

# GOVERNMENT BUDGET APPROPRIATIONS OR OUTLAYS FOR R&D BY SOCIO-ECONOMIC OBJECTIVES (GBAORD) – METHODOLOGICAL INTRODUCTION

## A. METHODOLOGY

Among main duties of the government in the science and technology area, respective in research and development area, belongs also the role of policy maker, who establishes the strategy of the research and development policy in medium-term period. In the Czech Republic, the national research and development policy is declared in the document “*National research and development policy of the Czech Republic*”<sup>1</sup>. For the R&D policy is responsible the R&D Council together with the Ministry of Education. It is important to know information (data) about the level of investment into the R&D and human resources. The data provider of this information is just the Czech Statistical Office.

**The aim of GBAORD** (Government Budget Appropriations or Outlays for R&D by Socio-economic Objectives) is **providing data about the government support of R&D funding from public budgets broken down by socio-economic objectives**. For the support of decision-making, which fields of R&D need to strengthen funding in forthcoming years, the GBAORD project was launched within the EU member states several decades ago.

### Legislative background:

Within the European Community, the GBAORD project is organized on obligatory base under **Commission regulation (EC) No 753/2004** of 22 April 2004 implementing Decision No 1608/2003/EC of the European Parliament and of the Council as regards statistics on science and technology. The collecting of GBAORD data is obligatory for the Czech Republic.

### Methodological sources:

Methodological information about the GBAORD project can be found in the international manual “*Proposed standard practice for survey on research and experimental development*” famous like “**Frascati manual**” (revised version 2002), which has arisen as a result of initiatives by the OECD. GBAORD data are broken down by socio-economic objectives on the basis of **NABS: Nomenclature for the analysis and comparison of scientific programmes and budgets** (rev. 1992, Eurostat 1994 and rev. 2007, Eurostat 2007).

### Conception of GBAORD:

Unlike other statistical surveys carried out in the field of research and development, GBAORD data are based on the analysis and identification of all appropriations spent on research and development (R&D) from public budgets. These government R&D appropriations are broken down by socio-economic objectives. This means that the approach is based on the funder of research and development activities unlike performance-based approach, which is using for example in the R&D survey (VTR5-01).

GBAORD covers all appropriations or outlays allocated to R&D in public budgets to support research and development, including all contributions to international R&D programmes or institutions abroad. Data are based on final budget appropriations (figures as voted by parliament for the coming year – provisional data) and actual outlays (money paid out during the year – final data). Public budgets cover the central government budget and provincial budgets. The central government is always included and provincial government is included when its contribution is significant. Local government funds are excluded.

GBAORD includes both current costs and capital expenditure.

GBAORD also covers general university funds (SEO 10: General research financed from Ministry of Education), which has been defined using narrow definition in line with the Frascati manual as a sum of money devoted to universities from the Ministry of Education in support their overall research activities.<sup>2</sup>

Codes of socio-economic objectives are distributed according to the purpose or general content of the R&D programme or project.

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<sup>1</sup> The latest version of the document „National Research and Development Policy of the Czech Republic for 2004–2008“ is available on the following website: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=5580>.

<sup>2</sup> In the case of the Czech Republic, the general university funds are not defined. For this reason, SEO 10 covers in line with the guideline of the Frascati manual money devoted to universities from the Ministry of Education in support their overall research activities. SEO 10 has taken name “general university research”, which is using in accordance with the statistical survey on R&D (VTR5-01).

GBAORD in line with the system of the public support of research and development in the Czech Republic cover following budget items:

- Project funding (included in R&D&I Information System)
- Institutional funding (included in R&D&I Information System)
- Specific research at universities (not included in R&D&I Information System)
- Funding to international research programmes and institutions (not included in R&D&I Information System)
- Other items (not included in R&D&I Information System)

Short definition of terms (by law validated until 2008):

- Project funding – covers R&D projects.
- Institutional funding – covers research intentions.
- Specific research at universities – covers research performed by students in activities connected with accredited doctorate programmes which is directly linked with their students' education.
- Funding to international research programmes and institutions – covers fees for attendance of the Czech Republic in international programmes of research and development, fees for partnership in international R&D institutions or payments for the cooperation of the Czech Republic in R&D projects if they can be funded from public sources and if they are co-financed by EU or other international institutions.
- Other items – covers R&D infrastructure (Academy of Science of the Czech Republic), specific research at universities (funded by Ministry of Defence) and other items connected with administration and honours.

