# 23<sup>nd</sup> VSB TECHNICAL UNIVERSITY OF ECONOMICS International Conference MEKON 2021

# **Book of Abstracts**

# **Basic Information**

The 23<sup>nd</sup> International conference MEKON aims to represent the research outcomes of postgraduate students and young academic researchers. MEKON also offers an opportunity for researchers from both domestic and foreign universities to establish and enhance research cooperation.

The conference section branches into the following topics:

Economics, Business Administration and Management, Marketing, Law and Public Economics, Finance and Accounting, System Engineering and Informatics.

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Vontroba, Jakub: Air pollution and migration at the level of European cities

**Wang, Anlan:** Performance Evaluation in Portfolio Optimization Considering Stock Market Turbulence

Yang, Luo: Inflation in China: The Role of Trade Openness and Exchange Rate

### Author: Igor Bezrodnov

**Title:** *Systems Ingineering of Small-tonnage Scientific and Production Enterprises at Paintwork Industry* 

**Abstract:** The classification of small-tonnage productions is carried out, methods of organizing and managing the technology of creating a paint coating using the engineering methodology are proposed, in the concept of "paint technologies". A general approach to modelling industrial production of small-tonnage chemistry was developed and an example of the practical implementation of the parameters in the research and production association "Lacquer-coating" in the management and implementation of projects is given.

# Author: Jíří Branžovský, Ivana Čermáková

*Title: Relationships Between Macroeconomic Variables and the Stock Price Returns: Case for USA and Eurozone* 

**Abstract:** This research aim examines the relationship in between the macroeconomic variables and the equity markets. There had been interest rates, money aggregates, consumer sentiment, CPI, industrial production and stock indices across Eurozone and USA in between 5/2011 and 2/2021. Stock indices had not been the outputs of macroeconomic regressors, it was a bit more vice versa. As a method, vector error correction model (VECM) for the long-term cointegration among variables, as well as short-term vector autoregressive (VAR) stochastic models were used.

# Author: Vladimir Bulko

**Title:** Application of Hull-White Trinomial Lattice Approach to Valuation of Mortgage Origination Implicit Option

**Abstract:** In the moment of a mortgage approval a Czech bank virtually writes an implicit option to a client who either exercises it by signing the Mortgage contract or the option expires worthless. To valuate the described implicit option the paper valuates the underlying mortgage contract as a coupon bond using Hull-White trinomial tree method. Afterwards using the same method, the trinomial tree is constructed for valuation of the implicit option with regards to initial term structure of interest rates faced at the moment of the option writing. Goal of the paper is to describe the Hull-White method and its application to the valuation of the implicit option written at origination of a hypothetical mortgage contract.

# Author: Ivana Čermáková, Jiří Slezák

**Title:** Perception and Validation of Fake News, Case Study: Faculty of Economics' Students

**Abstract:** Number of Fake News is alarmous and increase every year. The internet allows the possibility of Fake News making and sharing. So, it is important to focus on perception and validation of these messages. Students of Economic Faculty of VSB – Technical University of Ostrava were chosen like interest group. The research is based on questionnaire research. The questionnaires were distributed via webpages because of Covid-19 pandemic. Relationship between gender and education of people about Fake News in age of interest group and relationship between gender and education about Fake News in older age than interest group is tested in the paper. The paper is focused on validation Fake News sources and their using by interest group.

# Author: Alina Czapla

#### Title: Hierarchy of Dynamic Capabilities

**Abstract:** Researchers agree that dynamic capabilities (DC) have a hierarchical structure but there is no consensus with regard to DC levels and multidimensionality. The inconsistency in the numbering of individual levels seems to be particularly confusing. Although the authors cite the most popular hierarchy concepts, no common DC hierarchy has been adopted so far. The purpose of the article is to gather and compare the most important existing concepts and combine them to propose one consistent hierarchy of dynamic capabilities. This work also aims to propose a unified, universal nomenclature for individual levels in this hierarchy. A literature review using the snowball approach was used as the research method. As a result of the analysis, a coherent DC hierarchy was obtained. This should significantly facilitate not only future research in this field, but also implementation of research results in practice.

