OECD THEMATIC REVIEW OF TERTIARY EDUCATION

Country Background Report for Poland

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JULY 2006
Warsaw

This background report for OECD has been prepared by dr hab. Małgorzata Dąbrowa-Szefler, professor of Warsaw University (Chapters 1, 2, 6, 7, 9, 11), and dr hab. Julita Jabłecka-Prysłopska, Warsaw University (Chapters 3, 4, 5, 8, 10, 11). The authors would like to thank all Steering Committee members and other persons who presented their valuable comments and provided source materials necessary to prepare this Report. In particular, we are grateful for contributions from Prof. Tadeusz Szulc, the Deputy Minister of National Education, and Directors of Departments and staff of the Ministry of National Education and Sports: Mrs Ewa Sieczek, Mrs Teresa Bader, Mr Józef Lepiech, Mr Witold Pakula, Mr Jerzy Wiśniewski, Mr Robert Pawlak, Mrs Anna Chrzanowska, and Mrs Olga Piekarska. We would also like to thank: Prof. Andrzej Kraśniewski, Secretary General of the Conference of Rectors of Academic Schools in Poland (CRASP), Prof. Jerzy Błażejowski, Chairman of the General Council for Higher Education, Prof. Jerzy Jamiołkowski, Prof. Zbigniew Marciniak, Chairmen of the State Accreditation Committee, Ms. Barbara Bryzek of the Committee staff, and Dr Elżbieta Drogosz-Zabłocka, Warsaw University, Prof. Jan Piskurewicz of the Cardinal Wyszyński University in Warsaw, and Directors: Dariusz Drewniak, Jan Kołodziejski, Krzysztof Szubski, and Elżbieta Wolman of the Ministry of Science and IT.

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ABBREVIATIONS AND ACRONYMS

ATC	Advanced Technologies Centre
BUWIWM	Bureau of Academic Recognition and International Exchange
CE	Centre of Excellence
CRASP	Conference of Rectors of Academic Schools in Poland
SCSR	State Committee for Scientific Research
CUL	Catholic University of Lublin
ECA	European Consortium for Accreditation
ECTS	European Credit Transfer System
ENQA	European Network for Quality Assurance
ESF	European Social Fund
EU	European Union
GCHE	General Council for Higher Education
GDP	Gross Domestic Product
GUS	Central Statistical Office
HRD	Human Resource Development
ISCED	International Standard Classification of Education
MEL	Ministry of Economy and Labour
MNE	Ministry of National Education
MNES	Ministry of National Education and Sports
MSIT	Ministry of Science and Information Technology
NACE	European Community Classification of Economic Activities
NDP	National Development Plan
OECD	Organisation for Economic Development and Cooperation
PAED	Polish Agency for Enterprise Development
PAS	Polish Academy of Sciences
PAT	The Pontifical Academy of Theology
RP	Republic of Poland
SAC	State Accreditation Committee
TEI	Tertiary Education Institution
TTC	Technology Transfer Centre
VSO	Voluntary Service Organisation

GLOSSARY OF TERMS

This Report uses the terms and definitions as effective during the period covered by the analysis; this is unavoidable at least due to the fact that statistics were collected in accordance with the definitions and terms used during a given period. However, wherever possible, the respective changes are marked in the Report, and where the present situation is discussed, the terms and definitions used in the Act of 27 July 2005, The Law on Higher Education (LoHE), are applied.

Terms and definitions used in the 2005 LoHE currently in force are given below. It should be emphasised that the 2005 LoHE uses the term "higher education", rather than "tertiary education" as adopted by the OECD, because it covers only ISCED C5 and C6 programmes. However, in order to be consistent with the OECD terminology, the term "tertiary education" is used in the Report to refer to "higher education" as defined in the Polish legislation (For more detailed information about the scope of "tertiary education" and "higher education" in Poland, see: Chapter 2).

LoHE terms related to tertiary (higher) education institutions

Tertiary (higher) education institution (TEI/HEI): a school providing degree programmes, established in accordance with the procedure laid down in the 2005 LoHE.

Public tertiary (higher) education institution (Public TEI/HEI): a TEI (HEI) established by the State as represented by a competent authority or public administration body.

Non-public tertiary (higher) education institution (Non-public TEI/HEI): a TEI (HEI) established by a natural person or a corporate body other than a corporate body administered by national or local authorities.

University-type tertiary (higher) education institution (University-type TEI/HEI): a TEI (HEI) in which at least one organisational unit is authorised to confer the doctoral degree.

Non-university tertiary (higher) education institution (Non-university TEI/HEI): a TEI (HEI) providing first-cycle, second-cycle or long-cycle programmes which is not authorised to confer the doctoral degree. The term in Polish is also sometimes translated literally as "higher vocational education institutions" (for example in the title of the 1997 Act concerning non-university HEIs).

Basic organisational unit: a faculty or other organisational unit of a TEI (HEI), specified in the TEI (HEI) statutes, offering degree programmes in at least one field of study or doctoral programmes in at least one discipline of science.

Place of primary employment/Primary employer: a TEI (HEI) in which an academic staff member is employed on a full-time basis, and which is indicated as the place of primary employment in a document providing the basis for employment.

LoHE terms related to tertiary (higher) education programmes, degrees and academic degrees

Degree: the Bachelor's degree (*licencjat* or *inżynier*), the Master's degree (*magister*) or an equivalent degree ("degrees" are referred to as "professional titles" in the Polish terminology). The term "degree" should be distinguished from the term "academic degree" which refers to the doctoral degree (*doktor*) or the postdoctoral degree of Habilitated Doctor (*doktor habilitowany*).

