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The Future of CENTROPE*

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Editorial

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The Oesterreichische Nationalbank (OeNB) and the Institute for Advanced Studies (IHS) organized the workshop "New Regional Economics in Central European Economies: The Future of the CENTROPE Region". This get-together on the future of the Central European Region (CENTROPE) was hosted by the OeNB on March 30 and 31st.

The role and functions of central banks in general depend strongly on the state of surrounding banking and financial markets and on the dimensions and dynamics of the overall economic environment. As a result of growing economic globalization and regionalization observed since the late 1980s and as a consequence of the European Single Market and the Economic and Monetary Union (EMU), national borders will, no doubt, lose further in significance. Regional economic issues will therefore gain in importance and come to play an increasing role in the policy debates of central banks. Complementing global, European and national perspectives, the regional point of view has come to represent a new aspect of central bank analysis.

During the past two decades we have experienced as well a renaissance of spatial economic issues in the field of social science and economics. Above all, this is due to the aforementioned acceleration of worldwide regionalization and globalization processes. This trend has brought forth a host of sometimes contradictory spatial economic theories and empirical studies.

Therefore the OeNB and the IHS deemed it necessary to review the state of art of regional economics in its application for the region surrounding Vienna and Bratislava, called CENTROPE or Central European Region. The recent expansion of the European Union places CENTROPE at the centre of a potentially new core area, where the region connecting Berlin with the Adriatic intersects with the Danube basin.

The workshop was organized into two sessions. The first session "New Regions in Europe: New Regional Economics?", which dealt with the theoretical issues of (new) regional economics was chaired by Professor Polasek of the IHS. The

second session analyzed CENTROPE from different angles and was chaired by Director Achleitner from the OeNB.

Session 1 started with an introduction to geographical economics by *Charles van Marrewijk* (Erasmus University of Rotterdam). He raised the main question of how to explain the observable uneven distribution of economic activity and introduced Zipf's Law and gravity models that find regularities in distribution and interaction. Gravity models, based on the findings of Isaac Newton in the field of physics, are used to determine economic interaction by taking distance into account.

Next, the influences on the distribution of economic activity were analyzed and divided into a political, a physical, and a social or a cultural dimension. Political borders include customs, immigration regulations, taxation, etc., whereas physical borders lead to higher transportation costs due to natural barriers. Cultural separation subverts the mutual trust necessary for interaction. Subsequently, he presented three core models in the New Economic Geography literature that combines micro foundation with a geographical structure[1]. These models provide a framework to analyze interaction between geography and economy and can endogenously explain the location and size of economic activity. The three models are Krugman, Krugman-Venables-Puga, and Forslid-Ottaviano and all yield similar core-periphery results. In the framework of the Krugman model simple migration dynamics and the importance of the starting point were shown. The example of a pancake economy was used to analyze the effects of infrastructure projects on the size of agglomerations.

Finally, *Charles van Marrewijk* introduced a new method, called GI-estimator, to find new interaction regularity by using the Balassa index, which measures comparative advantage in a specific sector. He finds that the estimators characterizing distribution of economic activity differ significantly for the CENTROPE countries.

In the second lecture, *Manfred Fischer* (Vienna University of Economics and Business Administration) presented his spatial econometric paper on pan-European regional income growth and club-convergence. As growth regression convergence models that tended to dominate in this field cannot sufficiently capture the complex process of regional convergence, *Manfred Fischer* suggested using a two club alternative method. The two clubs were grouped using Getis and Ord's local clustering technique, where spatial regime A includes most NUTS 2 regions in Western Europe and regime B covers regions of Portugal, the southwest of Spain, the south of Italy and Eastern Europe including parts of Austria. Now the two club-convergence model was tested first with independent and homosekdastic errors yielding a faster convergence within club A than B. Estimations using a spatially

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[1] A general geographical economics model with congestion from *Charles van Marrewijk* can be found in this volume.

autocorrelated error specification resulted in a higher convergence speed in club B than A. This suggests that spatial error dependence introduces an important bias that would lead to deceptive conclusions if it is neglected.

Steven Brakman (University of Groningen) gave the third lecture. He presented his paper on free-ness of trade and agglomeration in the regions of the EU. Based on the New Economic Geography model by Puga the equilibrium wage equation was estimated for the NUTS 2 regions of the EU in order to determine two parameters, namely the substitution elasticity and the distance parameter. They were used to calculate the so called free-ness of trade parameter which represents the degree of economic integration. Given this variable its influence on the degree of agglomeration was analyzed. The main findings suggest that agglomeration forces have little spatial reach in the EU. The reach of these forces was calculated and ranges between 87.3 and 161 km. The agglomeration forces can therefore be considered to be localized. Finally, *Steven Brakman* stressed that there still exist considerable limitations of empirical research in New Economic Geography.

