GROSS DOMESTIC PRODUCT AS AN INDICATOR OF REGIONS' COMPETITIVENESS

József KÁPOSZTA [1] *– Henrietta NAGY* [2]

[1] Institute of Regional Economics and Rural Development, Faculty of Economics and Social Sciences, Szent István University, H-2103 Gödöllő, Páter K. u. 1. E-mail: kaposzta.jozsef@gtk.szie.hu
[2] Institute of Regional Economics and Rural Development, Faculty of Economics and Social Sciences, Szent István University, H-2103 Gödöllő, Páter K. u. 1. E-mail: nagy.henrietta@gtk.szie.hu

Abstract: According to the different publications and professional literature, the most common comprehensive index for measuring the development level of different territorial units and which is also able to reflect several factors at the same time is the **gross domestic product (GDP)**. GDP has been used to compare the developments of individual countries for long, but its application for regions only started in the past few years. However it must be emphasized that GDP is not the only index for economic development, so it must not be declared as the only one index for counties and regions, but it is recommended to apply other statistical indices also in territorial analyses (PUKLI 2000).

Keywords: gross domestic product, competitiveness, regional GDP

Introduction

In order to make economically established development strategies for the territorial units, we need to apply development methods that are suitable for spatial examinations. There are statistical-mathematical methods that can be well applied in regional examinations too, so we tried to focus rather on these methods in our study. For these methods such **input data** are necessary that are able to characterize the **competitiveness and development of the regions.** Thus we have intended to highlight that **there is not a consensus exiting among the experts concerning the indices themselves**. A region's competitiveness cannot be examined with the same methods and indices we apply for the countries, since regions are not autonomous units. **Though GDP is not the only one index of regional development or the control of development actions' effects, but it is fundamental**. It has gained key importance in regional analyses and regional policy to be a special index for the allocation of community development supports (NEMES NAGY 1995). Defining the regional/territorial amount of GDP raises several questions in theoretical, information and institutional fields (FISCHER 1994). It is an international experience that **relatively reliable regional GDP can only be defined with estimates and on larger territorial units** (BAIGGORI 1994). Consequently, if it is defined as exactly as possible, it is not enough to orientate spatial development itself, since it is not suitable for reflecting the multiple characteristics of spatial development and its application at the level of sub-regions is especially unsafe.

Materials and methods

Gross Domestic Product (GDP) is the domestic added value and it is one of the most important elements of national economic balances. It means the new values produced in the whole economic activity in one year and measured in money value (namely in the national currency). The added value produced by the players of the economy can be **calculated in two ways**.

 DOI: 10.1556/CRC.36.2008.Suppl.1

On one hand it is the **gross production value minus the current usage for production**, on the other hand it consists of the **gross income from work, profit and loss before tax and depreciation**. While national income includes only the new values produced in material sectors (industry, agriculture, producing services), GDP also includes the activities in the non-material service sectors (tertiary and quaternary).

GDP is only one index of the **national accounts**. It is the balance of production accounts. It is the difference between the production value of products and services and the values of applied materials and services during their production. In theory, **regional accounts** are the tallies of national accounts for regions. In practice, however, they cannot be aggregated in a totally detailed format due to the economic units existing in more than one region. Most of the financial and income distribution transactions (taxes, income of the owners, loans) of these multi-regional units cannot be divided among the regions. Because of all these obstacles, in the European Union only production accounts and the accounts of household incomes are compulsory to compiled. The latter one has great significance, because thanks to it, the differences between the regions can be measured not just from the production side but also from the side of population consumption.

The quality of regional GDP data basically depends on 2 factors: the method applied and the quality of data applied. Regional GDP can be calculated in different ways. **Bottom-up** calculation method is based on an assumption that we have all the necessary information about all the production units in the region to calculate the GDP. With the addition of data we can get the regional GDP and as the sum we get the data for the country. With **top-down method** we divide the total GDP among the regions with the help of such numbers that have been calculated from territorial data reflecting the GDP's territorial distribution at most. These helping data can be **the active population, the number of employed people, the sum of wages** etc.

The **mixed method** is the combination of the two methods mentioned, reflecting the finding that there are no countries where the bottom-up summing could be applied in all the fields of the economy. Concerning territorial homogeneity we can distinguish 3 types of economic associations. **Units of one region**, whose activity covers mainly one region only. **Enterprises,** whose sites are situated in more regions. Such **institutional units** whose activity covers more than one region or even the whole country (PUKLI 2000).

Results and discussion

As a general principle, GDP must be calculated on the region, where the producing unit is residential. In the case of companies which have several sites, the sites must be considered individual producing units. The problems listed above and other problems occur if GDP is calculated **territorially disaggregated**. As calculating in territorial way, „domestic area" is equal to a region. For territorial GDP other terms are also usually used, like **Gross Regional Product (GRP)**.

