section (adjusted OR = 1.10, 95% CI 1.05–1.14) and C-section is associated with a higher probability of antidepressant use within 1–3 years after delivery (e.g. adjusted OR = 1.21, 95% CI 1.12–1.30, within 3 years after delivery, among mothers without pre-delivery antidepressant consumption). Our data restriction ensures that the results are not driven by a mechanical impact of decreasing fertility on the continuation of antidepressant use after a C-section.

### Conclusions

The results suggest that C-section is associated with worse mental health over the 1- to 3-year horizon after birth. This relationship is particularly important if a caesarean delivery is not necessary due to medical reasons, and physicians as well as expectant mothers should be made aware of the potential mental health implications of the mode of delivery.

<https://academic.oup.com/eurpub/article-abstract/30/4/727/5812741?redirectedFrom=fulltext>



### BALÁZS R. SZIKLAI

*Associate Professor, Institute of Mathematics and Statistical Modeling / Department of Operations Research and Actuarial Sciences*

Imre Fertő, László Á Kóczy, Attila Kovács, Balázs R. Sziklai

## The power ranking of the members of the Agricultural Committee of the European Parliament

**EUROPEAN REVIEW OF AGRICULTURAL ECONOMICS**  
**0165-1587 1464-3618**

We aim to identify the most influential members of the Agricultural Committee of the European Parliament (COMAGRI). Unlike previous studies that were based on case studies or interviews with stakeholders, we analyse the voting power of MEPs using a spatial Banzhaf power index. We identify critical members: members whose votes are necessary to form winning coalitions. We found that rapporteurs, EP group coordinators and MEPs from countries with high relative Committee representations, such as Ireland, Poland or Romania are powerful actors. Italy emerges as the most influential member state, while France seems surprisingly weak.

<https://academic.oup.com/erae/article-abstract/47/5/1897/5849137?redirectedFrom=fulltext>



**HUBERT JÁNOS KISS**

*Habilitated Associate Professor,  
Institute of Economics*

Markus Kinaterder, Hubert János Kiss, Ágnes Pintér

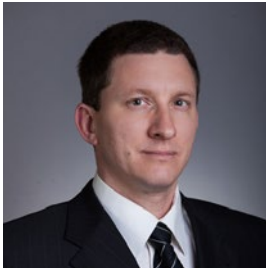
## Would depositors pay to show that they do not withdraw? Theory and experiment

**EXPERIMENTAL ECONOMICS 1386-4157 1573-6938**

In a Diamond–Dybvig type model of financial intermediation, we allow depositors to announce at a positive cost to subsequent depositors that they keep their funds deposited in the bank. Theoretically, the mere availability of public announcements (and not its use) ensures that no bank run is the unique equilibrium outcome. Multiple equilibria—including bank run—exist without such public announcements. We test the theoretical results in the lab and find a widespread use of announcements, which we interpret as an attempt to coordinate on the no bank run outcome. Withdrawal rates in general are lower in information sets that contain announcements.

<https://link.springer.com/article/10.1007%2Fs10683-020-09646-y>





**SZABOLCS SEBREK**

*Associate Professor,  
CIAS*

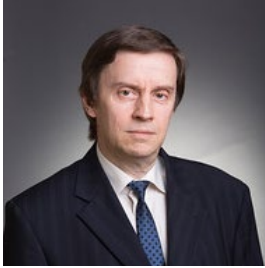
Szabolcs Szilárd Sebrek

## Overlap in external technology search locations and the breadth of IPR assets: lessons from the Security Software Industry

**INDUSTRY & INNOVATION 1366-2716 1469-8390**

This study examines the effect of intellectual property rights (IPR) on firms' geographic overlap strategy of external technology search (ETS) compared to rivals. I reveal that firms are able to realise less intensity of geographic overlap in ETS locations compared to competitors and that this outcome is a function of the breadth of their upstream (generality of patents) and downstream (diversification of trademarks) IPR tools. Accordingly, I conclude that both covariates influence the spatial isolation of ETS vis-à-vis competitors. The effect of generality of patents on isolation, however, is more pronounced in comparison with diversification of trademarks at strategic technology alliances, meanwhile the reverse scenario is true at acquisitions. I also reveal relevant findings about resource-rich organisations defined as those with the broadest portfolio of such up- and downstream IPR assets within the industry.

