



## Impact of the European Instruments on Institutional Development of Higher Education and Science Higher Education and Science in Bulgaria before and during the European Policies and Instruments Action

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### Abstract

*The article focusses on the legal, social, demographic, proprietor and administrative environment in Bulgaria during the process of the democratization and the introduced European instruments influencing and supporting the reform in the research sector and covers overview of legal regulations of higher education and science since 1958 to nowadays, administrative reform and changes in attitudes, goals strategies, social behavior, financing of educational and research systems. Comparative study, analytics and methods of optional scenario are used by the authors for understanding, measuring and projecting better the impact of the European Instruments on the ongoing reforms. Development and harmonization of European and National policies in research and educational sector are expected to bring innovation, competence and quality improvement of Bulgarian students, PhD and researchers. The stated conclusions are based on author's experience and key position in the described processes.*

### 1. Higher education and science regulations

Legal regulations of higher education and science until 1990 is determined by article 3 of the Constitution of Bulgaria "government serves the people, by creating conditions for social-economic development of the country, for continuous improvement of the well-being, education and public health of the people, as well as for the all-round development of science and culture; ...". No visible limitation of the autonomy with respect to research is present, such limitation practically existed.

New philosophy was introduced after 1990 where government is entitled to develop higher education and science – according art. 23 - Constitution of the Republic of Bulgaria (CRB) "the government creates conditions for free development of science, education, and arts and supports them". Art. 54.2 of CRB "the freedom of artistic, scientific and technical creative work is recognized and guaranteed by law." Research is with high degree of autonomy. In this respect government's role as a spokesman and representative of the social interest is restricted to the provision of favorable conditions – institutional and financial.

Before the democratic transition systems of higher education and science had common regulatory framework: Higher Education Act (HEA, 1958); Academic Degrees and Academic Titles Act (ADATA). HEA determined: centralized management of higher education, ways separate structures are developed and financed, academic titles and job positions of researchers and lecturers, academic degrees.

Immediately after the transition start, social expectations for autonomy of the high schools, were reflected in: Academic Autonomy of the Higher Education Institutions Act (AAHEIA). Changes to the HEA (1958) itself were also made, connected with de-ideologization of the higher education. AAHEIA regulates the rights of students and academic autonomy, opportunities to create private universities, and later provides opportunity for additional admission – paid education for students in government universities above and beyond the admission, based on state order. The legal bodies involved with the higher education institutions (faculties, scientific-education centers, research and other organizations), were created by Council of Ministers in coordination with higher educational institution. Academic Council of the higher educational institution initiates and closes specialties and determines education forms by a decision.

HEA (1958) was changed and complemented 8 times. In 1995 was passed an entirely new Higher Education Act (HEA, 1995). This 1995 Act repealed also AAHEIA. To this day HEA (1995) has almost 40 changes and additions. The new HEA (1995) was influenced by the actions of the first pre-accession

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instruments (TEMPUS, PHARE), regulated the competences of government and set the objectives of the government policy: to create conditions for free development of higher education, to guarantee academic autonomy of higher schools, as well as the conditions for access to higher education. Specialized state body was created for evaluation, accreditation and quality control of the activities of high schools – National Evaluation and Accreditation Agency (NEAA) within Council of Ministers.

Horizontal law with respect to systems of higher education and science before and partly overlapping with the period of action of the European instruments is the law, regulating scientists' career development – Academic Degrees and Academic Titles Act (ADATA), passed back in 1972. The intent of ADATA was to regulate the types of academic degrees and titles, the conditions and procedures for their assignment, to secure development of science. ADATA separates artificially titles (job positions) and titles of scientists and introduces Supreme Attestation Commission as centralized body for their assignment which is far from concept of autonomous development of scientists. In 2010, ADATA was repealed by Development of the Academic Personnel in the Republic of Bulgaria Act (DAPRBA). DAPRBA is concrete reflection of part of the good practices, acquired based on the action of European instruments. It determined new mechanism for awarding of academic degrees, eliminated the academic titles and regulated the conditions for taking up of academic positions in Bulgaria. It applies today's European practices by transferring competence from centralized body like the Supreme Attestation Commission to High Schools. The system was unprepared for the competences it was granted which resulted with lowering of the quality of the academic personnel.

