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CONFERENCE ORGANIZERS

Partium Christian University, Faculty of Economics and Social Sciences (Romania) is a higher education institution for education and research in the fields of social sciences and economics. The Department of Economics offers undergraduate study programs in Banking-Finance, Economy of Commerce, Tourism and Services and Management, master study programs in Business Administration in Tourism and Entrepreneurship and Business Administration. The Partium Christian University – accredited in 2008 – assumes and continues the good traditions of the "Sulyok István" Reformed College, founded by the Királyhágómellék Church District (Piatra Craiului) in 1990. It undertakes all those purposes that the founders – recognizing their duties and responsibilities for the Hungarian community in Transylvania and in the Partium – stated, when they established the college, and later the university.

University of Debrecen, Faculty of Economics and Business (Hungary) is a higher education institution for education and research in the fields of economics. The Faculty offers Bachelor programs (Business Administration and Management; Commerce and Marketing; Finance and Accounting; International Business Economics; Rural Development Engineering; Sports and Recreation Management; Tourism and Catering) Master programs in International Economy and Business; Rural Development Engineering; Accountancy; Business Development; Human Resource Counselling; Management and Leadership; Master of Business Administration; Master of Education; Sports Economics; Supply Chain Management) and several postgraduate specialization programs and Doctoral programs(Károly Ihrig Doctoral Program of Management and Business). The main research areas can be closely linked to the institutes of the Faculty (Institute of Accounting and Finance, Institute of Applied Economic Sciences, Institute of Applied Informatics and Logistics, Institute of Business Communication and Professional Language Studies, Institute of Economics, Institute of Management and Organization Sciences, Institute of Marketing and Commerce, Institute of Rural Development, Tourism, and Sports Management, Institute of Sectoral Economics and Methodology, Institute of World Economy and International Relations). The University of Debrecen is the oldest continuously operating institution of higher education in Hungary since 1538.

WELCOME ADDRESS BY THE ORGANISERS

We have great pleasure and honour in welcoming you to Partium Christian University in Oradea, to participate in the International Finance Conference (IFC) 2019.

The conference is organized as a Joint International Conference by Partium Christian University, Faculty of Economics and Social Sciences and University of Debrecen, Faculty of Economics and Business.

The abstracts of papers are included in the Book of Abstracts. Authors are invited to submit full papers to the IFC Special Issues, organised by IFC supporting journals. The list of supporting journals is published at the website of conference.

We wish to express our deepest appreciation to Keynote Speakers, Dr. Iván Bélyácz (University of Pécs, Member of Hungarian Academy of Sciences), Dr. Daniel Dăianu (National University of Political Studies and Public Administration, Member of Romanian Academy) and Dr. Attila György (Bucharest University of Economic Studies, Ministry of Public Finance).

Last but not least, we extend our sincere thanks to everybody who participated in the scientific and organisation committees, as well as to the editors of the supporting journals. We wish each of you very successful conference.

Dr. József Fogarasi

INTERNATIONAL PROGRAM COMMITTEE

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PRELIMINARY PROGRAMME IN BRIEF

Thursday, 2 May 2019

12.00 – 18.00	Registration
12.00 – 13.30	Lunch
13.30 – 14.00	Conference Opening
14.00 – 15.00	Keynote Speech
Plenary	Joining the Euro area: Fiscal Rectitude is not Sufficient Daniel Dăianu (Member of the Romanian Academy, Romanian National Bank) Room: Main Aula, New Building
15.00 – 15.30	Coffee Break
15.30 – 17.00	Parallel Sessions I.
17.00 – 17.30	Coffee Break
17.30 – 18.30	Keynote Speech
Plenary	Experiences and Challenges of Romanian Integration in the Highlight of EU Convergence Attila György (Bucharest Academy of Economic Studies, Ministry of Public Finance, Romania) Room: Main Aula, New Building
19.00 – 22.00	Conference Dinner

Friday, 2 May 2019

8.30 – 13.00	Registration
9.00 – 10.00	Keynote Speech
Plenary	Corporate Strategy and Competitiveness in a Knowledge-based Economy Iván Bélyácz (Member of Hungarian Academy, University of Pécs, Pécs, Hungary) Room: Main Aula, New Building
10.00 – 10.30	Poster Session (with Coffee Break)
10.30 – 12.00	Parallel Sessions II.
12.00 – 12.15	Coffee Break
12.15 – 13.45	Parallel Sessions III.
13.15 – 15.00	Lunch
15.00 – 16.30	Business workshop
15.00 – 16.30	City tour
16.30 – 17.00	Conference Closing Session

CONFERENCE THEME AND SUBJECT AREAS

For a long time debates over the economic stability of the European Union have again brought to the fore the importance of macroeconomic convergence among member countries. The question of convergence has become a crucial element of bargaining for all EU-countries planning to replace their own currencies with the euro. The debate between the Keynesian economists, who considered that the introduction of a single currency required a full ex-ante convergence of economic conditions, and the monetarist economists, who argued that the introduction of a single currency would in itself constrain member states' economies to converge, has been persisting in different forms.

However, the convergence criteria as set out in the Maastricht treaty focused on a few indicators such as inflation, government budget deficit, or long-term interest rates, it is necessary to study the real convergence of the entire economy, including financial systems, private and public debt, labour markets, business models and organization. So it is very important to have a comprehensive picture of the corporate sector's preparedness for the changeover to the euro in the non-euro EU-countries.

The conference intends to discuss and analyse the macroeconomic convergence among member countries, as well as corporate finance aspects of the European integration. It offers a platform to exchange ideas and to generate an integrated view of future challenges of the monetary integration and the whole integration process. As current topics of the integration policy will be addressed, the conference is not only relevant for a scientific community but also for decision makers in politics, social security, administration, and for stakeholders in business organizations.

The following topics are expected to be discussed:
• Economics of European Integration
• Finance and Monetary Union
• International Trade and Finance, Competitiveness
• Implication of Nominal and Real Convergence on Corporate Risks
• Social and Political Aspects of Member States Convergence
• Corporate Value Creation in a Knowledge-based Economy
• Corporate Risks in a Changing Economic Environment
• The Impact of the Euro Introduction on the Corporate Financial Decisions

KEYNOTE SPEAKERS

Iván Bélyácz, Member of Hungarian Academy
University of Pécs, Pécs, Hungary

Corporate Strategy and Competitiveness in a Knowledge-based Economy

Mr. Iván Belyácz is an ordinary member of Hungarian Academy of Sciences since 2010. He is a professor emeritus of Finance at University of Pécs, a core member of Business Administration Doctoral School at the University of Pécs. He is also the member of Management Sciences Institute of University of Pécs. His research area covers financial economics topics, including corporate investment decisions, amortization theory and practice, corporate finance systems theory, company's capital structure, foreign direct investment and external debt relationship, and ethical aspects of corporate performance measurement.

Daniel Dăianu, Member of the Romanian Academy
National University of Political Studies and Public Administration,
Romanian National Bank

Joining the Euro area: Fiscal Rectitude is not Sufficient

Mr. Daniel Dăianu is a titular member of Romanian Academy since 2013. He is a member of the Board of the National Bank of Romania. He was the Finance Minister of Romania between 1997-1998, First Vice President of the Financial Supervisory Authority in 2014. He is also a member of the European Association for Comparative Economic Studies and member of the American Economic Association. He is Professor at a National School of Political Studies and Public Administration (NSPSPA) since 2004. His main scientific research topics: monetary economics and public finances; comparative analysis of economic systems; political economy of economic regime changes; complexity of social systems; european integration.

Attila György, Bucharest Academy of Economic Studies
Ministry of Public Finance, Romania

Experiences and Challenges of Romanian Integration in the Highlight of EU Convergence

Mr. Attila György has been a secretary of state in the Romanian Ministry of Public Finance since April 2014. He is currently in charge of the coordination of the International Financial Relations Department and of the Payment and Certification Authority Department in the Ministry. He manages the relation between Romania and various international financial institutions, such as the European Bank for Reconstruction and Development, the European Investment Bank, the International Monetary Fund and the World Bank. During the Romanian Presidency of the Council of the European Union, Mr. György is actively involved in fulfilling the objectives of PRES RO and in the management of the financial sector files. Mr. György is also a professor at the Bucharest University of Economic Studies where his field of study covers local finances and budgets.

JOINING THE EURO AREA: FISCAL RECTITUDE IS NOT SUFFICIENT

Daniel Dăianu

Professor at National University of Political Studies and Public Administration, Member of the Romanian Academy

New Member States (NMS) are bound by the EU accession treaties to join the euro area (EA) eventually. But the financial crisis and the sovereign debt crisis have indicated that accession in the single currency area is not to be done irrespective of circumstances. The NMS that have larger economies are quite vague about their timetables for accession; the official view is that more real convergence is needed to this end. Bulgaria, which has a currency board, asked to enter into the Exchange Rate Mechanism2/ERM2 (which is the antechamber of the EA) in June 2018; the European Institutions considered this step to be premature. Croatia has targeted 2022-2023 as an accession moment. The Baltic countries, which have very small economies and had currency boards as their monetary policy regimes, joined the EA in succession: Estonia in 2011; Latvia in 2014; and Lithuania in 2015. Slovenia joined in 2007 and Slovakia did it in 2009 (while it joined the ERM2 in 2005), just before the eruption of the sovereign debt crisis in the EA. Can "optimal" euro area accession terms be defined if straightforward political calculations are put aside? Do development gaps matter for euro area accession? What about the impact of production chains? Does the functioning of the EA matter? Lessons from the sovereign debt crisis in the EA seem to give an affirmative answer. But these issues are still controversial, not least in the NMSs. In Poland, for instance, Kolodko argues that joining the EA sooner than later is the better choice (2018). Belka has nuanced his earlier stance and argues in favour of faster accession. Their position is counterbalanced by those who argue that more real convergence is needed for capitalizing on EA accession. Hungarian central bank economists argue that more real convergence, prior to accession, is needed (Nagy – Virág 2018). Darvas, instead, is quite sanguine about an early accession (2017). A role in this debate is presumably played by the middle-income trap challenge. It may also be that, to the extent giving up autonomous monetary and exchange rate policy tools dents growth enhancing measures, EA accession delay is in the cards. In Romania, a line of reasoning favours early accession on political grounds primarily. Other views emphasize a critical mass of real convergence as a condition for accession (Daianu et al. 2017). The functioning of the EA as a policy issue is highlighted too (Daianu 2012).

