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Public Funding of Research in CEEC

POLAND

Julita Jablecka



National Report on Public Funding


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Public Research Funding in Central and Eastern European Countries

Poland Country Report

Person responsible: Julita Jablecka

Institution: University of Warsaw

Tel: 00 48 22 826 07 46

Fax: 00 48 22 826 07 46

Email: j.jablecka@uw.edu.pl

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The Author

Julita Jablecka has been employed at the Institute of Science Policy and Higher Education (later a University Centre) from the beginning of her professional life. She received her master and PH.D. in Economics at Warsaw School of Economics and habilitation degree in management sciences from Warsaw University. She was a Fulbright Fellow in the USA in 1984 and an advisor to the government in 1990, responsible for transformation of the research system and preparation of new institutions of science policy and new funding instruments. Since 1990 she has been a member of the Committee of Science Studies of the Polish Academy of Sciences and since 2007 she has been a deputy chairman of the Committee. She has been involved in many national and international research projects and work for international organizations. Main areas of interests are research management and evaluation, science and higher education policy, public and private sector of higher education, models of university, higher education in a knowledge based economy. Her latest works include the co-authorship of the Thematic Review of Higher Education –Poland 2006 and two publications on non-public higher education and its legitimization.

The *Centre for Science Policy and Higher Education* is the only research unit in Poland combining research on higher education and science studies. The Centre was established in 1992 as a research establishment and a successor of the Inter-university Research Unit for Higher Education founded in 1962.

The key areas of research are, among others

- Transformation of Polish research and higher education systems
- Science policy, science funding, organization of science and scientific institutions
- Management of higher education and research
- Studies on research personnel in higher education and research establishments
- Quality and evaluation in science and higher education
- Education policy in non-academic sector
- Development of private sector of higher education
- Knowledge economy and its problems
- Universities management in knowledge society
- Students selection, recruitment, inequalities in access to education
- Education and labour market,

The main output of the Centre are publications in academic journals, expert reports and analyses including a semi-annual peer reviewed journal *Nauka i Szkolnictwo Wyższe* (Science and Higher Education), highly ranked within Polish scholars. There are 9 scholars at the Centre holding PhD (5) or even higher scientific degrees (habilitation: 5 person). The staff of the Centre elaborates also expert opinions for University management, both Chambers of Polish Parliament, Ministers responsible for higher education and research policy, and participate in international programmes, and studies for the government, and for international organizations as World Bank or OECD.

Abbreviations used in the text and organizational charts

BCC	BUSINESS CENTER CLUB	Business Center Club, BCC
BI	BRANCH/SECTORAL INSTITUTES/ R&D Units	Jednostki badawczo-rozwojowe, JBR
CA	COMMITTEE OF APPEAL (OF SCIENCE COUNCIL)	Komisja Odwoławcza Rady Nauki
CRASP	CONFERENCE OF RECTORS OF ACADEMIC SCHOOLS IN POLAND	Konferencja Rektorów Akademickich Szkół Polskich, KRASP
CRDE	COMMITTEE ON RESEARCH FOR THE DEVELOPMENT OF THE ECONOMY	Komisja Badań na Rzecz Rozwoju Gospodarki
CRDS	COMMITTEE ON RESEARCH FOR THE DEVELOPMENT OF SCIENCE	Komisja Badań na Rzecz Rozwoju Nauki
CSTP	COMMITTEE ON SCIENTIFIC AND TECHNOLOGY POLICY	Komitet Polityki Naukowej i Naukowo-Technicznej
CSTD	COUNCIL FOR SCIENCE AND TECHNOLOGY DEVELOPMENT	Rada ds. Nauki i Postępu Technicznego, RNPT
GCHE	GENERAL COUNCIL FOR HIGHER EDUCATION	Rada Główna Szkolnictwa Wyższego, RGSW
GDP	GROSS DOMESTIC PRODUCT	Produkt Krajowy Brutto, PKB
GERD	GROSS EXPENDITURES ON RESEARCH AND DEVELOPMENT	Wydatki Krajowe na Badania i Rozwój
FP	FRAMEWORK PROGRAMME	Program Ramowy, FP
FPS	FOUNDATION FOR POLISH SCIENCE	Fundacja na rzecz Nauki Polskiej, FNP
FPSTE	FUND OF POLISH SCIENCE AND TECHNOLOGY	Fundusz Polskiej Nauki i Technologii, FPNT
GCHE	GENERAL COUNCIL FOR HIGHER EDUCATION	Rada Główna Szkolnictwa Wyższego RGSW
GCR&DU _s	GENERAL COUNCIL OF RESEARCH AND DEVELOPMENT UNITS	Rada Główna Jednostek Badawczo-Rozwojowych RGJBR
HEIs	HIGHER EDUCATION INSTITUTIONS	Szkoły wyższe
HEBU	HIGHER EDUCATION BASIC UNITS (FACULTIES, COLLEGES)	Podstawowe jednostki organizacyjne szkół wyższych (zazwyczaj wydziały)
IBI	INDIVIDUALS FROM BRACH INSTITUTES	Uczeni zatrudnieni w JBR
I/BI	INDIVIDUALS PERFORM, BI APPLY FOR FUNDS AND MANAGE THEM	Uczeni realizują badania, a JBR występują o środki
IHEBU	INDIVIDUALS AT HEI	Pracownicy akademicy w szkołach wyższych
I/HEBU	INDIVIDUALS PERFORM RESEARCH, HEI OR HEBU APPLY FOR FUNDS	Uczeni, realizują badania, szkoły wyższe lub podstawowe jednostki uczelni występują o środki i zarządzają nimi)
IPASU	INDIVIDUALS AT PASU	Uczeni zatrudnieni w PAN
I/PASU	INDIVIDUALS PERFORM RESEARCH, PASU APPLY FOR FUNDS	Uczeni realizują badania, a instytuty PAN występują o środki
MA	MINISTRY OF AGRICULTURE	Ministerstwo Rolnictwa, MR
M E	MINISTRY OF ECONOMY	Ministerstwo Gospodarki, MG
MSHE	MINISTRY OF SCIENCE AND HIGHER EDUCATION	Ministerstwo Nauki i Szkolnictwa Wyższego MNiSW

MSIT	MINISTRY OF SCIENCE AND INFORMATION TECHNOLOGY	Ministerstwo Nauki i Informatyzacji, MNI
NF	NATIONAL FORESIGHT	Narodowy Program Foresight
NCRD	NATIONAL CENTRE FOR RESEARCH AND DEVELOPMENT (NCRD).	Narodowe Centrum Badań i Rozwoju, NCBR
NRP	NATIONAL REFORM PROGRAM	Krajowy Program Reform
NPSRD	NATIONAL PROGRAM FOR SCIENTIFIC RESEARCH AND DEVELOPMENT	Krajowy Program Badań Naukowych i Prac Rozwojowych
NSFR	NATIONAL STRATEGIC REFERENCE PROGRAM	Krajowy Program Ramowy
PAED	POLISH AGENCY FOR ENTERPRISES DEVELOPMENT	Polska Agencja Rozwoju Przedsiębiorczości
PCPE Lewiatan	POLISH CONFEDERATION OF PRIVATE EMPLOYERS LEWIATAN	Polska Konfederacja Pracodawców Lewiatan
PFEA	POLISH FEDERATION OF ENGINEERING ASSOCIATIONS	Polska Federacja Stowarzyszeń Technicznych NOT
PAS	POLISH ACADEMY OF SCIENCES	PAN, Polska Akademia Nauk
PASU	BASIC UNITS OF POLISH ACADEMY OF SCIENCES	Instytuty Polskiej Akademii Nauk (PAN)
PRIV	PRIVATE ORGANIZATIONS	Organizacje sektora prywatnego
SC	SCIENCE COUNCIL	RN, Rada Nauki
SCSR	STATE COMMITTEE FOR SCIENTIFIC RESEARCH	KBN, Komitet Badań Naukowych
SME	SMALL AND MEDIUM ENTERPRISES	Małe i średnie przedsiębiorstwa MSP
WB	WORLD BANK	Bank Światowy, BŚ

1 Introduction

This report has been produced in the framework of the project on “Changing of Public Funding of Research in Central and Eastern European Countries” (CEEC – funding) realised and financed by the European Network of Excellence on Policies for Research and Innovation in the Move towards and European Research Area (PRIME) of the 7th Framework Programme of the European Union. The project covered three countries in Central and European Countries, namely Czech Republic, Estonia and Poland; it has been coordinated by the Observatoire des Sciences et Techniques in Paris and realised by the Centre for Higher Education Studies in Prague, the Institute of Economics of the University of Tartu (Estonia) and the Centre for Science Policy and Higher Education Studies of the University of Warsaw (Poland).

The project followed a large effort inside PRIME to develop indicators to characterize public funding of research in Western European countries and, more specifically, so-called project funding. Using a similar approach based on collection of information and funding data from national sources, including policy reports, state budgets, reports of funding agencies, the aim of the project has been to reconstruct a quantitative picture of public research and higher education funding in these countries, as well as of the main changes in the last ten years, comparing them also with other European countries. The rationale of this analysis is the profound restructuring of research policy and research funding which took place in CEEC after the end of the communist regime from one side, but also the open policy questions on the future development and priorities of research policy in these countries, faced with the access to the European union and the need to strengthen their economic basis.

National reports like this are the first output of the project: they contain a detailed description of national funding systems and of the different funding channels, which are a valuable reference source for future work in the field; moreover, they include also detailed data at national level taken from different sources, providing a measure of the importance of the different funding channels. While they are different following national specificities, there has been a true attempt in the project to use some rather common terminology (like the distinction between institutional and project funding), as well as some common schemes and description tables.

The national reports will constitute the basis for a more in-depth work comparing the national policies and understanding the (cultural, historical, institutional) reasons of their differences. Thus a set of academic papers focusing on comparative analysis and understanding the institutional framework of the funding system and its evolution across time is in preparation and will be presented at the PRIME-ENID indicators conference in Oslo (May 2008).

Moreover, a policy report summarizing the main projects results and implications both for national and European policies concerning Central and Eastern European countries is in preparation. All project results will be made available on the website of the European Network of Indicators Designers (www.enid-europe.org).

1.1 Acknowledgments

The members of the project team would like to thank for advice and support Slavo Radosevic (UCL London), Philippe Larédo (ENPC, Paris and University of Manchester) and Ghislaine Filliatreau (OST Paris). We would like also to thank Jean Theves (OST, Paris) for help in preparing these reports. The author of the Polish national report would also like to thank the members of the Polish team, Jan Kozłowski and Roman Slaweta for cooperation during preparation of the report.

Benedetto Lepori, coordinator of the CEEC-funding project

2 The Organization of Research Policy in Poland

2.1 Research Policy Organization after 1991

In 1990 the organization of science funding and structures responsible for science policy in Poland changed dramatically. Since that moment the research system arrangements have been evolving.

Before 1990 science budget was divided between the Committee for Science and Technological Development (at the Council of Ministers), Polish Academy of Sciences and ministries administering, e.g., national education, industry, health and national defence.

At the beginning of the political transformation a new system of R&D financing in Poland was established by the Act of 12 January 1991 on the State Committee for Scientific Research (SCSR). During the following 14 years the SCSR was responsible for administering the science budget as well as drawing up and implementing science and technology policy. The SCSR was a formal, elected representation of the research community, with its head (the chairman) being a member of the Council of Ministers. The administrative duties for the SCSR connected to research funding were delegated to the Office of the SCSR but science policy formulation, all allocation decisions and evaluation of research proposals were the competence of the SCSR.

Together with establishment of the SCSR a system of centralized direct public financing of all research institutions and teams by the SCSR was introduced with a view to ensure greater coherence and effectiveness of scientific policy and relieve often fierce conflicts between some of the science sectors. Moreover, this effort was aimed at introducing the homogenous rules and criteria of scientific assessments of R&D entities applying for both institutional financing as well as research project financing. As a result of the uniform academic criteria of funding and the majority of academic representatives at the whole SCSR whose interests dominated the Committee, the system of public financing was based on a '**disciplinary and bottom-up approach**' and scientific priorities rather than aimed at meeting strategic social or political priorities.

The lack of clear and specific research priorities relevant to social and economic needs was caused by the lack of such articulated needs since neither of the Polish governments until late 1990s formulated any national programme of economic development. Consequently, the system brought about a serious dispersion of financial resources into individual research projects (Policy mix..., 2006, Erawatch...2006).

However, since the beginning of 2000s more significant changes were introduced in the institutional setup, the role of science policy and funding instruments. In 2002, the position of the Minister of Science and Information Technology was established and the minister became the chairman of the SCSR. In March 2003 the Office of the SCSR was phased out and a Ministry of Science and Information Technology was set up with duties similar to those of the SCSR Office.

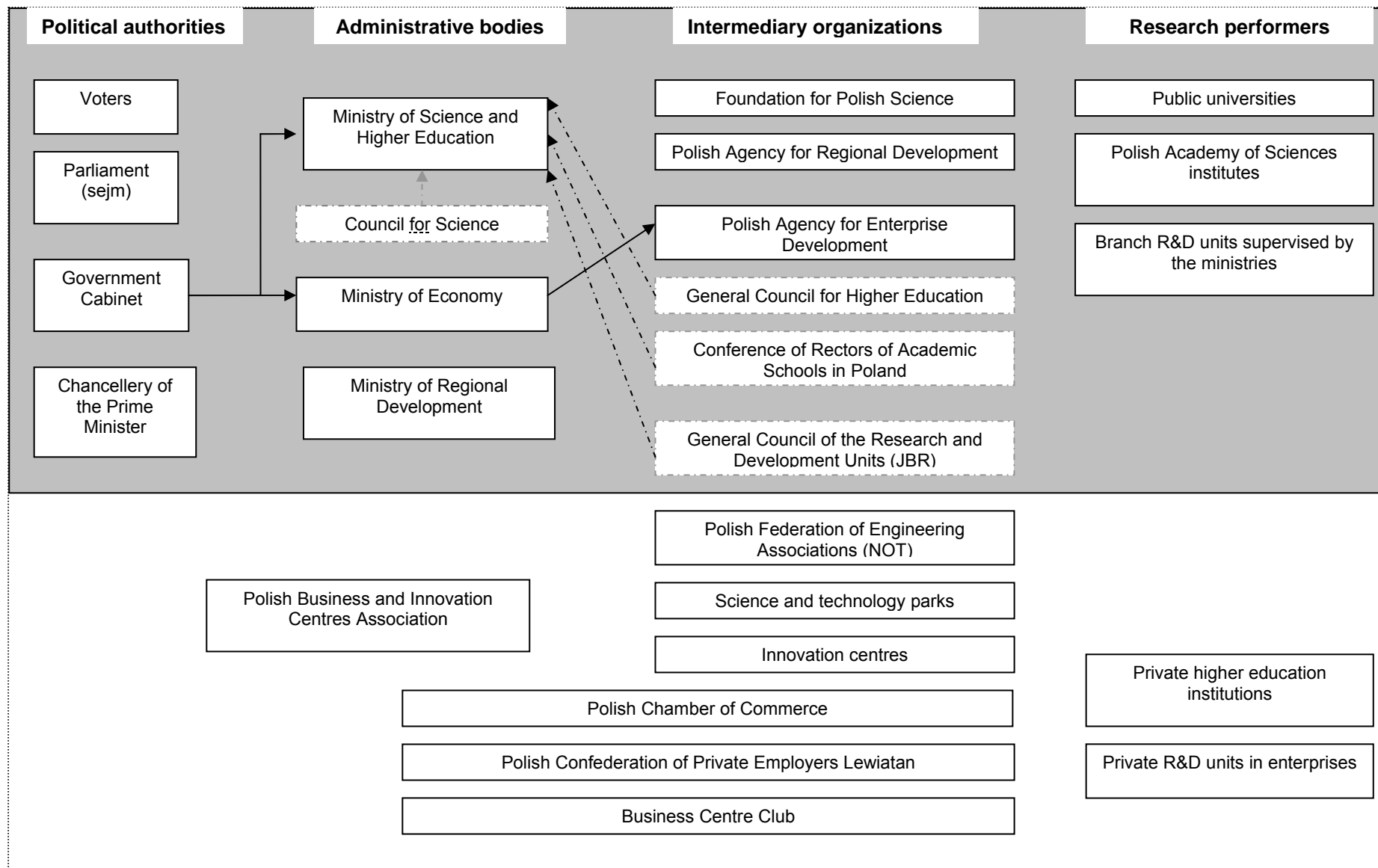
The system of science funding changed considerably with the adoption of the new *Act of October 8, 2004 on the Principles of Financing Science* (part of regulations concerning establishment of the Science Council entered into force on 5 February 2005; new funding rules came in force in August 2005; amendments on 15 July 2007).

The provisions of the Act were aimed at:

- strengthening the role of the Minister of Science in administering the science budget
- stronger concentration of public expenditures on application projects (and development of programmes directed towards funding of R&D important for SMEs)
- better consolidation of the R&D sector through the promotion of joint proposals from research networks of institutions.
- establishment of the institution with advisory functions (Science Council) which replaced the SCSR
- systematization of funding channels as instruments relevant to science policy purposes established within the National Strategic Reference Framework (NSRF)

The next phase of the reforming process resulted, in 2007, in a new Act on establishment of National Centre for Research and Development (NCRD), an amendment to the Act on the Principles of Financing Science of 15 July 2007. The NCRD will fund research priorities established within National Program for Scientific Research and Development (NPSRD) which will replace the NSRF.

Figure 1. Actors of Polish research policy



2.2 Current structures at the governmental level

Since 5 May 2006 the main role in the governance structure of the science system in Poland has been played by the Ministry of Science and Higher Education (MSHE) i.e. a new ministry with responsibility covering both science and higher education fields (established as a result of reconstruction of the government). The Minister is responsible for formulation, implementation and evaluation of policies in higher education, science and technology as well as innovation in Poland, the latter in cooperation with the Ministry of Economic Affairs.

The whole state budget for science is at the disposal of the Minister.