# Author: Katarzyna Czerna

**Title:** Aspects of infrastructure supporting innovative businesses in the Moravian-Silesian Region and the Silesian Voivodeship

Abstract: Constant and dramatic changes characterize the modern market and competitive environment, generally associated with the need to prosecute every current scientific knowledge, the security of its applicability, and rapid technology shifts. One way to maintain a market position in these conditions and create a stable environment for survival is innovation, often establishing new start-ups based on a revolutionary idea. The launch of these new and unstable companies is a perplexing query; basically, the infrastructure supporting innovation businesses should help with this period. As there is no precise definition of this infrastructure, this paper aims to draw its characteristics in similar borderline regions: the Moravian-Silesian Region in the Czech Republic and the Silesian Voivodeship in Poland, which will, to a certain extent, make it possible to capture international differences. This paper aims to discover the associations between the scope of individual organizations and cooperation with other organizations in the infrastructure supporting the innovative business through correlation analysis.

## Author: Xiaoshan Feng

# **Title:** Assessment of Efficient Credit Risk Management and Determinants in Banking Industry

**Abstract:** Credit risk is one of the major risks in commercial banks. Therefore, whether commercial banks conduct effective credit risk management and employ technology changes with the times are essential. The main aim of this study is to examine how the efficiency of credit risk management is influenced by the macroeconomic and bank itself determinants for selected banking industries. We employ the Data Envelopment Analysis (DEA) on selected commercial banks in the Czech Republic, Germany, Republic of Austria, Poland, and Hungary. Based on valid data from 2012 to 2019, selected banks received lower efficiency scores using variable returns to scale in line with expectations. Additionally, strong evidence from the Malmquist Index showed that the selected banking industries all improved their efficiency during the past 8 years due to innovation in credit risk management. Furthermore, logistic regression results provide that credit risk measurement (SA/IRB), size, capital adequacy, and ownership have significant influences on the likelihood of banks being efficient on credit risk management.

# Author: Lun Gao

**Title:** Research on the Risk Spillover Effect by Applying EVT-Copula-CoVAR Model

**Abstract:** This paper aims at the introduction of the extreme value theory into the Copula function in order to better characterize the distribution of financial asset prices. EVT model is constructed and combined with the Copula function to analyze the dynamic correlation between the price of gold and the world's major stock markets. On this basis, it measures the conditional value-at-risk (CoVaR) and the marginal risk spillover effect ( $\Delta$ CoVaR) of the international gold price on the world's major stock markets. The empirical results show that the fluctuation of gold price has a certain risk spillover effect on the world's major stock markets.

# Author: David Grendysa

**Title:** The Influence of Customer Satisfaction Factors on their Behavior in Cocreating the Company's Services

**Abstract:** The influence of customer satisfaction factors on their behavior in co-creating the company's services is one of the most interesting marketing topics recently. And if the field under study is also a new service in the consumer market, such as self-service laundry, then this is an unexplored area of application of this theory in this new sector of services. In self-service laundries, the customer is largely involved in providing / receiving the service from the principle of this type of business, i.e. when the customer washes and dries the delivered laundry himself. At the same time, his satisfaction with the service provided and the related further recommendation to potential customers, his assistance to other customers or the provision of feedback to the company to further improve its services plays a big role here.

# Author: Biwei Guan

# **Title:** An Efficiency Comparison of the Life Insurance Industry with Three-Stage DEA model

**Abstract:** In this paper, we use the three-stage data envelopment analysis model to evaluate the efficiency value of 12 life insurance markets from OECD and make a comparison of them. In the first stage, we used the basic DEA model, and in the sec-ond stage, we use stochastic frontier analysis slack regression to remove the impact of environmental effects and statistical noise on the efficiency value. The environ-mental variables we select are insurance density, market share, and growth of GDP. After the adjustment according to the second stage, we recalculate the efficiency value of each market. We find the environmental factors have little effect on the German and Ireland life insurance market, they perform great. But the environmental factors have a heavy effect on Belgium, Greece and Hungary. After removing the influence of environmental factors, the TE value of Belgium, Greece, and Hungary decreased significantly, while the efficiency value of Spain increased by 0.03.