Joining the EA is also to be judged in the context of a spreading "inward-looking syndrome" in Europe –against the backdrop of the Great Recession and other major adverse shocks (Daianu 2017). Destabilizing capital flows, which complicate the conduct of autonomous monetary policies (Rey), have also to be considered. The Exchange Rate Mechanism (ERM) experience is a reminder of the power of destabilizing capital flows. And quite likely, this experience reinforced the rationale for the creation of the EMU (EA), aside from its political dimension. But eliminating the currency risk does not eliminate the redenomination risk in a monetary union wherein heterogeneity and divergence are not kept in check. The Treaty of Maastricht does not establish a clear timetable for euro area accession; this process is to be initiated and implemented as each country deems it appropriate, in cooperation with the European Commission (EC) and the European Central Bank (ECB). The Treaty says, however, that each Member State has to reach lasting convergence to participate in the final stage of European Monetary Union (EMU); this is a wording that alludes to ex ante real convergence. And entering the ERM2 (The Exchange Rate Mechanism) and staying there, successfully, for at least two years, is sine qua non for joining the EA. This paper argues that there are conditions for successful euro area accession, apart from fiscal rectitude. One is the achievement of an ex ante critical mass of real convergence. Another condition is an overhaul of EA mechanisms and policies that should make it a properly functioning monetary union. The more imperfect the EA stays, the more robust the candidate economy should be upon accession. The paper examines the influence of production (value) chains on the efficacy of autonomous monetary and exchange rate policies when macroeconomic adjustment is needed. Budget consolidation and the control of external imbalances is critical for entering the ERM2 and the euro area.

Keywords: monetary union, Euro Area, fiscal rectitude, real convergence, Romania

COMMON VALUES REFLECTED IN EUROPEAN ECONOMIC AND FINANCIAL POLICIES

Attila György

Bucharest University of Economic Studies,
secretary of state – Public Ministry of Finance

Legislative initiatives are proposed by the European Commission after it assesses the potential economic, social and environmental consequences that they may have. Therefore, the Commission carries out impact assessments which present the advantages and disadvantages of different policy options.

The work program of the Romanian Presidency is focused on four main pillars, reflecting the specific actions of the various decision-making bodies of the Council of the European Union, for which we mention:

1. A Europe of Convergence: ensuring convergence and cohesion for a sustainable and equitable development for all member states and their citizens, strengthening competitiveness and removing gaps in development, promoting connectivity and digitization, stimulating entrepreneurship and strengthening industrial policy.
2. A safer Europe: Europe will be safer by increasing cohesion between Member States facing new security challenges that threaten the safety of citizens by supporting cooperation initiatives in this area.
3. Europe, as a stronger global actor: Romania is supporting further consolidating the global role of the EU through promoting the enlargement policy, the European action in its neighbourhood, further implementing the Global Strategy, ensuring the necessary resources for the EU, and implementing all of the EU's global commitments.
4. A Europe of common values: boosting EU solidarity and cohesion by promoting anti-discrimination policies, fostering equal opportunities and equal treatment for men and women and increasing citizens' involvement in European debates.

The Romanian Presidency aims to promote constructively the discussions on the deepening of Economic and Monetary Union (EMU) in order to facilitate the interests of the European Union in areas such as cohesion, convergence and resilience. In this regard, we are addressing issues related to the strengthening of EMU in an inclusive and transparent manner, allowing for the participation of all Member States.

We have continued the process of removing barriers to the development and integration of European capital markets as a process towards completing the Union of Capital Markets in order to minimize the differ-

ences in national jurisdictions, to maximize investor opportunities and to ensure SMEs access to a wider range of financial resources.
At the same time, for the fiscal area and within the limits of the Treaties, we aim to ensure effective and fair taxation at European level and, last but not least, to combat tax fraud and tax evasion, to the benefit of the Member States and European citizens. Drawing on citizens' expectations of the EU's ability to identify viable solutions for issues of fair taxation, the Romanian Presidency continues efforts to modernize the VAT system, especially the VAT regime for e-commerce. In the same spirit, the Romanian Presidency supported the constructive debate on digital taxation and the common corporate tax base. As regards excise duties, the Romanian Presidency wants the adoption of the proposal for a Directive laying down the general excise duty regime to ensure a clear legal framework to lead to the consolidation of the common market and the reduction of the risk of tax evasion in this area. We also have the objective of promoting fiscal transparency and fair tax competition at global level by updating the EU list of non-cooperative jurisdictions following the assessment of the commitments made by the concerned countries.
In response to the Member States' requests to strengthen the security of the external borders, the Romanian Presidency is working on the draft regulation on the financing of border control equipment as a priority. The Romanian Presidency also intends to advance the negotiations on the customs program regulation after 2020, a program that supports the development of the electronic systems required for the implementation of the EU Customs Code and the activities and cooperation between the customs authorities.
As achievements in the economic and financial field we should mention the negotiations with the European Parliament on the banking package for bank risk mitigation measures, consisting of two directives and two Community regulations, have been finalized. The package that will be published in the Official Journal of the European Union aims to provide assurances that the banking sector has sufficient capital to provide loans to individuals and legal entities safely. At the same time, citizens are protected against possible difficulties faced by banks. Some measures have been adopted at Council and European Parliament level to strengthen the banking system by creating an appropriate environment for banks to manage the issue of nonperforming loans in their balance sheets and to reduce the risk of future accumulation of these loans.
We have also confirmed the agreement with the European Parliament on a proposal for a regulation which aims to offer a wider range of options for people who want to save for retirement and at the same time to stimulate the market for personal pensions. According to the Commission, only 27% of Europeans aged 25-59 have registered for pen-

sion products. Pan-European pension products will create a new possibility to save on a long-term basis, using capital markets regardless of country, thus mitigating the pressure on public funding. We supported and finalized also negotiations with the European Parliament on measures to eliminate burdensome requirements and harmonizing divergent national rules so that the cross-border distribution of investment funds would be simpler and faster. Moreover, the publication in the Official Journal of the EU of the rules on the transparency of the costs associated with cross-border payments in euro is now expected so that all consumers and all businesses can fully benefit from the single market when sending money, withdrawing cash or making payments in other EU countries.
A very important subject of European interest is the InvestEU Program. This Program is a new initiative launched by the European Commission and aims to mobilize public and private investment in the EU to address market failures and funding gaps identified at EU level in the areas of competitiveness, sustainability and growth. This instrument aims to contribute to making significant progress in deepening the Economic and Monetary Union. Moreover, the InvestEU program will financially support projects embedded in four financial areas as follows: sustainable infrastructure; research, innovation and digitization; SMEs; social investments and skills. The InvestEU program will run between 2021 and 2027 and builds on the success of the European Investment Fund (FEIS) (Juncker Plan) by providing guarantees from the EU budget to support investment and access to finance in the EU. InvestEU aims to generate additional investments of EUR 650 billion.

Keywords: Output convergence, Investment, Taxation efficiency, Sustainable Development

CORPORATE STRATEGY AND COMPETITIVENESS IN A KNOWLEDGE-BASED ECONOMY

Iván Bélyácz
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A strategy is nothing more than a commitment to a set of coherent, mutually reinforcing policies or behaviours aimed at achieving a specific competitive goal. Good strategies promote alignment among diverse groups within an organization, clarify objectives and priorities, and help focus efforts around them. Companies regularly define their overall business strategy (their scope and positioning) and specify how various functions – such as marketing, operations, finance and R and D – will support it.

Managers should articulate an innovation strategy that stipulates how their firm's innovation efforts will support the overall business strategy. This will help them make trade-off decisions so that they can choose the most appropriate practices and set overarching innovation priorities that align all functions. Creating and innovation strategy involves determining how innovation will create value for potential customers, how the company will capture that value, and which types of innovation to pursue. Just as product designs must evolve to stay competitive, so must innovation strategies as the environment changes. When creating an innovation strategy, companies have a choice about how much to focus on technological innovation a how much to invest in business model innovation. According to Schumpeter analysis, large firms institutionalize the innovation process with the formation of R and D laboratories stuffed with technical areas large firms establish in entry barrier to entry to new entrepreneurs and small firms.

When we properly define innovation more broadly as "the implementation of a new or significantly improved product (that is a physical good or service) process, a new marketing method or a new organizational method in business practices, workplace organization, or external relations". However, even when innovation is defined properly, many equated it with competitiveness and/or productivity. While innovation is related to productivity, and for that matter competitiveness, it is not synonymous. There are many innovations that have little to do with productivity or competitiveness.

The true definition of competitiveness is the ability of a region to export more in value added terms than it imports. A competitive economy is one with a trade surplus, few barriers to imports and limited "discounts" to exporters. Productivity growth can enable competitiveness, especially if it is concentrated in traded sectors which lowers costs and enables firms to sell more in global markets without relying on government provided discounts. But productivity growth can also be relatively unrelated to competitiveness if it is concentrated in non-traded sectors.

Productivity increases stem from a variety of factors, but the principal one is use of more and better "tools" by producers: in other words, the use of more and better machinery, equipment, and software. Indeed new growth economics accounting suggests that the lion's share of productivity stems from the use of more and better "tools". In today's knowledge-based economy, the tools are more effective in raising productivity as ICT-based. These digital tools are more than simply the Internet, although that itself drives growth. They include hardware, software applications and telecommunications networks, and increasingly tools that incorporate all three components in them, such computer-aided manufacturing.

The basic reason why new economy growth could not be seen as sustainable is that introducing advanced technologies can only take place successfully when it is accompanied by organizational change and competence building among employees. Any strategy that gives technology an independent role as problem-solver is doomed to fail.

STABILITY AND EFFICIENCY OF CONVENTIONAL BANKS VS. ISLAMIC BANKS IN SYRIA

Barhoum, Faeyzh
Kaposvar University, Hungary

The aim of this paper is to examine and compare the stability and efficiency of conventional banks Vs. Islamic banks in Syria before and during the Syrian crisis. The sample covered 9 conventional banks and 3 Islamic banks for a period between 2009 and 2013. To test this paper's hypothesis, the T-test was used based on the CAMEL model to verify the difference in financial soundness and efficiency between Islamic banks and conventional banks. The results showed that the Islamic banks are more stable over the study period, while conventional banks appeared to have better management efficiency than Islamic banks. Furthermore, the finding revealed that the differences were only significant in the differential stability of the two groups of banks during the Syrian crisis. The conventional banks' management was more efficient before the crisis (2009-2011); while the Islamic banks's management was more efficient during the crisis (2011-2013), and they have applied preventive measures to provide safeguard to their system during the crisis.

Keywords: Banking Financial Stability, efficiency, camel, Syrian banks, Islamic banks, conventional banks

UNITED KINGDOM – BEING PART OF THE WHOLE SYSTEM HAS ITS ADVANTAGES

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Romanian Academy,
National Institute for Economic Research „Costin C. Kiritescu"

"The great mistake everyone makes is to confuse what is true for the individual with what is true for society as a whole (...). Almost any interesting economic problem has the following characteristic: what is true for the individual is the opposite of what is true for everybody together." - Milton Friedman (1980).