- As we mentioned earlier, the role of **the minister responsible for science** has been strengthened considerably with the adoption of the *Act on the Principles of Financing Science* and dissolution of the State Committee of Scientific Research in 2005. The Minister took over some of its tasks; the other duties were taken by a new body, the **Council for Science**, playing only an advisory role to the Minister.
- **The Council for Science** is explicitly mentioned in the *Act on Principles of Financing Science*. The Council replaced the SCSR and **constitutes a formal representation of research community**. It consists of maximum 70 members. The scientific community elects 33 of them and the Minister appoints others on the basis of his/her own decision from among candidates designated by other ministers and organizations of research institutions. The Council is divided into four **units (bodies of the Council)**:
 1. the Committee on Scientific and Technology Policy (CSTP, 11 members)
 2. the Committee on Research for the Development of Science (CRDS, 28 members)
 3. the Committee on Research for the Development of the Economy (CRDE, 26 members)
 4. the Committee of Appeal (CA, 5 members).

The Committee on Scientific and Technology Policy, CSTP, is the body of the Council that plays a role of a policy advisor to the Minister. It gives opinions on draft documents concerning the government's science and technology policy and its innovation policy as well as bills and economic and financial arrangements concerning the development of science and technology.

Members of the Committee on Research for the Development of Science, (CRDS) and the Committee of Appeal, (CA) are elected every 4 years by professors employed in Polish research institutions.

The CRDS and the CRDE are involved in the process of assessment of research institutions and peer review evaluation of various applications within all channels of funding from the state budget. Hence, their functions is connected to the process of distribution of money for science.

The Committee of Appeal should give opinions on appeals against Minister's decisions concerning the financing of science.

Besides the formal CS structure (standing committees) the Minister sets up, if required, and for a limited period of time, specialised or interdisciplinary groups, consisting of members of the Council's Committees mentioned above in points 2 and 3 as well as of competent external experts. Also the chairmen of the Council's Committees may appoint, if approved by the Minister, working groups or special commissions to perform specific tasks, such as peer evaluation of research applications.

An another new body, the Council for Science and Technology Development, CSTD, set up in January 2005, plays an advisory role to the Council of Ministers and to the Prime Minister in the field of science development and new technologies strategy. The most important of its tasks is to develop and present to the Council of Ministers and to the Prime Minister evaluations and opinions on the draft government documents (including programmes and legal acts) concerning science development and new technologies strategy, in particular: development of knowledge based economy, financial and organizational instruments concerning science and technology, allocating budget to science, the EU structural funds on research, supporting use of research and experimental development in innovative economy development and quality of life, etc. The CSRT members are appointed by the Prime Minister. The Council consists of, among others: the Prime Minister as a chairman, the minister responsible for science as a vice-chairman, ministers of: economy, public finances, labour and higher education, President of the Polish Academy of Sciences, President of the Council for Science and presidents of other Polish associations, foundations that deal with science and technology and other invited members. In practice, the Council has not played an important role up to now.

2.3 Other governmental structures involved in research and innovation policy

Since 1991 in Polish organization of research funding **none of the ministries has had budgetary funds for research at their disposal** since the whole science budget has been kept in hands of the minister responsible for science. However, they may receive a small amount of funds from the budget for their own needs within a funding channel called "activity supporting research".

The Ministry of Economy (ME) plays a predominant/coordinating role in the innovation policy formulation and implementation and is responsible for preparation and monitoring of short and medium-term strategies and programmes of economic development, especially in the area of competitiveness, innovation and entrepreneurship. The Economic Development Department in the Ministry coordinates the implementation of the Lisbon Strategy goals in Poland (*The National Reform Programme 2005-2008*).

The Ministry of Regional Development (established in October 2005) is responsible for preparation and implementation of socio-economic development strategy in Poland as well as management of the European Union structural funds. It plays a crucial role in increasing the level of utilisation of EU funds in Poland (*remedy programme* relating to EU funds for 2004-2006), formulation of the Strategy of Country Development for 2007-2015 and the National Strategy Reference Framework along with Operational Programmes 2007-2013. However, structural funds for R&D are administered by the Ministry of Science and Higher Education

2.4 Institutions below the political level and intermediary bodies involved in research and innovation policy and in research funding

The *Polish Federation of Engineering Associations, PFEA*, is a public organization grouping engineering associations representing all fields of technology. It has at its disposal 51 Houses of Technology around the country, providing their members with modern technology equipment ready for rendering various services. Since 2001 the Innovation Centre of the PFEA, under the agreement signed with the Minister of Science and Information Society Technologies, has managed the program of goal-oriented projects of SMEs: announced competitions for co-financing the goal-oriented projects submitted and co-funded from state budget and from funds of small and medium enterprises (SMEs). The co-operation of the Ministry of Science with the PFEA falls within a broader trend in Polish administration directed at decentralization and outsourcing of public tasks.

The *Foundation of Polish Science (FPS)* is a non-governmental independent, self-financing science-funding organization established in 1991. Its mission is to provide assistance and support to scientists and scientific teams as well as investments that serve the interests of science in Poland. As an initial investment, the FPS received from the State Treasury the remainder of the so-called Central Fund for the Development of Science and Technology, liquidated in 1990. Those assets were reinvested on the financial market and are the source of revenues allocated for the statutory activity of the Foundation.

For several years the *Polish Agency for Enterprise Development (PAED)* has been running programmes aimed at promotion and development of pro-innovative attitudes, projects, enterprises as well as scientific units, in particular the technology transfer stimulation. However, it does not fund any research activity.

There are also two influential advisory bodies: Conference of Rectors of Academic Schools in Poland (CRASP) and General Council for Higher Education (GCHE). They both advise the Minister of Science and Higher Education on science policy and research funding. Also, the Business Center Club and Polish Confederation of Private Employers Lewiatan are consulted on science policy issues and new legislation.

2.5 Future developments in research policy

During 2006 and 2007 many new initiatives aimed at reforming the science system were undertaken by the new government. Some arrangements have been already launched, others are at an advanced stage: several new draft bills were consulted, approved by the government and submitted to the parliament. In the nearest future some these initiatives will be continued and also several other plans will be developed. A new **intermediate body**, the **National Centre for Research and Development, NCRD**, was established in July 2007. The purpose of the National Centre will be to coordinate the country's fragmented applied research for the benefit of economy and society (public health, public administration, culture) and to support the Minister of Science and Higher Education in the execution of science and innovation policy. In particular, NCRD will play a role of coordinator and a centre managing big strategic R&D programmes including energy, IT, biotechnology, new materials and production technologies. The National Centre will be jointly funded by Polish government (ca 10% of

all governmental funds for science) and the EU under the Operational Programme *Innovative Economy* 2007-2013. The strategic programmes will be established through the **National Program for Scientific Research and Development** (amendment to the Act on the Principles of Science Financing, 15 July 2007) which replaced **National Framework Program abolished in July 2007**. The NCRD is one of two agencies to be created as part of Poland's drive to reform its research sector. There are plans to set up an agency which would finance basic research in cognitive sciences.

Another important initiative was to set up a National Foresight Program Poland 2020. The results of the Foresight will be used in drawing the national program for R&D and research priorities.

Among other important intended reforms there are also the following initiatives:

- The restructuring of research entities in Poland – in particular, by consolidation and ownership transformations, with a view to stimulate effectiveness of their R&D activities and to enhance increased cooperation with business enterprises sector. Some establishments will be granted the status of a state research institute.
- Academic entrepreneurship program addressed to: performers of research and development projects, including projects generating the most risk on the scientific side, young scientists with experience in intersectoral mobility, other scientists wanting to commercialize their R&D work, SMEs.
- Program supporting patenting of inventions created in Polish research institutions, addressed to intermediaries between science and economy.
- Programmes supporting: career development of young Ph.D. holders, international mobility of researchers carried out in research units abroad, programme supporting the mobility of researchers between science and economy sectors, programme supporting young researchers' investigations, support for women in scientific careers, "Returns" programme addressed to scientists from abroad who had worked in Poland and had Polish citizenship.

3 Organization of research funding in Poland

3.1 Main channels of budgetary funding and their evolution before 2005

As we have already mentioned, since 1991 the whole science budget has been centralized and has been kept in the hands of the SCSR first and then in the hands of the minister responsible for science. During 17 years nothing has changed in that matter. Still, even branch (government-funded) R&D establishments subordinated to various ministries are not funded by their supervising ministers but directly from centralized science budget, remaining in the hands of the minister responsible for science. Moreover, the law prohibits research funding from state budget other than from science budget.

Research funding has been based on the basic rule of selectivity of allocation within all funding channels, according to a contest of applications or an algorithm. The only exception has been a channel through which money has been distributed for activity supporting research between various ministries (however, a proportion of funds within the category 'activity supporting research', allocated directly to institutions promoting research or to scientific associations or publishers, has been also distributed selectively on a competitive basis).

Competition has been based on peer review system (in case of project system, goal-oriented projects) or on assessment with use of various indicators or research performance (primary institutional statutory funding).

According to the law of 1991, until 2005 (when the new act came into force) there were 6 groups of channels of science funding. Gradually, within these 6 broad categories of funding various separate sub-channels of funding were developed (see table 1). The specific channels, the selection procedures and criteria and the level of funding were determined in SCSR decisions, and later, in ordinances issued by the minister.

As a result of the evolutionary process, between 1991 and 1996 the funding system became more complicated. In 1996 the following channels and sub-channels of public science funding from the state budget existed:

Table 1. Groups and channels of R&D funding from the budget for science in 1996

Group 1. STATUTORY FUNDING:

- 1.1. Primary (institutional) core statutory funding
- 1.2. In-house research funding of HEIs
- 1.3. Maintenance of special equipment and facilities
- 1.4. Maintenance of facilities used in international programmes
- 1.5. Maintenance of information technology infrastructure

Group 2. INVESTMENTS

- 2.1. Building investments
- 2.2. Equipment
- 2.3. Information technology infrastructure (computers, programmes)

Group 3. RESEARCH PROJECTS

- 3.1. Unsolicited, individual (in-house) research projects
- 3.2. Solicited (commissioned) research projects
- 3.3. Research projects within long-term research programmes

Group 4. GOAL-ORIENTED PROJECTS

Group 5. INTERNATIONAL COOPERATION

- 5.1. Participation in international programmes
- 5.2. Fees to international organizations

Group 6. ACTIVITY SUPPORTING RESEARCH

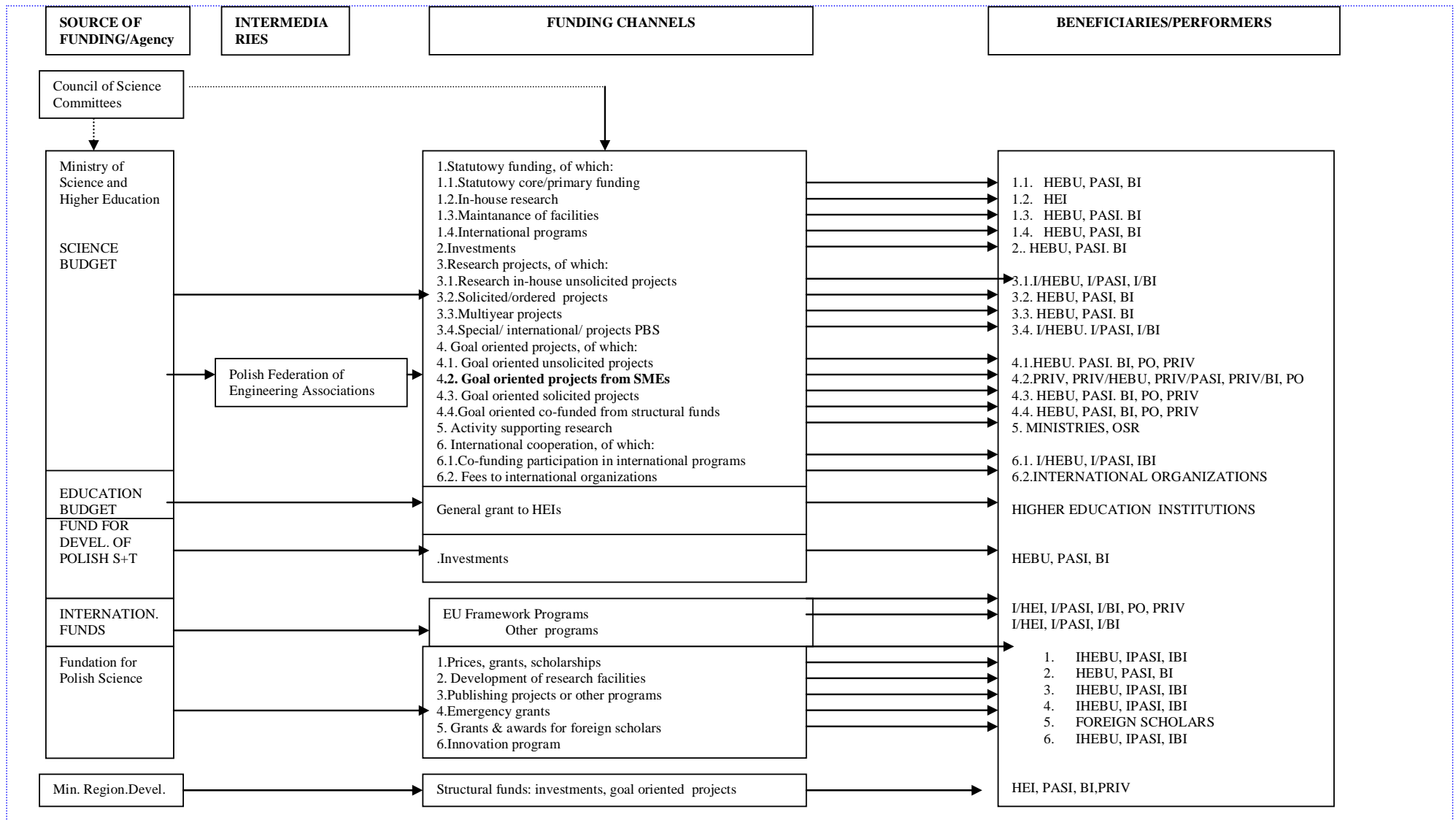
Some additional changes in the funding system were introduced in late 1990s and early 2000s. They included:

- changes in the parametric system of assessment of statutory activity of research units (removal of a part of descriptive, qualitative evaluation and concentration on quantitative evaluation based on indicators)
- changes in the system of research projects commissioned by the state – a new kind of solicited goal-oriented projects was introduced in 1999
- introduction of a new programme for goal-oriented projects initiated by small and medium enterprises (SMEs) and delegation of the administration of the program by the Minister of Science to the Polish Federation of Engineering Associations (PFEA).
- changes in the funding or co-funding of international cooperation from the science budget connected with developing participation in international research programmes and Poland's accession to the European Union (some channels were introduced, some were only re-named, others were restructured¹).

The minister made attempts to set up priorities for the country's science (new policy documents were published but they had rather minor influence on the funding system).

Figure 2. Overview of funding channels

¹ Since 1999 when the 5th Framework Programme was launched, Polish scientific units could participate in FP as other regular members of EU. As a result, there were attempts of Ministry of Science to adjust the Polish funding system to new requirements. Costs of participation in international programmes were covered by statutory funding (if included in institutional research plans) or from international cooperation funds. There were changes between 1996 and 2005 concerning the level of co-funding participation in FP programmes from national sources. Participation in international cooperation was funded through several channels, depending on whether such research was funded exclusively from national research budget (NATO, EUREKA, COST, CERN, DESY) or co-funded from international organizations.



3.2 Main research funding channels in 2005

3.2.1 Statutory funding

Under a rather broad budget category called **statutory funding** there are several funding channels (see table 2 and annex). Some of them have been in existence since 1991 or early 1990s, for instance primary institutional statutory funding, in-house research funding or maintenance of unique research facilities. Some other channels were established recently by the Act of 2004, e.g. maintenance of research facilities used in international research or joint research by scientific networks. Also several channels funding participation in **international research** have been under the umbrella of statutory funding up to August 2005 (special research programmes) when they were renamed and subordinated to another broad budget category, i.e. international programmes (described in the other parts of this report).

3.2.1.1 Institutional (core) primary funding

Generally, as in many national R&D systems, institutional funding (in Polish the system called 'primary' or 'core' statutory funding) **is aimed at ensuring the continuous performance of long-term scientific research by scientific entities**. In the Polish situation where funds available for science are limited, the existence of that instrument is indispensable to provide the minimum level of public support to scientific entities (especially those performing strategic basic research requiring stability of financing along with basic science base organization). Statutory financing prevails in the structure of public expenditure on R&D. As we mentioned before, budgetary funding of primary statutory activity of **government R&D units** subordinated to various **ministries** has been allocated **directly** by the Minister responsible for science; similarly, funds for primary statutory activity of **research entities** of the Polish Academy of Sciences (PAS) are not allocated to them through PAS administration but they are granted **directly from the state budget to these institutes**. **In case of higher education sector primary statutory funding goes** to each higher education institution with clear **destination** for activity of particular **internal HE basic units: usually faculties which individually applied for such funding**.

Primary statutory funding is intended for covering costs of tasks set forth in the statutes of a scientific entity, relating to its continuous research or experimental development. In case of government establishments money is also allocated to cover costs of maintenance incl. personnel costs.

According to opinions expressed by some representatives of the academic community, primary institutional funding is based on an imperfect system of assessment. According to some science policy analysts, it is accompanied by ineffective rules governing its distribution resulting from *parametric assessment*, which for years has been favouring, above all, performance of basic research rather than applied work. Following such criticism, the criteria and procedures of assessment have been constantly changing. However, as a result it is still an experimental exercise. In parametrical assessment of statutory activity rules have been applied involving the grading of specific activity types. The new rules of ranking and values ascribed to different assessed elements of activity are not tested before application and sometimes may cause unexpected effects (this happened during the last evaluation process when the number of publications submitted by each unit had to be limited to two per person: this flattened the evaluation results and increased the number of 'excellent' grades awarded to evaluated units.)

