Finance and Sustainability Conference
12-13 December 2019

Wroclaw University of Economics and Business

Corvinus

VŠE FACULTY OF MANAGEMENT JINDRICHUV HRADEC

Book of abstracts

2019

SCALINGS

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Finance and Sustainability Conference 2019

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Content

Conference Organizers

The **Wroclaw University of Economics and Business, Poland** is ranked among the top economic schools of higher education in Poland, and an important centre of science and research. Its activities are aimed at maintaining and strengthening the position of the university on regional, national and international levels, improving competitive advantage, and shaping its image of a modern institution, open and friendly to its employees, students, and the environment. WUEB employees receive numerous awards for didactic and scientific achievements, and have exercised responsible duties over a number of scientific associations and societies, both in Poland and abroad.

Corvinus University of Budapest, Hungary is a research university oriented towards education. Corvinus University accepts students at six faculties and offer courses leading to degrees at the bachelor, master and doctoral level in specialisations taught in Hungarian, English, French or German. The University was listed in the top 50 in the Financial Times European Masters in Management rankings, and was the first Hungarian university mentioned among the best in the area of agriculture.

The **University of Economics, Prague, Czech Republic** is an economics and business-oriented public university located. It is the largest university in the field of economics, business and information technology in the Czech Republic, with 15 000 students across its bachelors, masters, doctoral and MBA programmes. The university is composed of six faculties, spread over three campuses. The University of Economics, Prague ranked 55th by the Financial Times within the 95 best European business schools.

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Keynote speakers

Keynote speaker: Gábor Lévai
Impact Manager of Magnet Community Bank & individual Impact Angel – Values-Based Financing, Hungary

Gabor Levai is an economist, the founder of Civil Support Public Benefit Ltd, the first Hungarian B Corp, which is focusing on NGO development. He is the co-founder of Impact Accelerator, a 6-month long accelerator program for social startups, and Impact Academy, a joint 8-month long incubator program of Civil Support and Ashoka CEE focusing on developing and implementing impact assessment methodology for NGOs and social businesses. He is also working in part-time as impact manager of Magnet Community Bank (a member of Global Alliance for Banking on Values) and invested as impact angel in several Hungarian purpose-driven startups and companies, like Mártogatós, (a sustainable catering provider), Cseriti Charity Shop Network (reuse of used household articles), or TheTailorNetwork (bespoke tailor-made suits tailored by BOP individuals).

Keynote speaker: Priv.-Doz. Dr. Remmer Sassen
Technische Universität Dresden, Germany

Remmer Sassen joined the TU Dresden in October 2019. He is representative of the Chair of Sustainability Management and Environmental Accounting. He holds a Ph.D. (Dr.rer.pol.) from University of Hamburg and also habilitated at University of Hamburg in 2017. Since November 2016, he has been managing the HOCH-N action field sustainability reporting in collaboration with Freie Universität Berlin and Universität Duisburg-Essen. In the past, he carried out several (international) projects on sustainability reporting and sustainability management of firms and universities. His research topics relate primarily to external reporting of firms and universities (e.g., sustainability reporting, integrated reporting, risk reporting, and corporate governance reporting) as well as corporate governance.

TOPIC: Remmer Sassen, Leyla Azizi and Lasse Mertins: What are motivations and barriers of US universities to disclose voluntary sustainability information in STARS reports?; Technische Universität Dresden, Germany, Technische Universität Dresden, Germany and Technische Universität Dresden, Germany

This paper investigates voluntarily sustainability reporting of universities. More specifically, we explore the motivations and barriers of disclosure practices by conducting an online survey in 290 US universities. We examine our research goal from a multi-theoretical perspective by means of structural equation modeling. The results confirm with the theories' assumptions. We find that the level of the societal expectations, the availability of the organizational structures and bottom-up processes have the strongest effect on the motivation's construct. Attracting the external funding sources through fulfilling societal expectations is one of the most important driving factors. The lack of reporting related organizational structures is the most important impediment factor. The most obstacles related to this factor are the lack of resources (financial and personnel) and the lack of external incentives. The study provides important contributions to accounting literature. We develop scales that measure the level of motivations and barriers to report sustainability information. Furthermore, our findings could improve the organizational structure of universities, and further contribute to the sustainable development of the society.

Keywords: sustainability reporting, universities, motivations, barriers, structural equation modelling

Conference Aims and Subject Areas

The Finance and Sustainability conference covers a variety of issues related to recent finance problems among which: corporate finance, public finance, monetary and fiscal policy issues, risk management. In the sustainability field, we wish to cover issues related to sustainable finance, the transition to a green economy, corporate sustainability and sustainable development.

The conference Finance and Sustainability becomes a part of public debate about climate and renewable energy issues in Poland and in the world. The financial system is already in transition driven by economic and finance strategy oriented towards long-term sustainable and climate-resilient development and also by the digital revolution. According to the above transition, new concepts of finance have emerged in public debate such as green finance, sustainable finance, climate finance, carbon finance. Finance was always an instrument of economic decisions. The aim of finance in the neoclassic market economy was to maximize profits and shareholders value. The new approach to finance is purpose oriented, mission-oriented, and value-oriented which is opposite to the traditional role of finance. This approach supports sustainable development, green economy, low carbon economy also adaptation and mitigation of climate change.

The fields of scientific interest of the conference are:

- Corporate finance,
- Public finance,
- Risk management,
- Corporate sustainability,
- Transition to green economy,
- Sustainable development,
- Capital markets,
- Financial instruments, including green financial instruments (i.e. green or climate bonds),
- Socially Responsible Investment (SRI),

Conference Program

On 12th of December 2019 a joint seminar on business valuation was conducted fully in Polish included workshops and panel discussions with valuation practitioners.

Finance and Sustainability plenary sessions and panel sessions were conducted during the second day, 13 December 2019. The language of this day of the conference was English.

Friday, 13 December 2019

8.00-9.00	**Registration**
9.00-10.30	Plenary session
10:30-11:00	**coffee break**
11:00-13:00	Working session 1: Corporate Sustainability Working session 2: Public Finance
13:00-14:00	**Lunch**
14:00-16:00	Panel session: Co-creation and Scalings in urban energy transition – case of Wroclaw
14:00-16:00	Working session 3: Capital market and corporate finance
16:00-16:15	**coffee break**
16:15-18:00	Working session 4: Green economy and risk management
18:00-18:15	**closing of the conference**

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1 Session - Corporate Sustainability

1.1 Gábor Csepy: Business transformation and sustainability – Systematic analysis of the academic literature

Corvinus University of Budapest

Business transformation and sustainability represent very popular research streams in the academic literature. The aim of the author is to analyze peer-reviewed academic papers which combine the concepts of business transformation and sustainability to set an agenda for future research.