The idea of creating a united Europe dates back centuries, but it was only after the Second World War that the prerequisites for a European integration process were formed.
The European Union has established itself as a unitary and joint effort of all Member States, an interconnected system, both internally and externally, to the realities existing at European and global level. Imbalances in this system are often economic, political, social, and solutions to be found or be adapted become the responsibility of every citizen and Member State as part of the whole system.
The vulnerabilities, which the European Union has been subject to, as well as the ongoing challenges, show that any mechanism needs to be revived and adapted to market realities.
This is also the case with the current situation, namely the United Kingdom's decision to leave the European Union (Brexit). The consequences are not only economic, political, but also social and moral. It is perhaps time for Europe to reconsider its priorities and values so that the goal of becoming a smart, sustainable and inclusive economy becomes a reality.
The present paper aims to highlight the idea that the formation and evolution of the European Union resembles the evolution of a system and breaking the connections within it when an important part of the system (in our case, Britain) is no longer part of the whole can create disruptions and potential losses. It also emphasizes the importance and place of the United Kingdom within the European Union and its relationship with Europe and the rest of the world and globalization seems to be played a role in this sense.
One of the main European Union's establishment policies relates to its enlargement, because as the number of Member States increased so as the European Union's institutional structure required changes to policy-making rules, streamlining of decision-making,

equality of representation of all Member States in decisional forums etc.
Also it is worthwhile reviewing some of the main theories regarding unification (and in particular their criticism) trying to highlight the importance given to the role of nation-state in the debate on the establishment of a union at European level. References are to “federalism” and “intergovernmentalism”.
Going forward in speaking of convergence and in line with the logic of European integration after World War II and establishing the Economic and Monetary Union, we may say that the process of economic integration is completed. By comparing the European Union’s single market with that of the United States, many economists would agree that „a market” works correctly with just one „currency”. Apart from the economic logic of a single currency in a single market, the Economic and Monetary Union project is a highly political one.
Creating a single currency (euro) clearly had an impact on cross-border financial activity and made a difference in the integration of financial markets. But we cannot say that a single market is efficient with a single currency, because if we take the United Kingdom case, even if it is part of the single market they did not adopt the euro.
Being part of the European Union and single market did have its advantages for United Kingdom in terms of productivity and with immediate impact on Gross Domestic Product per capita, trade relations and their intensity, foreign direct investments from the perspective of their access to markets etc.
EU membership had led in the past to an increase in trade and income in the United Kingdom by enhancing economic integration. It seems quite clear that these earnings have exceeded the costs of EU membership, which consisted mainly of budget transfers and expensive regulations.
Globalization, as a process in which different worlds meet to become one, is suggestive. Due to globalization, barriers to business tend to disappear. The various markets tend to integrate and form a system.
But as a result of globalization, countries may also be exposed to international economic events and economic shocks, economic crises or sudden transformations.
This is the case with United Kingdom, as Brexit means a „rupture” of regional and global economic links/ties and reasoning. That is why keeping a close United Kingdom-European Union relationship in order to avoid sudden destabilization at European level is extremely important.

Brexit is both a reaction to European policies that have failed (in the eyes of British citizens) to deliver promised prosperity and also to globalization that brought them uncertainty, immigration invasion, wage stagnation or fear of losing jobs. It is also a turning point that shows that a new kind of globalization and rethinking of economic policies is needed, or as some would say „reinventing" the European Union.

Keywords: system, European Union, economic integration, Brexit, policies

COMPREHENSIVE ANALYSIS OF INTELLECTUAL CAPITAL OF VISEGRAD COUNTRIES AND ROMANIA USING THEIR MOST SIGNIFICANT COMPANIES

Mirjam Hamad, Tibor Tarnóczi
University of Debrecen, Hungary

The main goal of this study is to measure the intellectual capital of Visegrad countries (Czech Republik, Hungary, Slovakia, and Poland) and Romania. We used the VAIC (Value Added Intellectual Coefficients) and M-VAIC (modified VAIC) models and their components as measurement tools. We look for the answer during our research whether there are differences among the most significant companies of Visegrad countries and Romania in the intellectual capital. We aim to examine the effects of intellectual capital and its components on companies' financial performance using both models. We use several statistical methods to analyze and compare the countries investigated with packages of the R statistical system.
From evaluation viewpoint, the firm value is the present value of future free cash flows. This assumption is an implicit way that the cash flows are generated by the exploiting the tangible and intangible assets. The question arises whether there are any other sources of value which are invisible and not appear on the balance sheet. The researchers named these invisible factors as intellectual capital. Intellectual capital includes information, knowledge, intellectual property, experience, and relationships, all of which are to be used to make a company more successful. Nowadays the intellectual capital became more relevant than ever. Many studies try to explain the gap between the book and the market value with hidden intellectual capital that cannot be shown in the company books. Accounting tries to report as much intellectual capital as they can by following specific regulation (depend on the accounting system, it could be standards or principles) during their bookkeeping with more or less success. According to this, many studies focus on measuring these invisible resources by using different methods for that.
During the years the Intellectual capital got many definitions, and each definition has a different point of view. Although all the studies agree that intellectual capital is non-physical assets, that is the difficulty behind the recognition, and continuous measurement regards these assets. The intellectual capital can be divided into three big groups, the human capital, the structural capital and the related capital. In each group, we can see aspiration from the accounting system to report

some of these assets by using various methods of measuring intellectual capital (greedy). In that way, some part of the invisible will become visible in the books.
Intellectual capital is difficult to measure even so the researchers developed several models to measure it. One of the tools developed is the VAIC model. VAIC was used in many studies as a measure of Intellectual Capital, at the same time, nowadays, there have also been some criticisms against it. Value added is such a measure which shows the contribution to value creation of employees and management. The use of value-added is to determine how employees make a participative contribution to increasing wealth. Higher added value ensures higher dividends for investors and higher investments in further development. Value-added, as a measure, unites all participants of economic activity with one goal: creating as much value as possible.
The method is easy to use because it uses publicly available data (balance sheet and income statement). The labor expense can express the value of human capital. Structural capital equals the book value of the net assets of the firm. The ratio between each of the three forms of capital (human capital, structural capital, and capital employed) and value-added, resulting in capital employed efficiency (CEE), human capital efficiency (HCE), and structural capital efficiency (SCE). To conclude an overall measure of efficiency adds the three efficiency measures: VAIC = CEE + HCE + SCE.
The data used for the analysis were downloaded from the EMIS database for the years 2013-2017. During the analysis, the companies' balance sheets and profit and loss accounts were used. First, there was calculated the components of VAIC for all of the companies and the years, and then there was determined the value of VAIC. The basic statistical characteristics were calculated for the VAIC and its components. These fundamental statistical indicators can help us to form a big picture of the countries investigated. We used the multivariate (MANOVA) and simple (ANOVA) analysis of variance to compare the countries. The MANOVA provide good possibilities to use more indicators during the comparison. The ANOVA method provides a pair-wise comparison. We used the multidimensional scaling (MDS) to determine the distance of countries analyzed considering several indicators. The analysis also examines how VAIC and its components changed over the years analyzed. The analyses carried out to provide an opportunity to determine whether there are differences in the intellectual capital of companies in the countries analyzed.
Based on the results of the analyses we can conclude the conclusion there are differences among the companies of the countries investigated. Figures made using multidimensional scaling data show well the differences between countries. The intellectual capital is fre-

quently represented as a hidden wealth of the corporations and is often not taken into account in the financial statements and accounting systems. The existence of intangible assets is recognized by investors and strongly influences the strategic decisions of companies and their shareholders. In the analyzed companies, there were apparent differences in the level of recognized intellectual capital. Generally, there were small differences between the level of intellectual capital in companies from different industries. More significant differences were seen in the level of components and particularly in the level of HCE.
The VAIC method facilitates the measure of IC and its components. This method allows precise management and intervention in the most efficient business areas. VAIC is regarded as an objective method because the data used for the necessary calculations are derived directly from the financial statements, which enables one to compare companies with each other. It is a transparent method, which is simple and easy to use. Despite some limitations, VAIC can be successfully used for statistical analysis. This method can be used in both business practice to report intellectual capital synthetically, in research for the measurement of intangible assets.

Keywords: Intellectual capital, Value Added Intellectual Coefficients, Multivariate analysis of variance, Multidimensional scaling

ANALYSIS OF THE FINANCIAL SITUATION OF SPORTS COMPANIES AND THEIR RELATION WITH THE NOTES TO THE FINANCIAL STATEMENTS IN THE 2014-2017 YEARS

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Currently, the role of sports has intensified and changed; by now, it has become a separate area of interest from an originally civil, exercise-based, private leisure activity. One of the reasons for the development of sports activities was the increase in their economic significance, which created a need for their economic analysis. Eventually, the sports industry has become an integral part of the entertainment industry. In many countries, sport is considered a profitable sector and its economic importance has increased. The reason for the dynamic development of the leisure market of the sports industry is the increase in demand for sports opportunities due to leisure and lifestyle changes. This provides a continually expanding market for companies providing sports services and businesses dealing with sports tourism and sports equipment production. Based on the results of other researchers, it was also concluded that sport is a multi-billion-dollar economic area, one of the most dynamically developing industries in the world. Contribution of the sports sector to GDP in the EU Member States is close to 5%, while in Hungary it is approximately 1-1.5%. This ratio is likely to increase, for which various subsidies of corporate tax provide a good basis. In the case of sports-related economic research, both macro- and microeconomic research can be mentioned. Its economic significance, its contribution to employment, national economic income, and consumer spending is involved in macro-level research, while the examination of the functioning of sports services and organizations, and the characteristics of demand and supply are micro-level research activities.
Considering other authors, companies that provide an organizational framework for sports-related businesses are called sports companies. They operate as business entities and are smaller enterprises in terms of their size. In the literature summarized the usefulness of recreational sports at the level of society, economy, companies, and individuals. As for the social level, the more sports is done by people, the healthier they will be, hence there will be less burden on health and social security. According to estimates based on various national and international research findings, the increase in the proportion of the population that is engaged in sports in Hungary would result in

significant savings in the area of sickness benefits. Thus, the improvement of health would result in a financially quantifiable saving of costs or revenue growth. Performance and productivity of the economy, as well as GDP, have a growing tendency due to leisure sports. It creates jobs, thereby increasing consumption and tax revenue. Based on the findings of several studies, it can be established that health is closely related to the competitiveness of the national economy through leisure sports and they mutually reinforce each other alongside an appropriate economic policy. Finally, leisure sports are also beneficial for companies, as their expenditures spent on sickness benefits decrease, the number of absences from work and workplace accidents will decline as well, while employee performance, motivation, and satisfaction improve. Also, the extensive involvement in sports has a favorable impact on related industries such as companies manufacturing and distributing sports apparel, sportswear and equipment, providing substantial business revenue for the business sector.