# Author: Zsófia Gyulai

#### **Title:** From Freemium to Premium - the Conversion Capability of Digital Nudges Through the Example of a Software-as-service

**Abstract:** Companies attempt to sway consumer decisions at various points in the buying process. The so-called "nudges" are one of the effective techniques they use to influence the process. The nudges subtly guide the decision maker toward a predetermined outcome while preserving the decision maker's freedom of choice. The aim of this study is to classify digital nudges and investigate their effect on conversion. During the investigation, the following approach was used to analyze web analytics data from a SaaS provider: first, conversion data was obtained and compared from the year before and the year after the use of digital nudges. Then, in the two periods, the number of upgrades - from the freemium to the premium package - was assessed, taking into account whether the number of upgrades came directly from clicking on a nudge or not. Digital nudges help to improve conversion rates while maintaining the "normal" proclivity for page-leaving. Loss aversion nudges were found to have the greatest tendency to convert throughout the study.

# Author: Pavel Jančálek

**Title:** Information Support Tools of Self Service Business Intelligence For The Implementation of the Shop Floor Management in Production Company

**Abstract:** In this paper, we use the three-stage data envelopment analysis model to evaluate the efficiency value of 12 life insurance markets from OECD and make a comparison of them. In the first stage, we used the basic DEA model, and in the sec-ond stage, we use stochastic frontier analysis slack regression to remove the impact of environmental effects and statistical noise on the efficiency value. The environ-mental variables we select are insurance density, market share, and growth of GDP. After the adjustment according to the second stage, we recalculate the efficiency value of each market. We find the environmental factors have little effect on the German and Ireland life insurance market, they perform great. But the environmental factors have a heavy effect on Belgium, Greece and Hungary. After removing the influence of environmental factors, the TE value of Belgium, Greece, and Hungary decreased significantly, while the efficiency value of Spain increased by 0.03.

# Author: Shahriar Jeddy

# **Title:** *Reviewing the Effects of Impediments of Intention to Trust for Purchasing Online Products.*

**Abstract:** In Iran, during recent years there have been quantitative and qualitative increase of online business sectors. However, in spite of daily growth of virtual business networks, Iranian consumers regrettably did not trust to such deals in a way that should be expected, but still willing to purchase the products in person through traditional channels. Trust and security of websites are considered to be the most important factors for the users as such businesses are under the category of B2C, and thus the satisfaction as well as trustworthiness for consumer is on the first priority. The purpose of this research is to investigate and review the Effects of Obstacles of Intention to Trust for Purchasing Online Products. The Theory of Planned Behaviour (TPB) model was used for the analysis of data by means of Partial Least Squares (PLS) Structural Equation Modelling (SEM). The population sample size for the study was 71 persons examined by online survey. The findings revealed that there was positive significance between lack of integrity, lack of benevolence, lack of competency and intention to trust. In the meantime, intention to trust was significant with intention to purchase. Consequently, it was suggested that e-tailers should try to enhance the dimensions of their trustworthiness to e-clients.

# Author: Lukáš Jursa, Sára Novorytová

**Title:** Monetary Cinderella: Story about development of neutral rate of interest in the Czech Republic

**Abstract:** We estimate the development of the neutral interest rate in the Czech Republic for the period January 2002 to December 2020. For estimation of the neutral interest rate, we use the Bayesian time-varying parameters TVP model with local shrinkage of priors. The measurement of the neutral interest rate can be compared to a fairy tale, which, however, often does not have a clear and completely convincing result. At the practical level, several methods are used for the estimation of the neutral interest rate and the search for the best path, i.e., the best method is quite typical for current research directions. We employ one of the modern methods of estimating the neutral interest rate and apply it to the environment of the Czech Republic. It is an exaggeration to say that a neutral interest rate is a monetary Cinderella. The neutral interest rate is a star variable that is gradually looking for a way among her sisters to the imaginary throne. In the case of the Czech Republic, there is a permanent gradual decline in the neutral interest rate, which is at the negative level of around -0.5%. The neutral interest rate shows a stable development. In the case of a comparison with similar surveys conducted in the euro area, we can state that the neutral interest rate in the Czech Republic and the euro area are comoving.

