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Government budget appropriations or outlays for R&D, 2015/2016

–Research and development–

The presented data are the result of the surveyon government budget appropriations or outlays for the R&D activity in the period from 2015 to 2016, carried out in 2016.The survey concerns institutions financing R&D activities, direct beneficiaries of budgetary funds, whichhavefinanced in 2015 or should have financed in 2016 R&D activities – direct beneficiaries of the budget of the Republic taking part in the allocation of funds for R&D in the Republic of Serbia.

In the Republic of Serbia, in 2014 the amount of 17.610.434 thous. RSD of budgetary funds were spent for the R&D activity (after budget adjustment).

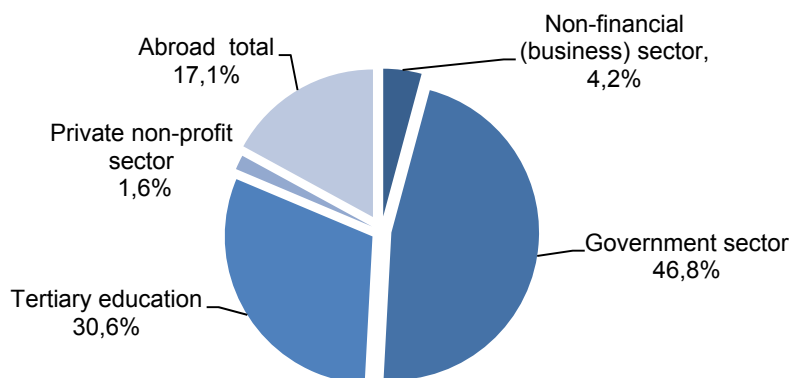
The share of budgetary funds for R&D in GDP reached 0.44% in 2015.

Almost the same percentage of budget funds for research and development in 2015 was awarded to the higher education sector (47.5%) andto the government sector (46.8%). Among the total funds for funding of higher education, about 17% were funding from international organizations. Non-financial (business) sector accounts for 4.2%, while the non-profit sector was intended for only 1.6% of the funds.

Regarding the socio-economic objectives, the highest amount (43.2%) of the budget funds for the R&D activity in 2015 was spent for the objective: General advancement of knowledge - R&D financed from GUF. The objective Industrial production and technology followed with 16,45%, and the lowest outlay was for the objectives Exploration and exploitation of space, 0.5% of the total budget appropriations and outlays for R&D.

The planned government budget appropriations or outlays for the R&D activity in 2016 (before budget adjustment) amounted to 17.235.084thous. RSD. Most of funds, 40,56%, were intended for the objective General advancement of knowledge: R&D financed from GUF.

Graph. 1. The participation ofthe sectorsinthe total expenditure (%)