Degree programmes: programmes of study provided by a TEI (HEI) authorised to offer such programmes, and leading to a corresponding degree (Bachelor's or Master's degree).

First-cycle programmes: undergraduate programmes providing knowledge and skills in a specific area of study, preparing students to work in a given profession, leading to the Bachelor's degree (*licencjat* or *inżynier* depending on the field of study).

Second-cycle programmes: graduate programmes providing specialist knowledge in a specific area of study, preparing students to work in a given profession, leading to the Master's degree (*magister*), or an equivalent degree.

Long-cycle programmes: graduate programmes open to applicants holding a secondary school leaving certificate, providing specialist knowledge in a specific area of study as well as preparing for creative work in a profession, and leading to the Master's degree (*magister*) or an equivalent degree; the completion of such a programme provides access to third-cycle programmes.

Third-cycle programmes: doctoral programmes open to applicants holding the Master's degree (*magister*) or an equivalent degree, providing advanced knowledge in a specific area or discipline of science, preparing for independent research and creative activity, and for the award of the doctoral degree.

Non-degree postgraduate programmes: programmes other than degree programmes or doctoral programmes which are designed for holders of a higher education diploma.

Degree programme requirements: a set of rules for degree programmes provided in various forms within fields of study, macro-fields of study or as interdisciplinary programmes.

Field of study: distinct area of study.

Form of study: mode and organisation of study.

Full-time programmes: a form of study in which the curriculum comprises courses requiring direct participation of academic staff and students, with the course load defined in the degree programme requirements for this form of study. Such programmes are free of charge (formerly used term: regular or day-time programmes).

Part-time programmes: a form of study other than full-time programmes complying with the degree programme requirements defined for this form of study, and specified by the senate of a TEI (HEI). This form of study is paid; it formerly covered evening, extramural and extension programmes.

EXECUTIVE SUMMARY

1.1. During the last 16 years (1990-2005) the tertiary education system in Poland has undergone in-depth transformations in terms of curricula as well as organisational and institutional arrangements. The socio-economic and political changes allowed TEIs to return to the tradition of academic autonomy. On the other hand, the Polish tertiary education entered relatively early into cooperation with TEIs in Western Europe, which contributed to the diversification of the education model. This process is currently under way, bringing new challenges and related problems and controversies.

1.2. The main features characterising the past period of transformations are as follows:

1) High rate of growth in the number of students in degree programmes, including Bachelor's and Master's degree students, and doctoral students (4.7 times increase in the number of Bachelor's and Master's degree students and 12 times increase in the number of doctoral students);
2) Growing conflict between the quantitative development trend and the need to maintain quality standards, which could be seen clearly in the mid 1990-ties;
3) Growing difficulties in the financing of public TEIs which have led to partial commercialisation of educational services provided (the introduction of tuition fees for some forms of study);
4) Development of the sector of non-public TEIs offering additional supply of places in first-cycle programmes (for which tuition fees are charged) in response to the growing demand.

1.3. Both public and non-public TEIs operate on the basis of the same Acts (originally the Higher Education Act of 1990 and currently the Law on Higher Education of 2005). The differences defined in the legislation concern the rules governing the establishment and liquidation of public and non-public TEIs (Chapter 2). All remaining differences regarding the positioning of each sector result from actual conditions of operation, including in particular human resources – a decisive factor with respect to the authorisation to provide programmes at a given level. In accordance with the Act on the Academic Degrees and Titles and the Law on Higher Education, authorisations to award degrees (the Bachelor's and Master's degrees) and academic degrees (Doctor and Habilitated Doctor) are granted on the basis of the required number of academic teachers holding the academic degrees or the academic title of Professor who are employed full-time by a TEI (Chapter 7). Non-public TEIs were first established after 1990 and, at that time, did not meet the requirements concerning the number and quality of teaching and research staff in order to offer doctoral programmes, award degrees and academic degrees (with some notable exceptions) or to conduct scientific research. The new Law on Higher Education divides TEIs into two categories: university-type and non-university TEIs. Non-university TEIs are not authorised to award doctoral degrees; they can offer first-cycle and second-cycle programmes (which also requires compliance with specific staff requirements). In order to obtain an authorisation to provide first-cycle and second-cycle programmes, non-public TEIs may employ teachers whose primary employer is a university-type (usually public) TEI. This is one of the reasons behind the slightly strained relations between public and non-public TEIs. In the course of drafting the new Law on Higher Education, representatives of public TEIs intended to limit significantly the opportunities for academic teachers employed in public TEIs to take full-time jobs in other TEIs. However, adopting this approach could threaten the existence of a number of non-public TEIs. The argument used by rectors of university-type (primarily public) TEIs regarding the single employment option was the fact that these institutions incur significant costs to train their research staff (doctoral and postdoctoral procedures, maintenance of large libraries). Furthermore, when developing curricula for their home institution and using them subsequently for teaching at another institution, academic staff infringe the intellectual property rights of their home institution. The 2005 Law on Higher Education (LoHE) has limited the number of TEIs where an academic teacher may be employed to only two, with one being the primary employer (which is linked with certain welfare benefits – see: Chapter 7). The clashes between the two sectors also result from their financial status: until mid 2004,

in spite of their statutory rights, non-public TEIs were not granted State-budget subsidies for their activities due to the lack of funds for this purpose in the State budget.