The information mentioned above confirms that the economic analysis of companies engaged in sports activities is an interesting and necessary field of research. Also, in an accelerated, globalizing world, there is less time available for the decision-making process, the complexity of problems to be solved and the amount of information to be used for decision-making increases. Thus there is a growing demand for a high level of support for managerial decision-making. Only a business that is characterized by efficient continuous operation and rapid adaptability can be considered successful. Well-established decisions require in-depth economic and financial analysis. The analysis is a method that provides management with essential information about the operation of the system by systematically examining the elements of the economic system and ensures its awareness. The database for the analysis is based on the data of financial statements prepared and published in conformity with the mandatory provisions and requirements of the frequently amended Act C of 2000. Hence, the data of the balance sheet and profit and loss account published as part of the financial statements can be used to determine the economic statement of the company. The balance sheet, which represents the company financial position and the profit and loss account, which shows the incomes and expenditures, as well as the notes to the financial statements attached to the annual statements, provide information for external stakeholders about the financial and income position of the company. The notes to the financial statements are a part of the simplified and the consolidated annual statement. The notes to the financial statements shall represent the data and textual explanations that are provisioned by the Accounting Act, and such information completing the entries of the balance sheet and profit and loss account, which help

the precise assessment of the wealth, financial and income position of the company for external stakeholders as well. The notes to the financial statements have to support the more comprehensive introduction of the reliable and realistic overall picture. Therefore it was considered necessary – following the analysis of the asset and liability structure indexes – to examine the additional information and explanations related to them in the notes to the financial statement as well.
The primary objective is to analyze the financial position of enterprises having TEÁOR (NACE) 931 "Sports activity" as their primary business activity, including the introduction of their main asset and capital structure indexes. The survey includes mapping the relationship among the indexes and the notes to the financial statements and the conformity they have with the mandatory disclosures required by the Accounting Act. The database analyzed includes companies that carry out sports activities, and which have identified their main activities as TEÁOR 931 "Sports activity" and have their residence in Hungary. The companies were selected in the OPTEN company database, and the reports of the companies involved in the analysis were obtained from there as well. Data of the annual financial statements of the companies were collected for 4 years, from 2014 to 2017, and the number of companies included in the analysis was 1747. Data processing and calculations for the analysis were performed in the Microsoft Excel spreadsheet software and the R statistical system. For the calculated ratios, the analysis of variance was applied to determine whether the data of each year and data of the quartiles based on the sales revenues were significantly different.
Additionally, heterogeneity of the indexes of the calculated financial situation and their evaluation have been presented. Also, cluster analysis was used which had the objective to classify the individuals of the database in order for them to be assigned to groups as homogeneous as possible according to certain aspect(s), namely the objective was to create more equalized groups.
Overall, it can be stated that there are no significant differences in the average ratio values between 2014-2017 for the companies engaged in sports activities and registered in Hungary, but there is a significant difference among quartiles in the quartile-based classification.

Keywords: sports sector, indexes reflecting the financial situation, index numbers, asset structure indexes, notes to the financial statement

CAPITAL STRUCTURE AND FINANCIAL FLEXIBILITY AFFECTING BY ENTREPRENEURIAL THINKING

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Entrepreneurial thinking is developing continuously, it must be understood as an innovation process, which can lead to a successful and sustainable level of corporate financing.
Small and innovative firms with negative or low operating cash flows, no credit ratings have lower leverage ratios, not because they internally generate funds but because they issue much more equity than debt to ease their lack of financial flexibility. Growing firms with higher capital and operating cash flows, with growth opportunities and available credit ratings have high leverage ratios by issuing debt against large future expected cash flows. Large and mature firms with high earnings and cash flows, with good credit ratings, have moderate leverage ratios as they rely on internal funds and use only safe debt in order to retain financial flexibility. How can we get from a small firm to a mature company analysing the entrepreneurial decision making process? To move from the first starting life cycle to the next involves many risks and a lot of work.
Capital structure theories identifying many production factors but mostly neglects entrepreneurial spirit. Entrepreneurship contributes to effective strategy creation, because it can be defined as the assumption of risk and responsibility in designing and implementing a business strategy. Consequently the development of entrepreneurship lead to financial development, because of given socio-economic conditions and managerial skills. The growth perspectives, the financial needs of a firm and the constructive financial institutional background of a region transform entrepreneurship development to a higher level. This way the entrepreneurship is an important factor in terms of financial flexibility.

Keywords: entrepreneurial, spirit, financial flexibility, capital structure, corporate lifecycle

THE STRUGGLE FOR EURO ADOPTION IN ROMANIA – THE ROLE OF ECONOMIC CONVERGENCE

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Following the last economic crisis, the theories of the optimal currency area have been rewritten, highlighting the fact that the priority of economic convergence has shifted from the nominal convergence criteria to the real and structural criteria. The main question that we address in the article is represented by some aspects of the structural criteria, including the integration toward value chains and productivity.

Thus, on the way to adopting the euro currency, Romania must first pass the rough test of the Exchange Rate Mechanism II (ERM II), a test in which we consider that controlling macroeconomic imbalances (i.e. strong situation of public finances, low external deficits, and systematic productivity gains) and trying to improve the positions on the production value chains represents essential factors.

The main concepts that the article uses are those from the literature on production value chains (VC), optimal currency areas (OCA) and real convergence. The main reason for including the aspect of integration in the production chains is their importance in understanding the changing nature of international trade and its effects on economies (both from the real convergence perspective and from the perspective of interdependence between the EU Member States). In this context, the theories of structural asymmetries between economies and the Krugman index of specialization are becoming more and more relevant.

The article starts with a comparative analysis of the evolution of productivity and wages in Romania comparatively with other Central and Eastern Europe (CEE) countries. Also, we examined the current position of Romania on the production value chains compared with other CEE countries, on the one hand, and the development of activities from the production value chain towards sectors with a higher value-added, on the other hand. We consider that the progress on the production value chain represents one of the main factors through which Romania can recover the real convergence gap with the Euro Area (EA).

In order to analyze the value chains, we started from the so-called "Smiling Curve" methodology to classify economic activities (excepting Financial and Insurance activities), depending on the gross added value of each: Research & Development - Branding - Design - Manufacturing / Assembling – Logistics and Distribution - Marketing – Sales and after-service. The data used for this analysis are those provided by Eurostat, the latest available being those of 2017.

Also, we used data from Eurostat for the real convergence analysis, but in this case, the data available was until the end of 2018. For this section, we used the methodology regarding Beta convergence. There were used two main hypotheses to estimate three thresholds for the real convergence to the Eurozone average GDP per capita at PPP, namely 70%, 75%, and 80%. The first scenario is a realistic one: we assumed that Romania and EA real GDP will expand with the same growth rate registered between 2000 and 2018, namely 4%, and 1,4% for EA average. The second scenario is more optimistic: there were considered an average GDP real growth rate of 5% for Romania and the same growth rate from 2007-2018 for EA.
Given that the level of GDP per capita at PPP registered by other CEE countries that adopted Euro currency varied between 59% of the EA average (Latvia) and 80% (Slovenia) – countries with much smaller economies than Romania, but with a much higher degree of openness –, we consider that the baseline scenario for Romania in order to adopt euro currency could be a threshold of at least 75% of EA GDP per capita at PPP at the moment of entry into ERM II.
With regard to the analysis of the production chain, it is noted that around 45-50% of the total economy gross value added (excluding financial activities and insurance) belongs to foreign companies. This represents a much larger share compared to the developed economies of EA but also is a specific characteristic of the developing countries, more dependent on foreign capital.
Most of the foreign investments were oriented towards the manufacturing sector, where the gross value added is medium to low. We can say that in this sector Romania has the advantage of a relatively well-qualified and cheap labor force compared with the origin countries of these investors.
Most foreign capital – dominated (more than 70% of total gross value added) sub-sectors in manufacturing are: Manufacture of basic metals, Manufacture of beverages, Manufacture of motor vehicles, trailers and semi-trailers, Manufacture of computer, electronic and optical products, Manufacture of electrical equipment, Manufacture of machinery and equipment, Computer programming, consultancy and related activities. Also, in terms of value chain segments, we see that foreign capital companies are located mainly in Manufacturing, Design of products and Marketing & Sales.
On the real convergence analysis side, the results show that Romania needs a period between 4 and 11 years to reach different thresholds from the GDP per capita of EA average at PPP, depending on the differential of GDP real growth rate.

Keywords: real convergence, euro adoption, structural convergence, production value chains

COMPETITIVE LATERAL INNOVATION

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"If you don't change direction, you will end up where you were headed" (Chinese proverb)
„The ideal culture from an economic point of view is individualistic, pragmatic, high-trust and high-tension, though each of these attributes must be moderated to some degree by the need to adapt the culture to local requirements. A simple way of summarizing the advantages of this culture is to note that it is both entrepreneurial and moral. It is entrepreneurial because it encourages innovation and risk-taking, and it is moral because it discourages innovations or risky ventures that cause disproportionate damage to the interests of other. It is moral because encourages honesty and loyalty, but it is entrepreneurial because it does so without stipulating rigid conformity to specific practices." (Casson, 2006. chapter 12 p.34)

In the future it is not so important to know what the companies have and produce but rather their ability to detect turbulence.
There are three groups of competitiveness determining factors in global economy:
• Comparative advantages: natural facilities, technological production differences.
• Competitive advantages: manager abilities, good organization, high level of professionalism, efficiency, profitability.
• Government participation: macro-economic environment, education-research, institutional system, infrastructure for marketing
The burden of comparative factors descends amongst these factor groups.
Competitive advantage is not provided by the possession of a tool, rather by its use. It does not make a company more competitive to spend above their limits on R & D, info communications systems or process innovation, but the fact that they can use their innovations creatively, in a discriminatory manner.
The relationship between innovation and competitiveness can also be approached through learning, knowledge, and the phenomenon of networking, highlighting that the competitiveness of the companies is not only product innovation but also of the relationships and the built system of coordination. (Kocsis-Szabó, 2000)
An innovative company is not one filled with a few wildly creative individuals who spontaneously think up new ideas. Rather it is characterized by several systems that have been installed and perfected over

time. An innovative company would operate three systems: an idea market, a capital market, and a talent market. (Kotler, 2003)
Innovation is the main source of competitive advantage, however the processes are shortened and intertwined, and therefore it is difficult to achieve sustainable competitive advantage. Therefore it is worth approaching innovation in new ways, in many cases leading out the company to a non-competitive marketplace, where its opportunities for development are not limited. The necessity for this lateral way of thinking is justified by the fact that there are not always 'pulling' industries and well-performing companies. (Lateral thinking is solving problems by an indirect and creative approach, typically through viewing the problem in a new and unusual light.)
Research methodology: Semi - structured interviews have been done with the leaders, lateral innovators of IT and financial companies about the special features of lateral innovation and it's implementation.