<https://www.tandfonline.com/doi/full/10.1080/13662716.2019.1588710>

**TIBOR TAKÁCS**

*Associate Professor, Institute of Economics and Public Policy /  
Department of Economic Policy*

Ali Kazemy, Éva Gyurkovics, Tibor Takács

## Dynamic output feedback $H^\infty$ design in finite-frequency domain for constrained linear systems

**ISA TRANSACTIONS 0019-0578**

This paper deals with the design problem of  $H^\infty$  control for linear systems in finite-frequency (FF) domain. Accordingly, the  $H^\infty$  norm from the exogenous disturbance to the controlled output is reduced in a given frequency range with utilizing the generalized Kalman–Yakubovic–Popov (gKYP) lemma. As some of the states are hard or impossible to measure in many applications, a dynamic output feedback controller is proposed. In order to meet practical requirements that express the limitations of the physical system and the actuator, these time-domain hard constraints are taken into account in the controller design. An algorithm terminating in finitely many steps is given to determine the dynamic output feedback with suboptimal FF  $H^\infty$  norm bound. The algorithm consists of solving a series of linear matrix inequalities (LMIs). Finally, two case studies are given to demonstrate the effectiveness and advantageous of the proposed method.

<https://www.sciencedirect.com/science/article/abs/pii/S0019057819302666?via%3Dihub>



## GYÖNGYI VÖRÖSMARTY

*Associate Professor, Institute of Business Economics / Department of Logistics and Supply Chain Management*

Gyöngyi Vörösmarty, Imre Dobos

# A literature review of sustainable supplier evaluation with Data Envelopment Analysis

**JOURNAL OF CLEANER PRODUCTION 0959-6526**

This paper summarizes findings about papers involving supplier selection and evaluation using Data Envelopment Analysis (DEA) published between 2009 and 2018. It reviews how DEA, one of the most frequently used methods, supports the supplier selection and evaluation process and related management decisions. Its novelty stems from the fact that such a type of review has only been carried out in a much broader context, thus the present approach can reveal potentially new opportunities for development and application. A systematic literature review was completed involving 54 papers that propose the use of some form of DEA for supporting supplier-management-related decisions. The paper uses descriptive and multivariate statistics to cluster the reviewed papers. Although a large number of papers were published in the period under examination, most of them still focus on supplier selection. However, a limited number of papers were identified which are more practice oriented and support strategic decision making in supplier management. Papers considering sustainability tend to focus only on green factors, but in most cases it means an additional criterion in the evaluation. Sustainability problems do not generate substantially new DEA model versions.

<https://www.sciencedirect.com/science/article/pii/S0959652620317194?via%3Dihub>



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## **Environmental orientation, sustainable behaviour at the firm- market interface and performance**

**JOURNAL OF CLEANER PRODUCTION 0959-6526**

This study aims to enrich sustainability research and practice by being the first study to systematically review empirical studies from the past ten years on how corporate-level environmental orientation influences environmental marketing and firm performance and improves the understanding of the roles of environmental contingencies. A review of the extant literature describes how the investigation of this field has evolved over the past ten years, provides a managerially relevant meta-framework of variables based on previous studies and suggests areas for future research. Structural equation modelling of cross-sectional survey data from 296 firms in Hungary shows that the environmental orientation of the firm is an important driver of environmental marketing, which in turn, has a weak, positive effect on performance. Environmental contingencies have more influence on how firms profit from environmental marketing initiatives than on how firm-level environmental attitudes and visions translate into behaviour. Stringent environmental regulations and the environmental orientation of competitors reinforce the profit outcomes of environmental marketing, while the environmental norms of customers and the natural environment do not influence this effect. This study concludes with important sustainability implications for policy makers and managers.

<https://www.sciencedirect.com/science/article/abs/pii/S0959652619333943?via%3Dihub>


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## Productivity spillovers through labor flows

**JOURNAL OF TECHNOLOGY TRANSFER 0892-9912  
1573-7047**

Labor flows are important channels for knowledge spillovers between firms; yet competing arguments provide different explanations for this mechanism. Firstly, productivity differences between the source and recipient firms have been found to drive these spillovers; secondly, previous evidence suggests that labor flows from multinational enterprises provide productivity gains for firms; and thirdly, industry relatedness across firms have been found important, because industry-specific skills have an impact on organizational learning and production. In this paper, we aim to disentangle the effects of productivity gap, multinational experience and industry relatedness in a common framework. Hungarian employee–employer linked panel data from 2003–2011 imply that the incoming labor from more productive firms is associated with increasing future productivity. The impact of multinational spillovers cannot be confirmed, once productivity differences between the firms are taken into account. Furthermore, we find that flows from related industries outperform the effect of flows from same and unrelated industries even if we control for the effects of productivity gap and multinational spillovers.

<https://link.springer.com/article/10.1007%2Fs10961-018-9670-8>

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## Job loss, disability insurance and health expenditure

### LABOUR ECONOMICS 0927-5371

We analyse the causal effect of job loss on disability insurance enrolment on a five-year horizon and the implications on health expenditure. Using administrative panel data from Hungary, we follow individuals displaced due to a mass lay-off and compare their labour force status to non-laid-off individuals with similar employment and health history. According to our estimates, being laid off increases the transition probability to disability 1.5-fold (or by 1.4% points) in four years, and half of the excess transitions occur within the first year. The four-year mortality rate increases 1.7-fold (or by 0.4% point). Total outpatient, inpatient and pharmaceutical expenditure increase threefold when a laid-off individual takes up disability benefit, and decrease slightly afterwards, but do not reach the pre-disability levels. The medium term increase in health expenditure corresponds to 20-25% of the additional disability payments. Detailed medication data show that physical health shocks, the diagnosis of chronic physical conditions, such as hypertension or diabetes, and the deterioration of mental health all contribute to the observed surge in health expenditure.