1.4 Limited State-budget funding (due to the reduction of the share of the budget in the GNP and other competing claims on the budget) was also an obstacle to the operation of public TEIs. The number of students grew faster than the level of the State-budget subsidy which, at times, even declined in absolute terms (see: Chapter 7). In the period after the year 2000, the share of expenditure on tertiary education in the State budget remained stable; a relevant provision providing for annual indexation of expenditure is included in the Law of 2005.

1.5 The increasing number of students and the rapid growth of tertiary education resulted in the deterioration of the quality of teaching. The process became more severe in the mid 1990s due to the uncontrolled development of non-public TEIs. A huge increase in demand for tertiary education prevented market mechanisms from playing any role in this respect (lack of competition); this was combined with the lack of administrative controls which did not have an adequate legal basis. However, already in mid 1990s, academic communities began to introduce quality improvement schemes in the form of voluntary peer accreditation of degree programmes by field of study. Efforts undertaken by the Government resulted in the gradual introduction of mandatory accreditation: the Act of 1997 established the Accreditation Commission for Higher Vocational Education (non-university TEIs), and the State Accreditation Committee (created on the basis of the amended Higher Education Act of 1990) has been in operation since 2002. The mandatory accreditation was introduced for all fields of study in combination with elements of evaluation, and is supported by all still existing peer accreditation committees responsible for voluntary accreditation. As regards quality assurance procedures, Poland is implementing the recommendations of the Conference of Ministers of the countries-signatories to the Bologna Declaration. Moreover, the work has been undertaken to bring degree programme requirements closer to the European Qualifications Framework (EQF).

1.6 One of debatable issues in the area of quality improvement is the adaptation of graduate profiles to the labour market needs. It is extremely important in the context of the high unemployment rate. In order to reduce the unemployment rate amongst tertiary graduates, co-operation between the Ministry of Education and the Ministry of Economy, as well as between TEIs and the business sector is necessary in order to identify demand for graduates in specific fields of study and with a specific profile. While the two sector ministries do indeed collaborate with each other, though still not to the extent that is desirable, the collaboration with the business community remains unsatisfactory. The business sector shows no interest in projecting demand for graduates, and does not define clearly its preferences. The key elements for employers (according to questionnaire surveys) are certain qualities of graduates' character and the willingness to improve their skills. However, due to the poor collaboration between TEIs and the business community, these elements were not taken into account when the model of a graduate's profile was created. Forecasts prepared in the ministries are not based upon appropriate instruments which would stimulate demand for places in degree programmes in specific fields of study (e.g. an incentive scholarship scheme).

1.7 As a result of the generally weak links between TEIs and the business community, collaboration in the area of scientific research is rather limited. This is only partly the fault of TEIs as the institutions which employ the majority of research staff (68% of the R&D staff and 75% of the total number of research staff in the country). Companies do not show sufficient interest in R&D, accounting only for ¼ of the national R&D expenditure. TEIs conduct both theoretical and applied research. In recent years, the largest TEIs established technology transfer centres (13 of all 29 existing in Poland). Some say that the limited involvement of academic staff in research (in certain fields of study) can be partly explained by the excessive teaching load of some academic teachers who have an extra job outside their home institution. (This phenomenon can hardly be captured by statistics). Others say that the funding for research in some areas of science is insufficient, thus failing to create the "critical mass" which is necessary to achieve success.

1.8 One of the most controversial issues in the tertiary education in Poland is the current model of academic career and proposals to change it. In Poland, those who intend to pursue an academic career have to obtain two academic degrees, the doctoral degree and the Habilitated Doctor, and subsequently the academic title of Professor, with specific criteria and procedures to be fulfilled at each level. Holding the appropriate academic degrees or the academic title is a precondition for taking up specific positions in the academic hierarchy, as provided for in the 2005 LoHE (see: Chapter 7). Moreover, the procedure for appointment to a specific position requires meeting additional criteria; appointment is not automatic upon the award of the required academic degree. A clear, though informal, barrier to the appointment to the position of Associate Professor (*profesor nadzwyczajny*) (in addition to the *habilitation* required by law) is the procedure laid down by the Senates of TEIs. The majority of the research community (specifically young researchers who hold the doctoral degree but are not Habilitated Doctors) demand that the second academic degree, Habilitated Doctor, be abolished; others believe that it is necessary to abolish redundant procedures leading to the award of the academic title of Professor, following the *habilitation*. According to the supporters of *habilitation* (mainly Professors), the abolition of this level in the present situation would mean lowering the quality of research staff. A debate on a new model of academic career and the acceleration of promotion in research career has recently been initiated by the CRASP and the GCHE.

1.9 In Poland, there are substantial inequalities in access to tertiary education. The reasons underlying the inequality can be found in the quality of secondary education varying between the types of schools and regions. Access to better secondary schools (in particular general lyceums) depends on the place of residence, the educational attainment of parents or disability. The reduction of differences between the quality of education offered by different types of schools is the aim underlying the educational reform implemented since the year 2000. The problem lies in the lack of coherence between curricula in secondary and tertiary education. The new secondary school leaving (*maturity*) examination, with its results providing the basis for admission to tertiary education (as of the academic year 2005/06), may be instrumental in reducing access barriers to education through the abolition of the various selection procedures hitherto applied by TEIs. However, for the time being, in view of the high demand for tertiary education in certain fields of study offered by renowned public TEIs, various additional admission procedures may be maintained. The chances for young people from smaller towns and poorer families to take up tertiary studies are enhanced by the development of a network of TEIs in regions (see: Chapter 5). TEIs established in smaller towns (with few exceptions) are "professionally oriented", which means that they offer first-cycle programmes. According to many specialists, this system maintains – or even aggravates – the differences in the level of education attained. The results of a household survey conducted by GUS show that, as compared to the period between 1981 and 1992, during the period 1993-2004 the number of people from working families who completed a Master's degree programme increased, but the number of Masters graduates coming from farming families declined slightly (while the number of Bachelors graduates increased in this group; GUS, 2005). No statistics on the structure of graduates are available to assess the effectiveness of tertiary studies pursued by various student groups (according to socio-economic status, ethnic origin).