The rules of systematic literature search were applied to create the initial set of articles for the quantitative literature analysis. In the scope of the analysis are papers written in English, gathered from Scopus database and ranked by Scimago. The articles' bibliometric data was analyzed including keywords and abstracts. The most impactful research themes were reviewed and introduced to establish the conceptual framework about the mixture of business transformation and sustainability research streams.

Based on the results of the systematic literature review the potential research gaps and further directions were identified, and a research agenda was set for interested researchers.

Keywords: business transformation, sustainability, bibliometric analysis, literature review

1.2 Marvin Enalpe: CSR (Corporate Social Responsibility) Activities and Impact on Firm Value: The Case of Technology Company Group

Wroclaw University of Economics and Business

The objective of this study is to analyze relationship and influence of Corporate Social Responsibility (CSR) performance on 50 Technology firms against Corporate Financial Performance (CFP), whether there is a substantial positive expansion on the firm's value, neutral effect, or no significant impact at all. Samples of Global Technology Companies operating under 3 Industry groups namely, Computers, Phones & Household Electronics, Software & IT Services, and Telecommunications Services were collected. ASSET4 database of Thomson Reuters was utilized for this study, between the periods from 2009 – 2017. The 3 CSR-ESG Pillar scores were considered for comparison: Environmental Score, Social Score, and Corporate Governance Score as independent X variables. While Price to Earnings Ratio (PER) and Tobin's Q Values are used as dependent Y variables. In line with the view that CSP-CFP link are heterogenous- their dependence on individual stakeholder's groups, their proximity to the end consumers, their potential for social and environmental damage and their level of product service differentiations, the industry group classification, Regional and Country Level of Technology firms are used as controlling variables. The recommendation to these companies is to improve their social, governance, and environmental aspects in (in order of priority) and extend its CSR reach not just on global-regional level but within national framework too.

1.3 Anita Reizinger-Ducsai: Is it possible to audit sustainability reports?

Corvinus University Budapest

A concomitant of the corporate integration of sustainable development is that companies even make public reports about their relevant activity via communication channels, as they expect to see some short or long-term competitive advantages. This thesis focuses on the content and the audit of sustainability reports. Assessing the information content of these reports and trying to figure out if the producers of these reports can actually be considered socially responsible. The thesis has a look at/ gets a nearer view of the quality of the audit, based on the stakeholders' preferences.

The basis of the dissertation was the sustainability and corporate governance reports of the companies listed on the Budapest Stock Exchange. The research has led to prove that the audit of sustainability reports has an increasing relevance among the stakeholders, even though its audit cannot lead to reasonable certainty on the account of the complexity of the used data and the subjectivity of the opinions. Having analysed the sustainability reports published in Hungary, as a conclusion the audit of sustainability reports create value. It creates value, since reliable and authentic data are more likely to be integrated in corporate decisions. No sustainability results can be achieved without a reliable reporting system, which also has a multiplier effect. The external stakeholders, including primarily investors and analysis experts can rise to a higher level of trust and make better decisions in line with the company, in so far as they can have access to an audited sustainability report, along with the audited financial statement.

Keywords: CSR, accounting, auditing, GRI, sustainability reports

1.4 Fragkoulis Papagiannis, Patrizia Gazzola, Seng Kok, Mauro Romanelli: Procuring Socially Responsible Services: A Sustainability-Driven Case from Thessaloniki, Greece
Liverpool Business School; Insubria University and University of Naples Parthenope

This descriptive exploratory case study reveals the current state of an innovative municipal services' design for socially responsible tenders, as well as its sustainability findings. A mixed-method approach enables the collection of rich, contextual information from the 60 participating organisations that contribute to the 3-step design of this socially responsible framework. Data is analysed using bivariate analysis against the different research variables. Findings indicate an individual notion of strongly correlated procuring public services, involving traditional and digital communication approaches. They lead to innovative public private socioeconomic synergies in supply chain management (SCM), as well as the reestablishment of the city's social and environmental profile. Growing implications in the Greek public and private sectors link the role of social responsibility to sustainable supply chain management practices (SSCM). As a result, current municipal tenders are reflecting a socially responsible framework design for the city's growth and sustainable development. In a European post-financial-crisis era where budgets are limited, this study contributes to: i) European sustainability socially responsible services; and ii) lessons learned from the participating actors of a SR design, setting a valuable SSCM example for other European counties.

1.5 ·Justyna Zabawa: Environmental and social responsibility of banks from WSE

Wroclaw University of Economics and Business

The paper shows areas of sustainability in banking sector with the special attention for the protection of natural resources and the environmental indexes. The involvement of banking industry in pro-environmental projects and activities is not sufficiently presented in modern literature (both domestic and foreign). Research carried out at paper supplements a significant gap in this area. In the domestic and foreign literature can encounter a small number of publications dealing with the subject of connections between the financial efficiency of financial institution and the implementation of corporate social responsibility activities in the banking sector in the world (based on Web of Science) [Soana 2011; Zabawa 2013c; Zabawa 2014b; Paulik i in. 2015; Huang, Duan, Zhu, 2017; Fijałkowska i inni 2018]. On the other hand there are some papers connected with environmental aspects in banking sector [Borys 2000], [Dziawgo 2010; Korenik 2009; Marcinkowska 2013; Zabawa 2015a;Dumitraşcu, Feleaga, Feleaga 2014].

The study was designed to provide a significant contribution in filling this important gap in modern research. The main objective of this study was defined as follows: Measuring the level of Polish commercial banks involvement in pro-ecological activities, based on the postulated procedure. During the studies were used following tools: Analytic Hierarchy Process (AHP), linear ordering methods: standardized sum method and synthetic measure of development, Pearson's and Spearman's correlation coefficients.

The paper presents research results for Polish banking sector, with the special attention for banks from Warsaw Stock Exchange and WIG-ESG (earlier Respect Index). The WIG-ESG Index project, aims at identification of companies, included banks, managed in a responsible and sustainable manner (http://respectindex.pl). It puts strong emphasis on investment attractiveness of companies that are characterized by reporting quality, level of investor relations, information governance and environmental responsibility. There were presented also The Principles for Responsible Banking. The Principles were launched by 130 banks from 49 countries, including institutions from WSE, representing more than USD47 trillion in assets.

The research has been possible to conduct thanks to the financial support of the National Science Centre, Poland, project number 2016/23/D/HS4/02841, "Green banking versus economic efficiency of Polish banking sector in the context of implementation of the Directive UE 2014/95/UE".

1.6 Omar Rashdan, Gábor Csepy: Sustainable Business Models in Healthcare: A Scoping review on quality and quantity of literature Corvinus University of Budapest

It is common knowledge that healthcare industries are typically always the last to adopt new business transformations or even technologies, given the complexity and high expenses of change controls. Given that Sustainable business models started gaining attention in academic literature in recent years; This work was conducted with the aim to identify and map the related sustainable business model research in Healthcare industries. A systematic scoping review methodology was developed and employed to identify related articles. Multiple databases were utilized by using the "EBSCO discovery service" (EDS) alongside "Scopus" database resulting in total of 149 articles after deduplication. Scimago Journal Ranking (SJR) system coupled with different quantitative and qualitative bibliometric techniques allowed for mapping current sustainable business models research trends within the Healthcare industries. Further, Leading journals, articles and topics in the literature are highlighted, ultimately setting a multi-direction research agenda for future researchers.