Concrete result of the action of European instruments is Fostering of Research Act (FRA) passed in 2003, regulating principal aspects of the policy for development of research and mechanisms for its realization. FRA regulates creation of Bulgarian Research Fund as instrument for research financing. FRA defined research as national priority with strategic importance for the development of the country; set principles and mechanisms for implementing the state policy for fostering research. It provided the strategic framework, defined the basic documents and the commitment of the government to research development.

New Acts and strategic documents are: Strategy for the Development of Higher Education ([www.parliament.bg](http://www.parliament.bg)) ; Ordinance No. 3/27.11.2015 on the conditions and procedure for planning, distribution and spending of the subsidies from the state budget allocated for the specific scientific research or artistic activities of the state higher education institutions ([www.dv.parliament.bg](http://www.dv.parliament.bg)); National Open Data Portal ([opendata.government.bg](http://opendata.government.bg))] Europa 2020: National Reform Program 2015 update ([www.minfin.bg](http://www.minfin.bg)); Innovation Strategy for Smart Specialization (final) ([www.mi.government.bg](http://www.mi.government.bg))] National Development Program: Bulgaria 2020, Action Plan 2015-2017 ([www.minfin.bg](http://www.minfin.bg))] H2020 Policy Support Facility ([www.ec.europa.eu](http://www.ec.europa.eu))] Act on Higher Education- updated] Fostering on Research Act- update] Strategy on Development of Scientific Research.

Concrete provisions influenced by the European instruments exist in specialized laws on specific issues of realization of the policy for development of science and research implementation. Favourable environment for science development is created: Natural Persons' Income Tax Act; Corporate Income Tax Act, Public Procurement Act, Government Reliefs Act – determines the compatible government relief, and subsidies, which can be taken as compatible with the EU rules.

However there are discrepancies, related to definitions of governance competences, and mechanisms for their effective realization. Closer harmonization is required between texts of primary normative acts, regulating the organization and implementation of the policies.

## **2. The higher education system**

Higher education system was structured by groups of scientific directions by 1990 with clearly territorial approach, focused on concrete regions for economic development (Blagoevgrad, Burgas, Varna, Veliko Tarnovo, Plovdiv, Ruse, Stara Zagora and Shumen).

After 1990, due to lack of government concept for development of the high schools network multitude of new high schools appeared. The initial growth of public high schools (1986-1992) was followed by a proliferation of private high schools and other educational organizations (1998-2005).

Currently the system of the higher education comprises universities, colleges (autonomous or inside university structures) and specialized high schools. In 2015/16 the structure of higher education includes



45 universities and specialized high schools and 8 autonomous colleges. Such network influences unfavourably the quality and efficiency of education; reactions to dynamically changing requirements for qualification, motivation, and professional career are slow. Obviously control on expenses is ineffective; quality of education, realization of graduates and investment efficiency are low.

Science-metric indicators, seen in e-platforms Thomson Reuters and Scopus show figures below EU average, with few exceptions – Medical University (MU), Sofia University (SU), Technical University (TU), University of Chemical Technology and Metallurgy (UCTM).

## 2.2 Higher education policies

Up to 1990 higher education policies were subordinate to the planned economy doctrine, and the universities (higher education institutions) were under centralized control. Part of the activities are still centralized (accreditation, financing). Since 1990 Bulgarian higher education transformed - quickly passing from overregulation to academic and institutional autonomy (HEI, 1990, 1995), restructuring of HEI management models (1999) and introduction of financing, bound to the number of students (1999).

The first wave of changes 1990-1995, went through actions, oriented towards democratization of the system, losing reasonable restrictions guaranteeing the balance of the whole system.

Strategies and other papers after 2000 were influenced by actions of European instruments. Following the introduction of accreditation procedures in 2000-2003, all universities worked out their own development strategies, approved by their academic councils.

Parliament approved in 2015 Strategy for Development of Higher Education in the Republic of Bulgaria for 2014-2020.

## 2.3 Financing the higher education

Still the system of higher education is lagging significantly from EU financing standards. Solution of this issue is related to optimization of the general structure of HS network.