1.10 With a view to improving access to first-cycle and second-cycle programmes, the system of financial support for tertiary students has been changed to ensure that all students requiring State support (irrespective of the form of study: full-time and part-time, and the sector: public and non-public) can obtain non-repayable support (repayable support has been provided since 1998). Until 2004, only full-time (regular) students of public TEIs were eligible to non-repayable support (maintenance grants). As a result of the changes, the number of students receiving State financial support increased to reach 24.5% of the total student population and 60% of the total population of students with disabilities (in the year 2001/02, financial support was provided only to 14% of the total student population).

In this context, it is important to consider the proposal to introduce tuition fees (to cover a part of costs) for degree programmes offered in all forms of study (as provided for in the Education Development Strategy 2007-2013). This proposal is criticised by student organisations and some politicians. Moreover, there are legal arguments against the introduction of tuition fees, in view of the provisions of the Constitution regarding free tertiary education. Furthermore, according to a representative survey conducted by *Pracownia Badań Społecznych* in September 2005, 62% of the population are against the introduction of tuition fees at public TEIs, 32% support the proposal, and 6% have no opinion on the matter.

1.11 The tertiary education management system has developed gradually since 1990, incorporating an increasing number of collective bodies whose opinions are used by the minister in designing the tertiary education policy. The 2005 Law on Higher Education provides a legal basis for the activities of conferences of rectors of university-type and non-university TEIs (previously existing with no legal basis). The Law does not introduce any changes in the extensive institutional autonomy of TEIs (listing all areas of the autonomy). In Polish TEIs, the single-person authorities (Rector, Dean) are elected, but collective bodies play an extremely important role (the percentage shares of representatives of staff and students in the composition of the bodies are laid down by the Law; however, there are no representatives of the external environment, e.g. employers or local authorities, in the bodies of university-type TEIs). These bodies have an excessive number of members and excessively extensive powers as compared to those of the single-person authorities, thus definitely slowing down the decision-making process in matters requiring a managerial approach. The new Law does not change any arrangements in this respect, any changes seem to be rather unrealistic in view of the fact that the academic community is attached to the traditional model of self-governance of Polish TEIs. The new Law has introduced a possibility for a university-type TEI to establish a council including representatives of the external environment. This arrangement may force TEIs to be more open. Furthermore, as a major novelty arrangement, the Law provides for the establishment of TEI associations, in particular those bringing together university-type and non-university TEIs. This will definitely strengthen the staff resources in non-university TEIs and improve their educational quality.

1.12 For many years, the quantitative and qualitative development of tertiary education in Poland has been influenced considerably by the European integration process and the implementation of the Bologna Strategy. Three-cycle programmes and quality assessment procedures have been introduced very efficiently, and the implementation of the ECTS (which started in mid 1990s) has been equally efficient. Provisions concerning the organisation of study programmes in a way which allows the transfer and recognition of student learning achievements in the home or other (including foreign) institution have been introduced by the new Law on Higher Education. Public TEIs are more advanced in the introduction of the ECTS, but not all of their organisational units or teachers are willing to introduce two-cycle programmes in their fields of study.

1.13 Polish TEIs have been very active in international cooperation for many years. They participated in the TEMPUS Programme, and subsequently in SOCRATES/ERASMUS. Poland is also an active participant in EU SOCRATES MUNDUS. Moreover, joint degree programmes are being established together with foreign TEIs. Further development of cooperation between TEIs requires:

- Development of foreign language teaching, and further extension of the range of programmes delivered in foreign languages at Polish TEIs (full degree programmes, courses, doctoral and non-degree postgraduate programmes);
- Further strengthening of co-operation with foreign TEIs through the tuning of study programmes in corresponding fields; development of joint curricula; and award of joint degrees and diplomas;
- Further and more intensive dissemination of information about the aims of the Bologna Process and benefits from the process among academic staff and students.

This process poses new challenges to be soon faced by Polish TEIs. These challenges require TEIs to increase their competitiveness.

1. NATIONAL CONTEXT OF TERTIARY EDUCATION

1.1. Historical background

1.1.1. Traditions of Polish research and tertiary education from the Middle Ages until Independence

1. Traditions of tertiary education in Poland reach back to 1364 when King Casimir the Great established the Cracow Academy. Originally, with a well-developed faculty of law, the Academy provided well-trained officials to State administration. By 1400, it developed into a fully-fledged university with a faculty of theology. Throughout the following centuries, the Academy remained a major centre of education attracting young people (including Nicolas Copernicus) from Poland and other European countries. Gradually, it also became a major academic centre, developing research primarily in astronomy, mathematics, geography and law.

2. In 1579, King Stefan Batory transformed the existing Jesuit College in Vilnius into the Vilnius Academy. The Jesuit College in Lvov was transformed in 1661 by John Casimir, King of Poland, into Lvov Academy. As a result, the Poland-and-Lithuania Kingdom (Republic of the Two Nations) already had 3 universities in the 17th century.