Keywords: Bibliometric analysis, Healthcare, Sustainability, Business models, SJR

1.7 Áron Török, Agata Malak-Rawlikowska, Edward Majewski: Economic and environmental sustainability of different food supply chains Hungarian and Polish experiences Corvinus University of Budapest and Warsaw University of Life Sciences

A recent research of the EU funded H2020 project called "Strength2Food" has compared different food supply chains starting on farm level and assessed their sustainability from different perspectives. The survey included seven different countries with more than 200 businesses involved, and investigated both short (e.g.: direct sales on farmers' markets) and long (e.g.: sales to wholesalers/wholesale market) food supply chains.

The economic sustainability was measured by price premium and chain value added, while environmental sustainability was calculated based on total food miles and carbon footprint.

In this paper we present the results of Hungary and Poland gained from the data from 39 and 57 farms, respectively.

Solid results suggest that in both country, sales through short chains resulted in better prices achieved by producers, as the average values of price premium and chain value added were significantly higher. Regarding environmental measures, short chains usually accompanied with higher food miles and bigger carbon footprint, however remarkable differences exist among the different chains, mainly based on how much the final consumer is involved in the transportation of the food.

The case of Hungary and Poland clearly shows that short(er) food supply chains are more beneficial for producers in the economic dimension, however these chains usually generate more environmental externalities.

1.8 ·Jeremiás Máté Balogh: Sustainable development and business sustainability in Hungary

Corvinus University of Budapest

Nowadays, business sustainability is an important factor for a company's or a country's long term's strategy. In the last years, Hungary has made significant progress in decoupling its output growth from main environmental pressures, largely due to implementing requirements of EU directives. Furthermore, Hungary has accelerated the transition towards a low-carbon, greener economy, particularly by investing in residential energy efficiency, sound waste management and better mainstreaming of biodiversity protection into sectoral economic policies. Hungary has already started to participate in the works to mitigate the effects of climate change via reducing CO2 emission and fulfil SDGs.

Innovation activities can also enhance sustainability and business players can make a lot for stimulating the sustainability of the business sector. The personal commitment of the Hungarian CEOs is the key incentive to incorporate sustainability into business operation sustainability.

In the case of multinational companies, the demand from the parent company and the stakeholders is also considerable. Sustainability-related actions of companies are usually represented in SD or CSR strategies, Code of Ethics, and also in sustainability targets and programs. By contrast, these programs are often only a part of the company's PR strategy attracting more clients and the results of these programs are usually modest and mainly isolated.

At the company level, it should be noticed that a growing commitment to sustainability in the Hungarian business sector is more popular among large companies. Thus the SME sector strongly needs to be improved in the field of knowledge and commitment to sustainability.

1.9 Agnieszka Wojtasiak-Terech and Ewa Majerowska: Competitiveness of voivodeships in Poland in 2009-2016

Wroclaw University of Economics and Business and Gdansk University

The competitiveness of the regions is a field of analysis for policy makers, scholars and business representatives. Over last few decades there has been a growing academic literature on the concept of defining regional competitiveness, its measures and conducting comparison of regions on the basis of selected measures.

The purpose of the paper is a comparison of voivodships in Poland on the basis of selected competitiveness measures. Comparison is conducted using taxonomic methods.

For measuring competitiveness following variables are selected: the level of GDP per capita, average monthly gross salary, business density, labour productivity and employment rate. On the basis of these variables, for each voivodship the overall competitiveness indicator is determined. For designing the overall indicator the method of zero unitarization and the construction of the HDI indicator is used. Annual data used in the analysis are obtained from Central Statistical Office and cover years 2009-2016.

The obtained results indicate a decreasing divergence between the levels of competitiveness (measured by competitiveness indicator) of voivodships in the analyzed years. However, the positions of individual voivodships in subsequent years has not change significantly. The Masovian Voivodship for the whole analysed period has been the clear leader in Poland, with the Podlasie and Warmian-Masurian Voivodships coming last.

1.10 Jacek Bednarz: Is there a taxonomic framework for monitoring the economic sustainability of regional labour markets?

John Paul II Catholic University of Lublin

Many analyses of the labour market situation often focus on short-term issues. These are due to the current economic and economic policy developments. Medium- and longer-term phenomena elude the perspective and easily get out of sight. In doing so, employment is not a static phenomenon and - in general - not a short-term phenomenon.

Employment as a long-term factor in social and economic development is a relevant argument in the debate on regional and national economic sustainability. Especially in the context of the expected and economic employment migration in Europe, the problem of stability and the competitive characteristics of individual regions is becoming increasingly important. Interestingly, the issues of economic stability and sustainability are very often confused or incorrectly addressed in public debate

This paper examines the extent to which the labour market figures are decisive for the intensity and dynamics of employment. Opportunities to use a taxonomic measure as a framework for monitoring economic sustainability are investigated and evaluated.

2 Session - Public Finance

2.1 · Magdalena Zioło, Beata Zofia Filipiak, Iwona Bąk, Katarzyna Cheba: How do Environmental Social and Governance (ESG) factors impact on public finance performance? Risk, efficiency and public financial system perspective

West Pomeranian University of Technology

ESG risk is becoming increasingly important in conditions of ongoing environmental and social changes. This has specific implications for risk management in the public sector. Many publications have been devoted to ESG risk in the commercial sector, especially for enterprises, while there is a publishing gap in ESG risk analysis in the public sector. The aim of the paper is to identify ESG factors impacting on public finance based on the ESG criteria incorporated in the public decision making process, and diagnose relationship between public finance, ESG, risk and efficiency. The article uses fuzzy cognitive map to diagnose ESG factors and their link to public finance. A two-stage research procedure was used to achieve the research goal. In the first stage the identification of ESG factors that are the most important from the view of public finance was carried out. In the next step the identification of ESG factors that were incorporated by public institutions in decision making process was made and the independencies between non-financial factors and risk, efficiency and public financial system were analysed. Six, independent experts were asked to evaluate a total of 62 factors determined based on a review of the literature. The authors found the strongest impact of environmental factors on risk in public finance comparing to the social and governance one. In the case of the Environment scope, it can be seen that the most important is the Carbon intensity emissions variable, which is clearly linked to other variables from this area. The results are important from the point of view of recommendations for government policy on environmental protection, especially in the context of actions aimed at reducing greenhouse gas emissions and combating climate change.