Therefore, some important steps have been taken recently not only with the view to increasing the share of competitive funding in the system but also to making some portion of basic institutional funding more competitive. In particular, the Act introduced new rules of scientific units' parametric assessment applying for such institutional support, allowing, to a greater extent, for potential practical applications of research carried out by the entity, apart from traditional criteria relating to its activity and scientific excellence of research. (evaluation principles are described in the annex)

3.2.1.2 In-house research funding

Funds for so called **in-house particular research** carried out in HEIs **are allocated** to each HEI **as a whole and are distributed internally by each school**. These funds are devoted to research required for staff development: preparation of doctoral theses or second doctorate (habilitation) and/or for development of research specialties of HEIs. Distribution of funding for in-house particular research among higher education institutions is based upon an algorithm developed by the minister and

consulted with the General Council for Higher Education. Principles of internal allocation of grants for in-house research depend upon internal policies of a the HEI concerned. The process may involve internal competition or distribution using a specific algorithm. (see annex)

3.2.1.3 Maintenance of facilities

This funding channel is intended for financing the maintenance of unique facilities in research units if the costs of maintenance are higher than 5-10% of institutional grant and if they are too high to be funded from grants awarded for primary institutional funding. The money is allocated selectively with the use of results of evaluation of statutory primary activity. In 2005 there were about 50 such grants given for funding unique facilities of regional or national importance.

3.2.2 Financing investments serving the purposes of R&D

Funds for investments are devoted for new and continuous investments, buildings, equipment and information technology facilities including new or modernized facilities **also those co-funded** from structural funds. They belong to the group of institutional funding. The partition of funding between different units is based on competitive rules: on the results of statutory categorization.

3.2.3 Project funding

'Project funding' is a general name for several separate instruments within several broad categories:

3.2.3.1 Research projects

In-house projects (free projects or "grants")– responsive mode: the research topics are defined by the applicant (bottom up), proposals submitted on researcher's initiative and reviewed by reviewers and peer review panels. A specific kind of in-house projects are **promoter's (supervised) projects**, aimed at preparing a doctoral dissertation.

Ordered (solicited, thematic projects) – directive mode: subject matter has been defined in the so called National Framework Program with priority areas of R&D. Before 2004 such projects were solicited by the ministries or other institutions of local or regional administration. Ordered projects are currently the main instruments of the government's scientific, science and technology and innovation policy implementation managed by the MSHE. Since the early days of the National R&D Centre (established in July 2007) ordered projects have been defined within the National Programme for Scientific Research and Development.

Special research projects cover international cooperation programmes which are **not co-financed from international** organizations (before 2005 they constituted of so called **special research programmes**, and were included under the category of 'statutory funding').

3.2.3.2 Goal-oriented projects

Goal-oriented projects are co-funded by the user of prospective results and from the science budget (up to 70% of research expenditures). There are several kinds of projects including projects submitted by SMEs, goal-oriented projects administered by PFEA) and proposals co-funded from the budget and structural funds (see annex).

3.2.3.3 Other types of projects

Besides research projects and goal-oriented projects there are also a few other kinds of projects.

All types of projects within multi-year programmes

Development projects designed to provide a basis for practical applications (a new type of projects, introduced in 2006). The financing for development projects was established with the view to enhancing the potential and quality of applied research and development work performed by the R&D sector aimed at practical economic applications, particularly in the SMEs sector.

detailed descriptions in annex

3.2.4 International scientific cooperation

As mentioned earlier, scientific cooperation has been funded for several years not only under the budget category 'scientific cooperation' but also under other categories (see table 2). In table 2 we

collected all such finding instruments under one label “international cooperation” to illustrate real changes in the system.

We distinguish 2 possibilities:

- cooperation financed exclusively from national science budget
- cooperation co-funded from science budget and EU funds (Polish contribution is noted in several funding channels from the budget; EU contribution is described in the table ‘EU funding of Framework programmes’).

Before 2004, costs of participation in international research programmes **co-funded** from foreign sources were co-financed from the state budget within the budget category called ‘**statutory activity**,’ and if such research cooperation was a result of a bilateral agreement, cooperation research was included in a research plan of the applicant institution. As mentioned earlier, also cooperative research not co-funded from international organizations and financed from budget funds only was included within the category ‘statutory activity.’

As we describe contribution of the science budget in such co-funding, we must notice that it has been changing over the years.

State budget co-financing of participation in EU Framework Programmes up to 1999 covered up to 90% of total costs of participation in FP (the remaining 10% of total costs had to be covered by the applicant institution from its own funds):

- in 2000 the science budget covered up to 80% of total costs of participation in FP
- in 2001: up to 70% of total costs
- Since 2002: costs of participation in Framework Programmes and EUROATOM were covered by the science budget up to 60% (for research **co-funded** from national budget funds and FP)

(The contribution of EU in funding Framework Programmes is presented in the annex, in a separate table on EU FP, Polish contribution is included in a table on science budget funding).

3.2.5 Activities supporting research

Within this category we may find funds from science budget awarded by MSHE to other ministries for commissioned research, for funding activity of scientific associations or publications and subscription of selected periodicals as well as dissemination of research results and information on science.

3.2.6 The programmes and undertakings specified by the Minister of Science and Higher Education

The new legal solutions strengthen the role of Minister of Science and Higher Education entrusting him/her with the right to initiate, formulate and implement the **undertakings and activities** stimulating the consolidation and restructuring the R&D sector in Poland.

The programmes and undertakings were introduced to enable the Minister to carry out some new initiatives difficult to undertake within such detailed described system of funding. However, **up to now only several scholarships were awarded** from the whole list of possible actions, e.g. creating conditions for the development of outstanding young scientists, including the awarding of scientific scholarships **to outstanding young scientists** (10 annually) aged up to 35 who are employed in scientific units. Scholarships are awarded for not more than 3 years, their monthly amount not exceeding the maximum monthly basic salary stipulated for the post of a full professor employed in a state-owned institution of HE.

Other instruments may be important and realistic in the near future, i.e.:

- supporting the restructuring of scientific entities carried out by their supervising organs of government administration, or by the President of the Polish Academy of Sciences, or
- developing organizational entities supporting cooperation between science and the economy.

3.2.7 European Structural Funds

When describing R&D financing from structural funds we do not distinguish specific separate instruments for structural funding – such funding is channelled through existing budgetary funding instruments and co-funded from the science budget and structural funds in proportion of 25% to 75%.

Since the Polish co-funding comes from the state budget, we can find it under different headings in state budget report (see annex 3). The European structural funding share is visible in the separate table on structural funding.

Structural funds support various projects within sectoral programmes:

Measure 1.4.1 **goal-oriented projects** aimed at carrying out applied research and development (industrial and pre-competitive research) in enterprises or groups of enterprises, independently or in collaboration with public sector R&D. Required financial contribution from performer.

Measure 1.4.2 **grants for investments** in creation, modernization and equipment of public research sector laboratories that are to make services for enterprises

Measure 1.4.3 **grants for Investments** in creation, modernization and equipment of laboratories of Centres of Excellence and Centres of Advanced Technologies working in priority areas of the Polish economy.

Within those research programmes, goal-oriented programmes and investments for scientific infrastructure are funded. If there is also involvement of science budget in co-funding, such 'items' are on the list of the budget spending (see annex 3).

3.2.8 Fund for Polish Science and Technology

Besides the science budget, the Minister (MSHE) also makes decisions on spending from the **Fund of Polish Science and Technology**, FPST, established in 2004 from 2% of proceeds from privatization in a given year and also from interests earned from those proceeds. The Fund is used to support Polish science and research infrastructure in priority areas as well as promotion and dissemination of knowledge.

Beneficiaries may include public research institutions (universities, governmental laboratories and Polish Academy of Sciences institutes). Support is awarded for Polish science and technology priority areas as well as promotion and dissemination of science. Over 99% of the FPST support is for research investment grants; less than 1% goes to promotion and dissemination of science. Selection of beneficiaries is made on a competitive basis, the criteria being similar to those applied in awarding all investments grants.

3.2.9 Foundation for Polish Science

Each year FPS manages a number of programmes. Its strategy is to support individual scientists and research groups working in various areas of natural and exact sciences and humanities being of greatest importance for technological, cultural and economic development of the country. Another important objective is to undertake activities aimed at facilitating transfer of scientific and technological innovations to industry. Support from FPS is very low compared to funding for science budget but FPS prizes are very prestigious and grants for outstanding achievements are called 'Polish Nobel Prizes.' There are several groups of awards:

Prizes, grants and scholarships for individual scholars: they make up the most of the Foundation's annual budget Foundation and comprise also a training module and financing of activities of scientific entities. There is several other schemes, i.e.:

- support for upgrading of research facilities
- support for covering cost of publishing
- emergency grants, and
- grants and awards for foreign scholars coming to Poland.

Significance of FPS for Polish scientists is obvious since it is the only funding body outside the state budget. Except several channels, all of them are project-funding schemes.

3.3 *Changes after 2005*

The regulations of the new Act of 2004 (in force since August 2005) and executive orders introduced several new funding channels. However, when we look at the current science budget spending in 2005 and in 2006 (see annex), we may be confused since there is a mixture of two parallel sets of channels: those established under the Act of 2004 (in force since August 2005) and those operating under previous regulations because some of the instruments covered funding for several years and the science budget of 2005 still has obligations connected to some 'old' funding streams.

Table 2 presents instruments organised according to purpose (e.g. "national" research or international cooperation), the category of science budget, their history and type of instrument: (institutional or project funding and other, such as fees for international organizations or activity supporting research).

The instruments which are essentially the same or similar but with their names changed during the evolution period of recent years were grouped together and treated as the same instrument.

Some of the instruments were not described above if they still have the status of proposals or if they were not launched before 2006.

The existing array of funding instruments was grouped into 3 basic types of funding:

Institutional funding – money attributed to research institutions for covering all or some operational costs or investment costs enabling them to perform research activity on a continuous basis;

Project funding – money attributed to a group or an individual to perform research activity limited in scope, budget and time on the basis of submission of a project proposal;

Other funding streams such as fees to international organizations or funding of activity connected to research (not covered by Frascati Manual but funded from the science budget in Poland, such as the so-called activity supporting research: expert works commissioned by various ministries, publications, activity of learned societies and popularization of research results or costs of peer reviewing).

Table 2. PUBLIC RESEARCH FUNDING CHANNELS IN 2005, from the science budget and other public sources

Instrument	History	Type of instrument	Source of funding/ co-funding from budget, EU FP, structural funds, other sources
1. SUBSIDY FOR STATUTORY FUNDING			
1.1. Primary statutory (Institutional core) funding	since 1991, also under new law, after 2005	Institutional	Budget
1.2. In-house (particular) research funding of HEIs	since 1991, and also under new law, after 2005	Institutional	Budget
1.3-1.4.. Maintenance of unique research facilities and of information technology facilities including facilities needed for internat. Programmes	since 1991 and also under new law, after 2005	Institutional	Budget
1.7. Joined research within scientific network	since 2005, a new law	Project	Budget
2. INVESTMENTS (CAPITAL GRANTS)			
2.1. Buildings	since 1991, and also under a new law, after 2005	Institutional	Budget
2.2. Research equipment (classified as fix assets)	since 1991 and also under a new law, after 2005	Institutional	Budget
2.3. Purchase of new information technology infrastructure (computers)	Since mid 90.s, also after 2005, under a new law	Institutional	Budget
2.5. Investments co-funded from the science budget and structural funds	since 2005, under a new law	Institutional	Budget / structural funds
3. Research projects			
3.1. In-house research projects (grant system)– responsive mode	since 1991, and also under new law, after 2005	Project	Budget
3.2. Ordered (solicited) projects – directive mode	since 1991, and also under a new law, after 2005	Project	Budget
3.3. Ordered projects within the multi-year programmes	Since 2004, and also under new law, after 2005	Project	Budget
3.5. Development projects	since 2005, under a new law	Project	Budget
4. Goal-oriented projects			
4.1. Goal-oriented projects (bottom up initiative)	since 1991, and also under a new law, after 2005	Project	Budget/private
4.2. SME goal-oriented projects (managed and funded by NOT)	as a separate channel since 2002, and also under new	Project	Budget/private

	law, after 2005		
4.3. Goal-oriented ordered (solicited) projects	since 1999	Project	Budget/private
4.4. Goal-oriented projects (co-funded from science budget and Sectoral Operational or Regional Development Programmes)	since 2005, under a new law	Project	Budget/struct.funds/private
5. FUNDING OF ACTIVITIES SUPPORTING RESEARCH	since 1991, also after 2005 under a new law	Other	Budget
6. INTERNATIONAL RESEARCH COOPERATION of which:			
6.1. Fees to international organizations	since 1991, also after 2005 under a new law	Other	Budget
6.2. Participation in international programmes			Budget/EU FP
<ul style="list-style-type: none"> EU (Framework) programmes co-funded from EU Programmes 	<p>1/Since 2002 (1.5.1. under statutory funding), in force up to 5 August 2005, since then obligations</p> <p>2/Since 2005 new applications has been funded as channel 6.2 international cooperation</p>	Project	
<ul style="list-style-type: none"> other international programmes (NATO, EUREKA, COST, CERN, DESY) not co-funded from intern. Funds. 	<p>1. Since 2002 (1.5.2 under statutory funding), in force up to 5 August 2005, since then obligations</p> <p>2. Since 2005 new applications are labelled under research projects as channel 3.4. special research projects <i>SPB</i></p>	Project	Budget
<ul style="list-style-type: none"> International scientific networks 	Since 2005 under the new law	Project	Budget/EU funds
<ul style="list-style-type: none"> Other intern. cooperation co-funded from foreign funds 	<p>1/ Since 2002 (1.5.3 under statutory funding), in force up to 5 August 2005, since then obligations.</p> <p>2/ Since 2005 such new projects are labelled as new channel of international coop. – other projects</p>	Project	Budget/international funds
Participation in investments under international agreements	(According to budgetary categorization: 2.4. investment). In existence since 2005, under the new law	Project	Budget/intern, programmes
7. Funding of initiatives and undertakings specified by the Minister of Science	since 2005, under the new law; only several scholarships have been funded	Project or Other	Budget

4 A quantitative picture of public research funding in Poland

This section shows the data on the size and structure of public research funding in Poland. Data from the official statistics and data collected from internal reports of the funding bodies will be used. The first type of source, official statistics, is more general and gives more information on the sums spent on R&D in Poland. The information from various reports and special counting for the purpose of PRIME study give a better insight into the research policy of funding bodies.

4.1 Basic data on R&D in Poland

We shortly introduce in this section some aggregate information on R&D funding and expenditures from official statistics. These data show the following main trends:

- the steady decline in the share of research expenditures in GDP during last 16 years, between 1991 up to the year 2005, measured as a percentage of GERD in GDP: the share of expenditures in GDP dropped from the level of 1.08% to 0.53% of GDP (see table 3), despite the fact that during last 5 years Gross Domestic Expenditures (in current prices) on R&D increased (see table 4).
- the percentage share of state budget spending in GDP fell down from 0.76% in 1991 to 0.31% in 2005
- and what is even worse, this was accompanied by a decline in the percentage share of the private R&D expenditures in GDP from 0.32% in 1991 to 0.22 in 2005.

All these indicators are far below the European average.

In the last decade the total employment in R&D per 1000 economically active persons decreased, but the number of researchers per 1000 persons increased (table 5).

In **2004** as much as 39.5% of total current expenditure on R&D in Poland was allocated for **basic research**, mainly financed from state budget. Regarding **applied research and experimental development** they represented 35.3% and 25.2% respectively. Such a breakdown ranks Poland, along with Czech Republic, among the countries with the highest share of basic research in the structure of R&D financing, which is characteristic of developing countries. The main performers of basic research, likewise in previous years, were the scientific entities of the Polish Academy of Science and higher education institutions.

In **2004**, among the total of 957 public entities performing R&D in Poland, as many as 197 represented branch research-development units, 128 higher education institutions, 78 scientific entities of the Polish Academy of Science and 480 so called development units (the latter represents business entities that within their economic activity are also carrying out R&D. Such an institutional structure of R&D sector do not enhance the integration of research in Poland nor the performance of R&D programmes in priority areas for country's economic and social development. It stems from unsatisfactory cooperation between R&D entities from different fields, which entails ineffective utilization of science human resources' potential, financial resources and research equipment.