3. In 1773, the National Education Commission reformed the Cracow and Vilnius Academies, aiming to transform them into institutions training future secondary school teachers, physicians and the clergy, and supervising lower-level schools in their regions.

4. In the 18th century, the Republic of the Two Nations was divided by: Russia, Prussia and Austria. During the early period of partitions of Poland, the three academies in Cracow, Vilnius and Lvov found themselves in different situations.

5. In the Kingdom of Poland, a number of universities were established, including the Mining Academic School in Kielce (1816), Warsaw University (1816), with 1,254 graduates by the academic year 1830/31, the Forestry School (1818), the Agronomic Institute in Marymont near Warsaw, the Veterinary Science Institute, and the School of Civil Architecture in Warsaw. After the fall of the November Uprising (1831), the Kingdom of Poland lost its educational autonomy, and Warsaw University and the University of Vilnius were closed down. When Galicia (the southern part of Poland taken over by Austria) was granted partial autonomy, the Jagiellonian University (formerly the Cracow Academy) and the University of Lvov also gained a certain level of freedom. During the nineties of the 19th century, two other tertiary education institutions existed in this territory: the High Agricultural School in Dublany near Lvov and the Lvov Polytechnics.

6. In the period of political non-existence, Polish tertiary education schools preserved the national culture and identity.

1.1.2. The period between two World Wars

7. After regaining independence in 1919, Poland had five universities (Cracow, Lvov, Poznan, Warsaw, and Vilnius), two technical universities (Lvov, Warsaw), the Academy of Veterinary Medicine in Lvov, the Central School of Agriculture in Warsaw, and the Mining Academy in Cracow. All these institutions had the status of State universities, with extensive autonomy and self-government powers. There were also private tertiary education institutions: the Catholic University of Lublin, the Academy of Fine Arts in Cracow, the High School of Commerce (Central School of Commerce since 1933) and the Free University of Poland in Warsaw. Gradually, tertiary education institutions grew in number (to 25 in 1938) and jointly had 47,700 students. Furthermore, there were numerous tertiary level vocational schools providing education in the areas of engineering and technology, teacher education, arts, etc. The Law of 15 March 1933 on tertiary level schools significantly reduced their autonomy and increased the powers of the Minister of Education.

1.1.3. World War II

8. The outbreak of the World War II interrupted the development of tertiary education in Poland. The Polish education system was abolished by regulations imposed by the occupant German authorities, and teaching staff were under repression.

9. Treacherous arrest and imprisonment of the Jagiellonian University professors in concentration camps had most dramatic consequences. The tertiary education went underground, and nearly all tertiary schools provided underground courses. Clandestine tertiary education is estimated to cover ca. 7 000 students; according to statistics, 600 Master's degrees, 39 doctoral degrees and 19 postdoctoral degrees were awarded. In Lvov (occupied by the Soviet Union) tertiary level schools continued to exist, but under changed names, and offered courses, officially in Ukrainian. Repressions were targeted at both teachers and students of Polish origin. In Vilnius, the Lithuanian authorities abolished the Stefan Batory University and expelled all Polish professors.

1.1.4. Tertiary education under socialist regime (1945-1989)

10. In this period, the situation of the Polish tertiary level education varied both in terms of political freedom and quantitative development. Years of repressions of independent scientists and strong indoctrination of students (1945-1955, 1968-1970, 1980-1983) alternated with periods of relative freedom in university activities during the so-called political "thaws". The situation of tertiary education institutions in Poland (specifically in 1956-1968 and in the 1970-ties) was better than in other Soviet Block countries. Polish universities participated in the international exchange of scientists (including scholarships and fellowships in Western Europe and the US), and the co-operation between universities and industry developed under governmental, ministerial and sectoral research programmes. The concept of ideology-driven education failed, as illustrated by strikes and protests that ended in the transformation of the economic and political system in 1989.

11. In this period, the number of TEIs grew from 54 (1946) to 97 (1989), and the number of tertiary students grew from 86,500 to 378,000 respectively. After 1975, a record-breaking year when the number of students reached 468,100, including 283,200 full-time students, the total number of students gradually declined. At that time, the number of students per 10 000 inhabitants[1] declined even further (from 136.9 in 1975 to 75.4 in 1989) [GUS, 1994 p. XXII-XXV]. Non-degree postgraduate and doctoral programmes were developing. In 1980, doctoral programmes were followed by 5,844 students (including 2,090 women) and non-degree postgraduate programmes by nearly 15,000. [GUS, 1994, p. 190-191]

12. In 1973, as a result of links established between tertiary education and industry, programmes in alternance were introduced, with staff from industry combining periods of study with periods of work.

13. In the Polish People's Republic, TEIs were State institutions. Nonetheless, the Catholic University of Lublin continued to exist and retained its authorisation to award the Master's degree.

14. TEIs in Poland provided solid education, confirmed by the "brain drain" in the 1980-ties (between 1981 and 1996, the average annual outflow of research staff to Western Europe and the US amounted to 3,351). [B. Jałowiecki 1998, p. 16-167]

1.1.5. Changes in tertiary education in the transition period (1990-2004)

15. The change of the economic and political systems in Poland in 1989 marked the beginning of transformations in tertiary education towards institutional autonomy and academic freedom. The process also included changes in the principles and structure of the entire system.