The last lecture of the day was given by *Dirk Stelder* (University of Groningen). He tries to fill one of the main gaps in New Economic Geography by introducing realistic geographical space. His grid model is based on the basic multiregional model by Krugman consisting of an immobile sector called agriculture and a sector that is not geographically fixed and referred to as manufacturing. Modifications were made by using a discrete grid of equidistant locations that was altered to fit the actual geographical shape of a country. Assuming that the endowment with labor is equally distributed on every dot at the beginning one can simulate the influence of geographical space on economic agglomeration by taking altitude into account. *Dirk Stelder* showed maps that illustrated how well actual cities could be predicted by the model and how these predictions changed with other model specifications, e.g. allowing for sea transport.

The field of application includes simulating the effect of economic integration or infrastructural changes on agglomerations. Considering economic integration, e.g. the abolition of the Iron Curtain, his preliminary results suggest that this leads to domestic concentration. He admitted that one drawback of his ongoing work was that the model was not able to explain the development of satellite cities. His main conclusions were that not only geography but also history and integration have to be taken into account when trying to understand the appearances of agglomerations.

In the first lecture of the second session, *Gerhard Palme* (Austrian Institute of Economic Research – WIFO) and *Martin Feldkircher* (IHS) set the stage for the second empirical part on CENTROPE by giving an overview on the characteristics of the Central European Region. Their analysis was divided into a national and regional section. The national part concentrated on the competitiveness and its determinants, whereas the regional section emphasized the structural and partly the functional characteristics of CENTROPE.

The main findings are the following: Central Europe constitutes a relatively wealthy and dynamic region which is fully integrated into the economy of the European Union. Exports from the four countries grew much faster than from the EU-15. The thus improved current account indicates the competitiveness of the region. The high share of foreign direct investment shows as well the attractiveness of the four Central European countries.

But CENTROPE is not yet a "structural region" which causes it to be clearly differentiated from the region around it in Central Europe. It is also not a homogenous region, nor a "functional region" that is held together by close economic relationships. It is in fact a diversified region with large inner-regional differences. But this very fact could give rise to their competitive advantage. The authors characterize CENTROPE as an intermediate zone, surrounded by two different growth clusters. The dynamic regions of the new EU Member States can be characterized by high growth rates, while in the high purchasing power areas of the west lower rates dominate. Therefore, CENTROPE has a locational advantage for products or components that are in demand in the Western markets with their sophisticated preferences and high levels of purchasing power, as well as in the dynamic Eastern markets. This advantage of location can lead to rising internal economies of scale or to lower transaction costs.

In order to realize this potential economic policy has to cope with infrastructural deficiencies which particularly hinder the division of labor within CENTROPE. *Palme* and *Feldkircher* show in this respect a gap with regard to "modern" location factors. If CENTROPE is to develop into a region with intensive economic integration, then these infrastructure bottlenecks need to be eliminated as they particularly hamper the division of labor within CENTROPE. These deficiencies can be observed especially in schooling at higher qualification levels, transport and communication infrastructure, the high quality development of local infrastructure within the individual countries as well as the interconnection between these countries.

Although the authors identify the agglomerations of Vienna and Bratislava as the core region of CENTROPE they think that in order to reach the critical mass for economic dynamism cooperation should not be limited to Vienna and Bratislava. Therefore, cities like Brno and Győr but also the capital cities Budapest and Prague should be included in the network.

Additionally, *Martin Feldkircher* provides a spatial econometric analysis for the regional convergence within the EU-25 in this volume. The study of *Martin Feldkircher* investigates absolute convergence within the EU-25 for the time period 1995–2002. He shows that growth performance and convergence depend crucially on the development of a region's surrounding. The detected spatial autocorrelation is of substantive form indicating that ordinary least squares estimates would be biased. The obtained results point to a yearly convergence rate of 0.7%–0.9%. Several robustness checks are carried out: First, he examines whether the

functional relationship of the convergence equation is stable over space, and secondly, he investigates the sensitivity of the estimation results on the specified weight matrix, before identifying the source of spatial dependence.

The following lecture by *Robert Stehrer* (Vienna Institute for International Economic Studies – wiiw), after giving an overview on the growth differential between Eastern and Western Europe, estimates the growth potential for the CENTROPE countries. By following the new growth approach he concludes that the longer-term perspectives for continued economic growth and structural change in Hungary, Slovakia and the Czech Republic are good and that interesting perspectives for regional agglomeration effects – including Austria – can be expected.

His estimations for the growth differentials versus the EU-15 range between 0.8% and 1.4% for the Czech Republic, 1.2% and 2% for Hungary, and 1.5% and 2.5% for Slovakia. This implies a catching-up of 7.6 percentage points of per capita GDP to 62.7% of the Austrian level for the Czech Republic in the base scenario using 1999 PPP. For Hungary and Slovakia the corresponding improvements would be respectively 10 percentage points to 56% and 11.3 percentage points to 52.8% of the Austrian level.

Using constant 2004 PPP instead of 1999 PPP the three countries' positions vis-à-vis Austria are higher by 2–5 percentage points. These "improvements", representing the effects of favorable changes in the structure of prices and quantities produced/consumed in the catching-up countries, must be expected to continue in the future as well. It seems quite reasonable to expect the structural changes to produce effects of at least similar size over the period twice as long: 2004–2015.