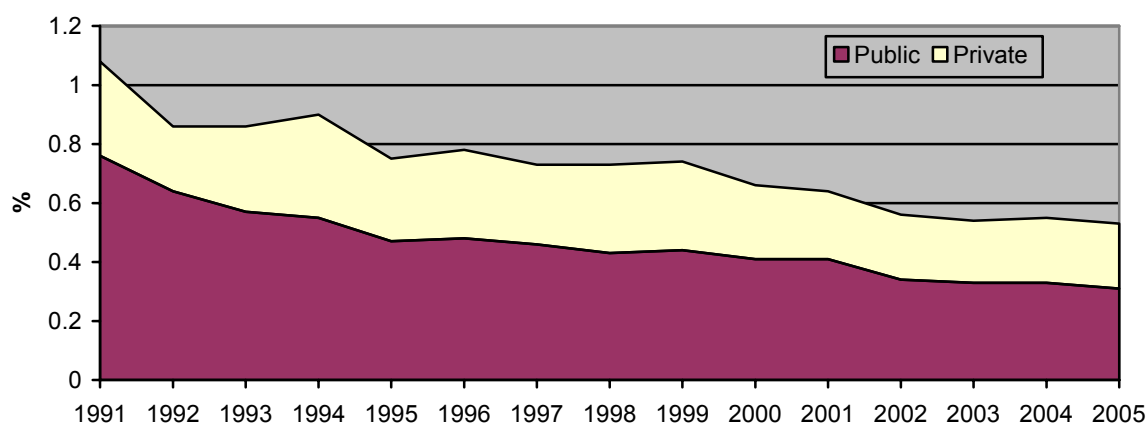


Figure 3. GERD as a percentage of GDP, 1991-2005

Source: Raport z wykonania budżetu w 2005 r. Część 28. Nauka (*Annual report on science budget spending in 2005*), Ministry of Science and Higher Education, 2006

Table 3. Budgetary expenditure on R&D in million PLN

2000	2001	2002	2003	2004 ²	2005
2,916.8	3,089.9	2,661.5	2,729.2	2,893.8	2,901.1

Source: Raport z wykonania budżetu w 2005 r. Część 28. Nauka (*Annual report on science budget spending in 2005*), Ministry of Science and Higher Education, 2006

Table 4. Main indicators on research and development in 1995, 2000-2005

Specification/year	1995	2000	2001	2002	2003	2004	2005
GDE on R&D, current prices in PLN million *	2132.8	4796.1	4858.1	4522.1	4558.3	5155.5	5574.6
Per capita in PLN	55	125	126	118	119	135	146
Employment in R&D per 1000 economically active persons	4.9	4.6	4.5	4.5	4.5	4.6	4.4
Of which researchers	2.9	3.2	3.3	3.3	3.4	3.6	3.6

*excluding depreciation of fixed assets

**employment in full-time equivalent, economically active persons (incl. employed and unemployed persons)

Source:

Central Statistical Office: Nauka i technika w 2005 r. (*Science and Technology in 2005*) Warsaw 2006

There are two main beneficiaries of R&D funds: branch (governmental) R&D units and higher education institutions whose share is almost equal: each of them accounts for about 32% of **total** R&D expenditures. The share of the industry sector in R&D expenditures accounted for 20.6% in 2005.

In view of the **number of research staff** employed HEIs are now the key actors in the public research system. In 2003, the HE sector accounted for 58% of the employment in R&D (FTE), PAS institutes for 8%, branch institutes supervised by sector ministries for 25% and private companies for 8%.

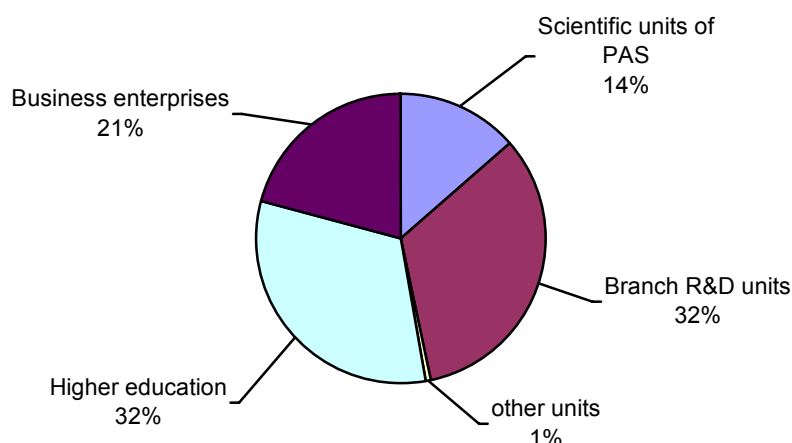


Figure 4. Science budget expenditures on R&D activity by type of units in 2005

² In 2004-2005 the total budgetary expenditure on R&D, apart from budgetary funds covered by the Part 28 – Science of the State Budget also comprised the means allocated to the voivod budgets' for performance of tasks and programmes co-financed from the European Union Structural Funds.

Source: Central Statistical Office: Nauka i technika w 2005 r. (*Science and Technology in 2005*) Warsaw 2006

As far as the **state budget** expenditures are concerned, in 2005 HE received in 43.7% of the total state budget on science; the share of branch R&D units in total budget expenditures accounted for 33.3%, and Polish Academy of Sciences units received 20%. (CSO: Nauka i technika w 2005 r. (*Science and Technology in 2005*) Warsaw 2006). When we look at sources of funding of different type of units, there are differences between research sectors: while HEIs and PAS institutes conduct research funded mainly by the State Budget, (the State-budget funding accounted for 86.2% of the total R&D funding in PAS and 79.8% in HE in 2005), branch institutes have more diversified sources of funding. Enterprises funds constitute 7.7% of HE research revenues and 17.6% of total research funding in branch (governmental) units.

Table 5. Gross domestic expenditures for science by source of funds and type of beneficiaries in 2005

Type of units/source of funds	Public	Scientific Units of PAS and branch R&D units	Higher education	Enterprises	Own funds
Total, of which	57.7	0.8	0.5	7.0	28.2
Scientific units of PAS	86.2	1.7	0.2	1.3	3.3
Branch R&D units	58.4	1.0	0.2	14.2	17.6
Other units	13.4	1.0	0.2	30.6	54.3
Higher education	79.8	0.6	1.2	4.8	7.7
Business enterprises	5.4	0.3	0.0	1.3	92.1

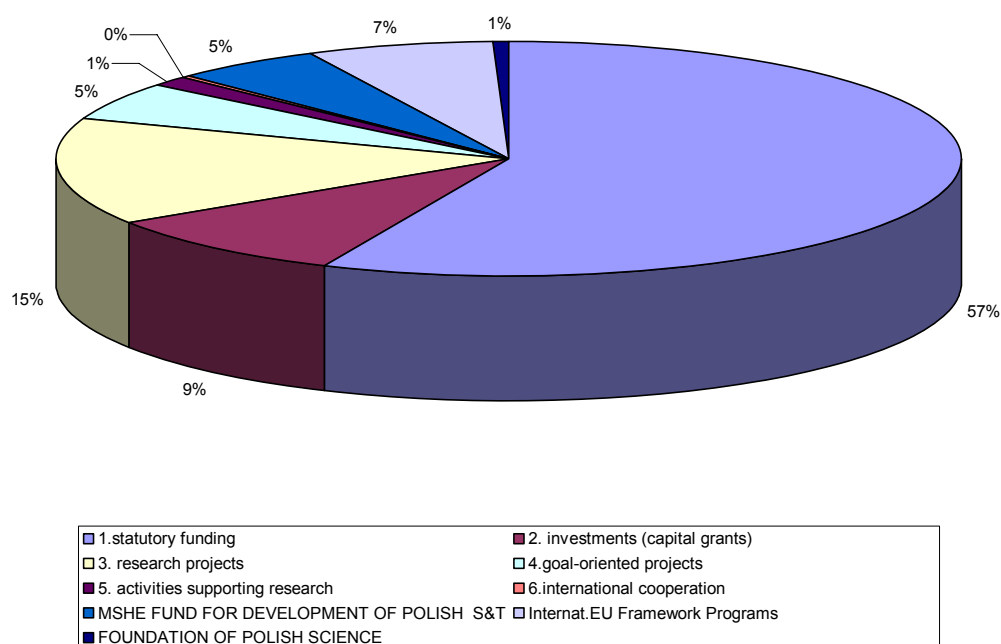
Source:

Central Statistical Office: Nauka i technika w 2005 r. (*Science and Technology in 2005*) Warsaw 2006

4.2 Structure of public funding

The following figure provides an overview of total public funding of research in Poland by different sources of funds.

Figure 5. Structure of public research funding by sources of funds



When we take into account all sources of public research funding in Poland, we realize that state budget funding is the basic source of support: a share of International funds (EU Framework

Programmes) constitute 7% of public funding, MSHE Fund for Development of Polish S&T represents 5% of public funding, prestigious programmes of the Foundation of Polish Science only 1% and 87% of public funds comes from the state budget. Financing international cooperation (co-funding of research projects of fees paid to international organization) from state funds is very low (less than 1% of state public funding). However, when we take into account all channels of state funding participation of Polish researchers in international cooperation (despite their classification as a part of statutory funding or special research projects) such funding in all forms reached the level of 5.32% of total state funding in 2001, 9.58% in 2002, 9.21% in 2003, 5.23% in 2004 4,93% in 2005 and 5% in 2006.

4.3 Repartition of the state budget

The structure of research funding from the state budget between 2000 and 2005 is shown in table 8 and figure 2. In order to make a picture more clear we distinguished there only 6 broad streams of funding. All funding channels from state budget are shown in the annex.

Poland has one of the highest shares of institutional funding (in Poland called 'statutory funding') in total public research funding against EU and OECD countries. Moreover, the share of expenditure on research project performance (including development projects and ordered projects) in total budgetary outlays is low.

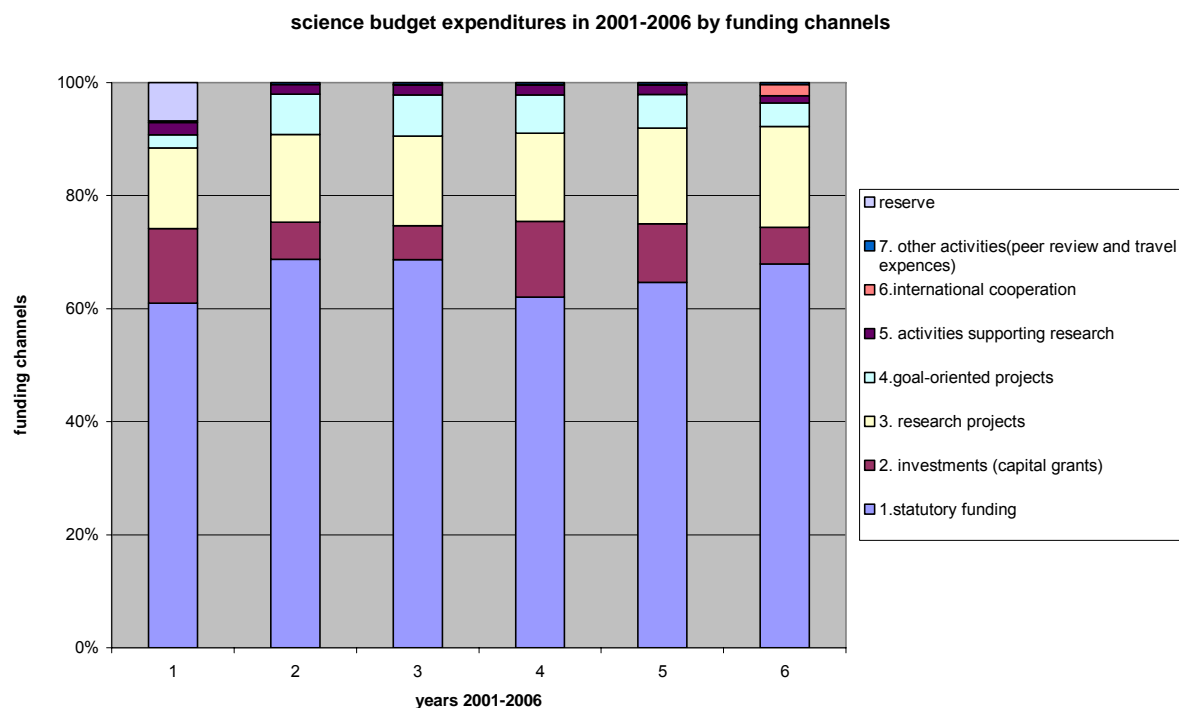
Table 5. Structure of expenditures from science budget by broad funding categories (in thousand PLN and %) between 2001 and 2006

	2001		2002		2003		2004		2005		2006	
	in PLN '000	%	in PLN '000	%	in PLN '000	%	in PLN '000	%	in PLN '000	%	in PLN '000	%
Total	3089 928.00	100.00	2 661 466.00	100.00	2 729 171.00	100.00	2 891 781.10	100.00	2 892 509.10	100.00	3 341 581.40	100.00
1. statutory funding	1 908 486.70	61.76	1 829 896.00	68.76	1 873 953.00	68.66	1 793 042.00	62.00	1 870 351.30	64.66	2 267 993.37	67.87
2. investments	413 462.80	13.38	175 100.00	6.58	163 926.00	6.01	387 595.00	13.40	299 786.80	10.36	217 964.20	6.52
3. research Project	445 911.70	14.43	413 042.00	15.52	433 427.00	15.88	451 113.00	15.60	489 215.66	16.91	595 297.13	17.81
4. goal-oriented Project	73 109.90	2.37	188 028.00	7.06	198 530.00	7.27	197 043.00	6.81	171 675.00	5.94	139 750.75	4.18
5. activities supporting research	67 328.60	2.18	46 242.00	1.74	47 325.00	1.73	50 436.00	1.74	48 275.00	1.67	43 434.10	1.30
6. international cooperation	619.90	0.02	629.00	0.02	1 982.00	0.07	2 567.00	0.09	2 480.50	0.09	65 647.90	1.96
7. other activities (peer review and travel expenses)	8 089.80	0.26	8 529.00	0.32	10 028.00	0.37	9 985.00	0.35	10 514.00	0.36	11 534.00	0.35
Reserve	212 174.00	6.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: own calculation based on data from Raport z wykonania budżetu w latach 2001–2005 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2005*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006

Figure 6. Science budget expenditures in 2001-2006 by funding channels

Source: own calculation based on data from Raport z wykonania budżetu w latach 2001–2005 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2005*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006

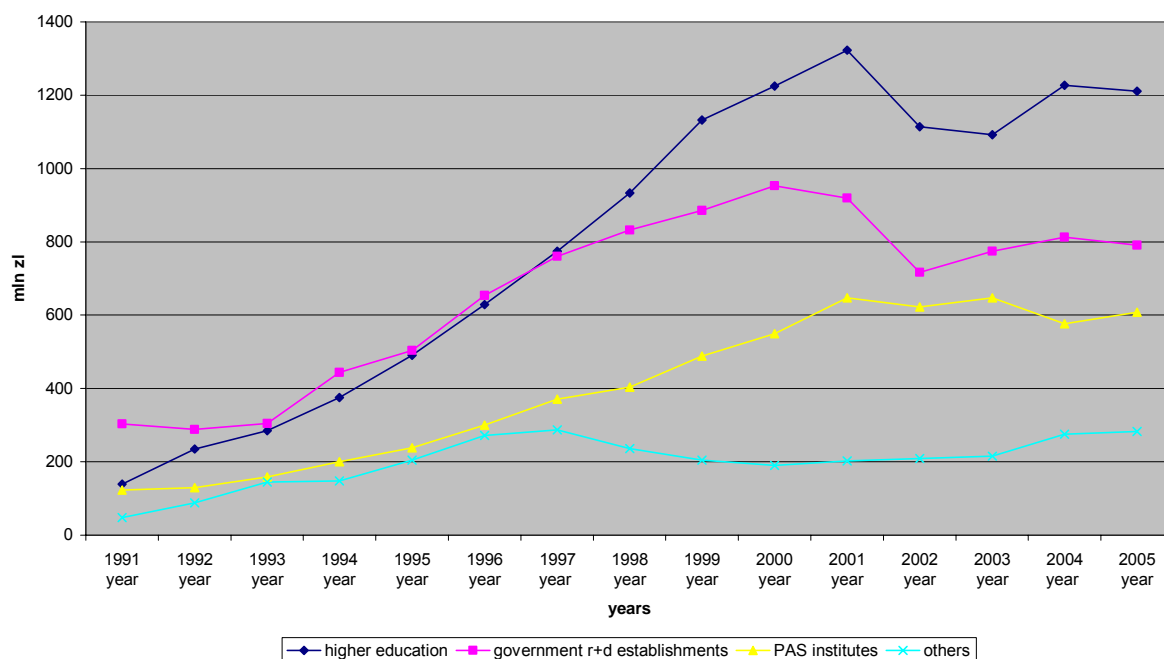
**Table 6. Science budget expenditures by beneficiaries between 1991-2005 in PLN million**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Higher education government R&D establishments	139	235	285	375	491	629	775	933	1132	1225	1323	1114	1092	1227	1211
PAS institutes	303	288	305	444	504	654	760	832	886	953	919	717	775	813	791
Other	123	129	159	200	238	300	371	404	488	549	647	622	647	577	608
	48	88	145	148	205	272	287	236	204	190	202	209	215	275	283

Source: own calculation based on data from Raport z wykonania budżetu w latach 2001–2005 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2005*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006

Figure 7. Science budget expenditures by beneficiaries between 1991-2005 in PLN million

Science budget expenditures by beneficiaries between 1991-2005 in mln zł



Source: own calculation based on data from Raport z wykonania budżetu w latach 2001–2005 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2005*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006

Table 7. A share of various beneficiaries in state expenditures by various channels of funding in 2005

funding channel	Government units		Institutes of PAS		higher education		others**		PFEA		total	
	in PLN '000	in %	in PLN '000	in %	in PLN '000	in %	in PLN '000	in %	in PLN '000	in %	in PLN '000	in %
statutory funding	593 050.2	75.0	484 408.7	79.6	693 368.4	57.3	17 719.5	13.8	0	0.0	1 788 546.8	64.8
investments (capital grants)	43 311.7	5.5	40 209.2	6.6	162 252.4	13.4	0.0	0.0	0	0.0	245 773.4	8.9
investments co-financed from structural funds	1 906.8	0.2	779.1	0.1	121.3	0.0	11.8	0.0	0	0.0	2 819.0	0.1
Research Project	87 696.4	11.1	75 342.4	12.4	319 969.6	26.4	6 418.3	5.0	0	0.0	489 426.7	17.7
Programmes & projects co-financed from structural funds	0.0	0.0	0.0	0.0	0.0	0.0	31.9	0.0	0	0.0	31.9	0.0
goal-oriented projects	64 476.5	8.2	690.0	0.1	34 417.6	2.8	51 688.1	40.4	20 370.9	94.1	171 643.1	6.2
activity supporting research*	n. a.	0.0	6 700.0	1.1	n. a.		40 299.8	31.5	1 274.6	5.9	48 274.4	1.7
international cooperation	398.7	0.1	212.8	0.0	590.6	0.0	1 278.3	1.0	0.0	0.0	2 480.4	0.1
other*	0.0	0.0	0.0	0.0	0.0	0.0	10 514.6	8.2	0.0	0.0	10 514.6	0.4
total	790 840.3	100.0	608 342.2	100.0	1 210 720.0	100.0	127 962.2	100.0	21 645.5	100.0	2 759 510.2	100.0