16. Major trends in the initial years of the transition period included:

- extended autonomy of TEIs in practical terms (on the basis of the Higher Education Act of 12 September 1990 and other legislation, see: Annex);
- high rate of growth in the number of students (with the slowdown at the end of the 1990-ties (Annex and Chapter 2), growth in gross and net enrolment rates (Annex and Chapter 2);

[1] Student numbers do not include students of military academies and TEIs supervised by the Ministry of Interior.

- commercialisation: partial but increasing commercialisation of both the tertiary education process and the operation of TEIs (Chapter 7);
- changes in the structure of tertiary education (ownership structure, types of TEIs, types of programmes and fields of study, diversification of education models) (Annex and Chapter 2);
- increasingly manifest contradiction between the quantitative expansion and the need to maintain quality standards (Chapter 9).

1.2. Economic context of tertiary education

17. The initial period of economic transformation in Poland saw a decline in GDP (by 11.6% in 1990 and 7.6% in 1991), whereas the years after 1993 were marked by varying rates of economic growth (52.1% between 1990 and 2003, in fixed prices). [GUS, 2004 a, p. 55]).

18. The number of persons employed was 12,640.7 in 2003, including 16.9% in agriculture, 22.7% in industry, 4.8% in construction, 7.7% in education (the employment level in education was ranked third in terms of the share in total employment. [GUS 2004 a, p. 235-236].

19. Urban population accounts for 61.6% of the total population (12.9% in towns with a population of less than 20,000, 27.1% in towns with 20-200,000 inhabitants, and 21.6% in cities with a population of over 200,000. In total, 38.4% of the total population lives in rural areas.

20. The unemployment rate rose in that period from 6.5% to 20% in 2003. [GUS, 2004a, p. 419, as on December 31]. The reduction of the State budget share in GDP to ca. 18% (2003) in revenues and to 23.2% (2003) in expenditure had a significant impact upon educational policy [GUS 2004 a, pp. 618-619 and 65; author's own calculations].

21. Following political and economic transformations, the role of the State in financing tertiary education has been reduced, which results from both the strained State budget hardly coping with welfare expenditure and costs of long-term investment projects, and the very nature of market economy which has had a strong liberal and monetary orientation in Poland. At the same time, these years saw a growing demand for tertiary education, which was initially determined mainly by increased correlation between the level of qualifications (including formal qualifications) and the level of wages [J. Rutkowski, 1996]. This link was rather insignificant under the socialist regime, thus failing to create a demand for tertiary education.

22. Currently, there is a distinct relationship between the wage levels and the educational attainment, in particular in the private sector. Moreover, the demand for tertiary education remains high because the unemployment rate among tertiary graduates is lower than the average (Chapter 3), and because of increasing aspirations to attain tertiary education levels. This was confirmed by positive responses of 65.8% household members in the survey conducted in 2004 [GUS 2005 b, p. 20].

23. Increase in demand for tertiary education (and related aspirations) combined with the limited capacity of the State budget regarding the financing of tertiary education (Chapter 7) resulted in shifting a large part of tertiary education costs onto students themselves and their families. Tuition fees of varying levels are paid by students of non-public TEIs and students following extramural and evening (part-time) programmes in public TEIs. At present, 58.9% of students pay tuition fees (December 2003, author's own calculations. MNES, 2004 a]. However, the State increased substantially its support for students in 2004 in order to reverse the declining tendency in enrolment (Chapter 6 and Annex).

24. In periods when State-budget subsidies decreased in relative terms (with respect to the number of students) and in absolute terms (Chapter 7), TEIs were forced to look for other sources of funding as provided for in the legislation. At the same time, the economic context forces TEIs to adapt their curricula and fields of study to the demands of the environment (students, employers and the entire labour market) and the profile of their research to the needs of the economy. Moreover, it encourages TEIs to improve their management in order to reduce costs, and to develop skills necessary to obtain funds from sources other than the State budget on a competitive basis.

1.3. Cultural context

25. The way of looking at a university as a place which shapes the outlook on the world and develops knowledge and skills for research, and to a lesser extent as a place which develops practical skills, results from both the historical context discussed above and the cultural context. The deeply rooted tradition of academic freedoms in Poland (with the struggle for such freedoms going on for 200 years) reinforces the tendency to maintain the traditions of the Humboldt-type university and the university as a centre for preserving and developing national culture [J. Gockowski 1999]. Hence, the perception, not only amongst academic teachers but also in the society at large, that academically oriented degree programmes are superior to professionally oriented programmes, and the resulting drift towards academia (undergraduate studies, called "professional studies", are treated as a preliminary stage leading to graduate or postgraduate, "academic", studies and the Master's degree) [M. Wojcicka 2002].