By analyzing the implications for investment and foreign trade, foreign direct investment, productivity growth and employment the structural characteristics of the catching-up-process of the three Central European states are worked out.

In the following contribution *Peter Huber* (WIFO) and *Peter Mayerhofer* (WIFO) focused on the characteristics and consequences of structural change in the CENTROPE region. This region is a particularly interesting case study of integration since it comprises some of the most advanced regions of both the new and old Member States and may thus reflect the structural effects of EU integration particularly well, since CENTROPE is characterized by internal structural disparities that may be considered as typical for the enlarged EU. Moreover CENTROPE is in a favorable position relative to other cross border regions, due to its strong urban core and to a lack of problems of mono-industrialization and extremely peripheral agricultural areas. The diversity of specialities and locational advantages could lead to functional specialization in border crossing producer networks.

The second part of session 2 dealt with sector specific issues. *Norbert Schuh* (OeNB) started with a short literature overview of the link between the financial system and economic growth.

An important corollary of the finance-led theory is the fact that agglomeration effects and scale economies play an important role in the development of financial markets. Financial deepening coincides with increased complexity in the financial system. In a more complex financial system, however, scale effects play an important role. The new Member States are a clear example of this fact. As the financial markets in the individual countries are too small, the benefits of the scale effects can an only be realized by foreign subsidiaries and branches.

Norbert Schuh concludes that the Austrian banks have been fulfilling their role as a central sector for the development of a growth cluster in the CENTROPE region in an exemplary manner by heavily investing in CENTROPE and beyond.

By modeling the banknote migration in the CENTROPE region, *Anton Schautzer* (OeNB) then touched an important question related to the recent EU enlargement and the impending euro area enlargement concerning the euro cash logistics.

According to the analysis made in this study, about one third of the migration between the Czech Republic, Hungary, Austria and Slovakia takes place within the CENTROPE region. About four fifths of the total cash flows between Austria and its neighboring countries are inflows to Austria.

As new Member States will most likely join the euro area soon, the administration of cash distribution will become more complex. Against this background the ECB evaluated an alternative to the current concept of cash circulation. The proposed concept is based on a hub-and-spoke system, where excess stocks would be delivered to an assigned hub and then transported to the national central banks (NCBs) that require banknotes.

The significance of the region, the strategic position of the Bratislava-Vienna axis in the European framework and the characteristics of the banknote migration lead to a specific challenge for the OeNB related to euro cash logistics. The unique situation of the proximity of two capital cities provides the opportunity of a close cooperation between Austria and Slovakia.

In the euro area it is necessary to supply cash efficiently and to meet the requirements of the stakeholders (especially NCBs, cash transport organizations and commercial banks). The OeNB has identified the changing environment. Preparations have already been made in order to meet the conditions of an efficient cash distribution and to cope with the future challenges of the euro area enlargement. In any case a hub for banknotes and coins in CENTROPE would be a beneficial approach for an efficient management of euro cash.

In the last lecture of the day, *Wolfgang Polasek* (IHS) presented his work on estimating the sensitivity of the regional growth forecast in the year 2002 resulting from changes in the travel time (TT) matrix. A dynamic panel model with spatial

effects was used, where the spatial dimension enters the explanatory variables in different ways. The spatial dimension is based on geographical distance between 227 regions in Central Europe and the travel time matrix based on average train travel times. The regressor variables are constructed by the average past growth rates, where the travel times are used as weights, the average travel times across all regions, the gravity potential variables based on gross domestic product (GDP) per capita, employment, productivity and population and dummy variables and other socio-demographic variables.

The main findings suggest that for the majority of the regions the relative differences in growth for the year 2020 are rather small if the accessibility is improved. But there are differences in the number of regions that will benefit from improved train networks. GDP, employment, and population forecasts respond differently.

Finally, we add as background information a report by *Delia Meth-Cohn* (Economist Intelligence Unit – EIU*)* which evaluates the Central European Region from an international business perspective. The main results of the report are the following: The size and scope of regional headquarters has shrunk over the years as local subsidiaries took on more management and support responsibilities. Now most Vienna-based hubs are small, high-level, strategic management units.

From an international business perspective, the real opportunity for Vienna is not in servicing a narrowly defined CENTROPE region, but in providing high-level support for a much wider region. CENTROPE is just too small to be an internationally relevant region. Moreover, the changing business realities threaten to make the traditional Vienna hub irrelevant, with operations easily assumed by more autonomous local subsidiaries and/or European headquarters.

But the *EIU* stresses also positive developments. Several large international companies already use their Vienna hubs to cover Russia, Turkey, the Middle East and Africa. More recently, companies have started using Vienna to take responsibility for western Central Europe, including Austria, Switzerland and even Germany.

The workshop was concluded by a panel discussion that was chaired by Director Felderer (IHS).