*"other" covers peer review and other costs

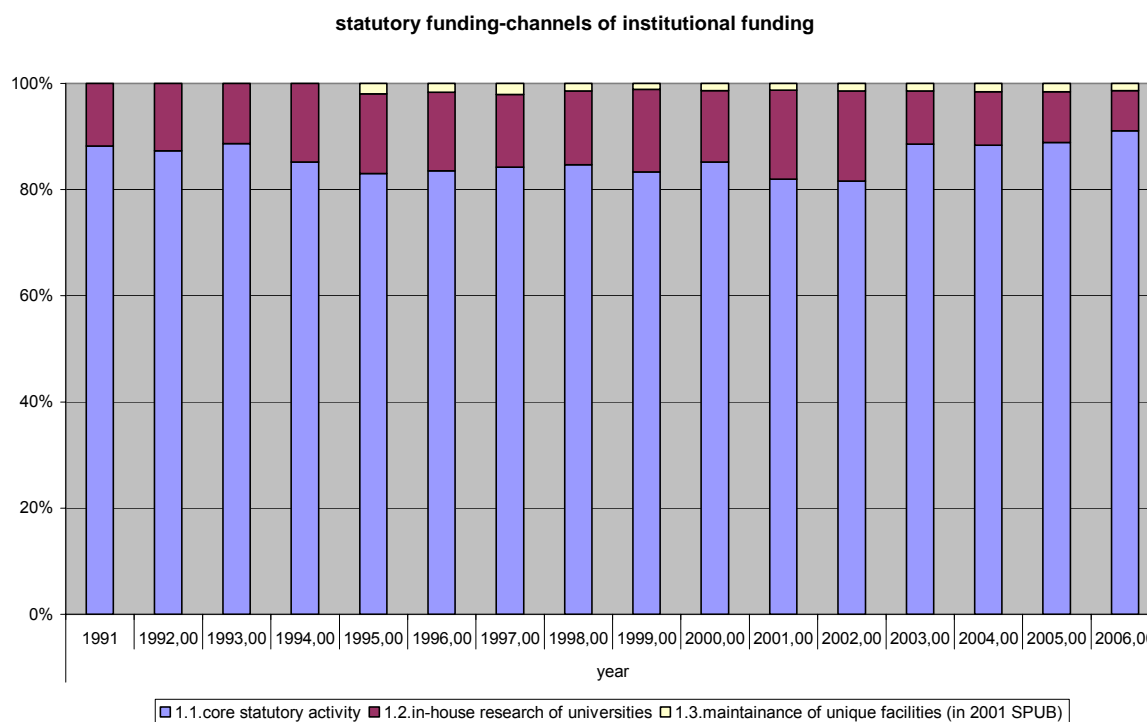
** other, as in table 10.

Source: own calculation based on data from Raport z wykonania budżetu w 2005 r. Część 28. Nauka (Annual report on science budget spending in 2005), Ministry of Science and Higher Education, 2006

4.3.1 Statutory funding

Primary statutory funding constitutes the major stream among three different instruments of institutional funding: it has accounted for more than 80% of all streams since 1991 and increased to more than 90% of these three streams of funding in 2006 at the expense of in-house funding of universities. Funding for maintenance of unique facilities has never been a significant instrument of institutional support.

Figure 7b: Share of primary statutory funding, in-house research of universities and maintenance of unique facilities in statutory funding between 1991 and 2006



Source: own calculation based on data from Raporty z wykonania budżetu w latach 1991–2006 r. Część 28. Nauka (*Annual reports on science budget spending in 1991-2006*), State Committee for Scientific Research and Ministry of Science and Higher Education

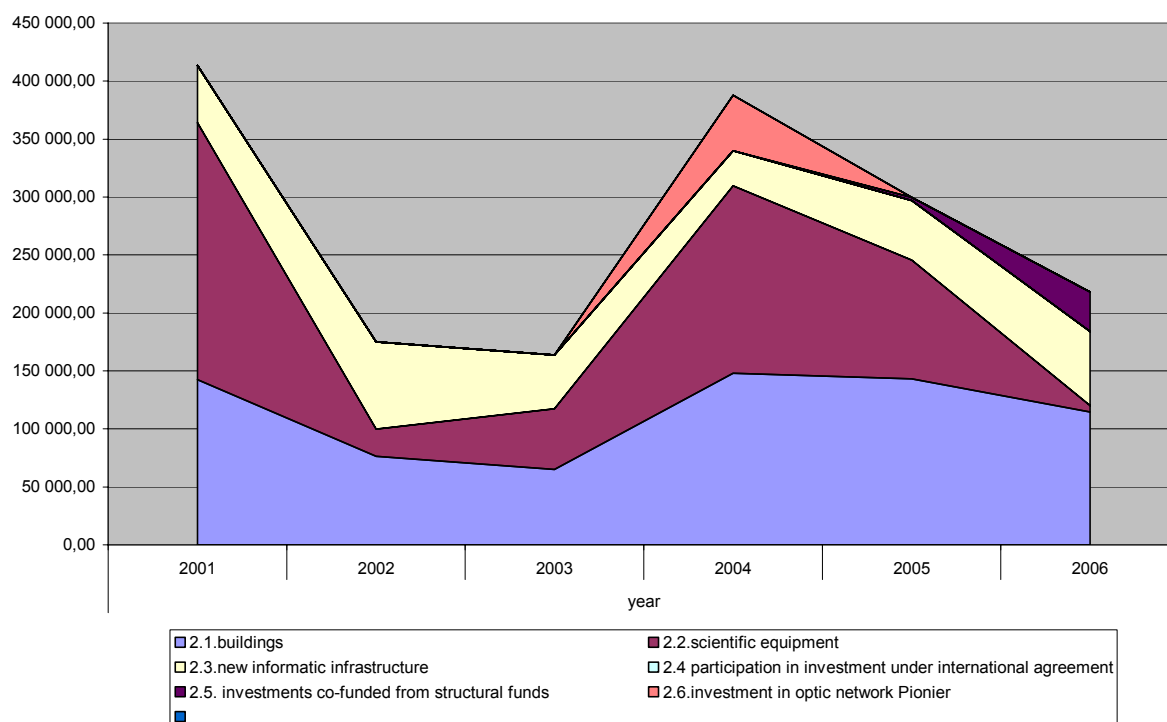
4.3.2 Investments (capital grants)

The budgetary financing is characterized by a low level of expenditure on investments serving the purposes of scientific research and experimental development: 6.5% of total budget research funding in 2006³. Additionally, the system of budgetary means allocation for financing R&D investments is causing a dispersed distribution of funds. As a result, scientific entities are poorly equipped which is accompanied by high wear-and-tear of scientific and research equipment and constraints the possibilities of carrying out world class research.

The significance of particular channels has been changing between 2001 and 2006: a slow decrease of the share scientific equipment and increase of information (and computers) infrastructure and in 2006 a rise of investments co-funded from the science budget and structural funds.

³ The financing of investments serving the purposes of scientific research or experimental development under the Act on the Principles of Financing Science covers: building investments, purchase of buildings, purchase or constructing of scientific research equipment classified as fixed assets, development of information technology infrastructure of science as well as participation in an investment venture under an international agreement.

Figure 8. The breakdown of expenditure on investments serving the purposes of scientific research and experimental development over 2001-2006.



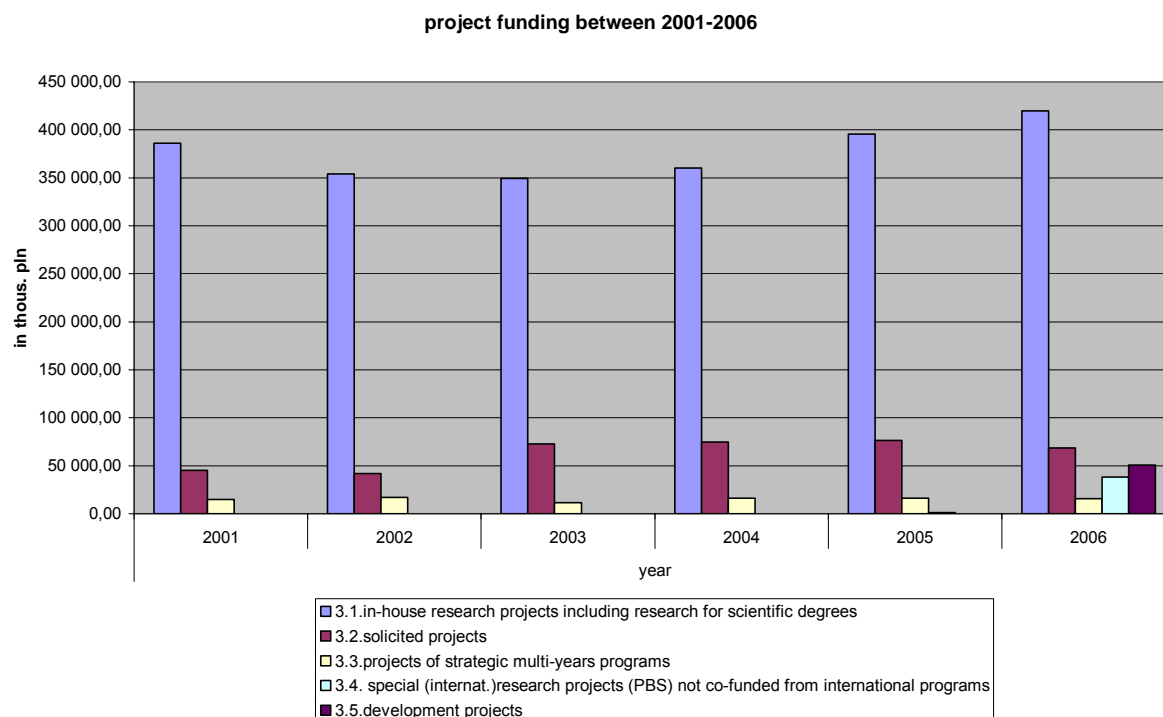
Source: own calculation based on data from Raporty z wykonania budżetu w latach 2001–2006 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2005*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006, 2007

4.3.3 Research projects and goal-oriented projects

4.3.3.1 Research projects

As we presented in the Figure 2 illustrating the breakdown of expenditures from science budget in 2000-2005 by funding channels it is the institutional subsidy for scientific entities (statutory funding) that prevails in the structure of budgetary outlays. At the same time, the share of spending on different kind of research projects or investments serving the purposes of R&D, in the breakdown of budgetary expenditure on R&D is considerably smaller. In 2001 research projects constituted 14.4% of the total state funding. In 2005 it was 16.9%. Unsolicited projects consume the majority of project funding (they stay at a relatively stable level of 12-13% of total budget expenditures). We can observe a slow increase of funding for solicited projects from 1.46% in 2001 to 2.64% of total state funding in 2005. In figure 5 we present expenditures for different kind of projects in PLN thousand.

Figure 9. Project funding 2001-2006



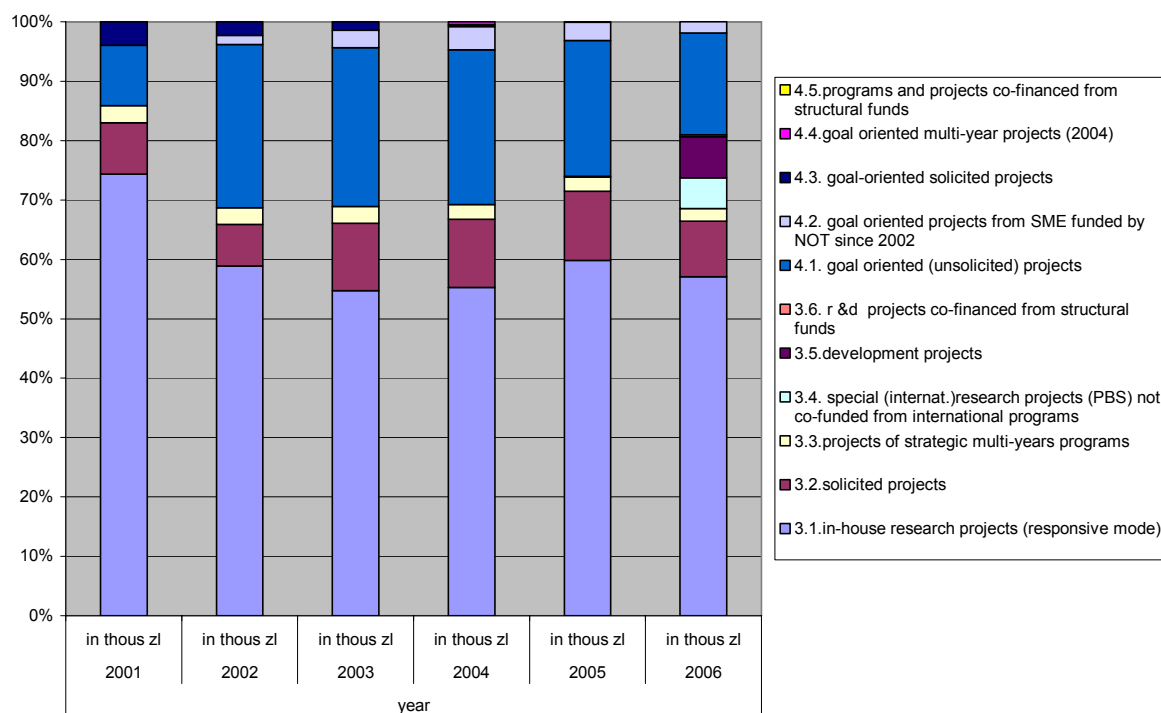
Source: own calculation based on data from Raport z wykonania budżetu w latach 2001–2005 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2005*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006

4.3.3.2 Goal-oriented projects

The share of expenditure on goal-oriented projects in the structure of science budget expenditure is even lower than that of research projects. In the analyzed period it constituted about 4% of total budgetary expenditure on R&D and has been on a steady decline.

Below we present both kind of projects: research and goal-oriented ones in one figure

Figure 10. Structure of funding of research projects and goal-oriented projects



4.4 Research income of higher-education institutions

We must remind the Reader here that in Polish higher education institutions receive separate grant for education activity and separate money for research (within all streams described earlier), first of all for statutory research activity, for in-house research (doctorates and priority research) and investments. There is nothing similar to so-called GUF, popular in Western countries and in subvention for education the only “common” element for education and research is salary of employed academic workers. In some way, both statutory institutional funding and own, in-house funding partly substitute for GUF.

When we look at **total income structure from operational activity** for public institutions 87.3% of total income comes from educational activity and 12% of total income comes from research. When we look at costs, 86.3% are for education and 11.6% of costs are of research activity. (GUS, Szkoły wyższe... 2006, table 5.3 p. 311 and table 8, p. 315) When we analyse the structure of income for research by funding stream it is different in various types of HEI differs:

- statutory (institutional) funding accounts for 46.4% of total income for research of public and only 3.8% of non-public HEIs, and within them 79.8% of research income in pedagogical academies and 35.4% of income in technical universities;
- subsidy for in-house research accounts for 36% of total research income in pedagogical schools and only 6.3% in technical HEIs.
- research project funding constitutes more than 24% of total research income in agricultural academies and only about 11% in pedagogical academies and is absent in vocational schools
- goal-oriented projects and income for international cooperation have the highest share in technical universities. (see below, table 12 and figure 6) When we analyse the structure of income for research by funding stream it is different in various types of HEI.

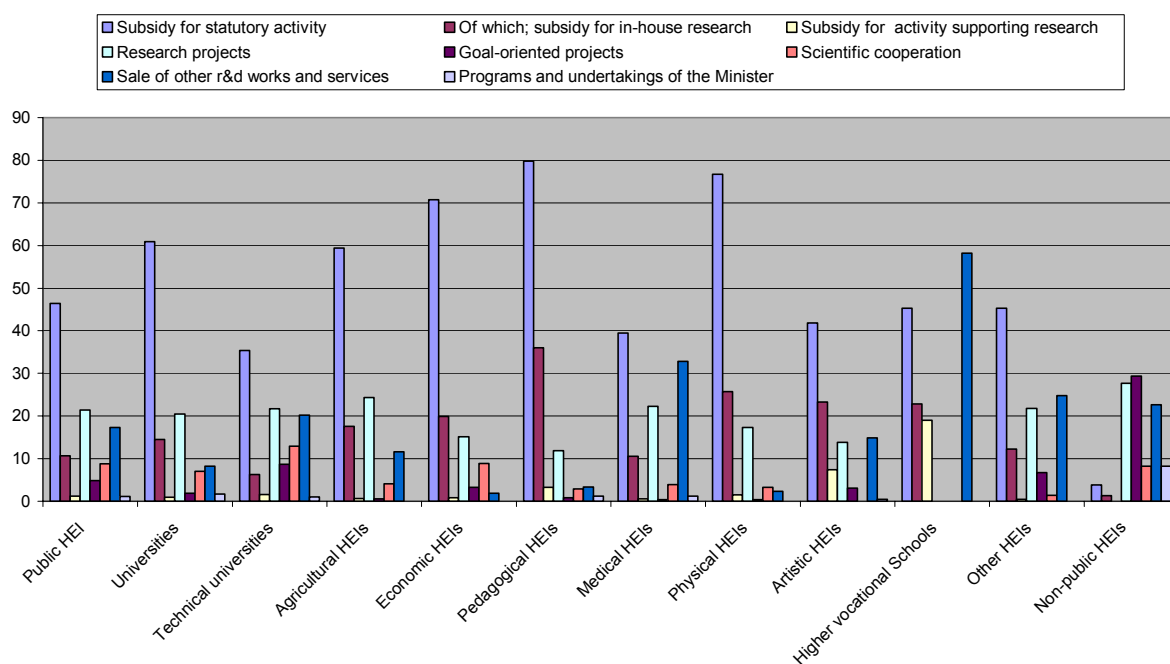
Table 8. Structure of income from research in various types of HEIs by funding CHANNEL in 2005. (in %)

Higher education institutions	Research income	Subsidy for statutory activity	Of which; subsidy for in-house research	Subsidy for activity supporting research	Research projects	Goal-oriented projects	International cooperation	Sale of other R&D works and services	Programmes and undertakings of the Minister
Total	100	46.0	10.6	1.2	21.5	5.2	8.8	17.4	1.1
Public HEI	100	46.4	10.7	1.2	21.4	4.9	8.8	17.3	1.1
Universities	100	60.9	14.5	0.9	20.5	1.9	7.0	8.2	1.7
Technical universities	100	35.4	6.3	1.6	21.7	8.7	12.9	20.2	1.0
Agricultural HEIs	100	59.4	17.6	0.7	24.3	0.6	4.1	11.6	0.0
Economic HEIs	100	70.7	19.9	0.8	15.2	3.3	8.9	1.9	0.0
Pedagogical HEIs	100	79.8	36.0	3.3	11.9	0.8	2.9	3.4	1.2
Medical HEIs	100	39.5	10.6	0.6	22.3	0.4	3.9	32.8	1.2
Physical Training HEIs	100	76.7	25.7	1.5	17.3	0.4	3.3	2.3	0.0
Artistic HEIs	100	41.8	23.3	7.4	13.8	3.1	0.0	14.9	0.5
Higher vocational Schools	100	45.3	22.8	19.0	0.0	0.0	0.0	58.2	0.0
Other HEIs	100	45.3	12.3	0.5	21.8	6.7	1.4	24.8	0.0
Non-public HEIs	100	3.8	1.3	0.0	27.7	29.4	8.2	22.6	8.2

Source: GUS 2006: Szkoły wyższe i ich finanse w 2005 r. (Central Statistical Office: Higher Schools and their Finances in 2005) Warszawa

Figure 11. Structure of research income of various types of higher education institutions in 2005

figure: research revenues structure of HEIs in 2005



The structure of income from research and its distribution between schools indicates the concentration of research funding in research intensive HEIs. 99% of total research revenues concentrate in public HEIs, mostly in technical universities, universities and medical academies. Most of institutional funding goes to universities and technical universities. The majority of total project funding (45.5%), goal-oriented project co-funding (76.1%) and international cooperation (65.8%) goes to technical universities (see table 13). Also income of HE sector from sale of research works (mostly research commissioned by industry) are those of the technical universities (52.3%).