# Author: Anita Kéri

#### Title: Master student loyalty at the University of Szeged, Hungary

**Abstract:** Researchers have long studied the internationalization process of the higher education era. There have been several research conducted among foreign students to uncover their perceived service quality and satisfaction. However, there is a relatively low number of studies that deal with foreign student loyalty in-depth. Therefore, the aim of the current study is to reveal what loyalty means for foreign master's students at the University of Szeged. This exploratory study intends to reveal factors contributing to foreign student loyalty and therefore uses qualitative in-depth interviews. Interviews were recorded at the end or towards the end of students' study program. Results reveal that besides certain similarities between factors influencing foreign student loyalty, there are numerous factors that only appear in the individual level of international students. We can state that master students' loyalty differs almost for each examined individual and requires further analysis.

# Author: Daniela Kharroubi

#### Title: E-recruitment: Merits and Demerits

**Abstract:** Research Background: As a result of the current unprecedented global changes due to COVID-19, many organizations were obliged to face the reality, i.e., to keep a social distance and therefore to adopt new ways for the recruitment of new candidates, so that they survive the current challenges. Purpose of the article: The aim of this article is to review recent publications, to analyse them and to provide an insight on the advances made in the recruitment process, and its merits and demerits on HRM. Methods: This article provides a comprehensive review of quantitative, qualitative and theoretical studies published in journals and distinguishes articles that fall within the search criteria. Findings and value added: Human resources management in most companies put an effort on the digital transformation of their recruitment processes in order to survive and grow. These findings won't only benefit academicians but also managers and potential researchers, because they will be able to acknowledge the various aspects about e-recruitment.

# **Author: Sabrina Lee**

#### Title: Efficiency of hospitals in Germany in year-on-year comparison

**Abstract:** This paper deals with the topic of efficiency measurement of municipal hospitals in Baden-Württemberg, Germany. The municipal economy and in particular the assurance of public health services have a very high economic and socio-political importance. Hospitals in particular are under tremendous socio-political pressure; in the current COVID-19 crisis this becomes visible more than ever. This socio-political pressure primarily affects publicly owned hospitals – in contrast to privately owned hospitals. In addition to financial pressures on public hospitals, there are several other factors that affect the efficiency of public hospitals. By analyzing various endogenous input and output factors, this paper aims to do its part to illustrate efficiency in public hospitals in a long-term study from 2012 to 2019. Public hospitals in the state of Baden-Württemberg (11.07 million inhabitants) in Germany are considered. This paper may use Data Envelopment Analysis (DEA) to show changes in the efficiency of public hospitals. As a result, these findings can help to provide a comparison of the efficiency of public hospitals over time and to identify possible causes for an increase or decrease in efficiency.

# Author: Hunayu Li

#### Title: Fuzzy Trinomial Tree Pricing Model of Real Options and its Application

Abstract: According to the common features in the venture capital investment—high input, high yield and high risk, people always invest by stages which is becoming more and more important in economic activities with the more complicated market environment. So the evaluation of the investment is getting more people's attention. And the traditional evaluation method such as comparison method, proportion method, maturity method, the internal rate of return method, scene analysis method, decision trees method and the net present value method and so on, not fully considering the uncertainty and the Characteristics of stage of the investments of the project, can't estimate the value of the project rationally. So we come up with the fuzzy real options method.This paper firstly introduces the venture investment and real option theory briefly. Next it construct the classic Trinomial tree pricing method of American options, whose underlying asset the executed price are given beforehand, and analysis the real options existing in the project and their interactions, then use the method to calculate the value of the growth options combined with the choice the investment scale.