Key Words ESG, public finance, sustainability, public sector, risk, efficiency, fuzzy cognitive mapping

2.2 Wacława Starzyńska, Mateusz Hałka: Innovative public procurement – dilemmas and perspectives

Maria Curie-Sklodowska University

The use of public procurement (PP) to stimulate the growth of innovation in the private sector is increasingly the subject of debate, especially in the context of demand-oriented innovation policy in individual Member States of the European Union. Participants in such debates agree that the process of spending public funds implemented through PP can be aimed at achieving several goals at the same time. The primary goal is to acquire PP, while secondary effects may consist in creating such mechanisms to be able to support socially and economically important tasks. Granting PP allows parallel, without spending additional funds, impact on specific behaviors of participants in PP proceedings conducive to economic innovation. The extent to which public funds affect economic development depends precisely on the decisions of contracting entities, their knowledge, experience and opportunities inherent in the public procurement system.

The importance of public procurement as an instrument of innovation policy in individual EU countries varies. The effects of these pro-innovative activities are most visible in Great Britain and the Scandinavian countries, while the least - in the new Member States and the Mediterranean.

The purpose of the paper is the attempt to identify barriers to innovation through public procurement on the basis of review of the existing legislation and results of the surveys conducted by the University of Lodz and University of Manchester on the representative samples of contractors and potential contractors of public procurement. Results of the research indicate a deficit of knowledge of contracting entities concerning awareness and over-specified tender and poor management of risk during the procurement process. Suggestion coming from the research is to improve cooperation between deferent participants of public procurement and to use communication of opportunities flowing from innovative public procurement.

Keywords: Innovative public procurement, Public Procurement Law, barriers of innovativeness

2.3 Justyna Rój: Inequality in the distribution of health human resources in Poland

Poznań University of Economics and Business

Human resources are the major input of health systems therefore the equitable distribution of human resources in health care remain critical in making progress towards the goal of universal health coverage and thus to sustainable development. The purpose of this study is to evaluate the health care human resources distribution across regions of Poland between 2010 and 2017 and to estimate the level of equity. This research by applying to Polish conditions will allow to fill in the gap in existing literature. Data was derived from the Knowledge Database Health and Health Care of Statistic Poland and Polish Statistical Yearbook. In purpose to examine the distribution of health resources against population size and geographic size in Poland, the Gini coefficient calculated based on the Lorenz Curve was engaged. This study has several major findings. The amount of most types of human resources – as apart from internist, obstetrics and gynecology, occupational medicine - when expressed as number of them per 10,000 population or 1 square km increased in 2017 compared to 2010. Moreover, for most types of health care human resources the level of access slightly changed during analyzed period as Gini coefficients decreased. However, the geographical distribution of all types of human resources is less equitable then in case of population distribution. The most troublesome is relatively lower equity in case of oncologist, family medicine and occupational medicine and cardiologist in both population and geographical distribution. Thus this research provides some implications for policy and practice. As the main reason to establish National Health Fund (which meant the centralization of the system) in Poland was to eliminate regional differences in access to health care, thus this research confirms that still some more corrective actions, in this field, should be undertaken.

Keywords: health care, human resources, inequality, Gini coefficient.

2.4 ·Katarzyna M. Miszczyńska, Piotr M. Miszczyński: Is the situation of Polish public hospitals healthy? Selected aspects of financial performance

University of Łódź

Health sector plays an important role in the economic development of each country. Unfortunately, for many years, the health care sector in Poland has been struggling with financial and organizational problems. That is why, the main aim of the paper is to present and assess the financial condition of public hospitals in Poland in years 2007-2017 in terms of their indebtedness. On a basis of gathered data an in-depth analysis has been conducted. As a result, not only the indebtedness field has been evaluated but also a but also a proprietary indicator on the indebtedness of individuals was created - "unhealthy debt". This indicator was created in a quantitative and valuable perspective. On its basis, it was assessed that the overwhelming majority of public hospitals in Poland have "unhealthy debt", i.e. in excess of 30%. Those results will be of great help in the process of evaluating the quality of financial management of Polish hospitals.

2.5 Katarzyna M. Miszczyńska, Żaklina Jabłońsk: The municipal spending policy in the context of social assistance benefits. Trends and recommendations

University of Łódź

The purpose of the work is to analyze the spatial diversity of the functioning of social assistance in the context of the expenditure policy of local government units. The specific objectives of the study will relate to the identification of social problems in individual regions of Poland together with a direct reference to the expenditure policy of individual local government units. By embedding the study in 2012-2017, it will be possible to capture regional differences in the occurrence and financing of social problems, with their simultaneous reference to the theoretical concepts of regional development indicating spatial concentration. In addition, based on the research it will be possible to examine the existence and scope of impact of the expenditure policy of local government units on the functioning of social assistance in Poland.

Keywords: social benefits, innovation, municipal spending, municipal policy

2.6 Michaela Moučková, Leoš Vítek: Tax factors affecting FDI University of Economics, Prague

The paper focuses on rates of return on Foreign Direct Investments of European countries (namely Czech Republic, Slovenia, Hungary, Poland, Austria and Germany), and tax factors that affect the rate. The rate of return is counted based on FDI outward data along with data of paid dividends, income on equity and reinvested earnings for years 2007-2017 from the OECD statistics. The rate of return is counted for every EU member state where above stated countries have any investments and the OECD statistics exist. From tax factors that affect rate on return were tested implicit tax rates, effective tax rate and statutory tax rate. Via the panel regression, we confirmed that all of those factors have a significant impact on rate on return but the outcome is not unified for all countries, every member state has various affecting factors, some countries does not have any.

2.7 ·Karolina Siemaszkiewicz: Investment in the Polish real estate market – housing “beta” coefficient

Poznań University of Economics and Business

The beta coefficient is one of the most known factors which is used in modern finance. Some investors have attempted to apply the Capital Asset Pricing Model (CAPM) for a private real estate investment, so that investor can have a more accurate risk premium beta or benchmark for their decisions. The question was: Whether the beta coefficient based on the wide market index describes the risk related to investing directly in the residential real estate market sufficiently well under Polish conditions? As the benchmark were taken WIG, WIG – real estate and the hedonic index of the residential real estate market calculated by the National Bank of Poland index (NBP index). The aim of this study is to compare beta coefficients for 17 Polish cities published by the National Bank of Poland. The comparison is made for WIG, WIG – real estate stock exchange indices and NBP index, so that investors can have a more accurate risk premium beta or benchmark for their decisions.

Research shows that the behavior of the beta coefficient – the measure of sensitivity – may bring important concerns as to the correctness of the methodology applied, especially in the context of limitations imposed by the CAPM. Accordingly, an idea was founding the benchmark which will be much better adjusted to the real estate market than the broad market index usually applied in such cases (S&P500 in the USA, or WIG in Poland).