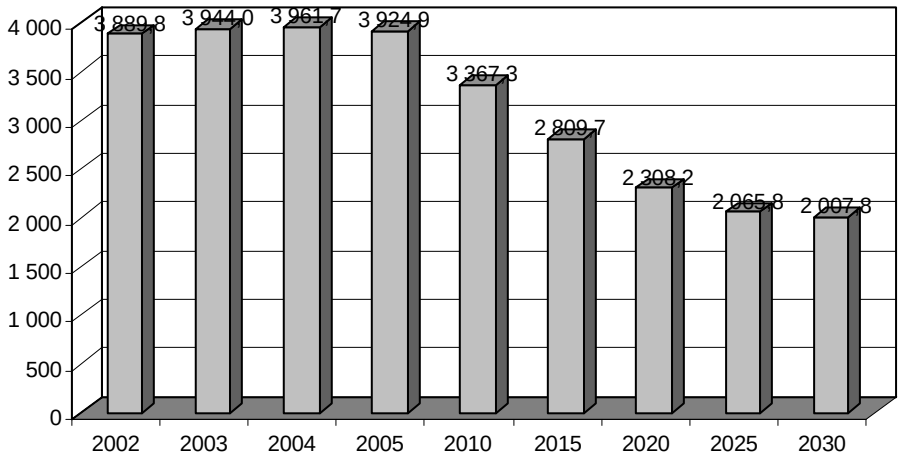
26. Throughout its history, Polish society was multi-cultural and multi-ethnic. Only after World War II (due to changes in borders) did it become relatively homogenous in terms of nationalities [UNDP 1998, p. 56]. The right to education for all citizens is guaranteed by the Constitution of the Republic of Poland (Article 70) and the Act on the School Education System. There are schools at all school-education levels which teach in the mother tongue of national minorities, whereas TEIs offer scholarships for students from ethnic minority backgrounds. Disability is a social problem which affects the equity in access to education, although the number of disabled students has been growing recently as a result of efforts undertaken by the State and TEIs themselves (Chapter 6). In 2003, persons with disabilities (representing different degrees of disability) accounted for 14.3% of the total population.

27. The gender structure of the tertiary student population shows the predominance of female students (except for non-university TEIs training engineers where male students still prevail). There are also differences by field of study (see: Annex).

1.4. Demography

28. Poland has a population of 38,195,000 (30 June 2003). According to demographic forecasts, the number of young people at school age (13-19 years) will decline from the current 7.5 million to 4 million, with negative impact upon the operation of many schools, but this change will also facilitate access to higher levels of education.

Fig.1.1.: Size of age group 19-24 years forecast until 2030 (in '000)



29. The number of young people aged 19-24 years (the age bracket corresponding to the period of tertiary education) will change from 3,944,000 in 2003 and 3,961,600 in 2004 to 3,367,300 in 2010 and to 2,809,600 in 2015. The population of 19-year-olds will decline from 677,400 in 2003 to 611,300 in 2005, 529,800 in 2010 and 422,100 in 2015 [GUS 2004 b, pp. 36 and 43]

2. TERTIARY EDUCATION SYSTEM

2.1. Institutions responsible for policy development and management of tertiary education

30. Main policy decisions with respect to tertiary education are taken by the Parliament of the Republic of Poland in Acts of Parliament. The Parliament may also adopt resolutions of indicative nature. Decisions made in the form of Acts of Parliament concern: 1) the establishment, transformation and liquidation of public (university-type) TEIs[2] or their merger with other public TEIs; and 2) State-budget financing of TEIs and research (as separate sections in the Budgetary Law for a given year).

31. In the Polish Government, tertiary education has been the responsibility of the Minister of Education until recently; following institutional changes in May 2006, currently falls within the remit of the Minister of Science and Higher Education. The statutory responsibility of the minister responsible for tertiary education is to supervise TEIs as regards the compliance of their activities with the law and their statutes (see: Chapter 8). Moreover, the ministry prepares draft legislation to be discussed and adopted by the Parliament or the Government, and issues secondary legislation. The supervisory powers of the minister responsible for tertiary education are exercised by other ministers with regard to TEIs under their supervision.

32. The powers of the minister responsible for tertiary education are exercised (2005 LoHE, Article 33) by:

1) the Minister of National Defence – with respect to military TEIs,
2) the minister responsible for internal affairs – with respect to government service TEIs;
3) the minister responsible for culture and national heritage – with respect to TEIs for art studies;
4) the minister responsible for health – with respect to medical TEIs;
5) the minister responsible for maritime economy – with respect to TEIs for maritime studies.

Public theological schools and faculties of theology in other public TEIs are also supervised by authorities of respective churches and denominational associations.

33. The ministry responsible for science exerts influence on research activities of TEIs as the main provider of State-budget funding for R&D (Chapter 5).

34. Another institution is the Central Commission for Academic Degrees and Titles at the Office of the Prime Minister [Act of 2003, Article 5]. The Commission grants authorisations to award doctoral degrees and the postdoctoral degrees of Habilitated Doctor to organisational units fulfilling certain criteria (see: Chapters 7 and 8). Furthermore, the Commission defines areas and disciplines of science and fine arts in which the two academic degrees and the academic title of professor can be awarded. The Central Commission submits requests to the President of the Republic of Poland to award the title of professor to persons fulfilling specific statutory criteria.

35. The State Accreditation Committee (SAC), a central-level institution established for the first time under the Act of 17 August 2001 by the Minister of National Education and currently operating on the basis of the 2005 Law on Higher Education, gives opinions and presents proposals or conclusions to the minister responsible for tertiary education concerning: 1) the establishment of TEIs, and authorisations to be granted to TEIs to provide degree programmes in a specific field and at a specific level of study, 2) the assessment of the quality of degree programmes in a given field of study conducted by the SAC. The SAC is divided into sections responsible for groups of fields of study (see: Chapters 8 and 9).

36. The General Council for Higher Education is an elected body representing the academic community, acting on the basis of the Law on Higher Education [LoHE of 2005, Chapter 5]. The Council has existed under different names since 1946 (though temporarily closed between 1948 and 1949) and with a varying scope of powers in different periods [P. Hübner, 1974]. It co-operates with the minister responsible for tertiary education and other public authorities in all matters relating to tertiary education, including in particular national educational policy, and the functioning and development of the tertiary education sector (see: Chapter 8).

[2] Public TEIs are established, liquidated or merged by Regulations of the Council of Ministers (2005 LoHE, Article 18).