Keywords: Ideal economic culture, traditional competitive advantages, lateral innovation, case studies in IT and financial sectors

AN EARLY WARNING INDICATOR FOR NON-BANKING FINANCIAL INTERMEDIATION. A MIXED FREQUENCY APPROACH

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A mixed frequency indicator is designed such as to incorporate and extract information from time series data available at different frequencies: daily, monthly, quarterly, etc, and to provide a clearer signal of data analyzed.

The non-banking financial intermediation in Romania is currently supervised by Romanian Financial Supervisory Authority and is composed by three distinct markets: capital markets, insurance and private pensions. Due to the mutual exposure between them facilitated by financial instruments, there are common risk drivers that influence them. Although a financial shock can affect all three sectors at the same time, the impact can be measured at different frequency and with a certain lag. The supervisory data for capital markets and pension funds are available at a monthly frequency with a lag of one month, while for the insurance the data are available quarterly but with a lag of two months, similarly to GDP data.

In the scenario that a sudden financial event disrupts the financial markets or a change in macroeconomic environment changes the medium term forecasts, what is the impact on the non-banking financial intermediation?

Events and rapidly changing environments may severely influence by contagion the financial intermediation and increase the stress on institutional investors portfolio. Any institutional has or should have an indicator or set of indicators for monitoring the risk drivers. Short-term fluctuation of a certain risk, exchange risk for example, may be available at a daily frequency and thus can be included in the mixed frequency indicator. Therefore, by incorporating the volatility of the exchange rate, the indicator is designed to react, to be more sensitive to daily events.

On the other hand, if the indicator is designed to monitor the financial stability of the non-banking financial intermediation, we will also need lower frequency data, such as quarterly macroeconomic data that contain information about the structure of the economy at large. By design, we cannot let the indicator to be sensitive, if our scope is to construct a financial stability indicator that provides an early warning signal. Depending on the scope of the indicator, we can include data that can inform about the changing trends of the European economy, especially if we assume that there are spillover effects from the European economy and at what frequency.

For designing a mixed frequency indicator, we have followed the state-space methodology proposed by Brave and Butters (2019) which is an extension of the dynamic factor model that incorporates the accumulator proposed by Mariano and Murasawa (2003). The post-production phase of the indicator, which is accounting for serial correlation, calibration of the indicator, calculating forecasting error has to be done with other econometric tools, since the toolbox of Brave and Butters does not provide it all.

We have designed an indicator that takes into account the dynamics of capital markets, insurance and private pension funds between 2009 and 2019. Our mixed indicator uses the following data: for the capital market, we have used monthly return data of the price index for financials as provided by Thomson Reuters. We have chosen a strict financial price index in order to have a clearer signal of the dynamics of the Romanian capital market. For the private pension sector, we have aggregated the monthly returns of the private pension. Besides the private pension returns, we have also considered the asset growth of the funds. The data are freely available on the website of Romanian Financial Supervisory Authority. For the insurance data, we have chosen the loss ratio that is the ratio of total losses incurred (paid and reserved) in claims plus adjustment expenses divided by the total premiums earned. The insurance data are quarterly and should inform if there is a widespread loss of the insurance companies.

The rationale is to detect any sign of system wide vulnerabilities or distress in the nonbanking financial ecosystem. In the second step, the data were normalized and standardized, and after that, we have estimated the indicator. The results show that the indicator is able to capture some important distress events of financial intermediation, the last one in December 2019.

Since the indicator is unobservable, it is harder to ascribe to it a clear-cut interpretation. The interpretation of the indicator is intermingled with expert judgement and thus the issue of calibration shows up after estimation.

Other future strategies for improving the indicators would be either to nowcast or to forecast all the time series already used in the model in order to remove the lag and use their nowcasted/forecasted values in the estimation process, or to add other data, or to extract a PCA factor from a set of other data to see if the fit of the indicator improves.

The indicator, which is estimated at a monthly frequency, is useful for assessing the current evolution of the non-banking financial intermediation by taking into consideration the correlation between the three sectors.

Keywords: mixed frequency, state space, Kalman filter, non-banking financial intermediation, financial stability indicator

VOLATILITY TRENDS OF FOREIGN EXCHANGE RATES AND EURO IN THE CENTRAL AND EASTERN EUROPEAN COUNTRIES

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The Central and Eastern European (CEE) countries have undertaken the introduction of euro when joined to the European Union (EU). Therefore, we are interested to find evidences on how much convergence has been achieved CEE economies and the euro area. A limited degree of volatility in the bilateral exchange rate volatility imply that the two economies have achieved a sufficient degree of convergence in their economic and financial structures and face similar shocks, so that a common monetary policy is likely to be sustainable. How much convergence has been achieved between CEE countries and the euro areas is the central question of policy discussions to define the appropriate timing of euro adoption. This paper investigates the common trends in the foreign exchange rate volatility between the CEE countries and euro area complementing the literature on business cycle correlations.

Following the literature on exchange rate volatility (Fogarasi 2011), we use a twofold research approach. First, we identify the stylized facts concerning exchange rate volatility in the CEE currencies by decomposing exchange rate volatility into a long-run trend and a transitory component using the GARCH model (Engle and Lee, 1995). The decomposition, originally proposed by Beveridge and Nelson (1981) for the analysis of business cycles, has been found useful in the analysis of exchange rate volatility (Black and McMillan, 2004; Byrne and Davis, 2005). The two components of volatility are typically interpreted as driven by different factors: the long-run trend of volatility as reflecting shocks to economic fundamentals, and transitory volatility as driven by market sentiment and short-term position- taking. In line with the existing models of exchange rate volatility in emerging market currencies, we include an asymmetric term in the model to test for differences in volatility associated with exchange rate depreciations and appreciations, which we expect to be significant for the CEE countries. Next, we examine principal components and pairwise correlations between currencies for evidence of common volatility trends. To check for robustness of the results based on principal component analysis, we test for the presence of volatility spillovers across currency markets. The currency series consist of daily closing prices for the Czech koruna (CZK), the Hungarian forint (HUF), the Polish Zloty (PLN), the Romanian leu (RON) and the euro (EUR), all of which are quoted as U.S dollar (USD) rates.

Our preliminary results indicate that these trends are closely correlated, pointing to convergence in the economic and financial structures of these economies and the degree of commonality remains weaker than what had been found for major European currencies before the introduction of the euro. The analysis of volatility patterns in the CEE currencies can provide insights into the dynamics of the CEE currencies markets, including the volatility shocks across these markets, known as volatility contagion (Dungey *et al.*, 2005). The main policy implication of this paper is that that CEE countries need to compensate for a smaller degree of convergence by further improving the competitiveness of their production sectors.

Keywords: exchange rate volatility, Central and Eastern European Countries, euro area

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RISK ANALYSIS OF HUNGARIAN TRADE COMPANIES

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The main purpose of the study is to investigate whether there is a significant difference in the value of DOL and DFL as a function of corporate size and location. The enterprise size (sales) and location (region) were used as grouping variables.

The risk is one of the determinative elements of the economic environment that managers have to face during their work. Most companies' leaders are aware that in the short term achieving the significant profit and in the long-term capital maximization could be realized only by risk-taking. Considering all these, the literature review has to deal with the definition and the content of risk. It is essential to deal with specific risks of companies, basically with the economic and financial risks. Besides the individual and company specific risks, there are some other independent risk factors against which companies have to be on the defensive. These include the effect of the whole economy, the changes of economic competition's rules, the unpredictable and less favorable changes of laws, and effects of globalization. Regarding the consequences of the last financial and economic crisis, we also consider it important to overview the macroeconomic factors which affect companies. We think that one of the great lessons learned from the crisis is that a company as an organisational unit cannot isolate himself from the country's economy and from the general effects that influence the economy. Changes in macroeconomic factors affect in some way a company's functioning and its performance, which cannot leave out of consideration from the aspect of risk.

Many questions may arise about how we can determine the enterprise's risk and how much risk the enterprise should overtake. In corporate finance literature, the most commonly mentioned risk measures are variance, its root squared that is the standard deviation and the coefficient of variation what is the proportion of standard deviation and mean. The research made us re-evaluate these risk measures, whether they provide an adequate solution for enterprise's risk quantifying or not. Due to the rapid and often unpredictable changes in the economic environment, we consider risk quantification requires a more complex approach. That is the reason why besides the traditional deviation measures, we used the leverage ratios. By these elasticity ratios, the risk gets a slightly different interpretation, because based on this, the risk express the impact of percentage changes in economic variables (e.g., revenue, operating profit) on results.

Literature of grouping the corporate risk is quite different per the authors. This article considers the corporate's main risk as an operating and financial risk. This is based on Modigliani's and Miller's proposition II., according to which the extent of return on capital depends on two factors, on the one hand on the return on assets, on the other hand on the capital structure of the company. The 1st component (Return on Assets) may be linked to the company's assets side, and it is significantly influenced by the nature of company's operating activities, so it is called operating leverage, which can be considered as operational risk (business risk). The company's financing policy the 2ndcomponent and on the cost of debt which includes Debt/Equity ratio, of which name in English literature is leverage.

It was also found that firm's risk measure is the degree of combined leverage (DCL) which consists of two elements: the degree of operational leverage (DOL) and the degree of financial average (DFL). In the literature, the DOL and DFL ratios belong to the category of elasticity indicators. The DOL reflects the proportion of the changes in Sales and 'Earnings before interest and taxes (EBIT). DFL shows the percentage changes in net income, which results from changes in operating profit. The analysis of leverage ratios provides a comprehensive income statement analysis because the two leverage ratios are based on the income statement, as an accounting information source. The operating leverage is dealing with the top of the income statement (ending to EBIT) and the financial leverage with the bottom of it (from EBIT). Based on this, the degree of operating leverage regards as a first-stage ratio and the degree of financial leverage ratio as a second-stage ratio. The calculations were carried out using different packages of R statistics system. First, it was calculated the basic statistical indicators, and the quantiles/deciles and quantile ranking. Thereafter, multivariate variance analysis and multidimensional scaling were used to determine significant differences and distances between the variables investigated.

The empirical research was based on Hungarian enterprise data for five years (2013-2017). The database used for risk analysis is based on data from financial statements of Hungarian companies operating in the trading sector. The database was provided by EMIS official website.

The empirical analysis in which we carried out a risk analysis of the Hungarian trading companies, contains the following steps:

- determination of Degree of Operating Leverage (DOL) and Degree of Financial Leverage (DFL) for Hungarian trade companies;
- presentation of main statistical characteristics of investigated trade companies which are connected with its risk indicators;
- due to high deviation of risk measures, the calculation of quantiles/

deciles and ranks and grouping by quantiles/deciles of the investigated Hungarian trade companies by their size using sales as a grouping factor;
- a comparative risk analysis of resulted quantiles/deciles groups of investigated trade companies;
Based on the analyses carried out, it can be concluded that there are significant differences in the risk indicators applied in terms of both size and location.