Today majority of countries do not have territorial GDP calculations and official publications of this topic. In many countries there are not territorial economic indices which could be used, in other countries GDP is not the most important index. Without detailing the reasons and the factors behind, we only mention as a reminder that in the former socialist countries the growth index of **industrial gross production** was the most spread economic index that was calculated on regional level too. In the USA **personal income** is the index about which there are data collected for more than 100 years for each state.

Theoretical difficulty is that not every economic activity can be localized punctually. Thus, it is difficult to localize even theoretically the income returns of the activity of financial institutions. From statistical and accounting point of views localizing the added values of companies with several premises is basically unsolved. In the case of activities, especially those which are linked to „space" like telecommunication or transportation, value production can only be distributed with „estimation".

There are further problems in measuring the regional competitiveness because e.g. **it is difficult to measure the region's foreign trade** with calculations based on GDP. The problem is that the income and profit of foreign capital is also included in gross output, which is not always spent in the same region. The comparison based on **average wages** gives a more appropriate picture, since the attractiveness of a region can be well represented by the disposable incomes of the people of that region (RÉTHELYI – TÚRY 2003).

There are several approaches concerning the **competitiveness of countries**. We can distinguish **two different approaches:** one provides complex ranks on the basis of comparative examinations, while the other analyzes only the difference in the development level of individual countries. We give details about two different approaches providing **complex competitiveness ranks**: the results of IMD and WEF. **IMD (International Institute for Management Development)** takes into consideration statistical (hard) data and data from questionnaires (soft), evaluating 4 groups of factors with 243 indices: economic performance, efficiency of government and business sector and infrastructural supply. **WEF (World Economic Forum)** makes 2 ranks for the 80 countries examined: GCI-index (Economic Development Index) examines the basic factors of economic development. MICI-index (Microeconomic Competitiveness Index) evaluates the business environment.

Conclusions

The differences in regional GDPs and in regional incomes strengthen the statement that **GDP can be considered a comprehensive index, but it is not able to reflect all the major factors of economic development**. Furthermore, concerning the quality of figures used for the calculation of the regional GDP we can state that the changes in the economy and society mean serious challenges for the economic statistics. Because of all these problems estimations as well as the uncertainties cannot be avoided during calculations.

 DOI: 10.1556/CRC.36.2008.Suppl.1

To the question: „How safe are the regional GDP figures?" we can answer – based on the abovementioned – that due to the estimates in the case of national or multi-regional economic associations and the territorial obstacles of data-collecting, the quality of data is poorer than that of the national data.

Acknowledgements

This study has been one part in several various researches carried out at the Institute of Regional Economics and Rural Development.

References

Armstrong, J.M. - Brown G. - Kim IF.: 1998. The handbook of envionmental monitoring. Part II. Physiological processes. Apocalypse Academic Publisher Inc., London, New York, Montreal.

Baiggori, A.: 1994. Regional accounts methods: GVA and GFCF by industry, EUROSTAT, Luxemburg (manuscript).

Fischer, G.: 1994. Probleme regionaler Volkseinkommens – und Sozialproduktsschätzungen, Polygraphischer Verlag AG, Zürich-St. Gallen.

Illés I. – Mezei C. – Zubán Zs.: 2004. A versenyképesség uniós követelményei a regionális programokban.

Lengyel I.: 2000. A regionális versenyképesség tényezői, különös tekintettel a Dél-Alföldre. In: Versenyképesség – regionális versenyképesség, szerk: Farkas B. – Lengyel I. SZTE Gazdaságtudományi Kar Közleményei, Szeged: JATEPress, 39-57.o

Lengyel I.: 2003. Verseny és területi fejlődés (Térségek versenyképessége Magyarországon). Szeged: JATEPress, pp. 154-

Nemes Nagy J.: 1995. A GDP regionális számbavétele In: Probáld F. szerk. Pro Geographia Humana, Budapest: ELTE Eötvös Kiadó. pp 99-118.

Nemes Nagy J.: 2004. Új térségek, új városok. Új versenyzők? „A régiók és a magyar települések versenyképessége az európai gazdasági térben" című NKFP kutatás eredményeinek bemutatása.

Pinelli et al: 1998. European Regional Competitiveness Indicators. Discussion Paper 103, Department of Land Economy, University of Cambridge.

Pukli P.: 2000. A gazdaságstatisztika regionális mutatószámai In: Versenyképesség-regionális versenyképesség. Szerk: Farkas B.-Lengyel I. SZTE Gazdaságtudományi Kar Közleményei. Szeged: JATEPress, pp. 235-244.

Réthelyi Zs. – Túry G.: 2003. A közlekedési hálózatok és a térségi (regionális, országos) fejlettség összefüggéseire vonatkozó hazai és nemzetközi szakirodalom áttekintése, és ennek alapján a hálózati hatékonyság és versenyképesség megfogalmazása, értelmezése, tanulmány.