Table 9. Structure of R&D income of the HEI sector by school type, 2005 (in %)

HEI	Research income	Subsidy for statutory research	of which: Subsidy for in-house research	of which funds for activity supporting research	Research projects	Goal-oriented projects	International cooperation	Sale of other works and services	Funds for undertakings of the minister
Total	100	100	100	100	100	100	100	100	100
Public HEIs	99.0	99.9	99.9	100	98.7	94.3	94.3	98.7	92.8
Universities	27.8	36.8	37.9	20.3	26.4	10.0	21.9	13.1	40.2
Technical universities	45.0	34.6	26.4	61.6	45.5	76.1	65.8	52.3	39.9
Agricultural HEIs	7.8	10.1	12.8	4.8	8.8	0.9	3.6	5.2	0.2
Economic HEIs	1.7	2.6	3.2	1.2	1.2	1.1	1.7	0.2	0.0
Pedagogical HEIs	0.5	0.9	1.8	1.5	0.3	0.1	0.2	0.1	0.6
Medical HEIs	11.7	10.0	11.6	6.1	12.1	0.9	5.1	22.0	11.9
Physical education HEIs	0.4	0.7	0.9	0.5	0.3	0.0	0.1	0.1	0.0
Artistic HEIs	0.3	0.4	0.6	1.8	0.2	0.2	0.0	0.2	0.1
Vocational HEIs	0.0	0.0	0.1	0.4	0.0	0.0	0.0	0.1	0.0
Other	3.9	3.8	4.4	1.8	3.9	5.0	0.6	5.5	0.0
Non-public HEIs	1.0	0.1	0.1	0.0	1.3	5.7	0.9	1.3	7.2

Source GUS 2006: Szkoły wyższe i ich finanse w 2005 r. (Central Statistical Office: Higher Schools and their Finances in 2005) Warszawa

5 Synthesis and conclusions

The qualitative analysis of the research funding system in Poland covers years between 1991 and 2007. It reveals several changes in the institutional setup, namely evolution of the funding organization: the State Committee for Scientific Research was established in 1991 as an academic type committee but it was placed on the ministerial level combining the responsibility of a ministry and a research council (formulating science policy and executing it) with academic members elected by the scientific community. At the end of 1990s the Ministry of Science was established and a year later the SCSR responsibility was reduced to an advisory function. In 2005 two new institutions replaced the previous ones: Minister of Science (since 2005 Minister of Science and Higher Education) and Science Council with advisory function to the Minister on science policy and responsible for evaluation of performance of scientific units and peer review of various kind of research projects. Despite all these changes the main characteristics of the Polish research public funding system maintained during the whole period its centralization: the Ministry of Science has the whole science budget at its disposal (except administration of a small program of goal-oriented projects for SMEs commissioned by the Ministry in 2001 to the Polish Federation of Engineering Associations) and has been funding research activity of all public institutions in Poland including higher education, Polish Academy of Sciences units and even government establishments subordinated to several ministries. The other feature of the Polish system is a very low level research funding by other public bodies such as the independent Foundation for Polish Science (less than 1% of total public funding) which selectively awards very prestigious grants and scholarships. Recently, in summer 2007 as a result of policy of decentralization a new body was established namely the National Centre for Research and Development which would be acting as a research council of strategic type, administering, selecting and funding applied research and innovation programmes of strategic importance for the country. The Ministry of Science is preparing also the other new regulations on the establishment of an academic intermediate body which will be financing basic research.

So far as funding instruments are concerned in 2006 there were 25 various funding instruments, of which 7 were of institutional character. Their number has been growing since 1991 (when there were only several funding channels), as a result of adding new instruments rather than replacing the old ones. The diversification of the project system has increased during the 17 years. There is also a great number of funding channels in the Foundation of Polish Science. Considering that the research budget expenditures are very modest, the average size of institutional and project grants is rather small.

The characteristic features of the funding system are:

- A very low level of research funding and a very low share of research funding expenditures from GDP.
- A very high share of institutional funding in total funding;
- A share of project funding in total research funding which has not increased since 1991
- A high share of academic type project funding initiated by researchers in total project funding observed during the whole analyzed period ;
- A very modest but gradual increase of the share of thematic projects since the end of 1990s (as a result of EU Framework Programmes)

6 References

Dąbrowa-Szeffler M., Jablecka J.: 2006, *OECD Thematic review of Tertiary Education, Country Background report for Poland, Warsaw*

Erawatch: *Research Inventory Report Poland*, <http://cordis.europa.eu/erawatch/index.cfm?fuseaction=ri.content&topicID=8&country...>

GUS, 2001: *Nauka i technika w Polsce w 2000 (Central Statistical Office Science and Technology in Poland in 2000), Warsaw*

GUS, 2002: *Nauka i technika w Polsce w 2001 (Central Statistical Office Science and Technology in Poland in 2000), Warsaw*

GUS, 2003: *Nauka i technika w Polsce w 2002 (Central Statistical Office Science and Technology in Poland in 2002), Warsaw*

GUS, 2004: *Nauka i technika w Polsce w 2003 (Central Statistical Office Science and Technology in Poland in 2003), Warsaw*

GUS, 2005: *Nauka i technika w Polsce w 2004 (Central Statistical Office Science and Technology in Poland in 2004), Warsaw*

GUS, 2006: *Nauka i technika w Polsce w 2005 (Central Statistical Office Science and Technology in Poland in 2005), Warsaw*

GUS 2006: *Szkoły wyższe i ich finanse w 2005 r. (Central Statistical Office: Higher Schools and their Finances in 2005) Warszawa*

Jablecka J. 1995: Changes in the Management and Finance of the Research System in Poland a Survey of the Opinions of Grant Applicants, *Social Studies of Science* 25, 727-753

Jablecka J. 2006: Role of Tertiary Education in Polish R&D in *Dąbrowa-Szeffler M., Jablecka J.: 2006, OECD Thematic review of Tertiary Education, Country Background Report for Poland, Warsaw*

Kuźnicki L. 2001: *Chora struktura (Sick Structure)*, *Nauka Polska, Jej Potrzeby, Organizacja i Rozwój X (XXXV)*

MSHE 2006: *Peer Review of the Policy Mix for Innovation in Poland, Country Background Report for OECD, Warsaw*

OECD 2002, *Frascati Manual. Proposed Standard practice for Surveys on Research and Experimental Development*, Paris

OECD 2003: *Governance of Public Research, Towards Better Practices*, Paris

OECD 2007: *Policy Mix in Poland: Key Issues and Recommendations*, April, Warsaw

Wiszniewski A. 2001: *Dziesięciolecie nauki w Trzeciej Rzeczypospolitej, (A decade of science in Poland after 1989) Nauka Polska, Jej Potrzeby, Organizacja i Rozwój X (XXXV)*

Ziabicki A. 1992: *Refleksje na temat reformy nauki (Afterthoughts on the Reorganization of Science)*, *Nauka Polska, Jej Potrzeby, Organizacja i Rozwój (1)XXVI*

Założenia do aktów prawnych dotyczących nauki, szkolnictwa wyższego i działalności badawczo-rozwojowej (opracowanie z grudnia 1989) (Proposals For The Legal Acts Concerning Science, Higher Education, Research And Development, Report from 1989) *Polska, Jej Potrzeby, Organizacja i Rozwój (2)XXVII*

6.1 Legal regulations

The Act on Principles of Financing Science of October 8, 2004

The Act on Establishment of the Committee for Scientific Research of January 12, 1990

The Act on the Change of the Act on Establishment of the Committee for Scientific Research of September 15, 2000

The Act on the National Centre for Research and Development of June 15 2007

The Act on the Changes of the Act on Principles of Financing Science of June 15 2007,

6.2 *Internal documentation of funding bodies*

Annual Reports of the Foundation for Polish Science

Executive orders to both Acts: Regulations on criteria and procedure of granting and settling funds for science

Raport z wykonania budżetu w latach 2001–2006 r. Część 28. Nauka (*Annual reports on science budget spending in 2001-2006*), Ministry of Science and Higher Education, 2002, 2003, 2004, 2005, 2006, 2007

6.3 *Other sources*

*Data prepared by the officials from the documentation of the Ministry of Science and Higher Education
Foundation for Polish Science*

National Contact Point

Interviews with officials from MSHE

Interviews in the Foundation of Polish Science

www.fnp.org.pl/publikacje/publikacje.html

7 ANNEX I. DATA SOURCES AND METHODOLOGICAL ISSUES

For qualitative description of the funding instruments, funding institutions and the evolution of the system we used legal sources (different acts and executive orders) and several documents and reports which are publicly available or internal documents (Erawatch, OECD Peer Review Policy Mix). Some issues required additional work in order to explain in more detailed way differences how various projects are selected and assessed; we carried out interviews with officials and administrative staff of the Ministry of Science and higher Education and Foundation of Polish Science. In case of quantitative description of general character we used official statistics published by the Main Statistical Office.

In quantitative description of the **state budget funding** of research internal annual reports of the SCSR or the Ministry of science were used. Data published in these reports needed re-calculation. In some cases for reasons of simplicity some detailed data on instruments were restructured or considered jointly. In order to make the picture covering funding instruments more clear some less significant instruments were excluded from figures presented in a report illustrating the structure of funding. Detailed description of funding instruments was limited to the important ones.

For quantitative and qualitative description of the **Foundation of Polish Science** annual reports presented on web pages had to be supplemented with interviews in the Foundation (among others, selection procedures of applications for support)

Data on the funding from EU Framework Programmes and distribution among beneficiaries were obtained from the National Contact Point and calculated for the purpose of the report

Remarks:

Some instruments are differentiated not by the **subject and procedures** but by

- a) **specific source of financing** (e.g. Fund of Polish Science and Technology and Sectoral Operational Programme. Action 1.4 – Increase of competitiveness of enterprises – offering typical investment grants co-funded from structural funds and science budget (which are awarded according to the same rules as MSHE investment grants)
- b) **existence of “umbrella procedure” and “umbrella organization”**: e.g. Multiannual Programmes – big part of funds for research are distributed via goal-oriented or ordered projects awarded according to the same rules of competition as other goal-oriented and ordered projects).

As **public** funding we include in the report research funding directly from the budget and from other sources created from budgetary income. They are in hands of the Minister of Science and Higher Education; Others are: NFEA, Funds from Foundation for Polish Science and Fund for Polish Science and Technology Funds from international organizations and Structural funds

- As a result of reconstruction of several channels of funding between 1991-2006 it is impossible to show evolution and comparative structure of funding of the whole state funding during 16 years
- There are data concerning distribution of funds between different type of performers (HE, PAS, R&D government units) only for broad stream categories but not for individual, separate channels
- Lack of data on distribution of funds between group of disciplines according to classification of Frascati Manual: the information available from budget report covers 3 groups of disciplines: 1/social sciences, humanities and exact sciences, 2/natural sc., 3/engineering
- Documentation on European Union Framework and other programmes is not complete –there is no annual data on funding and distribution of funds between sectors of performance and type of projects and what has been done by NCP on framework programmes it was estimation and assumption of proportional distribution of funds every year between beneficiaries.
- Funding from structural funds is arranged according to instruments used also in budgetary funding and also as marching funds investments and goal-oriented projects co-funded from budgetary and structural funds. Distribution of funding from structural funds (international part) between beneficiaries was calculated for every single project and summed up.
- Polish Centres of Excellence and Centres of Advanced Technology have been funded within a separate channel only once, when they were set up. Since then research activity in these centres has been funded through other established instruments from the budget or from sectoral funds, like investment projects, in-house research projects or goal-oriented projects.

8 ANNEX II. DETAILED DATA TABLES (separate sheets)

Structure of public funding of research from various state sources and Foundation of Polish Science, 2001-2006

Funding from Framework Programmes 2003-2006

Funding from Structural Funds

9 ANNEX III: Detailed descriptions of the most important funding instruments

9.1 Statutory funding

Name of instrument	Category: <u>statutory funding</u> Channel: Primary statutory (core, institutional)funding
Performers (beneficiaries)	Primary statutory (core, institutional)funding: all public scientific units are eligible to apply if fulfil defined requirements. This is basic institutional funding of R&D continuously conducted by individual organizational government establishments: institutes from the Polish Academy of Sciences, governmental R&D units and basic units within HEIs. In the latter case instead of GUF, there grant for educational function and maintenance including salaries of employees is separated from research funding: primary statutory funding for so called “basic organizational units” of higher education institutions (HEIs), mostly faculties. Primary statutory funding is devoted for covering costs of performance of tasks set forth in the statute of a scientific entity, relating to its continuous research or experimental development. In case of government establishments money is devoted also for covering costs of maintenance incl. personnel costs.
Scientific domain	All areas
Type of funding/Project/program	Typical institutional core funding; Money distributed as block grants to institutions, in case of HEIs funding awarded to universities with destination to their basic units.
Selection procedures	<p>In parametrical assessment of statutory activity there have been applied rules involving grading of specific activity types. According to principles effective until 2005 not less than 80% of total grades available could be awarded on the basis of assessment of the organisational unit performance in the last 3 years preceding the year of application. The following elements were assessed:</p> <ul style="list-style-type: none"> Reviewed publications Scientific monographs, academic textbooks Scientific degrees and titles obtained during the period Patents, copyright designs Practical application of results achieved by the unit (implementation) Quality system, laboratory accreditation <p>Each of the above elements was given a specific grade, with grading of individual elements varying depending upon the discipline of science.</p> <p>Other results, not listed above, could receive not more than 20% of so called discretionary grades. Total number of grades granted to a unit ($R_{\text{PARAMETRICAL}} + R_{\text{DISCRETIONAL}}$) was designed to describe the unit’s research productivity in the area under assessment benchmarked against other units conducting research of similar nature and similar discipline of science. Grading constituted the basis for allocation units to one of 5 categories (category I being the highest) and to define the level of statutory subsidy.</p> <p>Effectiveness (E) was calculated by dividing grades granted by calculated number of employees of the unit (N) participating in implementation of relevant research project</p> $E = \frac{R_p + R_u}{N}$ <p>In 2005/6 a new parametric assessment was carried out in 20 research fields. The parametric assessment covered:</p> <ol style="list-style-type: none"> 1. research activity of R&D unit (including the number of academic degrees and titles and rights of conferring such degrees, number of research projects completed during last 4 years) 2. research performance (peer reviewed articles published in highly cited periodicals from Thompson list, books published) 3. practical applications ((new technologies, materials, products, systems, services and methods devised, applications, patents) <p>Number of grades from each kind of assessment was divided by the number of employees and results in effectiveness measure. The final rating of the research unit was based on the</p>

	<p>final indicator as a sum of partial effectiveness from three elements of assessment: of activity, performance and practical results and value awarded for each kind of homogeneous group.</p> $E = E_I \times W_I + E_{II} \times W_{II} + E_{III} \times W_{III}$ <p>The final outcome of such assessment exercise is a category "1" to "5" attributed to each research institution.</p> <p>The level of funding assigned to the scientific unit depends exclusively on <i>scientific excellence</i> of a particular unit, for which the funding application is submitted: on a category attributed to a given scientific entity in the course of the assessment exercise and on the application's position in a ranking of applications.</p>
Selection committee	<p>Evaluation is conducted by the Research Council Committee on Research for the Development of Science (CRDS) and the Committee on Research for the Development of the Economy (CRDE). The CRDS performs the appraisal of research institutions in the domain of scientific activity results and the CRDE appraises research institutions in the field of R&D results' practical application. Representatives of the scientific community other than members of the Council for Science also take participation in the process of applications' evaluation (as reviewers or experts invited to specialized or interdisciplinary groups).</p>
Availability of data	<p>Trends in time available for primary statutory funding. However, partition between beneficiaries: sectors of HE, PAS and branch institutes covers aggregated data together for broad category of statutory financing, (incl. institutional core funding, in-house funding, maintenance of facilities, scientific networks and so on).</p>
Sources	<p>Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science</p>
Discussion	<p>The Minister has not direct power to change a category attributed by one of the Committees to a given research institution. He/she can only order renewed appraisal exercise, but the final competence as regards the attribution of the category remains within the appropriate Committee of the Council for Science</p>