Keywords: corporate risk, risk measurement, Degree of Operating Leverage (DOL), Degree of Financial Leverage (DFL), quantile/decile ranking, multivariate analysis of variance, multidimensional scaling

REAL CONVERGENCE IN CENTRAL AND EASTERN EUROPE

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Convergence is a multi-layered and multi-annual process, in which values of the various indicators of the factors (states) involved in the process converge. European Union convergence is generally observed by examining the nominal convergence brought about by the benchmark system. The nominal convergence refers to the elimination of inequalities within the Community manifested in key financial indicators of the Member States, such as price stability, soundness and sustainability of public finances, exchange-rate stability and long-term interest rates.
Beside nominal convergence real convergence is also of key importance, for it offers a development level approach to the convergence of less and more advanced Member State economies. A key objective of the convergence process is to facilitate entry to the euro entry while diminishing the negative effects and increasing the benefits of the currency switch.

Concepts and theories
Real convergence has two meanings in the economic literature. The first meaning (sometimes named as sigma-convergence) refers to a reduction in the income levels dispersion across various economies. The second reading of the term is beta-convergence, which occurs when poor economies grow faster than rich ones. Economists also introduced the notion of conditional beta-convergence: economies experience beta-convergence under the condition of certain variables (e.g. investment rate, population growth rate) being held constant.
The third employed term is club convergence, which refer to the group-specific equilibrium of countries, for instance the EU Member States tend to converge to the EU average. Club convergence can be observed between certain countries, more precisely for a group of countries sharing certain conditions determining convergence processes.
The present paper proposes to study the real (sigma and beta) convergence among eight Central and Eastern European countries: Bulgaria, Czech Republic, Croatia, Hungary, Poland, Romania, Slovenia and Slovakia between 2000Q1 and 2018Q3. The CEE countries joined the EU in different years (the four Visegrad Countries and Slovenia in 2004, Romania and Bulgaria in 2007, Croatia in 2013), two of the analyzed countries are eurozone members (Slovenia since 2007, Slovakia since 2009).
The real convergence of the above economies is studied by focusing on the following variables: gross domestic product per capita, wages and salaries per employee, value added per capita, labour productivity rate, unemployment rate, economy openness rate and labour

productivity-to-wages per capita rate. We attempt to demonstrate that β-convergence is a necessary but not sufficient condition for σ-convergence.

Methodology

The two concepts of sigma and beta-convergence were first used in the interpretation of the convergence process by Barro and Sala-i-Martin: the Sigma (σ) convergence refers to the level of dispersion of the affluence of countries, measured by the standard deviation or the variance of the logarithm of the variable. The evidence supporting sigma convergence is decreasing variance of the logarithm of indicators in the group of countries in subsequent moments of the specified time period. The dispersion can be measured by the standard deviation of variables values among economies. Instead of standard deviation the coefficient of variation (CV) can also be used, as defined in the following formula:

$$\mathrm{CV}=\frac{\text{Standard deviaton}}{\text{Mean}}$$

In order to verify decreases in dispersion over time we additionally conduct a CV trend line regression for GDP variables.

Beta (β) convergence first occurs when all countries/regions have the same steady-state (convergent towards absolute convergence) and on the long term the converging regions converge towards the same level of variable. Initially a single variable,the real income (GDP) per capita was used in convergence analysis, but contemporary studies rely on a much larger set of variables, including real price level, wages or Gross Domestic Capital Formation. The theoretical approach of Barro and Sala-i-Martin (1996) for the measurement of the beta convergence – based on the absolute (unconditional) convergence hypothesis – is the following:

$$\frac{1}{T}*\log\left(\frac{y_{i,t}}{y_{i,0}}\right)=\alpha+\beta*\log(y_{i,0})+\varepsilon_i$$

The left side of the regression equation of β-convergence indicates the average GDP per capita growth between the beginning (0) and the end of the period (t), which is dependent on the initial economic level $y_{i,0}$. Variable T summarizes the number of observations during the analysed period, α is the absolute term, β is the regression coefficient, ε_i is a random component. Since convergence level is studied by seven variables, the equation takes a more complex form. The GDP per capita indicator is switched with a per employee wages/salaries indicator and a new set of variables is inserted: value added per capita, labour productivity rate, unemployment rate, economy openness rate and labour productivity-to-wages per capita rate.

According to the equation, if convergence occurs ($\beta < 0$) then higher initial variable levels have a negative effect on the final growth.
Our analysis uses quarterly data form the series provided online by the Eurostat database and the national statistical institutes.

Results and conclusions
Observing the 2000q1-2018q3 period (respectively the 2010q1-2018q3 sub-period in the beta convergence study) we found convergence between the analysed states across all the seven variables, with weaker relation to economic openness and unemployment rate. The graphical representation of the regressions demonstrates that the eight countries do not belong to the same convergence club, some are much more developed and closer to the EU Member States' average (Slovenia), other countries, like Romania and Bulgaria, present a lower development stage (as reflected in the variable values) but a greater growth dynamics – especially in the aftermath of the 2008 crisis.
Inspecting sigma convergence elements one can observe the lack of convergence in the case of certain variables, like the opening of the economy and unemployment. Beta convergence analysis is not appropriate in identifying the trend breaks in the studied period; sigma convergence analysis revealed a trend change in the case of unemployment in the 2009-2010 period. In terms of the opening of the economy the region is highly heterogeneous: we could identify small open economies with a high openness rate (Slovenia, Slovakia, Czech Republic, Hungary), middle-sized open economies with reduced openness (Poland, Romania) and economies where openness exhibits seasonal variations due to the impact of tourism on GDP (Croatia, Bulgaria).
The productivity to wage levels ratio is a proper indicator of economic competitiveness in the Central and Eastern European region. In the special case of Slovenia the indicator is very close to the EU28 average since the beginning of the study period. The competitiveness indicator decreases in the case of an other eurozone country, Slovakia, but it is still rather high in comparison with certain neighbours who did not adopt the euro (Czech Republic, Hungary, Poland). Romania and Bulgaria have displayed the highest wage increases and productivity gains in the region and remain the most attractive investment destinations in the European Union, if we relate to the henceforth discussed aspect of competitiveness. Observing national variations in the productivity to wage levels ratio let us conclude that the region can be characterized by strong intraregional convergence and an average level convergence of the indicator with the EU28 countries.

Keywords: Dynamic Regressions, Wages, Labor Productivity, Empirical Studies of Economic Growth, Cross-Country Output Convergence

PRICE ELASTICITY OF TOBACCO PRODUCTS AND ITS IMPACT ON TAX INCREASE IN ROMANIA

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Partium Christian University, Romania

Tobacco use is high in Romania, with nearly 5 million adults (27%) smoking tobacco products. More than 40000 Romanians die every year from a disease caused by smoking. Nearly one-quarter (23.8%) of all deaths among men and about one in twelve (8.2%) of all deaths among women were caused by tobacco.
An international research, "Building Capacity for Tobacco Research in Romania" involving Wake Forest University Health Sciences and the University of Medicine and Pharmacy of Tîrgu Mureș was conducted by Kristie L. Foley as Principal Investigator. The research was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number 1 R01 TW09280, The research had more sub-projects, one of them being „The Economic Impact of Tobacco in Romania", which was conducted by the authors.
The sub-project ended with a report presented in the Comitee for Budget and Finance of the Romanian Parliament.
Our paper presents the main results and conclusions of that report.

Keywords: tax increase, tobacco consumption

MACRO-FINANCIAL LINKAGES IN THE CONTEXT OF ECONOMIC INTEGRATION: THE CASE OF ROMANIA

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The research analyses the macro-financial linkages of Romania on both intra- and inter-country level using financial condition and real economic activity indices.

In order to measure financial conditions in Romania, we constructed composite indices from individual financial indicators (e.g. money, credit, foreign exchange and equity market data) relying on three key approaches. In the first case, the weights of the individual series in the composite index were calculated based on the cumulative impulse-response function of a vector autoregression (VAR) model. The VAR model was estimated for the selected financial indicators and real economic growth. Beside the VAR approach, we also applied principal component analysis as well as a dynamic factor model to construct alternative financial condition indices (FCIs). Finally, the FCI with the highest correlation with GDP growth was selected for further analyses. To examine the linkage between domestic and external financial conditions, another VAR model was estimated using the best performing FCI for Romania as well as similar indices developed by the International Monetary Fund (IMF).

In the second part of the study, a medium-scale factor model was built for tracking Romania's GDP growth pace. The research analysed several hundreds of high-frequency economic indicators, using a rigorous variable selection process. From a geographical point of view, the majority of the monthly data series comprised information for Romania, but we also included a series of EU level indicators in the data base, in order to investigate the linkage between the Romanian and EU economies. With the exception of the EUR/RON exchange rate, financial indicators were not tested in this part of the study. The choice of keeping the exchange rate in the database came as several domestic prices (e.g. real estate prices, telephone charges) are set or linked to euro. In addition, Romania has particularly tight trading partnerships with eurozone economies, while a very large share of Romanians is also working in euro area countries. The high-frequency indicators included in the model were chosen from the large dataset applying a searching algorithm as well as expert judgement. After selecting the subset of the monthly variables, the medium-scale factor model was estimated using principal component analysis. Then the extracted monthly factor was transformed to quarterly frequency and linked to

GDP growth. In order to manage the 'ragged edged' problem, we re-estimated the medium-scale principal component model in a dynamic form using the Kalman smoother. The performance of the model was also tested against a naïve AR(1) benchmark. Finally, the channel between financial conditions and the real economy was analysed by a VAR model using the medium-scale factor model and the FCI developed for Romania.

In the case of the FCIs, the three key approaches provided similar results, confirming that a deterioration of domestic financial conditions has a significant negative impact on GDP. The highest correlation with quarterly GDP growth was showed by the FCI based on the VAR approach. The findings also revealed that financial conditions are reliable short-term (one-quarter ahead) predictors of real economic activity.

The estimated VAR model with the FCI index for Romania as well as the similar indicators of the IMF pointed out that external shocks play an important role in the evolution of domestic financial conditions.

The proposed medium-scale factor model for tracking GDP growth outperformed the AR(1) benchmark, suggesting that extracting information from high-frequency data is a fruitful strategy. Furthermore, the results also confirmed that including EU level indicators can improve the accuracy of the factor model.

The vector autoregressive model estimated with the monthly versions of the FCI composite and the GDP growth tracker developed for Romania revealed that the pass-through of financial shocks into the real economy is particularly quick. More than half of the overall impact on economic growth is transmitted in two months.