<https://www.sciencedirect.com/science/article/pii/S0927537120300609?via%3Dihub>

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## **A new wide neighborhood primal-dual second-order corrector algorithm for linear optimization**

**OPTIMIZATION LETTERS 1862-4472**

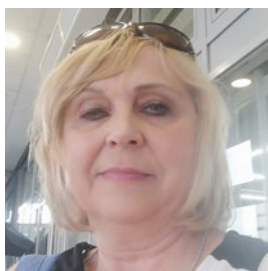
We propose a new large-step primal-dual second-order corrector interior-point method for linear optimization. At each iteration, our method uses the new wide neighborhood introduced by Darvay and Takács (Cent Eur J Oper Res 26(3):551–563, 2018. <https://doi.org/10.1007/s10100-018-0524-0>). In this paper we would like to improve the directions proposed by Darvay and Takács by adding a second-order corrector direction. The corrector step is multiplied by the square of the step length in the expression of the new iterate. To our best knowledge, this is the first primal-dual second-order corrector interior-point algorithm based on Darvay–Takács’s new wide neighborhood, which has the same complexity as the best short-step algorithms for linear optimization. Finally, numerical experiments show that the proposed algorithm is efficient and reliable.

<https://link.springer.com/article/10.1007%2Fs11590-019-01468-z>



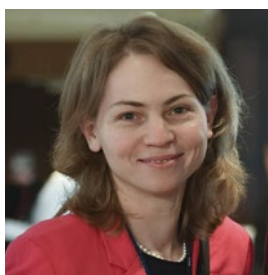
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## Capability of well-being: validation of the Hungarian version of the ICECAP-A and ICECAP-O questionnaires and population normative data

**QUALITY OF LIFE RESEARCH 0962-9343 1573-2649**

### Purpose

We aimed to develop and assess the psychometric characteristics of the Hungarian language version of two well-being capability measures, the ICEpop CAPability measure for Adults/Older people (ICECAP-A/-O), and to establish population norms.



A cross-sectional survey was performed involving a representative sample of the Hungarian population. Socio-demographic characteristics, the use and provision of informal care were recorded. The Minimum European Health Module (MEHM), EQ-5D-5L, WHO-5 well-being index, happiness and life satisfaction visual analogue scale (VAS), Satisfaction with Life Scale (SWLS) measures were applied alongside the ICECAP-A (age-group 18–64) and ICECAP-O (age-group 65+). Results Altogether 1568 and 453 individuals completed the ICECAP-A/-O questionnaires, respectively. Cronbach's alpha was 0.86 for both measures (internal consistency). Subgroup analyses showed positive associations between ICECAP-A/-O scores and marital status, employment, income, health status (MEHM) and informal care use (construct validity). Pearson correlations were strong ( $r > 0.5$ ;  $p < 0.01$ ) between ICECAP-A/-O indexes and EQ-5D-5L, WHO-5, happiness and satisfaction VAS and SWLS scores (convergent validity). The age, education, and marital status were no longer significant in the multiple regression analysis. Test-retest average (SD) scores were 0.88 (0.11) and 0.89 (0.10) for the ICECAP-A, and equally 0.86 (0.09) for the ICECAP-O (reliability).

## Conclusion

This is the first study to provide ICECAP-A/-O population norms. Also, it is the first to explore associations with WHO-5 well-being index which, alongside the MEHM measures, enable estimates from routinely collected international health statistics. The Hungarian ICECAP-A/-O proved to be valid and reliable measurement tools. Socio-demographic characteristics had minor or no impact on ICECAP-A/-O. Other influencing factors deserve further investigation in future research.

<https://link.springer.com/article/10.1007%2Fs11136-020-02542-1>



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Gergő Medve-Bálint, Vera Šćepanović

## EU funds, state capacity and the development of transnational industrial policies in Europe's Eastern periphery

**REVIEW OF INTERNATIONAL POLITICAL ECONOMY 0969-2290 1466-4526**

Many have claimed that in the dependent market economies of Central and Eastern Europe industrial policy has been reduced to incentives to foreign investors – a feature accentuated by their loss of policy space through integration into the European single market. In this paper, we offer an alternative view by arguing that the European Union (EU) has in fact made it possible for its members to recover a degree of policy space lost to economic and regulatory integration. The EU does this through transnational industrial policy, which is the combination of its competition and cohesion policies. The former limits cross-country competition for capital; the latter provides additional resources to support a more inclusive industrial policy benefiting small and medium enterprises (SMEs). However, effective utilization of transnational industrial policy depends on domestic state capacities. We demonstrate this by comparing the distribution of EU funds to automotive firms in Poland and Romania. In Poland, efforts to create institutions that promote SMEs have resulted in a more balanced distribution of EU resources, while in Romania a weak and unstable institutional environment led to their greater concentration, thereby reducing European funds to another source of rents for the most powerful firms.