For developed economies there can be found examples of indices which might be used in the real estate market analysis, the lack of such indices is on the polish real estate market. We cannot find in Poland, such index, which would describe the real estate market, as a hole, but the NBP established a database of housing real estate prices, together with the hedonic index of house prices throughout Poland. It was assumed that this index could be a benchmark for the measurement of the level of systematic risk in the housing investment market in Poland. This research shows that not for all cities, is adequate to use NBP index as a benchmark.

This research should be important to portfolio managers and investors, as this model allows for an alternative method of determining the required rate of return for a new investment compared to the use of traditional investor surveys. Investors should set their return requirements before selecting a property for purchase as many may have been caught up in hot market pricing and thus risk overpaying for their investments.

2.8 Ewa Poprawska: Insurance business cycles in liability insurance – the case of the Polish market

Wroclaw University of Economics and Business

Insurance business (underwriting) cycles are typical of non-life insurance. The cycle consists of phases of low and high prices of insurance products and indicators of financial condition. According to theory, underwriting cycles are long, according to studies from developed countries - 8-10 years. On the Polish market, up to now, the cycle survey has been limited by the time horizon of available data (unified data since 1999). Currently, the scope of data is much longer, which allows to compare the results of earlier studies (from 2010-2013) with newer ones, to check whether the cycle lengths have reached values similar to observed in developed markets. Knowledge of these cycles can support the risk management process of an insurance company. Liability insurance has been selected for the study due to the fact that they are particularly sensitive to changes in legal regulations (numerous on the Polish market in 2007-2012).

The purpose of the research is to analyze the occurrence of underwriting cycles in liability insurance on the Polish market. It will be examined whether the cycles occur and if so, what their length is. The data used in the study are published by the Polish Financial Supervision Authority, for groups 10, 11, 12 and 13 of the non-life insurance sector. The study will use the Auto Regresssive processes of order 2 AR(2). Model coefficients estimated by least squares method.

2.9 Endre Mihály Molnár, Erika Jáki, Noémi Németh: Literature review on the Governmental Venture Capital academic articles between 2000 and 2018

Corvinus University of Budapest

This paper aims to identify the trends of academic research after 2000 in the field of the governmental intervention at the venture capital market. In our structured literature review, we collected articles from the EBSCO host research platform. To ensure a decent quality of the academic work, only peer-reviewed, English, written journal articles ranked by the Scimago Journal Rankings were considered, with the focus on the government intervention at the venture capital market. The systematic review of a comprehensive set of articles reveals that the prevailing Governmental Venture Capital (GVC) literature is mainly driven by two dominant logics: the reason for the governmental entry to the VC market and the effects of the GVC on the venture capital market ecosystem. Moreover, the collected articles were classified according to various topics identified in these research streams. Our paper's main limitation is, that only English written articles were investigated. This approach disregards the domestic language written articles, which can hold added value to map out the effects of GVC on local ecosystems. Our literature review investigated the articles published between 2000 and 2018, while the last two literature reviews in this topic investigated the articles published up to 2014. Our broader classifications and new dimensions help researchers to identify unique research questions and thus foster GVC research. This literature review is relevant to policy makers recognizing the importance of government participation in venture capital markets.

2.10 Gábor Csepy, Nikolett Kovács, Erika Jáki: Crowdfunding campaigns and success - A systematic literature review

Corvinus University of Budapest

Crowdfunding is one of the well-known fintech innovations providing opportunity to creative people (project initiators) to collect money from others (backers) for making their ideas come true. The interaction of the backers and initiators takes place on a web-based platform through a crowdfunding campaign launched for limited time to achieve a predetermined monetary goal. The aim of the authors is to create an overview of the academic literature dealing with the success factors of crowdfunding campaigns to set an agenda for future research. The authors reviewed 22 high quality empirical articles written in English, gathered from 5 relevant databases and ranked Q1 by Scimago to provide a systematic literature review. The results and conclusions of the selected articles were analyzed using qualitative content analysis to create the conceptual framework for the successful crowdfunding campaigns. The authors found 60 success factors analyzed by top researchers grouped in 17 categories and 4 themes which can be influenced by the campaign initiators. This paper provides a typology of factors contributing to the success of crowdfunding campaigns which can be used as a framework for further research by scientists and as an executive summary of key influence areas by business practitioners.

Keywords: Crowdfunding, success, successful campaign, literature review, fintech.

3 Session - Capital market and corporate finance

3.1 · Elżbieta Rychłowska-Musiał: Real Options in Sustainable Investment

Poznań University of Economics and Business

The paper deals with issues of identifying and measuring real options in investment projects considered as sustainable. We point out that using a sort of real options catalog can help identify the features that a sustainable investment must have. We analyze the main features of real options such as: (1) The term of investment – we indicate two types of a time horizon in real options: time to decide (term to maturity) and an operational horizon (project lifetime) and we discuss their importance for sustainable investments. (2) Multiplicity of risk sources – especially important for projects in the area of ESG (environmental, social and governance). (3) The risk impact direction – one of the brakes on the real options application in real economy because of the fact, that in the classical approach, the increase in project risk always means an increase in the option value which discourages managers to rely on this value. We show that for real options, in some cases, an increase in the project risk means a decrease in the real option value. (4) The multistage nature of the project – what can be consider as an compound option, we quote three examples of such options. We consider also (5) possibility of abandon a project and (6) a project's "softness".

We also consider methods that may be particularly useful in valuing sustainable projects, giving a special recommendation to the Datar-Mathews Method and the Utility Indifference Pricing Approach.

Keywords: real option, sustainable investment, investment option

3.2 Gábor Bóta, László Nagy, Mihály Ormos: Capital market prices in V4 countries

Eötvös Loránd University, Budapest University of Technology and Economics and J. Selye University

In our paper we investigate the factors behind the price development of the capital markets of the Visegrad four countries: the Czech Republic, Hungary, Poland and Slovakia. We compare our results with developed European capital markets, namely Austria, France, Germany and the United Kingdom as well. We run regressions for different market equilibrium models: the standard CAPM by Sharpe (1963), Fama and French (1993 and 1996) three-factor model, Carhart (1997) four-factor model and Fama-French (2015) five-factor model. We use different sets of factors in order to detect the differences and similarities of these capital markets and to find the market equilibrium models with the highest explaining power. The regressions cover the period of 2005-2018 on a daily basis.

Keywords: asset pricing, multi-factor models, V4 countries

3.3 Blanka Łęt: Analyzing the stock prices of investor-owned fossil fuel companies. Does climate change and reputational risk matter? Poznań University of Economics and Business

Analysis of the popularity of "climate change" query within the last five years in Google Trends platform shows that the highest search volume occurred in the period from 22 to 28 September, 2019. This time interval coincides with the global event "Week for future" organized by the group of the young activists, whose most known representative is Greta Thunberg. Every Friday this international movement is organizing "Climate Strike" to raise awareness of the society and protest against the lack of action on the climate crisis. Interest in the global warming issue and humans emissions of greenhouse gases as primary cause is increasing.