These findings underscore that the developed composite indices can be a useful tool for policy makers and other decision makers to assess the current state of the economy as well as the impact of financial shocks.

Keywords: factor models, financial conditions, Romania, macro-financial linkages

PERFORMANCE ANALYSIS OF STOCK EXCHANGE COMPANIES IN CENTRAL AND EASTERN EUROPEAN EU MEMBER STATES

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The main goal of our study is to examine the performance of the stock exchange companies of Central and Eastern European EU member states by using their financial statement data and their market ratios. Countries included in the analysis: Bulgaria, Croatia, Hungary, Poland, The Czech Republic, Romania, Slovakia, Slovenia. The analysis is carried out using data for the past five years (2013-2017) and 749 companies. The data was downloaded from the EMIS (Emerging Markets Insight) database.

A stock exchange is a very sophisticated market place, where among others the stocks are the traded commodities. At the same time, the stock exchange plays a central role in the creation and development of a great and competitive economy. It is essential to make structural transformations in an economy from a traditional economy to a more flexible, more secure economy that has an immunization in contrast with shocks, fluctuations, and lack of investors' confidence. The stock markets are those markets that deal with capital, both in short and long-term, where companies sell stocks in order to generate long-term capital that can be channeled into their profitable activities. The activities of buying and selling stocks on the stock market are extremely significant for the allocation of capital within economies. Also, transaction prices and quotations provide investors with an indication of the market value of their wealth which may influence their decisions about consumption expenditure. Furthermore, the stock market is a crucial factor in investment decisions because the price of shares affects the number of funds that can be raised to finance investment spending. The analysis of stock markets plays a central role to estimate the perform of them. This has increased the stock market's role in commerce, information technology, communication, and management. The efficient stock markets can create facilities in investments in the very productive technological areas.

First, there was determined the essential statistical characteristics of the examined indicators by country. Following this, there were used financial ratios generally accepted, as well as indicators related to the market capitalization and corporate value, for the analysis. Using some of these indicators and the multivariate analysis of variance (MANO-

VA), the performance of the companies per country and year was investigated. As there was a significant difference among the countries concerning the indicators analyzed indicators, the examination was continued by analysis of variance (ANOVA). Based on the analyses it was found out there are significant differences in the performance of stock exchange companies concerning countries examined. The paper presents the results of the study in tables and graphics. Multiple and standard analyses of variance were used to compare the dispersion ratios of individual countries, which also showed significant differences.

To determine the relationship between company value and financial ratios was used the panel regression model that allows taking into account both time and country effects beyond cross-sectional effects using only one model. Compared to traditional data analysis one advantage of panel data analysis is that very heterogeneous variables can be included in the sample. The panel data analysis is widely used in social science, and its great advantage is the introduction of idiosyncratic effect, which means both the individual and time effect on the dependent variable. It is possible to determine how was affected the firm value by the selected corporate ratios using this model, and what indicators have significant effects on them. Using the hierarchical panel model, it is also possible to show the year and country effects separately. Due to the large dispersion of the variables involved in the analysis, we need to apply quantile regression. Quantile regression models allow the researcher to account for unobserved heterogeneity and heterogeneous covariates effects, while the availability of panel data potentially allows the researcher to include fixed effects to control for some unobserved covariates.

We applied the 'uqr' package of R statistical system what is suited to estimate and conclude inference for unconditional quantile regression. The 'urq' function returns a Recentered Influence Function regression of given quantiles. Panel data analysis is performed by extending the correlated random effects (CRE) model to an unconditional quantile regression framework. The 'urqCI' function provides standard errors and confidence intervals for the recentered influence function regression fit 'urq' function. The inference is obtained through a Bayesian bootstrap drawing observation weights from a Dirichlet distribution.

The findings of this research contribute towards a better understanding of the stock market. There are many factors which have helped financial markets to gain prominence during the last years in many countries of the world, such as cutting edge technological advances and the phenomenal speed of access to financial information. In addition, there have been advances in modes of communication. All of these indicate the significance of stock markets, providing further op-

portunities for growth. Fortunately, the last few years have witnessed an increase in the importance of developing stock markets in the investigated area, which bears many advantages such as reducing the costs of financing. As is evident from theoretical and empirical studies, the stock market has played a significant role within both the advanced economy and the emerging market. This study found that the relationships between financial ratios and market value ratios are significant.

Keywords: market value, book value, financial ratios, panel data model

THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND CSR

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Corporate governance is a corporate governance system for large companies which includes policies and procedures for corporate social responsibility too, therefore I thought it important to summarize the thoughts on the subject without the need for completeness.

Corporate governance includes corporate social responsibility policies, procedures; it can also be interpreted as the relationship between governors and stakeholders. The authors Angyal (2009), Auer (2017) agree that the two phenomena coexist and are connected at several points. The goals of the two phenomena are intertwined, compliance with other important requirements (environmental, labor law) besides the primary corporate goal.

Corporate Governance has been known to the management of business organizations for over 150 years, as a concept came into the management literature after the change of regime.

Corporate governance is a corporate governance system based on the sharing of power and roles between owners, management and boards (board, supervisory board). According to the roles, ownership, supervision, and control are separated. The division of power in this definition means that the boards keep the management under strict control and the owners can account for the boards (Tasi, 2012). According to Tasi (2012), responsible corporate governance involves careful management; financial planning and implementation; control mechanisms for the operation of the company; company transparency and business ethics issues; publicizing corporate information and corporate social responsibility policies and practices.

Angyal (2009) sees that CG (corporate governance) and CSR are intertwined „neither intersection, nor intersection, nor parallelism, but coexistence". (Angel, 2009: 14). It does not agree with the incompatibility of corporate governance or corporate governance and social responsibility, in practice the former two are more common.

Due to the activities of multinational companies, due to globalization, the globalization of environmental problems, the cross-border transfer of science and politics, the management and responsibility of companies as a result of the above-mentioned concerns the whole of humanity (Inotai, 2001, in Angyal, 2008).

Keywords: CSR, CG, multinational companies

CONVERGENCE OF FINANCIAL CRIME – AN OVERVIEW

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Although the EU is still considered a „convergence machine", especially for the countries of Central and South-eastern Europe, specialists do agree that there are growing divides between member countries, regions and people which increasingly challenge EU's convergence promise. These apply not only to economic outcomes, but also to level of education, health care and social assistance, applying ICT in different industries, etc. In the beginning, at least until the crisis hit, entering the EU helped new member states to grow faster than the incumbents due to some main reasons: the access to a bigger market and the subsidies, for example, the structural funds. Nowadays we see that even technological change, by revolutionizing product and labour markets, is slowing down the old convergence machine: new achievements in ICT offer ever-richer opportunities for high-skill workers and frontier firms, while low-skill workers and less productive firms risk falling behind. One of the main motivational factors for the new members to keep pace with the older ones was the promise of entering the Euro Zone. Unfortunately, the process was hindered not only by economic processes, but also political decisions. We have to admit that, on the one hand, convergence would not occur automatically and, on the other, it cannot be achieved exclusively through economic and financial actions. One of the key issues for countries facing convergence challenges is to enhance the resilience of their economic structures by improving the related institutions and governance. The institutional aspect becomes highly relevant especially when member states are facing a „darker" side of convergence, namely the realm of financial crimes. Financial crime, may involve: cheque and credit card fraud, mortgage fraud, medical fraud, corporate fraud, securities fraud, bank fraud, insurance fraud, market manipulation, health care fraud, theft, scams or confidence tricks, tax evasion, identity theft, money laundering, forgery and counterfeiting. But, and this aspect becomes more and more important, financial crimes may involve additional criminal acts, such as financing terrorism, trading drugs or trafficking human beings. It also seems, that this kind of activities are strongly related to computer crime. Countless crackdowns on international money laundering has confirmed fears about the convergence of cyber fraud and financial crime that threatens to hobble online fraud prevention efforts in the future. Financial crimes may be carried out by individuals, corporations, or by organized crime groups. Victims may include individuals, corporations, governments, and entire economies. When talking about the convergence of financial crime we have to distinguish between the two aspects of the question: the criminal side, on the one hand, and the fight against that, on the other. In the last decades, criminals have evolved and become more sophisticated and money obtained through fraud, or other criminal activity, is laundered through accounts almost seamlessly. Financial criminality has become a global phenomenon which requires a global response; a more holistic approach to fighting it is needed. In the last period, we can witness the rise of a general trend in the battle against financial crime, namely an international co-operation and a strong convergence of regulations on both micro (corporate) and macro (national) level. My presentation aims to give an overall blueprint of this criminal convergence and the actual trends in combating it. I try to highlight especially the role of ICT in facilitating criminal activities, but also their role in fighting against them.

Keywords: Convergence, Cyber Crime, Financial Crime, Money Laundering

VALUE ADDED TAX COLLECTION: ROMANIA TOO FAR FROM EUROPE?

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Tax collection efficiency and the size of tax gap is determined by the tax system structure and the effectiveness of tax collection. This paper analyzes the measures implemented for increasing the efficiency of value added tax collection and the good practices for value added tax collection improvement in some Member States of the European Union. In this paper we also try to find a convergence of the European Union taxation systems in the process of the VAT tax gap decline.
Various methods have been developed and refined for the estimation of the non-observed economy, also adopted to estimate tax evasion. Two main approaches can be distinguished for tax gap estimations: the direct and the indirect one. The first, also called bottom-up approach, is based on microeconomic data coming from auditing activity or conducting sample surveys with voluntary responses; the second one, also known as top-down method, employs macroeconomic indicators or information from National Accounts and financial services. The latter is further differentiated into two branches, one based on macroeconomic data and the other on econometric models. Particularly, the second stream deals with the limited availability of information to estimate tax evasion and unobserved economy.
Previous studies indicate that there are real possibilities for reducing the value added tax gap in case of Romania, where the difference between the potential Value Added Tax (VAT) and the collected VAT was 37 per cent in 2015, the highest in the European Union (EU). There are good examples in the EU and Central and Eastern European Countries (CEE) where VAT improvement can be observed, by applying innovative techniques and procedures for VAT collection. The adaptation and implementation of the best practices of tax collection can reduce the tax gap and increase the revenue to the public budget. Following the positive precedents of CEE countries, important results can be achieved even in a relatively short period of time in Romania for the reduction of the 4.8 per cent VAT tax gap by improving the effectiveness of tax collection.
Regarding to the taxation systems' convergence in the European Union, there are many studies that examine the tax policy convergence, but no evidence of long-term convergence was found. The empirical evi-

dences show that the autonomy of the countries, the different economic structures and politics prevail over the idea of equalization of fiscal policies in the EU. The only taxation area where the harmonization process in the European Union has been successful is value-added tax. Despite the fact that there have been efforts to bring the VAT of different countries to a closer level, different rates of VAT have been applied in different EU member states, ranging from 17% in Luxembourg to 27% in Hungary. Even if there is no convergence trend in EU VAT rates, the collective effort to reduce VAT gap can be manifested through a continuous improvement in tax collection. This led us to the formulation of the VAT gap convergence hypothesis in the EU countries. We will study the beta (β) convergence of the VAT gap, which means that countries having a higher initial level of variable are characterized by a faster rate of decreasing than countries that have a lower level of variable at the same moment. Beta convergence occurs when all countries or regions have the same steady state (convergent towards absolute convergence) and, on the other hand, when it is the same regions that converge on long term, converge towards the same level of variable.
Initially the beta-convergence analysis was used for the real income (GDP) per capita, According to Barro and Sala-i-Martin (1996), when partial correlation between growth in income over time and its initial level is negative, there is "beta convergence". Beta-convergence refers to a process in which poor regions grow faster than rich ones and therefore catch up to them, when all economies are assumed to converge towards the same steady state (in terms of GDP per head and growth rate). Based on the unconditional convergence hypothesis, the formula of measuring the beta-convergence of Barro and Sala-i-Martin (1996) is:

$$\frac{1}{N}*\log\left(\frac{y_{i,t}}{y_{i,0}}\right)=\alpha+\beta*\log(y_{i,0})+\varepsilon_i$$