Transmitting of GBAORD data:

GBAORD data are transmitted to Eurostat (on obligatory base) and OECD (on voluntary base of membership) twice a year like: 1) provisional data and 2) final data. On the above mentioned legal act, GBAORD data are submitted to Eurostat like provisional (government R&D appropriations in the provisional budget – as approved by the Parliament at the beginning of the budget year) within 6 months of the end of the calendar year and final data (government R&D appropriations in the final budget) within 12 months of the end of the calendar year.

The Chapters (main socio-economic objectives) of the 1992 version of the NABS are entitled:

Code	List of main objectives SEO 1	Number of sub-objectives SEO 2	Number of sub-objectives SEO 3
SEO01	Exploration and exploitation of the Earth	8	0
SEO02	Infrastructure and general planning of land-use	8	0
SEO03	Control and care of the environment	11	0
SEO04	Protection and improvement of human health	10	0
SEO05	Production, distribution and rational utilization of energy	8	4
SEO06	Agricultural production and technology	8	0
SEO07	Industrial production and technology	14	10
SEO08	Social structures and relationships	9	0
SEO09	Exploration and exploitation of space	6	0
SEO10	Research financed from General University Funds	10	0
SEO11	Non-oriented research	10	0
SEO12	Other civil research	0	0
SEO13	Defence	0	0

NOTE: The completed list of all socioeconomic objectives can be found in the methodology annex. The classification NABS 1992 with detailed description of objectives is available in PDF format on website of the Czech Statistical Office or Eurostat.

## B. GBAORD IN THE CZECH REPUBLIC

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In the Czech Republic, the GBAORD project is realized in close cooperation with R&D Council and the Ministry of Education, Youth and Sports through the Information system of research and development and its relational databases.

The concept of the GBAORD project takes into account existing principal legal rules and documents on research and development in the Czech republic as stated in the Legislative Act No. 130/2002 Coll. on the Support of Research and development from Public Funds and on the Amendment to Some Related Acts (especially the Government Regulation No. 267/2002 on the Information System of Research, Development and Innovation)<sup>3</sup>. The R&D&I Information System is an information system of the public administration for a collection, processing, publication and utilization of information about the research and development, which has been supported by public budgets. The R&D Information System administrator is the Research and Development Council; the R&D&I Information System operator is the Government Office of the Czech Republic. The CEP database (Central register of R&D projects) and the CEZ database (Central register of research intentions) are used for needs of the GBAORD project. Supplementary data are obtained from the department of budget preparing at the R&D Council. CEP and CEZ databases do not include all government appropriations on R&D that is why detailed information about contributions to international R&D programmes or institutions abroad and the specific university research must be obtained in cooperation with the Ministry of Education. Data on socioeconomic objective SEO 10 (general university research by fields of science) are taken directly from universities. Information about returnable loans was taken directly from government departments, which are funding through their budgets R&D activities. This concerned only period 2002–2005. Since 2006 no returnable loans have been identified.

The processing of the GBAORD project and distribution of codes of socio-economic objectives (SEO) by NABS carry out employees of the Czech Statistical Office. In line with methodological guidelines, the non-R&D appropriations must be excluded from GBAORD. In this case it regards returnable loans (only projects realized before validation Act no. 130/2002 Coll.) and certain administrative costs. Adjusted data are classified by NABS at 3-digit level of socio-economic objectives. Multi-annual projects are processed by database software and new entered projects by the manual procedure according to a specific classification key based on the structure of the CEP and CEZ database.

Since 2006 the system of sophisticated control tools has been introduced to improve further the quality of data. Concerning GBAORD data 2006, the complex quality report has been set up within the grant project Transition Facility 2004, which was granted by Eurostat. The quality report will be submitted to Eurostat every 2 years based on new legal act for quality report in R&D statistics.

Since 2006 new formulas for better estimation of preliminary data were created as well. The methodology of estimations will be improved further. Eurostat for GBAORD data publishes estimations for next 2 years (t+1, t+2).

Starting from 2007 the revised (more simple) classification NABS 2007 has been used for GBAORD data. Data for the Czech Republic will be published according old (detailed) NABS 1993 and also new NABS 2007.

Since 2008 the CZSO has launched activities on linking GBAORD data with other surveys (especially with data from the research and development survey) and with the Business register. Based on these activities, data are available according to additional breakdowns (for example: regions – NUTS3, beneficiaries, type of support), which can you see in the table part.

Starting from 2009 based on Eurostat's and OECD's initiative the further stage of data enlargement will be introduced. It will cover the public support to international R&D programmes and institutions, especially 7<sup>th</sup> Frame programme and also the Structural EU funds.

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<sup>3</sup> For more information about the Information System of R&D&I see following website: <http://www.vyzkum.cz/>.