In 2000-2009 funds, provided for higher education, grew insufficiently, after (2009-2013) a decline is observed. In the last period a policy of financial restrictions and fiscal discipline was maintained leading to chronic lack of funds for current operation and inability to support initiated reforms.

Serious disproportions in the system and discrepancies with EU trends are:

- Unsatisfactory share of higher education graduates: 26,9% of the aged 30-34. Various types of activities can be recommended to employ specialists with higher education: research, lecturing; business, administration, manufacturing.
- Adverse proportions faculty – students (resulting from growth of students' number by 16 %).
- Maintenance of educational capacity, different from necessity.
- Complicated access of low-income social groups to higher education.
- Growing preferences for obtaining higher education abroad. Being part of EU mobility policy, adding the growing exodus of Bulgarian students makes clear, that the brain drain trend is lasting.
- Drastic mismatch between profiles of specialists trained in higher schools and labor market demand.

Large part of graduating students does not find realization with the respective specialty. 1 in four higher education graduates do not practice their specialty, there is a sharp deficit of engineering personnel while 40% of the students study economy, law, business.

Several important system problems exist: demographic collapse; large HS network; insufficient financing; lack of adequate mechanisms for maintenance of quality.

Partial influences come from actions of European instruments: innovative trends in teaching, modernization of curricula and its adequacy to labour market. Lack of motivation of young scientists due to low pay-level; lack of perceptible entry mobility directed by government policy; (today EU attracts 30% of mobile students on world scale); lack of modern system supporting doctoral programs – financed directly by government without stimuli for mentors, mechanisms for financing continuous education supporting the individual choice, binding policy for training elderly persons.

Strategy for Fostering of Research from 2011 is the first strategic document, determining the framework of the government policy in the research area. National target with respect to expenditure for R&D until 2020 is 1,5% of GDP requiring efficient utilization of funds under the harmonization policy 2014-2020.



Table 1: National targets, according NPR of Bulgaria

Leading targets “Europe 2020”	National target, NPR	
	Current	2020
75% employed of aged 20-64	63,5% (2013)	76%
3% for R&D expenditures	0,67% (2013)	1,5%
Greenhouse gas emissions reduction by 20% compared to 1990	56,02% (2012)	20%
20% of the energy from Hydro-Power Plants	16,3% (2012)	16%
Share of early school leavers – below 10%	12,5% (2013)	11%
At least 40% of t aged 30-34 - high school graduates	29,4% (2013)	36%

### 3. What kind of problems European instruments can solve?

- Legal framework. Regardless availability of contemporary legal environment, regulatory basis must comply with European standards. Regulations for public-private partnerships are needed, there is no co-ordination among various existing acts.
- Institutional framework improvement. Fragmented system, lack of concentration of resources, respectively, performance lacks high quality. Sustainable trend for market realization of scientific results is missing;
- Relatively closed system not recognizing economy needs;
- Country’s primarily orientation to services leading to inefficient utilization of insufficient resources. Activities of various scientific/educational structures differ without mechanism for capacity evaluation and adequacy with economy’s needs.
- Underfinanced system - noted by all EC monitoring papers, reconfirmed by EUROSTAT data. During the entire transition process funds for science have been sharply reduced, not exceeding 0,5% of the GDP. Presence of numerous public scientific organizations (HEA1995), drawing resources, not-providing the economy with adequate scientific/educational results. Financing must be based on objective evaluation of obtained results.
- Disbursement capacity. 2008-2009 budget of “Research Fund” increased 4 times allocating funds to some projects for expensive equipment still not used actively. Only 7 research institutions/universities are lastingly active in Framework programs. There is lack of capacity to utilize European resources or lack of sustainable internal management.
- Slow publication activity
- Mixed research infrastructure – availability of expensive inefficiently used infrastructure, not bound in scientific networks together with obsolete one. Lack of sufficient technical staff and maintenance.
- Relationships with businesses requires significant improvement to execute common scientific and innovation tasks.
- Bulgaria lags from average EU values in most of innovative sectors - difference between Bulgarian productivity and average EU value is 5 to 10 times.