There is also a growing awareness of the risks associated with investments related to the fossil fuel sector. On October 2019, Climate Accountability Institute released a dataset quantifying how much each of the largest oil, natural gas, and coal companies has contributed to the climate crisis since 1965. Eight of the top twenty companies are investor-owned, for example: Chevron, ExxonMobil, BP and Royal Dutch Shell. Furthermore, companies are facing lawsuits over their impact on global warming.

The goal of this paper is to analyze mean returns and volatility of stock prices in fossil fuel sector in the last years. We are also trying to answer following question: do investors react to the "Climate Strike" events and other information affecting the level of reputational risk?

3.4 Joanna Lizińska, Leszek Czapiewski: Accrual-based earnings manipulation of IPO companies in Europe

Poznań University of Economics and Business

Accounting data, especially earnings, are very important elements for many groups of stakeholders. They are key to evaluate company financial performance and its prospects for the future. Earnings are often perceived to be especially important in assessing company's ability to generate value in the future. Many previous studies report that companies try to manipulate earnings to some extent to influence company perception and, later on, its valuation.

We examine earnings manipulation in companies that go public (initial public offerings, IPOs). It is because there are contradicting views for the level of earnings manipulation around public equity listings. Companies that are publicly traded usually face higher monitoring standards and reporting requirements in comparison to private companies. However, public companies may be tempted to manipulate earnings to influence favorable market pricing. We focus on IPOs in European countries as the vast number of previous research concerns mainly IPOs in the United States of America and earnings quality may depend on specific country settings, corporate governance or company's characteristics as an example.

As earnings manipulation cannot be observed directly, we use proxies to approximate earnings quality around IPO. The study focuses on accrual-based earnings manipulation proxied with discretionary accruals estimated by cross-sectional regressions. We show that opportunities and possibilities to manage earnings may differ across companies and depend on firm characteristics and countries.

Keywords: corporate finance, earnings manipulation, earnings management, public companies, emerging markets

3.5 Nikolett Olasz, Melinda Szodorai: New perspectives of the Hungarian energy market business models Corvinus University of Budapest

Following 2008, new tendencies reformed the expectations and the values of the market actors, which brought new challenges to the firms and both their ecological and social environment. It has required new solutions either from the governments or the firms where the transparency redefines the society's standard, built trust and enabled firms to form their own narrative. New regulation on financial markets has encouraged the market actors to shape new business models, create new market structures and trading practices that are in harmony with the relevant regional regulations. This process had an impact on service providers like energy sector participants. Our research investigates the new opportunities that business model innovations - are creating in electricity supply markets at the national scale. This paper uses the Hungarian electricity supply market to investigate new business models that rely on more complex value propositions than the incumbent utility model. The business model analysis defines 'multiple value' as a key concept in understanding business model innovation in the energy sector. To ensure moving forward the current paper includes Agile methodology in the energy sector business model as a new element that gives possibilities for its members for safe transactions, faster reactions, more efficient financial factors and customer centricity with mass customization where all the steps are transparent.

3.6 Erika Jáki, Peter Halmosi: The role of the technology-oriented startups under Industry 4.0

Corvinus University of Budapest and University of Szeged

In the era of Industry 4.0, a new segment of companies emerge, the so-called technology-oriented start-ups. These companies establish new forms, methods and channels of knowledge transfer. The notion, scaling is well known in the world of information and technology. Currently it is also commonly used in business where it can be interpreted in relation to applied technology in form of data procession, sales in form of targeting more customers or employee skills. Technology oriented start-ups specialized in Industry 4.0 solutions face a challenge to scale their business. In order to meet this challenge, they have to find sector specific answers on what, how and when to scale in order to get a sustainable business model. The purpose of this paper is to direct attention to the scaling problem of technology-oriented startups in the era of Industry 4.0.

Literature is rather wide on the investigated three area: the general perception of Industry 4.0 by the corporate sector, the scalability of a business and the technology oriented startups. First of all we synthetized the findings of the literatures to define the research opportunities in the cutaway of these research domains. To understand more in detail the contiguity of these area we searched for cases in the automotive industry on the section of technology-oriented startups in the era of Industry 4.0.

Startups survival depend on their ability to be successful on international markets. This requires a well-established organization management, technology development, sales and marketing strategy.

Though, Visegrad-countries have developed their own "cradle for startups" in recent years, it is not obvious whether the state, and the national economy of origin will have a long term benefit from it. Industry 4.0 changes the attitude of companies and calls for scaling strategies to which managers have no unique understanding. It is not obvious when, what and how to scale.

Based on the literature review and the empirical analysis of this area we convinced that there is an ultimate claim for a joint international investigation among researchers and experts in the field in the area of the Visegrad-countries to understand the scalability of a business respecting technology oriented startups in the era of Industry 4.0. The findings of this paper provide a better understanding of the technology-oriented sector that has not been analysed yet, neither in national, nor in international context.

3.7 Béla Kádár, Erika Jáki: Renewable energy at the stock market of the V4 countries – evidence from Hungary

Corvinus University of Budapest

The Visegrad Countries differ from each other in terms of production levels of renewable energy. Nevertheless, to meet the 2020 targets of the production level is a significant challenge for each V4 countries (determined by Paris Agreement and Clean Energy Package of EU). The listed electric utility companies are typically the largest vertically integrated producers and leading suppliers of electricity in the local country /region. On these grounds it can be concluded that it is prominent issue to give an overview of the role and the extent of the renewable energy sources in the electric generating companies listed on the V4 stock market based on the financial statements and annual reports.

In the first step we stipulated the relevant companies listed on the stock exchange of the V4 countries.We have found 6 companies using renewable sources, operating in the energy sector and listed on one of the stock markets of the V4 countries: 1 Czech 1 Hungarian, and 4 Polish.

In this paper we took the Hungarian Alteo Group into deeper investigation. We collected data from the consolidated financial statements and report of the Group and the financial statements and annual reports of its subsidiaries. The renewable energy power plants (hydro, solar, wind, landfill gas renewable power plants) of the Alteo Group are constructed in different project companies.

Taking into consideration the group structure we aggregated the financial figures of relating project companies in order to overview the whole Renewable Energy Sources (RES) segment.

We concluded that significant CAPEX projects were introduced in RES segment between 2016 and 2018. As a consequence of these investments RES power plants represent about 60% of group consolidated fixed assets and the same share in group's financial debt. On the other hand the share of renewable energy sources remained about 25% in terms of produced electricity and these power plants are responsible for 24% of total generated EBITDA on group level in 2018. Overall, the profit generating capacity of this segment is not in line with the required invested capital which can be topic of further empirical examinations. The results of our investigation raised issues which should be analysed not only in the V4 countries but also at a European level. Other interesting topic is to examine the listed energy companies operating on developed countries where the renewable energy sources cover almost the whole consumption (Sweden, Norway etc.).

The limitation of the study is that the construction of power plants appears not only in listed companies so the individual investors may take part in other legal company form which are not involved in the examination.