<https://www.tandfonline.com/doi/full/10.1080/09692290.2019.1646669>


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## Feasible Corrector-Predictor Interior-Point Algorithm for $\kappa$ -Linear Complementarity Problems Based on a New Search Direction

**SIAM JOURNAL ON OPTIMIZATION 1052-6234 1095-7189**

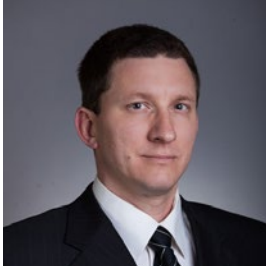
We introduce a new feasible corrector-predictor (CP) interior-point algorithm (IPA), which is suitable for solving linear complementarity problem (LCP) with  $P_{\kappa}$ -matrices. We use the method of algebraically equivalent transformation (AET) of the nonlinear equation of the system which defines the central path. The AET is based on the function  $\varphi(t) = t - \sqrt{t}$  and plays a crucial role in the calculation of the new search direction.

We prove that the algorithm has  $O((1+2\kappa)\sqrt{n} \log \frac{9n}{\mu^{\epsilon}})$  iteration complexity, where  $\kappa$  is an upper bound of the handicap of the input matrix. To the best of our knowledge, this is the first CP IPA for  $P_{\kappa}$ -LCPs which is based on this search direction.

We implement the proposed CP IPA in the C++ programming language with specific parameters and demonstrate its performance on three families of LCPs. The first family consists of LCPs with  $P_{\kappa}$ -matrices. The second family of LCPs has the  $P$ -matrix defined by Csizmadia. Eisenberg-Nagy and de Klerk [Math. Program., 129 (2011), pp. 383--402] showed that the handicap of this matrix should be at least  $2^{n-8} - \frac{1}{4}$ . Namely, from the known complexity results for  $P_{\kappa}$ -LCPs it might follow that the computational performance of IPAs on LCPs with the matrix defined by Csizmadia could be very poor. Our preliminary computational study shows that an implemented variant of the theoretical version of the CP

IPA (Algorithm 4.1) presented in this paper, finds a  $\epsilon$ -approximate solution for LCPs with the Csiszmadia matrix in a very small number of iterations. The third family of problems consists of the LCPs related to the copositivity test of 88 matrices from [C. Brás, G. Eichfelder, and J. Júdice, *Comput. Optim. Appl.*, 63 (2016), pp. 461--493]. For each of these matrices we create a special LCP and try to solve it using our IPA. If the LCP does not have a solution, then the related matrix is strictly copositive, otherwise it is on the boundary or outside the copositive cone. For these LCPs we do not know whether the underlying matrix is  $P_{\kappa}$  or not, but we could reveal the real copositivity status of the input matrices in 83 out of 88 cases (accuracy  $\geq 94\%$ ). The numerical test shows that our CP IPA performs well on the sets of test problems used in the paper.

<https://epubs.siam.org/doi/10.1137/19M1248972>



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## Resource partitioning and strategies in markets for technology

### STRATEGIC ORGANIZATION 1476-1270 1741-315X

By bridging literature on resource partitioning and markets for technology, this article proposes that companies that pursue a broad (focused) product strategy buy more (less) technology in the market but sign fewer (more) deals as technology suppliers. Furthermore, an alignment between product and technology market strategies increases firms' survival chances: Companies that pursue a broad (focused) product strategy are more likely to prosper when they buy (sell) technology in the market. To test these contentions, the authors consider a population of 736 firms that entered the security software industry between 1989 and 2002.

<https://journals.sagepub.com/doi/10.1177/1476127018791329>



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## Digital4development?

**THIRD WORLD QUARTERLY 0143-6597 1360-2241**

While the European Union has recently become a champion of privacy rights and data protection, by enacting its General Data Protection Regulation (GDPR) in 2018, there is a growing body of research on the costs and benefits of digitalisation in the aid industry. On the 'cost' side, risks associated with privacy and protection of personal data are clear. The purpose of this paper is to explore how the EU and European aid organisations can protect the privacy rights of individuals residing outside the EU's borders, by scrutinising those GDPR articles that may be relevant from the perspectives of aid-implementing actors working outside the EU and the European Economic Area (EEA). This analysis of the important EU documents describing its foreign and development policies shows that promoting digitalisation outside of the EU seems to be more important to the EU than data protection. Furthermore, while aid organisations registered in the EU/EEA are supposed to comply with GDPR, the regulation's territorial scope is not clear enough and the EU is not able to protect the privacy rights of individuals residing in the Global South, nor is it necessarily interested in doing so.