Name of instrument	Category: statutory funding Channel: In-house (particular) research funding (the only stream of funding specific exclusively to HEIs). Devoted for research required for staff development: preparation of doctoral thesis or habilitation degree and/or for development of research specialties of HEIs
Time coverage	Existence: since 1991
Performers (beneficiaries)	Applications submitted every year. Funding available exclusively to HEIs; eligibility described in regulations: funds are allocated to HEIs as a whole and distributed internally. All public HEIs were qualified to receive such funding. Also several non-public higher schools were awarded such funding (eligibility for non-public HEIs is described in executive regulations of the minister)
Scientific domain	All
Type of funding/project/program	A kind of institutional earmarked funding to HEIs, separate from funding for maintenance and education function of HEI. Funds devoted to them as a block grant but for specific purposes. Before Ministry of Higher Education and Science was established total amount of money for in-house research was transferred from the SCSR and later from the Minister of Science to the minister responsible for higher education and distributed among individual HEIs
Selection procedures	<p>Distribution of funding for in-house, particular research among higher education institutions is based upon algorithm prepared by the minister and consulted with the General Council for Higher Education</p> <p>In 2005 there were the following principles of calculation for public institutions: 70% of the amount allocated to HEIs pro rata to the preceding year's distribution 30% of the funds managed by the Minister – his portion was allocated conditional upon the number of doctor and doctor <i>habilitatus</i> degrees conferred and titles of professor awarded in TEI in the period 2001-2003.</p> <p>Individual elements defining activity of HEIs in development of scientific staff received different weights e.g. conferring a degree of doctor by <i>alma mater</i>: 1, doctor <i>habilitatus</i>: 3, conferring by the HEI of a doctor's degree upon a person who was not a HEI employee: 0.2, doctor <i>habilitatus</i>: 0.6, obtaining doctor's degree outsider of the <i>alma mater</i>: 0.8, doctor <i>habilitatus</i>: 2.4, professor: 6.</p> <p>Distribution of funds to non-public HEIs and a small group of public vocational schools (operating for the period of not less than 2 years and employing, full-time, not less than 8 professors or doctors <i>habilitatus</i> was made upon the basis of assessment of individual cases.</p> <p>Principles of internal allocation of grants for in-house research depend upon internal policies of a given HEI. The process may involve internal competition or distribution using a specific algorithm. For example, at the Gdańsk University of Technology 20% of resources is distributed among organisational units taking into account of the calculated number of persons directly involved in research, on the full-time basis. The remaining 80% is allocated by grades applied to value of scientific achievements of a given organizational unit during the preceding year (grades are calculated on the basis rules and principles adopted by relevant Team from the SCSR carrying out assessment of statutory activity). and took into account: the research potential of HEI, number of doctorates and habilitations prepared, costs of research in groups of disciplines, formation of research schools</p>
Selection committee	Ministry staff according to algorithm consulted with research Council and General Council of Higher Education
Availability of data	Trends in time available, but in aggregate category statutory funding. The channel specific only for HEIs.
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>) Executive orders of the minister responsible for science
Discussion	

9.2 Financing investments serving the purposes of R&D

name of instrument	Category: Funding for investments (capital grants) serving the purposes of R&D development; covers: Channels:
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	<p>Building investments (the new ones or continuous) Research equipment (classified as fix assets) Development of information technology infrastructure</p>
Time coverage	Since 1991
Performers (beneficiaries)	<p>All R&D public institutions and non-public HEIs (eligibility criteria described in executive orders of the Minister). Applications submitted every year but funding might be granted for several years (for construction of new buildings).</p> <p>The financing of investments serving the purposes of scientific research or experimental development under the Act on the principles of Financing Science covers: building investments, purchase of buildings, purchase or constructing of scientific research equipment classified as fixed assets, development of information technology infrastructure of science as well as participation in an investment venture under an international agreement.</p>
Scientific domain	All domains
Type of funding/project/program	Institutional type
Selection criteria and procedures	<p>Criteria for assessment of applications for building investments are: compliance with priorities of research, category received by the sc. unit in statutory evaluation, formal requirements including co-funding from other sources;</p> <p>Criteria for assessment of applications for sc. equipment are: needs of sc. unit for such equipment, the intensity of its use in sc. unit, scientific category received by sc. unit, co-funding of equipment from other sources</p> <p>Criteria for development of information infrastructure are similar to sc. equipment.</p>
Selection committee	<p>Applications are evaluated by the Committees of the Council for Science in the respective field of science.</p> <p>Applications rankings are prepared separately for every kind of capital grant</p>
Availability of data	Data available about total funding for every year, but distribution between research sectors only for capital grants total.
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>) Executive orders of the minister responsible for science
Discussion	

9.3 Project funding and goal-oriented projects

9.3.1 Research projects

<p>Name of instrument</p> <p>1. academic instrument</p> <p>2. Thematic instrument</p> <p>3. Innovation instrument</p>	<p>Category: Research projects</p> <p>Channels:</p> <p>In-house projects (“grants”)– responsive mode: the research topics are defined by the applicant (bottom up), proposals submitted from researcher’s initiative and reviewed by reviewers and peer review panels. A specific kind of in-house projects are promoter’s (supervised) projects, aimed at preparing a doctoral dissertation (promoters projects are not presented separately in annual financial science budget report)</p> <p>Ordered (solicited) projects – directive mode: subject matter is defined in so called National Framework Program with priority areas of R&D. Before 2004 such projects were solicited by the ministries Ordered projects are currently the main instruments of the state’s scientific, science and technology and innovation policy’ implementation managed by the Minister responsible for Science. Since the creation of the National R&D Centre (August 2007) ordered projects are defined by the National Program for Scientific Research and Development.</p> <p>Special research projects PBS are a part of international programmes, but they are not co-financed from international organizations (before 2005 they constituted of special research programmes SPB, and were included under category “statutory funding”)</p> <p>Projects being a part of multi-year programmes</p> <p>Development projects designed to provide a basis for practical applications (a new type of projects). The legal instrument of the development projects financing was established with the view to enhancing the greater potential and better quality of applied research and development works performed by the R&D sector aimed at practical economy applications, particularly in SMEs sector. Funded since 2006</p>
Time coverage	<p>Category research Projects since 1991</p> <p>Solicited Projects in framework programmes since 2005.</p> <p>Special research projects as a new category since 2005</p> <p>Projects in multi-year programmes since middle of 1990s.</p> <p>Development projects since 2005</p>
Performers (beneficiaries)	Performers from all public sectors
Scientific domain	<p>In house individual projects: All domains</p> <p>Ordered projects, depending on call for proposal</p> <p>Projects in multi-year programmes: depending on the program</p> <p>Development projects –NOT LAUNCHED in 2005</p>
Type of funding/project/program	Contractual agreement. Funding for up to 3 years, in special cases for 5 years
Selection procedures	<ul style="list-style-type: none"> ▪ Evaluation criteria different between various kinds of projects
Selection committee	<p><u>Evaluations of project proposals</u> by the Science Council Committees: on Research for the Development of Science or the Committee on Research for the Development of the Economy on the basis of appraisal accomplished by a working, specialized or interdisciplinary group (consisting of members of the Committees as well as of competent external experts). Before the Committees examine project applications for financing in house projects and goal-oriented projects, reviewers appointed by the Committees review those project proposals. The outcome of evaluation prepared by the Committees should contain a proposition of the level of funding of particular project or a proposition of rejecting an application and should have the form of a ranking of proposals. The Minister decides on accepting or rejecting above-said applications for funding. He is not obliged to follow opinions of the Committees, none the less his decision must meet the criteria</p>
Availability of data	Trends in time available. Partition between science sectors only for aggregated category of research project funding covering together all kinds of projects in-house, ordered, special projects and projects in multi-year programmes but disaggregated into groups of disciplines.
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and</i>

	<i>Science</i>), Executive orders of the minister responsible for science
Discussion	

Name of instrument	Group: Research projects Channel: In-house, unsolicited proposals, responsive mode: the research topics defined by the applicant (" grant system "), proposals submitted from researcher's initiative In-house projects cover promoter's (mentor's) projects aimed at preparing a doctoral dissertation by a candidate and habilitation projects
Time coverage	Since 1991
Performers (beneficiaries)	All sectors
Scientific domain	All
Type of funding/project/program	Academic type of funding project funding based on bottom up initiatives of research workers. Two conquest a year.
Selection procedures	Criteria for assessment: scientific merit, accurate research methods, rationale for proposed budget, eligibility incl. research track and qualifications of research team, research infrastructure available, reports from previous research projects, for habilitation research project – the research track of applicant since doctoral degree
Selection committee	Proposals are assessed by 3 peers (or two in case of promoters project) according to 10 point scale and then by working panel, Commission for the Development of Science prepare the ranking list of projects for final funding decision of the minister of science
Availability of data	Data available but aggregated for group of disciplines
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science
Discussion	

Name of instrument	Category: Research projects Channel: Ordered (solicited) projects
Time coverage	Since middle of 90.s but criteria and form of projects solicitation has been changing several times
Performers (beneficiaries)	All
Scientific domain	Since 2005 defined in Framework Program and in call for proposal. Since August 2007 ordered projects are defined by the National Programme for Scientific Research and Development and managed by the newly created National R&D Centre.
Type of funding/project/program	Project type. Contractual agreement, top down initiatives, political mode of funding. Proposals are submitted as a response to call for proposals
Selection procedures	Subject matter will be defined in so called National Programme for Scientific Research and Development with priority areas of R&D. Projects submitted after an open call for proposals . The financing of ordered projects serves the implementation of the National Programme for Scientific Research and Development specifying Polish priority directions of scientific research or experimental development, in particular of multi-disciplinary character with the aim of achieving the <i>scientific excellence</i> in specified scientific and technological areas of the utmost importance to building the country's innovative potential and competitiveness. Projects are assessed according to the following criteria: scientific merit, compliance with requirements specified in request for proposal, complexity of proposed solution, cooperation with national or international teams, access to well equipped labs, feasibility of the project, usefulness for implementation technologies enabling increase of international competitiveness and economic effectiveness.

Selection committee	Applications are assessed by 3 peers appointed by the Commission of the Science Council and then by advisory panel to the Commission
Availability of data	
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science
Discussion	Ordered projects are currently the main instruments of the state's scientific, science and technology and innovation policy' implementation managed by the Minister responsible for science. (NFP is the first step towards a better concentration and rationalization of public R&D spending on those areas of scientific research that were found in open consultation process).

Name of instrument	Category: research projects Channel: Solicited (ordered) Projects within multiannual programmes
Time coverage	Since 2000
Performers (beneficiaries)	PAS institutes, branch institutes, HEIs
Scientific domain	Selected in multi-year programmes
Type of funding/Project/program	Programmes consists of two parts: a) R&D, and b) civil service initiatives. R&D part of the program is executed in the form of ordered projects on the basis of contest.
Selection procedures	Overall program R&D part – as in all ordered Project.
Selection committee	The whole multi-annual programmes are proposed by ministers and consulted by inter-ministerial consultation. R&D part is executed in the form of ordered projects on the basis of contest.
Availability of data	Data publicly available
Sources	National Budget for 2005; Ministry of Science and Higher Education – Internal reports, Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science
Discussion	

Name of instrument	<u>Category: Research projects</u> <u>Channel: Special research projects (PBS)</u>
Time coverage	Since 2005
Performers (beneficiaries)	Special projects cover costs of participation in international cooperation not funded from international sources – all research teams are eligible
Scientific domain	Dependent on the cooperation area
Type of funding/project/program	Project funding
Selection procedures	Applications can be submitted all the year round. Criteria of assessment are the same as in case of in-house or development projects and include also benefits for national science or economy and possibility of practical application in a country.
Selection committee	Organization of assessment procedures and selection is the same as in case of solicited (ordered) projects
Availability of data	
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and</i>

	<i>Science</i>), Executive orders of the minister responsible for science
Discussion	

Name of instrument	Category: Research projects Channel: Development projects
Time coverage	Since 2006
Budget	Year
Performers (beneficiaries)	All researchers from public institutions
Scientific domain	Exclusively applied research
Type of funding/project/program	Project funding. Contract agreement
Selection procedures	Two conquests a year. Assessment criteria are: innovativeness of proposed solution, social/economic usefulness, eligibility of application of research results, possibility of exploitation by more than one object, rationale of the proposed budget, reports from the past research activity
Selection committee	Applications to be assessed by specialized panels established by the Commission for Development of Economy in particular research fields
Availability of data	
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science
Discussion	

9.3.2 Goal-oriented projects

<p>Name of instrument</p> <p>3. type of instrument: innovation instrument</p>	<p>Category: Goal-oriented projects are undertakings scheduled for implementation within a fixed period of time and on specific terms conducted by entrepreneurs, the Director general of State Forest, research entities or scientific research consortia on their own initiative or on the initiative of the competent ministries or administrative bodies or local governments, including applied research, development or pre-competitive or industrial research.</p> <p>Goal-oriented projects are co-funded by the state (up to 70% of research costs) and by the user of prospective results.</p> <p>The financing of goal-oriented projects is a part of specific schemes to encourage the private sector to fund research in public sector institutions and comprises different kind of projects.</p> <p>Channels:</p> <ul style="list-style-type: none"> ○ Goal-oriented unsolicited projects of subject matter defined by the applicant (bottom-up initiatives) and submitted by entities capable of applying results of the projects directly in practice; ○ Goal-oriented ordered (solicited) projects ○ SME goal-oriented projects in areas relevant to applications useful for Small and Medium Enterprises (the procedures of the evaluation and selection of proposals from SME and management of funding arrangements has been the responsibility of NOT since its commissioning to NOT in Sept. 2001). ○ Goal-oriented projects involved in the performance of Sectoral Operational Programmes or Regional Development Programmes, submitted by competent ministers or bodies of voivodships' self-governments; <p>The financing of a goal-oriented project shall include the portion of expenditure specified by the Minister responsible for science on applied research, experimental development, industrial research or pre-competitive research. The new elements in the system of financing goal-oriented projects are provisions enabling co-financing the projected supported from the Structural Funds. These projects are the main instrument aimed at enhancing innovativeness in private sector by co-financing research of practical application to the industry, experimental development, industrial research and pre-competitive research. Goal-oriented projects are qualified for financing on the basis of an evaluation of submitted applications. Science funds allocated for the financing of goal-oriented projects are assigned to entities carrying out applied research, experimental development, industrial research or pre-competitive research under a contract.</p>
Time coverage	Since 1991 but in different forms
Performers (beneficiaries)	All science sectors, organizations and persons eligible for applying are entrepreneurs, or groups of them, research organization or units representing research consortium
Scientific domain	All domains, except humanities
Type of funding/project/program	Co-funded from science budget and from funds of the potential user of results. Funding for 3 years, in special cases up to 5 years
Selection procedures	Besides many formal and financial requirements other criteria include innovativeness of the solution, demand for solutions being the effect of the project, competitiveness of the solution especially on international scale, significance for regional development, impact on labour market, rationale for proposed budget, eligibility of the project and practical implementation of results, economic effectiveness of solution, accomplishments of the applicant in the past work
Selection committee	Projects are assessed by 2 peers appointed by the Commission for Development of the Economy and by the working panels established in different fields of science. A ranking list is prepared separately for various sectors of economy.
Availability of data	Available data on trends of funding in time for separate sub-channels but partition between performers – science sectors only for the aggregate category of goal-oriented projects.
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science
Discussion	

9.4 Financing of International Scientific Cooperation

Name of instrument	<p>According to new Act on funding science that category has covered since 2005:</p> <p>Channels:</p> <ol style="list-style-type: none"> 1. Co-financing of scientific research and experimental development carried out under the European Union Framework Programmes 2. co-funding participation in other international programmes, co-financed with non-refundable foreign funds, as well as activities supporting participation in these programmes and 3. fees paid to international institutions or organizations under international agreements. <p>(Remark: international cooperation was funded not only under category "Scientific co-operation" but also from special projects. Financing of scientific cooperation was a subject to the most significant restructuring during last 16 years (see discussion below).</p>
Time coverage	Broad category international cooperation existing since 1991, but changes in funding channels
Performers (beneficiaries)	All public institutions and scientific teams
Scientific domain	All
Type of funding/project/program	Project funding or co-funding from national and international funds Fees classified as other support
Selection procedures	Ad a. selective funding criteria: significance of research for development of science in a country, access to research results of the program including possible practical use of the knowledge or technology in a country, category of research unit received in statutory assessment.
Selection committee	Assessment performed by the expert groups appointed by the minister
Availability of data	
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>), Executive orders of the minister responsible for science
Discussion	<p>When comparing funding trends of international cooperation between 1991 and 2005 we must realize two important facts:</p> <p>a/. significant changes in the structure of funding channels for international cooperation</p> <p>b/. fact that international cooperation actually has been funded within two funding categories: statutory research and international cooperation.</p> <p>Changes</p> <p>Between 1996 and 2002</p> <p>Within category STATUTORY ACTIVITY the following funding channels were connected to international cooperation:</p> <ol style="list-style-type: none"> 7. Maintenance of facilities used in international programmes 8. Co-financing from state budget participation in Framework Programmes of EU (including costs of activity supporting research carried out within such international cooperation). The percentage of co-funding of IC from the science budget has been changing between years: <ul style="list-style-type: none"> in 1999 science budget covered up to 90% of total costs of participation in FP (the other 10% of total costs had to be covered from own funds of the applying institution) in 2000 the science budget covered up to 80% of total costs of participation in FP in 2001 – up to 70% of total costs 9. Funding costs of participation in other international programmes (NATO, EUREKA, COST, CERN, DESY) – where research costs were not co-funded from foreign funds 10. Funding costs of participation in international programmes undertaken under