The regression equation's left side expresses the average GDP per capita, between the beginning of the period (0) and the end of the period (t), which is dependent on the initial economic level $y_{i,0}$. Variable N is the number of observations in the analyzed period, α is the absolute term, β is the regression coefficient, ε_i is a random component. Because the level convergence is studied for VAT gap, the equation is modified in the following form: instead of an indicator of the GDP per capita, an indicator of VAT gap value is used. According to the equation, if convergence occurs (β < 0) then higher initial variable levels have a negative effect on the final growth.
We used annual data of VAT gaps for 26 EU countries (excluding Cyprus and Croatia) between 2000 and 2016 from the *Studies and Reports on the VAT Gap in the EU-28 Member States* released by the Center for Social and Economic Research and the Institute for Advanced Stud-

ies for the client: Directorate General Taxation and Customs Union of European Comission.
We found no VAT gap convergence between the 26 European countries for the entire period (2000-2016). Structural break in the data series was identified in 2010, but there was no convergence in the VAT gaps nor between 2000 and 2010, nor in the 2011-2016 period. Studying the Central and Eastern European regions' EU member countries's (Bulgaria, Czechia, Hungary, Poland, Romania and Slovakia) VAT convergence, we found a very weak divergence between 2000 and 2010 and a low-level convergence with the coefficient of determination value of 34 percent in the 2011-2016 period.

Keywords: tax gap, tax collection, effectiveness, value added tax, convergence

TRANSPORT LOGISTICS CHALLENGES FOR SMART CITIES

Lajos Veres
University of Dunaújváros, Department of Economic Sciences, Hungary

In the introduction of the presentation, the author outlines the international and European tendencies of urban development and the accompanying external effects.
According to sustainability requirements, the smart city concept has been playing increasingly important role in urban development.
In addition to the general structures, the author presents the concept and initiatives of the European Union smart city. Based on international experience, the usage of regional development poles and center-periphery systems can be highlighted among the theoretical models of urban development and regional economics.
With the spread of electromobility, smart traffic solutions and modern city-logistics initiatives are being appreciated.
In addition to the theoretical models, the presentation delivers solutions introduced in practice and draws attention to success factors.

THE ROLE OF WAREHOUSE MANAGEMENT SOFTWARE

Pál Bérczes
QLM Logistics Solutions Kft., Hungary

Warehouses play a particularly important role in logistics processes, as much of the main logistics costs of companies are created here. We explore in this paper how do we develop the optimal warehouse with IT solutions, by applying QLM-WaProM Warehouse Management Software - The Online Warehouse Manager.

INNOVATION IN TRANSPORTATION AND WAREHOUSING

László Kocsis
Ennosol Technology Zrt., Hungary

In the introduction of the presentation, the author introduces a complex logistics system that is capable to replace any corporate governance system used today.
An automated networked, forwarding and warehousing process management system integrated into fleet tracking will be introduced, where company headquarters or sites, warehouses link satellite-tracking vehicles and their electronically registered shipments.

DATA, ANALYSES OF THE MOVEMENT OF GOODS

Richárd Menczinger
Webeye Magyarország Zrt., Hungary

We can talk about the least information and the greatest risk in the case of movement of goods. Ensuring driver and security of goods with Webeye IT.

ECONOMIC AND MONETARY UNION
Thursday, 2 May 2019, 15.30 – 17.00, Main Aula
Session Chair: Marius ACATRINEI

Macro-financial Linkages in the Context of Economic Integration: The case of Romania
Csaba BÁLINT
Partium Christian University / The Bucharest University of Economic Studies / OTP Bank Romania
Keywords: factor models, financial conditions, micro-financial linkages, Romania

The Struggle for Euro adoption in Romania - The Role of Economic Convergence
George ȘTEFAN, Vlad NERĂU
The Bucharest University of Economic Studies
Keywords: real convergence, euro adoption, structural convergence, production value chains

Real Convergence in Central and Eastern Europe
Lóránd István KRÁLIK
Partium Christian University
Keywords: dynamic regressions, wages, labour productivity, empirical studies of economic growth, cross-country output convergence

United Kingdom – Being Part of the Whole System Has Its Advantages
Maria-Anca CRAIU
National Institute for Economic Research 'Costin C. Kiritescu' – Romanian Academy
Keywords: system, European Union, economic integration, Brexit, policies

CORPORATE VALUE CREATION IN A KNOWLEDGE-BASED ECONOMY
Thursday, 2 May 2019, 15.30 – 17.00 Bolyai
Session Chair: Károly PETŐ

Performance Analysis of Stock Exchange Companies in Central and Eastern European EU Member States
Veronika FENYVES, Tibor TARNÓCZI
University of Debrecen
Keywords: market value, book value, financial ratios, panel data model

Competitive Lateral Innovation
Ibolya SZALAI
Dunaújváros University
Keywords: ideal economic culture, traditional competitive advantages, lateral innovation, case studies

Comprehensive Analysis of Intellectual Capital of Visegrad Countries and Romania Using Their Most Significant Companies
Mirjam HAMAD, Tibor TARNÓCZI
Keywords: intellectual capital, value added intellectual coefficients, multivariate analysis, multidimensional scaling

Analysis of the Financial Situation of Sports Companies and Their Relationship with the Notes to the Financial Statements in the 2014-2017 Years
Dóra KEREZSI, Éva BÁBA BÁCSNÉ, Krisztina DAJNOKI, Veronika FENYVES
Keywords: sports sector, indexes reflecting financial situation, index numbers, assets structure indexes, notes to the financial statements

INTERNATIONAL FINANCE AND FINANCIAL INTERMEDIATION
Friday, 3 May 2019, 10.30 – 12.00, Main Aula
Session Chair: Éva PINTÉR

Early Warning Indicators for Non-banking Financial Intermediation. A Mixed Frequency Approach
Marius ACATRINEI
Institute for Economic Forecasting, Romanian Academy
Keywords: mixed frequency, state space, Kalman filter, non-banking financial intermediation, financial stability indicator

Volatility Trends of Foreign Exchange Rates and Euro in the Central and Eastern European Countries
József FOGARASI, Edith DEBRENTI, Johanna BENEDEK
Partium Christian University
Keywords: exchange rate volatility, Central European Countries, euro area

Stability and Efficiency of Conventional Banks vs. Islamic banks in Syria
Faeyzh BARHORUM
Kaposvár University
Keywords: Banking Finanacial Stability, efficiency, camel, Syrian banks, Islamic banks, conventional banks

European Digital Single Market – the Backbone for a Socio-Economic Growth
Timea ARDELEAN
Partium Christian University
Keywords: digital single market, socio-economic growth

CORPORATE RISKS IN A CHANGING ECONOMIC ENVIRONMENT
Friday, 3 May 2019, 10.30 – 12.00, Bolyai
Session Chair: András NÁBRÁDI

Risk Analysis of Hungarian Trade Companies
Edina KULCSÁR, Edit VERES, Tibor TARNÓCZI
Partium Christian University
Keywords: corporate risk, risk measurement, Degree of Operating Leverage, Degree of Financial Leverage, quantile/decile ranking, multivariate analysis, multidimensional scaling

Capital Structure and Financial Flexibility Affecting by Entrepreneurial Thinking
Éva PINTÉR
University of Pécs
Keywords: entrepreneurial spirit, financial flexibility, capital structure, corporate lifecycle

The Relationship Between Corporate Governance and Corporate Social Responsibility
Edit VERES
Partium Christian University
Keywords: Corporate Social Responsibility, Corporate Governance, multinational cormpanies

The Impact of Climate Conditions to Crop Productivity
Enikő VÍGH, Partium Christian University
Zoltán BAKUCS, Imre FERTŐ, Centre for Economic and Regional Studies, Hungarian Academy of Sciences
Keywords: climate risks, crop productivity, efficient frontier methods

ECONOMICS OF THE EUROPEAN INTEGRATION
Friday, 3 May 2019, 12.15 – 13.45, Bolyai
Session Chair: Tibor TARNÓCZI

Value Added Tax Collection: Romania too Far from Europe?
Erzsébet SZÁSZ, Lóránd István KRÁLIK
Partium Christian University
Keywords: tax gap, tax collection, effectiveness, value added tax, convergence

Price Elasticity of Tobacco Products and Its Impact on Tax Increase in Romania
Árpád SZABÓ, Partium Christian University
Ede LÁZÁR, Sapientia Hungarian University of Transylvania
Keywords: tax increase, tobacco consumption, Romania

Convergence of Financial Crime - An Overview
Zoltán ZAKOTA
Partium Christian University
Keywords: convergence, cybercrime, financial crime, money laundering

Changes and Transformations in the Rural Economy from the Regime Change till Nowadays – The case of Érmellék
Ferenc SZILÁGYI
Partium Christian University
Keywords: rural economy development, economic transformation, Érmellék

VALUE CREATION APPLYING LOGISTIC INFORMATICS
Friday, 3 May 2019, 12.15 – 13.45, Main Aula
Session Chair: Zoltán DOÓR

Transport Logistics Challenges for Smart Cities
Lajos VERES
University of Dunaújváros
Keywords: smart cities, transport logistics

The Role of Warehouse Management Software
Pál BÉRCZES
QLM Logistics Solutions Kft.
Keywords: logistics, warehouse management software

Innovation in Transportation and Warehousing
László KOCSIS
Ennosol Technology Zrt.
Keywords: logistics, innovation, transport, warehouse

Data Analyses of the Movement of Goods
Richárd MENCZINGER
Webeye Magyarország Zrt.
Keywords: logistics, data analysis