<https://www.tandfonline.com/doi/abs/10.1080/01436597.2020.1811961?journalCode=ctwq20>



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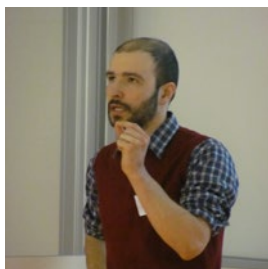
Barna Bakó, Zombor Berezvai, Péter Isztin, Enikő Zita Vigh

## **Does Uber affect bicycle-sharing usage? Evidence from a natural experiment in Budapest**

### **TRANSPORTATION RESEARCH PART A-POLICY AND PRACTICE 0965-8564**

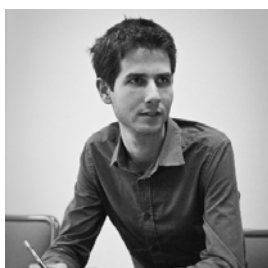
In this article we exploit a natural experiment provided by the forced exit of Uber from Budapest to assess the effect of Uber on bicycle-sharing system (BSS) ridership. Our results show that banning Uber caused a significant decrease in usage among frequent users especially on weekdays, suggesting a complementary relationship between these services. On the other hand, our findings indicate that ad hoc users mainly use BSS and Uber as substitutes. These results shed light on some unintended consequences of banning ride-sharing services that are worth taking into consideration in future policy decisions.

<https://www.sciencedirect.com/science/article/pii/S096585641831437X?via%3Dihub>



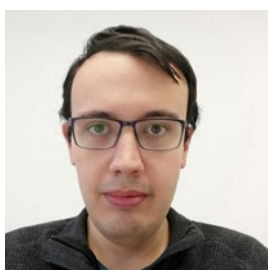
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## **Does Uber affect bicycle-sharing usage? Evidence from a natural experiment in Budapest: A rejoinder**

### **TRANSPORTATION RESEARCH PART A-POLICY AND PRACTICE 0965-8564**

We are grateful for the comments by Péter Bucskey on our article on Uber's effects on bicycle sharing usage (Bakó et al., 2020). Unfortunately, we believe that the concerns raised, and criticisms made by Bucskey (2020) are either based on misunderstandings of our results or are irrelevant to the analysis. In the following we address each objection made by the assessor and further clarify our results.

<https://www.sciencedirect.com/science/article/pii/S0965856420306303?via%3Dihub>





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## Behavioural intention to use autonomous vehicles: Systematic review and empirical extension

### TRANSPORTATION RESEARCH PART C-EMERGING TECHNOLOGIES 0968-090X

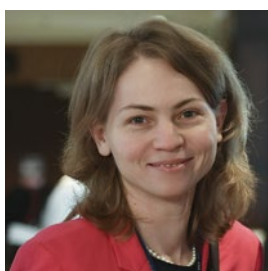
This study aims to enrich autonomous vehicle (AV) adoption research and practice by being the first study to systematically review empirical studies on behavioural intention to use AVs, a key element in the adoption process. This review of the extant literature provides a synthesized overview of the current state of knowledge, develops a meta-framework to reconcile past research, identifies inconsistencies in prior results, and suggests areas for future research. To address these future directions, this study empirically extends the proposed meta-framework by testing impactful new variables. Structural equation modelling of survey data from 992 respondents in Hungary shows that drivers of behavioural intention to use AVs significantly differ among users with high and with low personal information technology innovativeness. The behavioural intention of innovative users is influenced by utilitarian and hedonic motivations, whereas laggards are driven by hedonic motivation, and a utilitarian motivation does not play a role. Innovative users' behavioural intention to use AVs is affected by specific technological fears (i.e., data privacy concerns), whereas those lagging are not influenced by specific, only by general concerns (i.e., overall technological anxiety). The study also shows how individual-level behavioural intention to use AVs interacts with expected societal-level outcomes (e.g., equal opportunity for mobility). The results shed light on the need for more research on the role of moderating variables, which are relatively unexplored in the extant literature yet can contribute to a better understanding of the differences in patterns between various groups of future users, offering important managerial implications.