# Author: Monica Lia

#### **Title:** Data modeling solutions within business intelligence platforms

**Abstract:** Data modeling is a key element in the process of designing business intelligence platforms. Data representation within data warehouse is related with achieve the business goal of business intelligence platforms implementation The present paper aims to expose and analyze comparatively the known ways of performing data modeling within business intelligence platforms.

# Author: Lilla Lipták

**Title:** The role of external reference price on consumers' choice and price evaluation in case of FMCG products

**Abstract:** Consumers usually make their decision with the help of heuristics. Anchoring effect is one of these. When we talk about products or services price can play the role of the anchor we compare to. In this case, we can call our anchor reference price. The aim of this study is to investigate the role of external reference prices on consumer choice and price evaluation in case of FMCG products. We used an online experimental survey to investigate the topic, where more than 2150 people filled out our questionnaire. We divided the respondents, who had to make choices and estimations about the average price of given products. We fund that external reference prices have an effect on product choice and price evaluation even in case of FMCG products like milk or mineral water. Therefore, product placement plays a huge role in the decision-making process of consumers.

# Author: Daniela Mališová, Jana Štrangfeldová

#### Title: Convergence of Health Expenditure of European Union Countries

Abstract: In 2004, Slovakia became part of the member states of the European Union. However, the accession negotiations were conditional on the fulfilment of the Maastricht criteria focused on the country's macroeconomic indicators. After 17 years, we consider it beneficial to find out whether Slovakia is approaching European countries in the field of health and healthcare. The aim of the paper is to assess the convergence of health expenditure in the countries of the European Union. The theoretical part of the paper focuses on professional studies using the convergence method in the field of health. Based on the analysis of absolute  $\beta$ -convergence and  $\sigma$ -convergence, we find that there is a convergence of health expenditures between the examined countries in the period 2004-2019. We use mathematical-statistical methods of linear regression and cluster analysis to examine convergence. The results show that the examination of the indicator of health expenditure (per capita) leads to the convergence of the member states of the European Union. However, we include Luxembourg among the outliners of the member states of the European Union.

# Author: Vojtěch Meier

# **Title:** New insights into Family Business in the Czech Republic from the point of view of MCDM

Abstract: In both Czech and international economies, family businesses are undeniably significant. They are also critical in the globalization process. They have always been the main source of private-sector employment in the world. However, there has never been a unified concept of family business, making it difficult for the government to differentiate between family and non-family businesses. As a result, the administrative and legal process became more complex. Finally, in 2019, the Czech Republic's concept of a family business was established, making certain administrative and legal process easier. Simultaneously, the management of Czech family companies is undergoing the first "post-revolutionary" transformation. Many companies are debating whether to keep their current business organizations or change them. The aim of this article is to figure out which legal type of business is best for micro-family business. The TOPSIS method and the Saaty pair comparison method are used in this article. The article employs a variety of approaches, including analysis, synthesis, and comparison, as well as selected method of multiple criteria decision-making. The decision analysis revealed that the most optimal legal model of the family business is self-employed, based on the parameters, considered (legal, accounting, tax, and managerial). Aside from the findings, the study adds value to this subject for the Czech business climate, allowing potential scholars to compare the Czech Republic to other countries.

# Author: David Neděla

#### Title: Impact of Trading Rules on Market Risk Capital Requirement

**Abstract:** Feasible approach is a combination of a general portfolio model with other financial areas to find a more profitable strategy for the investment making process. Given that financial companies manage their portfolios while complying with the authorities' risk mitigation regulations, it is permissible to examine strategies from Basel capital requirement views. For applicability in financial markets, technical analysis or stochastic dominance approach can be thought. Therefore, the impact of technical indicator rules and the stochastic dominance rule as an alarm in a portfolio decision process on market risk capital requirement in different markets is analysed in this paper. For credible analysis, two investment horizons capturing different market conditions are considered. Two simple strategies including technical analysis rules and stochastic dominance rule in the portfolio creation process are applied, where Strategy 1 is focused on eliminating the market systemic risk with the alternative investment in a risk-free asset. In contrast, Strategy 2 considers only assets meeting particular rules.