1. Budgetary funds of the Republic of Serbia for R&D (actual outlays) by socio-economic objectives and sectors, 2015

thous.RSD

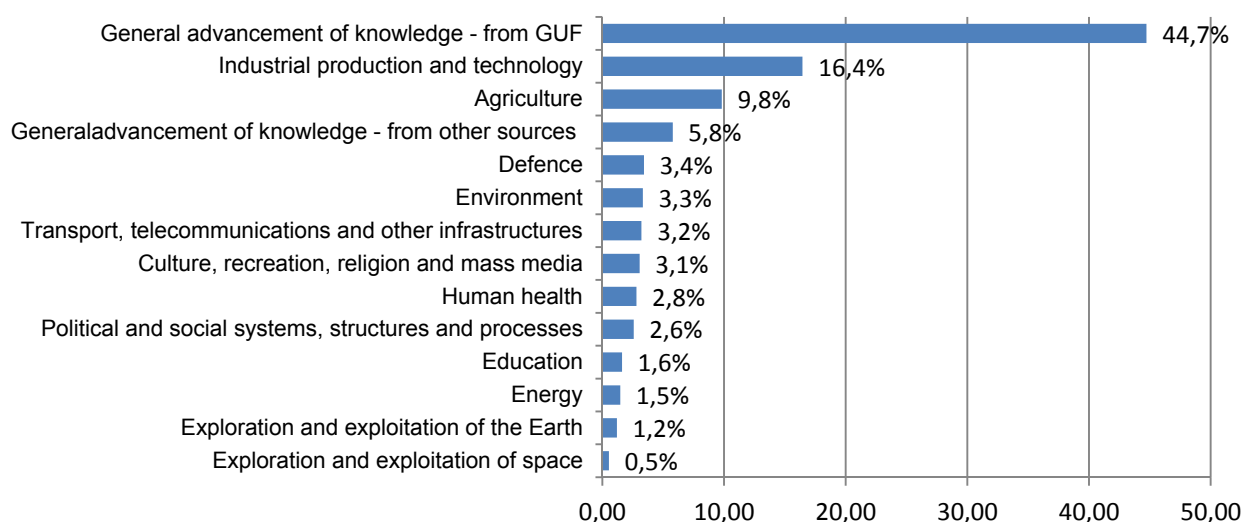
Socio-economic objectives of researches	Sectors, total	Non-financial (business) sector	Government sector	Tertiary education	Private non- profit sector	Abroad total
TOTAL	17610434	738213	8155906	5427703	276214	3012398
Basic researches	5780434	195365	3286895	2297634	540	-
Environment	3698261	342142	1944559	1411560	-	-
Research in technological development	3339168	125780	2117221	1096167	-	-
Co-financing of integral and interdisciplinary researches	81095	-	81095	-	-	-
Innovation projects	38789	38789	-	-	-	-
Construction of infrastructure of innovation organisations	11000	11000	-	-	-	-
Other support programmes for innovation activities	106228	-	71228	-	35000	-
R&D work of SANU and Matica srpska	10000	-	10000	-	-	-
R&D work of centres of excellence	116493	3693	44166	63011	5623	-
Procurement and maintenance of R&D equipment and space for R&D work	127562	-	9500	118062	-	-
Investments in R&D equipment	68621	3737	37170	27714	-	-
Investments in the space for R&D work	1544668	23	22822	15618	-	1506205
International scientific co-operation of interest for the Republic of Serbia	1388534	21	413	3081	-	1385019
Obligations of the State to participate in EU programmes	21846	-	9311	12535	-	-
Obligations of the State in bilateral scientific programmes	134288	2	13098	2	-	121186
Development of informatics society	136501	2	15319	-	-	121180
Vocational training of personnel for R&D work	220653	-	82116	138537	-	-
Motivation and scholarships for gifted youth for R&D work	235261	-	10928	24031	200302	-
Purchase of scientific and specialised literature from abroad and access to scientific and specialised databases	87485	-	77485	-	10000	-
Publication of scientific publications and organisation of scientific events	96765	2069	40335	29612	24749	-
Encouraging activities of scientific and professional societies, associations and similar organisations to promote science and technology	12704	-	12704	-	-	-
Co-financing of doctorate academic studies in projects	325151	15592	193914	115645	-	-
Co-financing of the construction of dwellings for young researchers and scientists						
Other programmes according to the Strategy and Law	1573595	21	98449	90112	-	1385013

2. Budgetary funds of the Republic of Serbia for R&D (actual outlays) by socio-economic objectives and sectors, 2015

thous.RSD

Socio-economic objectives of researches	Sectors, total	Non-financial (business) sector	Government sector	Tertiary education	Private non-profit sector	Abroad total
TOTAL	17610434	738213	8155906	5427703	276214	3012398
Exploration and exploitation of the Earth	211738	31568	180170	-	-	-
Environment	591408	23067	555574	12767	-	-
Exploration and exploitation of space	95903	-	95903	-	-	-
Transport, telecommunications and other infrastructures	570956	189012	381944	-	-	-
Energy	261200	10896	249999	305	-	-
Industrial production and technology	2920852	288870	2631982	-	-	-
Human health	496777	27606	469171	-	-	-
Agriculture	1743728	103252	1640476	-	-	-
Education	136860	-	84109	52751	-	-
Culture, recreation, religion and mass media	544469	33900	457886	8490	44193	-
Political and social systems, structures and processes	457782	8668	449114	-	-	-
<i>General advancement of knowledge: from general university funds</i>	<i>7942617</i>	<i>1665</i>	<i>281080</i>	<i>4415453</i>	<i>232021</i>	<i>3012398</i>
R&D related to natural sciences	2951522	44	413	44231	15616	2891218
R&D related to engineering and technology	1783662	1621	276529	1167927	216405	121180
R&D related to medical and health sciences	1377612	-	986	1376626	-	-
R&D related to agricultural sciences	620911	-	-	620911	-	-
R&D related to social sciences	516548	-	2706	513842	-	-
R&D related to humanities	692362	-	446	691916	-	-
<i>General advancement of knowledge: from other sources – not from general university funds</i>	<i>1028624</i>	<i>-</i>	<i>90687</i>	<i>937937</i>	<i>-</i>	<i>-</i>
R&D related to natural sciences	956084	-	18147	937937	-	-
R&D related to engineering and technology	19046	-	19046	-	-	-
R&D related to medical and health sciences	22000	-	22000	-	-	-
R&D related to agricultural sciences	340	-	340	-	-	-
R&D related to social sciences	20337	-	20337	-	-	-
R&D related to humanities	10817	-	10817	-	-	-
Defence	607520	19709	587811	-	-	-