<https://www.sciencedirect.com/science/article/pii/S0968090X20306471?via%3Dihub>



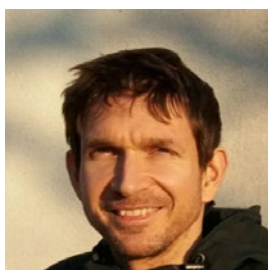
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## Parallel Valuation of the EQ-5D-3L and EQ-5D-5L by Time Trade-Off in Hungary

**VALUE IN HEALTH 1098-3015 1524-4733**

**Objectives** The wording of the Hungarian EQ-5D-3L and EQ-5D-5L descriptive systems differ a great deal. This study aimed to (1) develop EQ-5D-3L and EQ-5D-5L value sets for Hungary from a common sample, and (2) compare how level wording affected valuations. **Methods** In 2018 to 2019, 1000 respondents, representative of the Hungarian general population, completed composite time trade-off tasks. Pooled heteroscedastic Tobit models were used to estimate value sets. Value set characteristics, single-level transition utilities from adjacent corner health states, and mean transition utilities for all possible health states were compared between the EQ-5D-3L and EQ-5D-5L. **Results** Health utilities ranged from -0.865 to 1 for the EQ-5D-3L and -0.848 to 1 for the EQ-5D-5L. The relative importance of the 5 EQ-5D-5L dimensions was as follows: mobility, pain/discomfort,

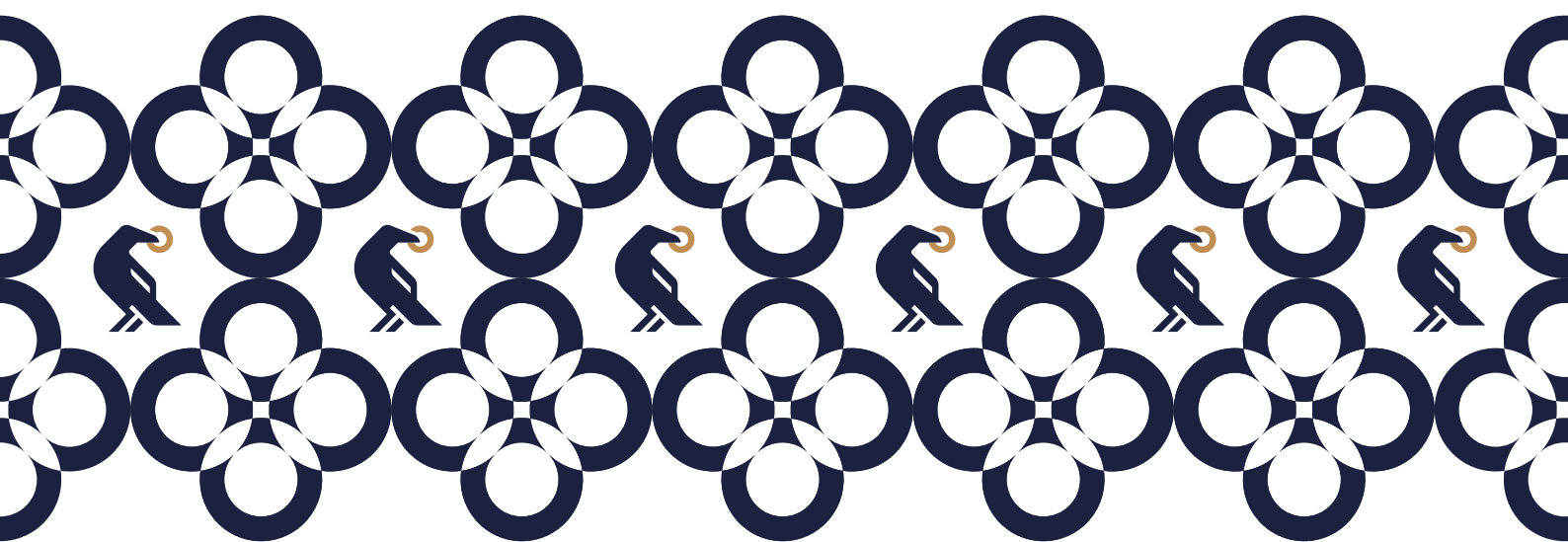
self-care, anxiety/depression, and usual activities. A similar preference ranking was observed for the EQ-5D-3L with self-care being more important than pain/discomfort. The EQ-5D-5L demonstrated lower ceiling effects (range of utilities for the mildest states: 0.900-0.958 [3L] vs 0.955-0.965 [5L]) and better consistency of mean transition utilities across the range of scale. Changing “confined to bed” (3L) to “unable to walk” (5L) had a large positive impact on utilities. Smaller changes with more negative wording in the other dimensions (eg, “very much anxious/feeling down a lot” [3L] vs “extremely anxious/depressed” [5L]) had a modest negative impact on utilities.

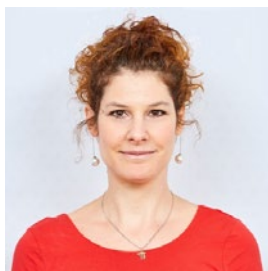
**Conclusion** This study developed value sets of the EQ-5D-3L and EQ-5D-5L for Hungary. Our findings contribute to the understanding of how the wording of descriptive systems affects the estimates of utilities.