# Author: Ngoc Anh Ngo

# **Title:** Shadow Loans, Bank Loans and Macroprudential Policy: Leakage through the Substitution Effect

**Abstract:** We examine whether macroprudential policy actions lead to a substitution of credit from the traditional banking sector to a less regulated shadow banking sector. To this purpose, we utilize a large dataset covering 23 European Union countries. We instrument for macroprudential policy with the strength of macroprudential authority, positing that policy measures are more likely to be implemented if the macroprudential policy is allocated within a central bank. This instrument is strong in the first stage, and our results confirm a positive relationship between macroprudential policy measures and a future growth of shadow bank lending.

# Author: Maryam Olfati

#### Title: Evaluating plastic manufacturing units using Data Envelopment Analysis

**Abstract:** Efficiency analysis is very useful and important to measure the performance of any industry in order to cope up with the competition. The paper measures the efficiency of plastic manufacturing companies by using a slack base model where some input variables are not under the control of management. The data from the year 2017 to 2019 is considered. The profit after tax exhibits fixed effects on inputs consumed by the companies. For the optimal use of resources, slacks for inputs are found out.

# Author: Jana Ostárková

#### Title: Measuring Factors of Regional Resilience of the Czech Republic

**Abstract:** This paper focuses on analysing the indicators of resilience in the case of the Czech Republic, as this topic is currently the core subject of interest of many economic studies. Although there is no unified definition and understanding of the concept, resilience is one of the basic criteria for assessing and comparing the development of economies. Moreover, the European Union has considered it one of its key objectives for rebuilding and enhancing a more resilient Europe. The paper aims – based on factor analysis – to evaluate individual factors for five partial dimensions of the resilience of NUTS 2 regions of cohesion regions of the Czech Republic for the period 2000 to 2019. The main factors determining the resilience of the Czech NUTS 2 regions are identified in societal, economic, social, ecological, and innovative dimensions.

# Author: Olesya Petrenko

**Title:** Short-term managerial decisions in implemented financial and marketing strategies: a case study of RoadAbroad online language school

**Abstract:** Short-term managerial decisions in implemented financial and marketing strategies is a crucial part of organisation management. This component helps to keep track of the changes of current customers' preferences and fulfil the demand on certain groups of goods and services. Companies may underestimate the importance of short-term decision-making in accounting, finance and marketing strategies which in turn may sometimes lead to creating lower value to the products or services and having lower returns on the investments. As a result, such businesses develop slower than they potentially could. Theymay involuntarily take higher risks of financial losses. This paper presents a case study of an online lanuage school in Russian Federation that faced similar problems. Balancing the implemented financial and marketing strategies is believed to be vital for value creation, sustainable development, organization of better customer service and continuous quality improvement in the future.

# Author: Agnieszka Urszula Romanowska

#### **Title:** The phenomenon of "patostreaming" in Poland

**Abstract:** The following article describes the phenomenon of "patostreaming" (live webstream containing controversial content) as a new pathological phenomenon occuring on the Internet in the 21st century. The development of technology is a great opportunity, but also a great danger. The risk factors include e.g. unhealthy, pathological behaviour of Polish content creators while recording so called patostreams. The methods used in the article are analysis of the literature, media content and legal cases. The paper explains the characteristics of "patostreaming", the phenomenon, etiology and preventing methods. In the article the author defines what "patostreaming" is, classifies "patostreaming content", analyzes this phenomenon from the legal point of view, takes into account the issues of legal liability of people submitting videos, their viewers and the platforms providing access to this content. The last part contains preventing aspect and describes the difficulties of solving the "patostreaming problem".