The findings of this paper is useful for the researchers in the fields, investors on stock exchange and politicians in the regions.

3.8 Jan Kaczmarzyk: Objective assumptions for the Monte Carlo simulation when historical data with desired interval has limited size

University of Economics in Katowice

The most important element of the Monte Carlo based risk measurement is to make reliable assumptions. Objective assumptions based on empirical data are and will always be intuitively better perceived than experts' subjective recommendations. Unfortunately, there are some serious limitations of objective assumptions in real world. The financial models applied by enterprises use mostly an annual interval for cash flow projections. Therefore, the probability distributions which depict risk factors in those models have to be annual as well. Obtaining empirical data with an annual interval is nearly impossible in many situations due to very limited number of observations.

The aim of the paper is to indicate that building a time series model of a risk factor with an interval more frequent than annual to achieve the annual horizon of its probability distribution can be a reasonable solution for making objective assumptions when empirical data is somehow limited. The paper focuses on three of available approaches for reproducing a probability distribution of a risk factor over a longer horizon: 1). the traditional geometric Brownian motion with normally distributed changes of a risk factor, 2). the simulation-based motion with changes of a risk factor randomly sampled from an empirical probability distribution (the statistical bootstrap) and 3). the simulation-based motion with changes of a risk factor randomly sampled from the best-fitting probability distribution (the Monte Carlo simulation). The paper addresses currency exchange rates and commodity prices in different market circumstances as the most popular market risk factors examples affecting the entrepreneurial activity of enterprises.

3.9 Justyna Łukomska-Szarek: Financial determinants of development in the process of gmina management in the Silesian Voivodeship in Poland

Czestochowa University of Technology

The paper focuses on the financial determinants of the development of local government units. Under conditions of limited financial possibilities, public entities wishing to develop are faced with the necessity of rational and effective allocation of resources, which requires an efficient system of local financial management. The limited possibilities to use foreign capital to finance investment projects forces local governments to generate an increasing operating surplus, which, together with property revenues, constitutes free funds that determine the degree of self-financing. Therefore, the main objective of the research is to assess the financial potential of development of gminas (gminas are principal units of territorial division in Poland) located in the Silesian Voivodeship, especially urban, rural and mixed urban-rural gminas. Against the background of theoretical aspects concerning financial determinants of the possibilities of development of local government units, the study evaluated financial liquidity, financial independence, level of debt and self-financing, investment activity and operational activity, and total capability of gminas in the Silesian Voivodeship to develop. The research was conducted based on reports on the implementation of budgets, annual reports of the regional accounting chambers and the Ministry of Finance in a dynamic perspective in the years 2012-2017, which allowed to assess the direction and pace of changes in the analysed indicators. Furthermore, the ratios studied were related to the arithmetic mean for gminas in Poland in total, which made it possible to conduct the analysis using the comparative background.

4 Session - Green economy and risk management

4.1 Erika Jaki, Fruzsina Major: Key competencies of startup teams sought-after by investors

Corvinus University of Budapest

The management team is one of the most important issues in the investment evaluation process. Several authors summarized and categorized the investor decision criteria. Six main categories were defined with subcategories. According to these, the characteristics of the entrepreneur/team is one of the most important factors. For startupers, it is important to understand the key competencies of the team required for a successful proposal for venture capital investment, but the empirical analysis and findings of this area have strong limitations.

The “Cápák Között” (among sharks) is a Hungarian television show. The first season of it was running in the beginning of 2019. The show is similar to “The Tigers of Money” from Japan, the “Dragon’s Den” from Great Britain and the “Shark Tank” from the USA. The show was made for startup companies to find an investor(or investors) to invest in their idea. There were 34 teams’ pitches in the show during 9 episodes. We analysed the competencies of the successful management teams from the Hungarian TV show based on the pitches and the jury’s comments.

The aim of this paper is to define the most important team competencies which make more preferable a company for the investors. In the analysis, we took into consideration some product parameters, statistical attributes of the team (for example age or gender) and added variables about the characteristic of startupers’ competencies. To arrive at measurable results, we coded the characteristics of the team along several aspects and analyzed them in a quantitative way. With our study, we could identify the most important characteristics of the management team based on real investment decisions.

We have to consider that the investors’ preferences could have differences in the real business life, because overall it was a TV show, though the investors made real investments in the companies using their own money. The other limitation is that we can not see the full process of the decision making, because the 34 teams were selected by the directors from 100 applicants. The applicants had to submit some parameters about their company/product/ideas previously, for example: financial data, sales information, product description.

It is always hard when we want to analyse factors connected to personal attributes. Through this study, we made tangible some subjective factors of startup teams based on the investors feedback. The findings of this paper provide practical guidance about the personal investment criteria.

4.2 Anna Jędrzychowska, Ilona Kwiecień, Anna Szymańska, Jarosław Szymański: The structure of health services in public hospitals as the factor determining the medical malpractice risk – case study from Poland

Wrocław University of Economics and Business and University of Lodz

In recent years, the phenomenon of connecting public health care facilities has intensified. This is done through horizontal connections. The result of the merger is the creation of a large variety of functioning hospitals in Poland, both in terms of the number of beds and the scope of health services. At the same time, the legislator did not provide modification of the minimum guarantee sum of compulsory medical malpractice civil liability insurance for an entity conducting medical activity in the event of a merger.

The authors attempted to answer the question of how the structure of health services provided affects the number, components and value of claims submitted by patients, and what is the level of claim effectiveness. The study hypothesized that the percentage of claims effectiveness is lower than in MTPL insurance, close to the level in developed countries, and the risk of claims for medical malpractice depends on specialization.

The article analyzes data on claims and benefits paid to victims in the years 2017–2018 and applications submitted in the years 2010–2014. In the analyzed years, the structure of the size and number of claims and payments was assessed in terms of recognition of claims by the court and reimbursement by the insurer. Costs arising from claims lodged in 2017-2018 were estimated. The methods of descriptive statistics and the triangulation method were used for the analysis. The results obtained were compared with data from the other markets. At the same time, the results were combined with data on the structure of claims in other countries and the minimum amounts of guarantee required in the compulsory medical malpractice insurance, which illustrate how the legislator assesses the risk and whether the risk management method is adequate in terms of the maximum probable loss.

Key words: medical malpractice insurance, hospitals risk management, claims management, compensation

4.3 Dorota Jaśkiewicz, Marta Borda, Solvency Analysis of Non-Life Insurance Companies – Evidence from Poland

Wroclaw University of Economics and Business

In the European insurance market, in line with Solvency II system, the insurers are obliged to disclose the Solvency and Financial Condition Reports (SFCR), including some Quantitative Reporting Templates (QRT). The purpose of the paper is to analyse and evaluate the selected solvency measures of the insurance companies operating on the Polish market. The following research question arises: Do the insurers operating in non-life sector meet the obligatory solvency requirements and have sufficient own funds to cover the capital requirements? The analysis included in particular the solvency ratios – the Solvency Capital Requirement ratio (SCR ratio), the Minimum Capital Requirement ratio (MCR ratio), the structure of own funds as well as the components of SCR. The conducted research showed that almost all non-life insurance companies in Poland met the obligatory requirements and have had the required coverage of capital requirements by their own funds. The obtained results may be useful for insurance market entities, researchers as well as for customers seeking transparency in the solvency of insurance companies, in particular those whose policy they already have as well as those in which insurance purchases they are considering.