[https://www.valueinhealthjournal.com/article/S1098-3015\(20\)32117-3/fulltext?\\_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS1098301520321173%3Fshowall%3Dtrue](https://www.valueinhealthjournal.com/article/S1098-3015(20)32117-3/fulltext?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS1098301520321173%3Fshowall%3Dtrue)



# Books and edited volumes





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## Emerging-market multinational enterprises in East Central Europe

**Palgrave Macmillan**

The rise of multinational enterprises (MNEs) from emerging markets is topical, important and poses a number of questions and challenges that require considerable attention in the future from academia as well as business management. The recent takeovers of high-profile companies in developed or developing countries by non-European emerging-market MNEs (EMNEs) – such as Lenovo, Wanhua (China), Hindalco (India), CVRD (Brazil), Cemex (Mexico), Lukoil (Russia), etc. – as well as the greenfield or brownfield investments of emerging companies (such as Huawei, ZTE, Tata, Pepco, etc.) show a new trend where new kind of firms become major players globally. EMNEs have become important players in several regions around the globe, ranging from the least developed countries of Africa through the developing markets in Latin America and Asia to the developed countries of the United States or the European Union, including East Central European (ECE) countries. EMNEs presence on the global level has resulted in numerous studies in the international literature but those research results barely cover EMNEs' activities in the ECE region (in the East Central European EU member countries, including the Czech Republic, Hungary, Poland, Slovakia and Slovenia). The existing books typically focus on the investment activity of a single country or region (such as China or East Asia) but a comprehensive analysis is still missing in this regard. The novelty of this edited volume is that it aims at exploring EMNEs location determinants, strategies, activities and challenges in East Central Europe by discussing its anomalies to the traditional theories as well as to other types of MNEs in the ECE region. The authors focus on EMNEs not only from China but from other important emerging countries, too, such as Russia, India, South Korea, Taiwan, Turkey, Brazil or South Africa.

<https://link.springer.com/book/10.1007%2F978-3-030-55165-0>



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László Zsolnai, Mike J. Thompson

# Responsible Research for Better Business

**Palgrave Macmillan**

This book gathers original, empirical and conceptual papers that address the complex challenges of conducting responsible research in the business and management professions. It includes contributions related to, and reflecting on, the vision of the Responsible Research in Business and Management (RRBM) network, which proposes that business can help provide a better world if it is informed by responsible research. The responsible research agenda requires new methods of scholarly assessment that include criteria for measuring impact, systemic solutions and practitioner relevance. Theories greatly influence business and management practices, and as the late Sumantra Ghoshal warned, bad management theories are destroying good management practices. The authors of this book believe that good management theories can help to create new and better business practices. László Zsolnai is a Professor and Director of the Business Ethics Center at the Corvinus University of Budapest, Hungary. He is the Chairman of the Business Ethics Faculty Group of the CEMS – The Global Alliance in Management Education – and serves as President of the European SPES Institute in Leuven, Belgium. Mike Thompson is the Leader of People Services at Anthesis, the global sustainability services group. He was formerly a Professor of Management Practice at the China Europe International Business School (CEIBS) and is now a Visiting Professor at the Xi'an Jiaotong-Liverpool University in Suzhou, China. He is also an Adjunct Professor at the Gustavson School of Business, University of Victoria, BC. Mike is the Co-editor of The Macau Ricci Institute Journal.

<https://link.springer.com/book/10.1007%2F978-3-030-37810-3>



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Scott Romaniuk, Péter Marton

## The Palgrave Encyclopedia of Global Security Studies

### Palgrave Macmillan

This encyclopaedia provides an authoritative guide intended for students of all levels of studies, offering multidisciplinary insight and analysis of over 500 headwords covering the main concepts of Security and Non-traditional Security, and their relation to other scholarly fields and aspects of real-world issues in the contemporary geopolitical world.

<https://link.springer.com/referencework/10.1007%2F978-3-319-74336-3>





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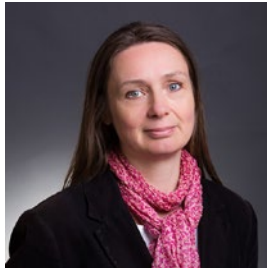
Gábor Kovács

# The Value Orientations of Buddhist and Christian Entrepreneurs

**Palgrave Macmillan**

This book includes the comparative analysis of the value orientations and the core operating values of Buddhist and Christian entrepreneurs. Besides, the book reviews the developments of the concepts of Buddhist economics and the social teaching of the Roman Catholic Church. The analysis includes the reflections of Buddhist and Christian entrepreneurs about business spirituality, profit, the temporal perspectives of business, and stakeholder management. The cases testify that a spiritual value orientation can contribute to creating genuine ethical commitment. The findings can encourage business scholars and practitioners to stop considering ethics as an instrument in the service of profit and serve as inspiration for integrating spirituality into business in a profound way. This book will be of interest to scholars and practitioners studying business ethics, workplace spirituality and faith at work.