Graph. 2 The share of budget resources for R & D, by the socio-economic objectives (actual expenditure), in the total budgetary expenditure on R & D in 2015

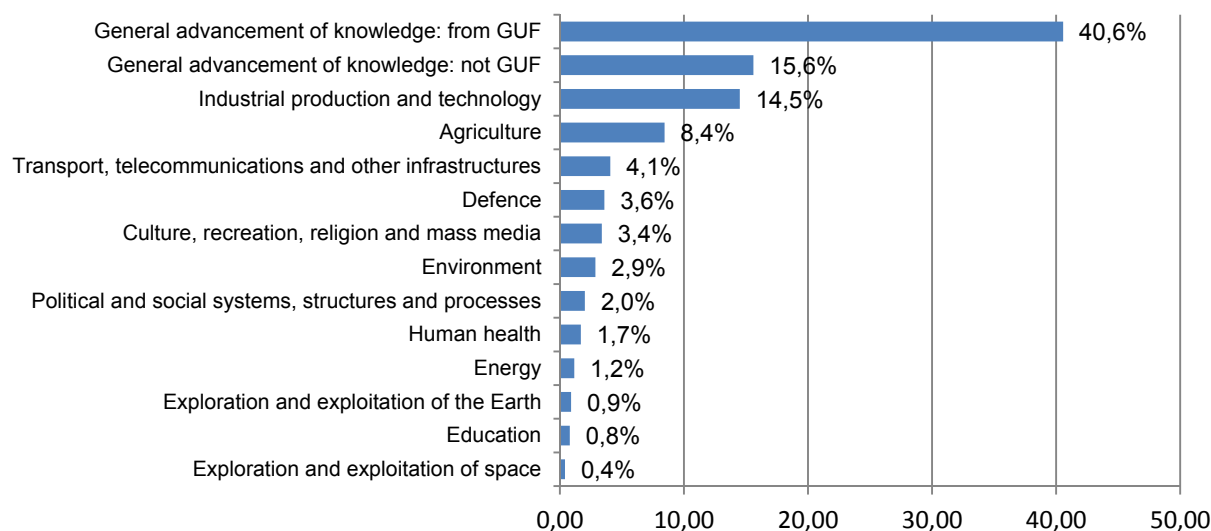


3. Budgetary funds of the Republic of Serbia for R&D by socio-economic objectives, (adopted budget, prior to budget adjustment), 2016

thous.RSD

Socio-economic objectives of researches	Total
TOTAL	17235084
Exploration and exploitation of the Earth	156830
Environment	494158
Exploration and exploitation of space	70746
Transport, telecommunications and other infrastructures	701465
Energy	200419
Industrial production and technology	2499912
Human health	291918
Agriculture	1454561
Education	137891
Culture, recreation, religion and mass media	582513
Political and social systems, structures and processes	347732
<i>General advancement of knowledge: from general university funds</i>	<i>6990191</i>
R&D related to natural sciences	2202399
R&D related to engineering and technology	2359335
R&D related to medical and health sciences	1042503
R&D related to agricultural sciences	972514
R&D related to social sciences	397360
R&D related to humanities	16083
<i>General advancement of knowledge: from other sources – not from general university funds</i>	<i>2688465</i>
R&D related to natural sciences	435200
R&D related to engineering and technology	36412
R&D related to medical and health sciences	28564
R&D related to agricultural sciences	1612
R&D related to social sciences	22365
R&D related to humanities	2164312
Defence	618283

**Graph. 3. The share of planned budget funds for R & D (adopted budget before adjustment),
by the objectives, in the total budgetary outlays on R & D, 2016**



Methodological explanations and definitions

Data source

Data are the result of the processing of the survey on overall budgetary appropriations and outlays for science over 2015-2016 in the Republic of Serbia. The data were collected by means of reports of the competent ministries, participating in the allocation of budgetary funds for R & D (filling in the form BIN).