# **Author: Prity Sinha**

#### Title: Social Capital

**Abstract:** During 1980s, social capital became topic of interest in all fields, be it politics, institutional, health sector and many more. Social capital got limelight from the viewpoint of few well-known researchers like, Pierre Bourdieu, Robert Putnam and James Coleman. The idea of this paper is to get the glimpse of these three scholars related to the field of social capital. Pierre Bourdieu has focused on the areas of economic capital, cultural capital and social capital, where cultural and social capital are somewhat related. Robert D. Putnam, related to social capital focused on the areas of social trust, social norms and networking where all three eventually gives benefit to social capital. James Coleman, has worked with Bourdieu also in some social capital areas, but has worked on different fields of capital, i.e., physical capital, human capital and social capital. All these three scholars showed us the importance of social capital in our society which is highlighted by this paper.

# Author: Adrián Šperka, Jozef Gašparík

# **Title:** Railway undertaking costs for the railway infrastructure usage during the line closure

**Abstract:** As the railway infrastructure needs constant modernisation and reconstruction, occasional long-term or short-term exclusions are needed, especially on single-track lines. The solution with regard to such situations is either a rail replacement bus service or route diversion. The paper aims to compare the costs for the use of railway infrastructure, which accrue to the railway undertaking from the use of the route diversion in the case of line closure compared to the original route. The topicality of this contribution is underlined by a series of long-lasting exclusions on the first and third transit corridors. These began in April 2021 and will continue until June 2023, and will bring with it several restrictions with it in relation to both passenger and freight transport.

### Author: Jakub Vontroba

#### Title: Air pollution and migration at the level of European cities

Abstract: People migrate for various reasons. Historically, the literature has focused mainly on the socio-economic determinants of migration. In recent years, attention has also focused on environmental factors, including air pollution. The aim of this work is to present a search of empirical literature focusing on the relationship between air pollution and migration, to create a robust record of approaches and results, and to reveal a possible research gap. The results suggest that air pollution is a significant "push" factor of migration and that its effects are heterogeneous according to different population groups. Furthermore, the greatest attention is paid to areas with high pollution, especially China, while the impact of air pollution at its lower levels on migration is insufficiently studied. Likewise, the majority of studies deal with international and interregional migration, but the significance of this factor for the development of lower territorial units, ie cities, is also examined only in exceptional cases. These two findings thus identify a potential area for further research.

### **Author: Anlan Wang**

#### **Title:** *Performance Evaluation in Portfolio Optimization Considering Stock Market Turbulence*

Abstract: Since the mean-variance model was proposed by Markowitz (1952), various optimization approaches have been developed to address the different requirements of investors. The strategies obtained from the optimization models are always expected to perform better than the random investments made by people who lack professional investment knowledge. While in the later relevant publications on the topic of portfolio optimizations, an opposite opinion was raised, which stated that "A blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by experts". In this paper, considering the impact of the economic environment on the financial markets, we make evaluations on historical performance of the portfolio strategies during the stock market turbulence periods. To make the evaluation, random-weights portfolios are applied. In our empirical studies, we apply a sample which covers the 2007–2009 global financial crisis and also another sample which covers the COVID-19 pandemic. According to the empirical results, we find that minimizing the chosen risk measure/maximizing the chosen performance ratio in the in-sample period does not guarantee its lowest/highest value of the strategy portfolio in the out-of-sample period.

### Author: Luo Yang

#### Title: Inflation in China: The Role of Trade Openness and Exchange Rate

Abstract: It is well known that money supply affects the inflation rate. The central bank's monetary policy decisions naturally affect the money supply. China carried out exchange rate reform in 2005 and implemented a floating exchange rate regime. Since the outbreak of the financial crisis in 2008, China's large-scale money and credit supply in 2009 has played a very important role in taking the Chinese economy out of the financial crisis first, but this has triggered a hidden danger of future inflation. However, fast economic growth in China combined with increasing openness affects the market demand for money, the effectiveness of the central bank's monetary policy, and ultimately inflation. This study examines how trade openness and exchange rate development affect inflation in China using data from 2000 to 2020. Employing the ARDL model framework, we found a significantly positive relationship between trade openness and inflation in the long run. However, there is no clear evidence of a significant effect of exchange rate change on inflation. In addition, we analyse the problem via nonlinear ARDL model.