4.4 Martina Sponerová: Factors Affecting Bankruptcy Depending on the Size of the Company

Masaryk University

The aim of this article is finding if there exist different factors that could predict bankruptcy depending on the size of the company and compare the differences. Our motivation is to show the most important factors which have to be taken into attention when predicting bankruptcy. It is the ongoing research about the value of several popular bankruptcy models that are often applied, namely the Altman Z-score, the Ohlson O-score, the Zmijewski's model, the Taffler's model, and the IN05 model. It uses significant predictors of these models. This paper focuses on the Czech economy, specifically at small and medium sized enterprises (SMEs). We have investigated around 2 800 companies from the segment small and medium-sized enterprises (SMEs), of which 642 failed during the period 2010 – 2017. We have investigated financial data for the years from 2010 to 2017.

4.5 Łukasz Ziarko, Justyna Wiktorowicz: The factors behind market cartelisation based on the example of collusive bidding – case study

University of Lodz

The aim of this article is to present the conditions of the existence of the cartel on example of a bid collusion. This phenomenon will be discussed on the basis of a case study of a bid rigging agreement which took place on the polish market for the bakery products supply.

The three main factors favouring cartelisation of a market are: high level of a market concentration, high market transparency and a broad scope of competition between potential cartelists. Since each of the participants has a tendency to break the collusive agreement, cartelists needs to introduce a mechanism for supervising the fulfilment of mutual obligations. The costs related to the monitoring process have to be covered by the members of the cartel, reducing their fraudulent profit. In the case of collusion between undertakings controlled by one entity, the costs of cartel management appear to be significantly reduced and the above mentioned market features does not seem to be critical. Therefore, such strategy may increase stability of the cartel and impair the ability to detect it.

The methods of identification of bid collusion are divided into two groups: structural and behavioural ones. Structural methods are aimed at estimating the likelihood of a collusive outcome based on the features of the market. The latter method focuses on analysing the behaviour of bidders. There are grounds for assuming that the type of cartel under consideration can be less effectively detected by structural methods.

4.6 Julia Anna Klimek: Social Barriers to the Local Government Management in the Light of Structuration Theory

Uniwersytet Szczeciński

In recent years, one can observe disturbing course of local government units (LGUs) in Poland that are backed by number of self-governance dysfunctions identified in "Report on the state of local self-government in Poland" especially. The Report indicates and describes in more detail important local government's dysfunctions, including these of a social nature. Social dysfunctions presented in the Report were adopted in this paper as a starting point for carrying out data analysis on social barriers to management at the local government level. The article "Social Barriers to the Local Government Management in the Light of Structuration Theory" draws attention to one possible interpretations of the issue taking into consideration Anthony Giddens' structuration theory. This paper modestly tries to emphasize the theoretical perspective based on the assumption that social system such as local society exists and it is crucial to the local government management, that work culture, social structure, statuses, and roles are real. Therefore, this work completes the current diagnosis of a problem focused in particular around the determinants of social barriers in LGUs.

4.7 Nikolett Olasz, Melinda Szodorai: Analysis of the elements of CCPs' waterfall system

Corvinus University of Budapest

The central clearing, performed by central counterparties (CCP), is an essential feature of global derivatives markets. The G20 leaders recognized the benefits in risk management offered by CCPs, so they agreed that standardized OTC derivative transactions should be centrally cleared. CCPs were established to strengthen resilience to promote systematic stability. CCPs enhance transparency, so procedures for leading positions of defaulting members to surviving members are also in the main focus. The default waterfall system, operated by all CCPs, assures the resilience and the loss-absorbing ability of these market infrastructures. The exhaustion of the default waterfall components occurs mainly in the case of distressed market conditions that could trigger default management, in worse case even, the recovery and/or resolution actions in more than one CCP at a time. In our paper, we focus on the analysis of the requirements regarding the elements composing the default waterfall. From this discussion, the main conclusion is that the EU's regulations are relatively flexible in customizing the default waterfall to achieve the expected financial stability, but further fine-tunings shall be made. On the other hand, the methodologies applied to the different layers of the CCPs are challenging to be implemented due to the diversified risk profile of each entity.

4.8 Klaudia Zielinska-Lont: Quantitative easing and green bonds – should a central bank be involved in fostering transition towards low-carbon economy?

University of Lodz

Over the recent years, the discussions around climate change have started dominating the political sphere at different levels. The need to reduce the emissions of greenhouse gases as soon as possible has forced politicians and scholars to seek new ways of incentivizing and financing zero- and low-emitting technologies along different sectors of a modern economy. One of such instruments are "green bonds" – debt instrument issued to finance projects that are considered to be environmentally friendly. These instruments can be issued by a government, international institution or private entities, offering fixed income to the investors. The article discusses the proposal to allow the European Central Bank to purchase green bonds in course of the quantitative easing programme in order to enhance the investments in environmentally friendly technologies. The aim is to evaluate whether such solution could increase the desired investment scope without jeopardizing the statutory tasks of the central bank. Critical literature review on both the green bonds market and the quantitative easing policy is presented. Available statistics are also reviewed in order to analyze the attractiveness of the green bonds and the risk that may be associated with them. Early reactions of experts to the proposal of involving the European Central Bank in fostering the transition towards low-carbon economy are also reviewed before conclusions are drawn.

4.9 Pawel Lont: Economics of Power Purchase Agreements – opportunities and threats for the development of renewable power generation

University of Lodz

The article introduces the concept of Power Purchase Agreements (PPAs) - power sales contracts directly between the producer and an energy trading company. Under such arrangement, the buyer usually offers the producer a fixed price for the delivered commodity, that is usually below the market price – in exchange, the owner of the generator gains a stable source of income and is protected from market volatility. This concept builds on the fact that in an increasingly short-term and volatile power market in Europe, intermittent power generators, such as solar panels and wind turbines, bring greater value if they are managed as part of a larger portfolio of powerplants. The aim of this article is to evaluate the growth potential of the PPAs and the risks and benefits they bring to the asset owners, power trading companies and the national power systems in general. The potential benefits of these arrangements are analyzed in the context of price volatility and balancing costs using publicly available data. Different contractual arrangements are also reviewed in the context of risk and benefits sharing between the parties involved. Finally, conclusions are drawn based on the analysis performed and a careful review of the literature on the subject of PPAs.