	<p>intergovernmental agreements (if included in research plan of the scientific institution such costs were included in channel 1.1. primary statutory activity)</p> <p>Within a category 5 INTERNATIONAL COOPERATION as</p> <ol style="list-style-type: none"> 1. activity covered by intergovernmental agreements and as 2. fees to international organizations <p>Between 2001 and 2004</p> <p>Some channels were renamed and some were introduced. Within a category 1. STATUTORY FUNDING there were 4 separate channels for funding of international cooperation including two new channels, so called special research programmes (SPB):</p> <ul style="list-style-type: none"> • Participation in Framework Programmes and EUROATOM -up to 60% of costs was covered by the science budget (for research co-funded from national budget funds and FP) • European programmes of cooperation in some research areas (COST, EUREKA, NATO, CERN, DESY, UNESCO) and international cooperation within international networks (MSN) for research not co-funded from international funds, and • Costs of participation in other research programmes co-funded from foreign funds were co-financed from state budget funds for primary statutory activity, if such research cooperation was a result of bilateral agreement and cooperation research was included in a research plan of the applicant institution • Maintenance of research facilities used in international programmes <p>Changes within channel 5. INTERNATIONAL COOPERATION between 1996 and 2004 were as follows:</p> <ol style="list-style-type: none"> 1. up to the end of 2000 there was funding research under international bilateral agreements, if agreements have been signed by research institutions. Since 2001 such research has been funded through channel primary statutory activity (see above) 2. Fees paid to international organizations (no change) 3. Costs of exchange of personnel as a part of research under international agreements and cost of international conferences organized in Poland
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9.5 Activity supporting research

Name of instrument	Category: Funding of activities supporting research covers: experts opinions, evaluations, assessments, dissemination and promotion of research achievements, promotion of innovation undertakings applying R&D results, activity of scientific societies, subscription of periodicals.
Time coverage	Since 1991
Performers (beneficiaries)	Ministries for their needs, but also: research organizations, establishments supporting research activity or promoting research (Scientific associations, libraries, editorials), foundations (23)
Scientific domain	-all
Type of funding / project / programme	other support than project and institutional funding. Subvention. Money is transferred to ministers responsible for the relevant section, heads of central government offices and the President of PAS for their purposes related to the statutory tasks and to entities promoting science like scientific associations, to scientific societies or to publishers.
Selection procedures	Dependent on the area of activity and applicants: for individual applicants mostly competitive, except for funding of ministries or other government level institutions

Selection committee	As above. Part of funding distributed among ministries for their organizational activity or commissioned reports
Availability of data	
Sources	Sprawozdanie z wykonania budżetu w 2005 r. Część 28. Nauka, Ministerstwo Edukacji i Nauki (<i>Financial Report From The Budget For Science In 2005, Ministry of Education and Science</i>) Executive orders of the minister responsible for science
Discussion	

9.6 European structural funds

Name of instrument	Ministry of Science and HE, Sectoral Operational Programmes.
Time coverage	2005-2008
Budget	EUR 708 219.6 PLN 2 850 867 (including EUR 700 304.1 PLN 2 819 004 from structural funds) in 2005
Performers (beneficiaries)	Enterprises or groups of enterprises, alone or in collaboration with public R&D establishments (including Centres of Advanced Technologies or research units)
Scientific domain	Technical science
Type of funding / project / programme	Project funding Action 1.4.1 Goal –oriented projects aimed at carrying out applied research and development (industrial and pre-competitive research) in enterprises or groups of enterprises, independently or in collaboration with public sector R&D. Required financial contribution from performer (not less than 50%). Action 1.4.2 Investments in creation, modernization and equipment of public research sector laboratories that are to make services for enterprises Action 1.4.3 Investments in creation, modernization and equipment of laboratories of Centers of Excellence and Centers of Advanced Technologies working in priority areas of the Polish economy Action
Selection procedures	Contest of applications
Selection committee	Peer review commissions organized by the Ministry of Science
Availability of data	All information about granted subsidies are published (in special brochures). Summary of financial data – Internal reports – Budgetary Execution Report for ...
Sources	Ministry of Science Annual Report of 2005: Budgetary Spending for Research (Ministerstwo Nauki i Informatyzacji, Sprawozdanie z Wykonania Budżetu za rok 2005).
Discussion	

9.7 Fund of Polish Science and Technology

Name of instrument	Ministry of Science and Higher Education Fund of Polish Science and Technology
Time coverage	Since 2005.
Budget	Source of fund – 2% of income from privatization in a given year (and also % of this income).
Performers (beneficiaries)	Public research sector (universities, governmental laboratories and Polish Academy of Sciences institutes)
Scientific domain	So far only generally described as support for Polish science and technology in priority areas as well as promotion and dissemination of science.
Type of funding / project / programme	Project funding. Over 99% – research investment grants; less than 1% – promotion and dissemination of science.
Selection procedures	Contest of application

Selection committee	Selection committee established at the Ministry of Science
Availability of data	Limited (internal report)
Sources	Ministry of Education and Science – Internal reports – Budgetary Execution Report for 2005
Discussion	

FOUNDATION FOR POLISH SCIENCE

name of instrument	Foundation for Polish Science Annual Prize (Nagroda FNP)
Time coverage	Since 1992
Performers (beneficiaries)	Recipients – the most distinguished Polish researchers
Scientific domain	<ol style="list-style-type: none"> 1. humanities and social science, 2. life science and medical sciences, 3. technical sciences
Type of funding / project / programme	Project funding Prize
Selection procedures	Candidates are proposed by respective scientific communities. Nominated scientists must agree for participation in contest and fulfil the applications
Selection committee	Applications are reviewed by mail review Final selection by the Council (Board) of the Foundation
Availability of data	Annual Reports
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	Prizes called “Polish Nobel Prizes” designated to award the most distinguished Polish scholars

Name of instrument	Foundation for Polish Science – Subsidies for Professors (Subsydia Profesorskie)
Time coverage	Since 1998
Performers (beneficiaries)	All Polish researchers
Scientific domain	Each year another domain. In 2005 – technical sciences. 15 subsidies each year.
Type of funding / project / programme	Project funding During 3 years each researcher receives PLN 240 000. No special project proposal is required.
Selection procedures	Multigrade close competition. Closed conquest. Candidates proposed by invited eminent scientists. Foundation prepares a shortlist persons invited to conquest.
Selection committee	Assessment of applications who agreed to compete by reviewers. Final selection and decision by the Board of the Foundation
Availability of data	Annual Reports
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation

Discussion	Three years subsidies for intensification of research already carried out or launching new research directions for 15 eminent researchers in pre-selected research domain.
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name of instrument	Foundation for Polish Science Domestic Grants For Young Scholars (Krajowe Stypendia dla Młodych Naukowców)
Time coverage	Since 1993
Performers (beneficiaries)	All up to 30 years of age
Scientific domain	All
Type of funding / project / programme	Project funding Grants. 2005: 105 grants and 82 prolongations of earlier grants
Selection procedures	Peer review of research project proposals.
Selection committee	Final selection by the Board accepted by the Council
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	These twelve-month grants are awarded for the ninth time to the most promising young research workers whose achievements in their fields of study are documented by publications. They are given annually to approximately 100 beneficiaries 126 grants of 20,000 PLN each were awarded. From 2001 onwards, all beneficiaries can apply for the grant to be extended for a further twelve months.

Name of instrument	Foundation for Polish Science – Travelling Fellowships (Krajowe stypendia wyjazdowe)
Time coverage	Since 2002
Performers (beneficiaries)	PhD holders (up to 35 years of age)
Scientific domain	All
Type of funding / project / programme	Project funding Grants. 2005: 10 (ca 870 EURO per month)
Selection procedures	Peer review of research proposals
Selection committee	Final selection by Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	For 1 to 3 months to for stay in leading research centres in Poland

name of instrument	Foundation for Polish Science – Nestor Programme (Programme Nestor)
Time coverage	Since 2003
Performers (beneficiaries)	Retired eminent Polish researchers
Scientific domain	All
Type of funding / project / programme	Project funding

programme	Travelling grants for stay in a Polish research centre. 2005: 5 grants each of ca (PLN 20 000).
Selection procedures	Peer review of proposals
Selection committee	Final selection by Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	Intention of the grant is support for developing research centres by covering stay of invited retired professors (up to 4 months).

Name of instrument	Foundation for Polish Science – Foreign Fellowships For Young Ph.D. Recipients (Stypendia Zagraniczne dla Młodych Doktorów)
Time coverage	Since 1995
Performers (beneficiaries)	Post-docs up to 35 years of age
Scientific domain	All
Type of funding / project / programme	Grants under this scheme are available to young Polish scholars with a doctoral degree for six to twelve months practices (from 6 to 12 months) in leading research centres world-wide. 2005: 18 grants. Since 2001 grant-holder after stay in foreign research centre could apply for “return grants” up to ca 10 000 EURO for creation or modernization of research facilities (2005: 12 persons).
Selection procedures	Criteria: 1) previous research track record, 2) research proposal, 3) research reputation of the centre.
Selection committee	Peer review of applications. Meeting and interview with the best applicants. Final selection by Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	The amounts allocated to each individual are equivalent to postdoctoral grants available abroad. (from 2200 to 3000 EURO per month). Some grants are (or were) granted in cooperation with foreign sponsors, such as Polish-American Commission for S&T, EU fund Maria Curie, European University Institute, Slavonic and East European Studies,(University College London), and the others.

Name of instrument	Foundation for Polish Science – Research search abroad (Stypendia na kwerendy zagranicą)
Time coverage	Since 2002
Performers (beneficiaries)	All
Scientific domain	All
Type of funding / project / programme	Project funding 2005: 25 grants for researchers for stay in foreign centres for several months
Selection procedures	Contest of applications
Selection committee	6 persons selection committee peer review of applications. Final selection by Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the

	Foundation
Discussion	Travelling grants for the search in foreign libraries and archives

Name of instrument	Foundation for Polish Science – Conference Grants (Stypendia Konferencyjne)
Time coverage	Since 2001
Performers (beneficiaries)	All
Scientific domain	All
Type of funding / project / programme	Project funding Instruments grants a contribution towards the cost of participation of Polish research workers at conferences, seminars and congresses abroad. Conquest managed by Towarzystwo Naukowe Warszawskie. 2005: 159 grants granted four times a year.
Selection procedures	Peer review of research proposals, further selection by committee, final results approved by the Foundation
Selection committee	
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	

Name of instrument	Foundation for Polish Science – Milab Program (Program Milab)
Time coverage	Since 2001-2005
Performers (beneficiaries)	All
Scientific domain	All
Type of funding / project / programme	project This long-term programme seeks to support the upgrading of laboratory facilities through contributions towards the costs of repair work in buildings, removals and the purchase of appliances and equipment for modernized premises. 26 teams granted.
Selection procedures	Peer review of proposals. Further selection during an interview with applicant.
Selection committee	Final selection by the Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	

Name of instrument	Foundation for Polish Science – BIOS Programme (Program Bios)
Time coverage	Since 2004-2006
Performers (beneficiaries)	
Scientific domain	Palaeontology, zoology, botany
Type of funding / project / programme	Grants for preservation of precious paleontological, zoological and botanic collections and for creation of necessary conditions for their use in accordance with international standards. 15

programme	projects.
Selection procedures	Peer review of applications. Further selection during interviews with the best candidates.
Selection committee	Final selection by the Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	

Name of instrument	Foundation for Polish Science – Techne Programme (Program TECHNE)
Time coverage	2001-2005
Performers (beneficiaries)	
Scientific domain	Technical science
Type of funding / project / programme	This initiative, a continuation of the INCOME and TECHNO programmes implemented by the Foundation in previous years, is aimed at supporting research in the practical applications of new technologies, products and services, prior to commercial exploitation. In particular, programme supports launching of new research, demonstration and measurement equipment as well as purchase of a new components and services. 2 subsidies in 2005.
Selection procedures	peer review of proposals
Selection committee	Final selection by the Board
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html , additional info from interviews at the Foundation
Discussion	

Name of instrument	Foundation for Polish Science – SUBIN PROGRAMME (Program SUBIN)
Time coverage	1994-1995
Performers (beneficiaries)	Individual researchers and research establishments
Scientific domain	All
Type of funding / project / programme	This programme seeks to provide funds <ul style="list-style-type: none"> ❖ in emergency situations of various kinds, whenever rapid assistance is required in unusual circumstances, ❖ in other important circumstances that could strengthen Polish science, but could not be covered by other funds. <p>E.g. many funds were used to cover the cost of repairs of equipment and appliances, completing repair work to buildings damaged or destroyed by floods or other catastrophes.</p>
Selection procedures	peer review of proposals
Selection committee	Final decision by the Board
Availability of data	Annual report

Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – MONOGRAPHS PROGRAMME (Program Monografie)
Time coverage	Since 1995
Performers (beneficiaries)	All
Scientific domain	All
Type of funding / project / programme	This is a regular competition for Polish authors of previously unpublished monographs in the areas of the humanities and the social sciences. The works chosen by the Editorial Board are published in the <i>FNP Monographs</i> series, which consists of 92 titles (2005).
Selection procedures	manuscripts for publication are accepted by the Editorial Board of the Foundation after specialists peer review
Selection committee	
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – PUBLICATIONS PROGRAMME (PROGRAM WYDAWNICTWA)
Time coverage	1994-2006
Performers (beneficiaries)	
Scientific domain	Humanities
Type of funding / project / programme	Due to FNP assistance under this programme, various multi-volume works documenting Poland's historical, cultural and technological heritage are published, edited by research institutes.
Selection procedures	Foundation makes a choice of works for publication, since 2007 a closed contest.
Selection committee	
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – PROGRAMME TRANSLATIONS (PROGRAM TRANSLACJE)
Time coverage	2004-2005
Performers (beneficiaries)	Translations
Scientific	Humanities and social sciences

domain	
Type of funding / project / programme	Grants for translators. Programme is aimed at dissemination of Polish humanities and social sciences in the world. 2005: 2 grants.
Selection procedures	The most important criteria is scientific value of the proposed text. Author of proposed text is obliged to provide "letter of intention" of foreign editor.
Selection committee	Reviews of manuscripts. Since 2007 the programme modified as exist as a part of PROGRAMME MONOGRAPHS
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – FNP DEBATES ON SCIENCE (Cykl Fundacji Dyskusje o Nauce)
Time coverage	Since 1996
Performers (beneficiaries)	
Scientific domain	All
Type of funding / project / programme	These annual conferences with the participation of several dozen eminent scholars invited by the Foundation, are devoted to various issues of major relevance to the scientific community. The subject chosen for 2005 was <i>Success in Science</i> . Contributions by participants and other materials are published in a brochure (available only in Polish).
Selection procedures	– A programme of conferences on science, there is no selection procedure
Selection committee	
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – Collaboration With Scientific Associations (Współpraca z towarzystwami naukowymi)
Time coverage	Since 1996
Performers (beneficiaries)	Fundacja Europejskiej Współpracy Naukowej
Scientific domain	Science policy studies
Type of funding / project / programme	For several years, the Foundation has been a supporting member of a number of leading scientific associations in Poland As part of this co-operation, FNP provides funds for the annual Grzegorz Białkowski Award for the best doctoral dissertation in the field of the exact sciences, awarded by the Society for the Promotion and Support of Science.
Selection procedures	financial support by paying fees, since 2007 cooperation within the PARTNERS programme
Selection committee	
Availability of data	Annual report

Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – Exploratory of the European Integration (Eksploratorium Integracji Europejskiej)
Time coverage	Since 2001
Performers (beneficiaries)	
Scientific domain	
Type of funding / project / programme	The aim of the programme is monitoring of Polish science and technological policies from the point of view of adjustment to EU. As part of this initiative, analyses and studies are prepared dealing with the European integration process.
Selection procedures	since 2006 programme managed by the Foundation of European Scientific Cooperation
Selection committee	
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Name of instrument	Foundation for Polish Science – POLSKO-NIEMIECKA NAGRODA NAUKOWA <i>COPERNICUS</i>
Time coverage	Since 2005
Performers (beneficiaries)	Researchers
Scientific domain	All
Type of funding / project / programme	Award financed and managed jointly by FNP and Deutsche Forschungsgemeinschaft (DFG) is given biannually to two eminent Polish and German scholars that collaborate one with another.
Selection procedures	candidates are proposed by Polish and German scientists,
Selection committee	Applications are peer reviewed. Final decision by 6-person jury chosen by FNP and DFG for 4 years
Availability of data	Annual report
Sources	http://www.fnp.org.pl/publikacje/publikacje.html
Discussion	

Inside the European Network of Excellence on Research and Innovation Policies (PRIME), the specific task of the European Network of Indicators Designers (ENID) was to create a network of S&T Indicators Producers, based on the experience of recognised institutions, labs or groups, and to develop the capacity for the interpretation of existing indicators and for the development of new ones. The ENID project is producing a comparison analysis between a significant number of European countries, identify European partners where action is needed and areas of further action. Moreover, ENID is promoting a biannual conference series to favour networking and exchange of knowledge among academics and practitioners in the field, as well as a doctoral school to train new researchers in the field.

Inside ENID, the exploratory action on public funding aims to develop innovative methodologies to produce indicators on public funding or research activities, answering to specific research and policy questions. In its first phase, this action focused on a quantitative analysis of public funding in six European countries (Austria, Italy, the Netherlands, Portugal, France and Switzerland).

The extension of the project to Central and Eastern European Countries aims to depict the structure of the public funding system in these countries after the transition and to identify main policy issue to the future. This part of projects matches qualitative descriptions of the national systems with the systematic collection of data from public budgets and funding agencies. Following reports are being published :

- Czech Republic, Karel Sima;
- Estonia, Jaan Masso and Kadri Ukrainski;
- Poland, Julita Jablecka.

A final report as well as a number of academic paper will be published during 2008 summarizing the main project results.

www.enid-europe.org