Coverage and comparability

The methodology for the survey is harmonised with the international standards set up by OECD and published by the latter in the Frascati Manual (The Measurement of Scientific and Technological Activities - Proposed Standard Practice for Surveys of Research and Experimental Development - Frascati Manual, 2002 and 2007; publisher: OECD).

The Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets – NABS 2007, which is linked with the Frascati Manual, was used in monitoring the allocation of the Government Budget appropriations or outlays according to the socio-economic objectives. This Nomenclature classifies the socio-economic objectives as well as the purpose of the spent funds for the R&D in 13 categories.

The survey “Report on Government Budget Appropriations and Outlays for Research and Development, 2015 – 2016” collects data on R&D on budget appropriations and outlays for research and development, by socio-economic objectives, including all financing of international R&D programmes or institutions abroad. The survey is aimed at monitoring R&D government policy through its financing of R&D activities.

This survey concerns institutions that finance R&D activity. The data refer to actual outlays in 2015 (actual money paid out during the year) and to the planned budget for 2016 (amount voted before budget adjustment).

The report is to be filled in by all institutions (direct budget beneficiaries) that financed in 2015 or were expected to finance R&D activities in 2016 – direct beneficiaries of the budget of the Republic of Serbia participating in the allocation of funds for research and development in the Republic of Serbia.

Definitions of main concepts

Science is a set of systematised and argument-based knowledge, i.e. facts, concepts, principles, data, information, theories, laws and patterns in a selected historical period about objective reality, i.e. nature and society, obtained through the application of objective scientific methods, and which main purpose and objective is to apprehend the laws and patterns about the past, the present and future of natural and social phenomena, as well as to improve efficient work in all fields of human activities.

Scientific research is theoretical or experimental work undertaken for acquiring new scientific knowledge and increasing human stock of knowledge. Scientific research implies basic and applied research.

Basic research implies research that increases the general stock of scientific facts and knowledge, and determines new fields of human knowledge and perception, but not involving or not necessarily involving any direct application of the obtained results.

Applied research is a theoretical or experimental work undertaken in order to acquire new knowledge, and directed towards resolving any practical task, i.e. achieving any practical objective.

Experimental (development) research is systematic work, based on knowledge acquired through basic or applied research, i.e. practical experience, which is primarily directed towards introducing new processes, products and services.

Scientific development work is a systematic activity which, through the application of scientific methods, brings new scientific knowledge, i.e. uses creatively existing knowledge for new applications. This is creative work on acquiring new knowledge, which is aimed to raise the general civilization level of society and to use that knowledge in all fields of socio-economic development.

Expenditure on research and development by types are divided into current costs and capital expenditures.

Current costs include: labour costs; other R&D employees' remuneration costs, other current costs (material costs for R&D work – raw materials, supplies, energy; payments based on work by contract and work for hire; daily allowances, travel costs, representation, etc).

Capital expenditures include expenditures on land and buildings; machines and equipments; patents, licences, studies and projects; software and hardware (implying total expenditures related to the purchase of computers, devices, systems, components and equipment, as well as purchase costs or costs for software development for own account), and other expenditures.

Non-financial (business) sector includes business entities and organizations which primary activity is the market production of goods and services and theirs are at economically significant prices, as well as R&D incorporated units.

Tertiary education includes higher schools and universities within corporate units, faculties, academies and R&D institutes, whatever the sources of finance and legal status. This sector covers also research institutes and clinics under the direct control or administration of a tertiary education organisation.

Government sector includes organisations, offices and other bodies, except tertiary education, furnishing to the community free common services which could not be provided under market conditions, and which reflect the economical and social policy of the society; by definition this sector covers the activities of the administration, defence and public order enforcement; health, education, culture, recreation and other social services.

Non-profit sector includes non-market private non-profit organisations serving households without charging or at a low price. Those organisations may be founded by citizens' associations, for providing goods and services to the members or for general purposes.

Sector abroad includes organizations and individuals being outside the political boundaries of a country, as well as corresponding land owned by those organisations. It covers also all international organisations, including their buildings on domestic territory. Are to be excluded from the sector Abroad general contributions to organizations such as: UN, OECD, EU, etc.