<https://link.springer.com/book/10.1007%2F978-3-030-46703-6>



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Organizational Behaviour*

Jasmin Mahadevan, Henriett Primecz, Laurence Romani

## Cases in Critical Cross-Cultural Management

### Routledge

This book is a collection of 16 empirical cases in critical Cross-Cultural Management (CCM). All cases approach culture in CCM beyond national cultures, and all examine power as an integrative part of any cross-cultural situation. The cases also consider diversity in the sense of culturally or historically learned categorizations of difference (such as gender, race, ethnicity, religion and class), and acknowledge how diversity categories might differ across cultures. Furthermore, each case suggests a specific method or concept for improving upon the situation. Out of this approach, novel insights emerge: we can see how culture, power and diversity categories are inseparable, and we can understand how exactly this is the case. The uses and benefits of this book are thus both conceptual and methodological; they emerge at the intersections of Critical CCM and diversity studies. All cases also discuss implications for practitioners and are suitable for teaching. Mainstream CCM often limits itself to comparative models or cultural dimensions. This approach is widely critiqued for its simplicity but is equally used for the exact same reason. Often, academics teach this approach whilst cautioning students against implementing it, and this might be simply due to a lack of alternatives. Through means of rich empirical cases, this book offers such an alternative. Considering the intersections of culture, diversity and power enables students, researchers and practitioners alike to see 'more' or 'different' things in the situation, and then come up with novel approaches and solutions that do justice to the realities of culture and diversity in today's (and the future's) management and organizations. The chapters of this book thus offer concepts and methods to approach cross-cultural situations: the conceptual gain lies in bringing together CCM and (critical) diversity studies in an easily accessible manner. As a methodological contribution, the cases in this book offer the concise tools and methods for implementing an intersectional approach to culture.

<https://www.routledge.com/Cases-in-Critical-Cross-Cultural-Management-An-Intersectional-Approach/Mahadevan-Primecz-Romani/p/book/9780815359340>



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# The Challenges of Public Procurement Reforms

## Routledge

Public procurement affects a substantial share of world trade flows, amounting to 1000 billion euros per year. In the EU, the public purchase of works, goods and services has been estimated to account on average for 16 percent of GDP. The novelty of this book is that it focuses on the new European Union Directives approved in 2014 by the EU Parliament. The book consists of original contributions related to four specific themes of interest to the procurers' day-to-day role in modern public purchasing organizations – both economists and lawyers – allowing for relevant exchanges of views and “real time” interaction. The four sections which characterize the book are Life-cycle Costing in Public Procurement; Calculating Costs and Savings of Public Procurement; Corruption and Probity in Public Procurement and Public Procurement and International Trade Agreements: CETA, TTIP and beyond. These themes have been chosen for their current relevance in relation to the new European Public Procurement Directives and beyond. The original format features, as is the case with the first three volumes, an introductory exchange between leading academics and practitioners, from differing disciplines. It offers a series of sequential interactions between economists, lawyers and technical experts who supplement one another, so as to enrich the liveliness of the debate and improve the mutual understanding between the various professions. This essential guide will be of interest to policymakers, academics, students and researchers, as well as practitioners working in the field of EU public procurement.

<https://www.routledge.com/The-Challenges-of-Public-Procurement-Reforms/Castelli-Piga-Saussier-Tatrai/p/book/9780367902674>

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## Agency and Causal Explanation in Economics

**Springer Nature Switzerland AG**

This open access book provides an exploration of the consequences of the ontological differences between natural and social objects (sometimes described as objects of nature and objects of thought) in the workings of causal and agency relationships. One of its important and possibly original conclusions is that causal and agency relationships do not encompass all of the dependent relationships encountered in social life. The idea that social reality is contingent has been known (and largely undisputed) at least since Wittgenstein's "On Certainty", but social science, and most notably economics has continued to operate on the basis of causal and agency theories borrowed or adapted from the natural sciences. This volume contains essays that retain and justify the partial or qualified use of this approach and essays that totally reject any use of causal and agency theory built on determined facts (closed systems). The rejection is based on the possibly original claim that, whereas causation in the objects of the natural sciences reside in their properties, human action is a matter of intentionality. It engages with critical realist theory and re-examines the role of free will in theories of human action in general and economic theory in particular.

<https://link.springer.com/book/10.1007%2F978-3-030-26114-6>



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## Finance and Sustainability

### Springer International Publishing

This volume covers the proceedings of the ZAFIN Finance and Sustainability conference, organized by the Wrocław University of Economics in cooperation with the Corvinus University of Budapest and the University of Economics in Prague. The authors analyze a variety of issues related to recent finance problems, including corporate finance, public finance, monetary and fiscal policy issues, and risk management. The book also discusses topics related to sustainable finance, the transition to green economies, corporate sustainability and sustainable development. The target audience for this book includes researchers at universities and research and policy institutions, graduate students, and practitioners in economics, finance and international economics working for private or government institutions.

<https://link.springer.com/book/10.1007%2F978-3-030-34401-6>