37. The Students' Parliament of the Republic of Poland is made up of representatives of student self-government organisations existing in individual TEIs. The Parliament has the right to be consulted on draft legislation concerning students and to present proposals concerning student matters (2005 LoHE, Article 203).

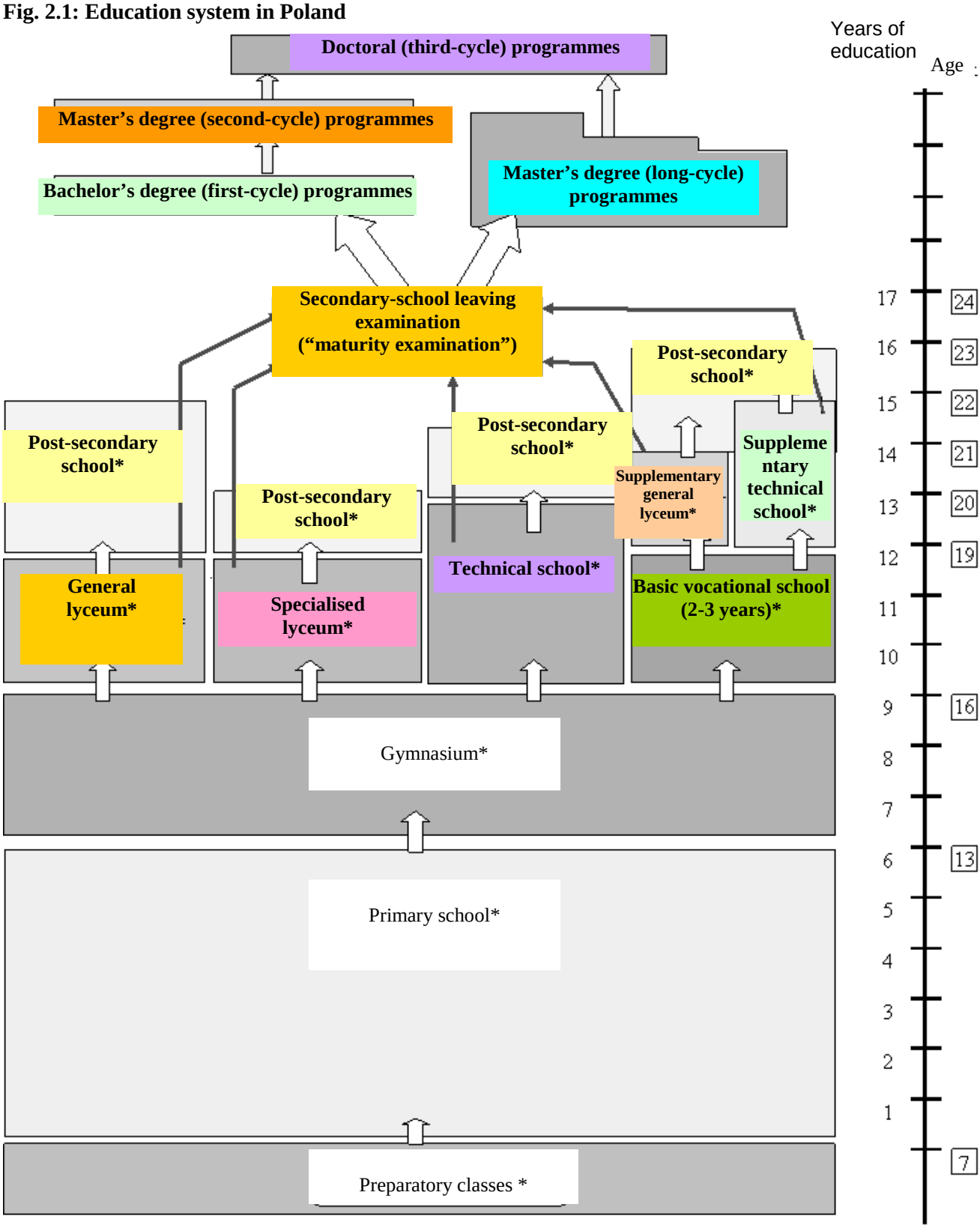
38. Other organisations representing the academic community include: The Conference of Rectors of Academic Schools in Poland (a representative body of university-type TEIs) and the Conference of Rectors of Non-University HEIs in Poland (a representative body of non-university TEIs) (2005 LoHE, Articles 54 and 55), as well as accreditation committees for specific groups of study fields and institutions which have been set up on a voluntary basis by the academic community.

2.2. Levels of study in tertiary education

2.2.1. Tertiary education statistics

39. Polish statistics place tertiary education at the third level of education *(in ISCED – levels C5 and C6).* Tertiary education covers three levels of study. The first level includes first-cycle programmes which are open for holders of the secondary school leaving certificate, and lead to the Bachelor's degree, lasting between 6 and 8 semesters (for *licencjat*) or between 7 and 8 semesters (for *inżynier*), depending on the field of study. The second level comprises long-cycle programmes, open to holders of the secondary school leaving certificate, which last between 9 and 12 semesters and lead to the Master's degree (*magister*), and second-cycle programmes open to those who hold at least the Bachelor's degree, lasting for 3 or 4 semesters, and leading to the Master's degree (*magister* or *magister inżynier*). The total duration of the first-cycle followed by second-cycle programmes or of long-cycle programmes may not be shorter than 9 semesters. The duration of programmes is laid down in the Law on Higher Education [LoHE of 2005, Article 166]. The 2005 LoHE clarifies the structure of programmes and defines the principles underlying two-cycle programmes (see: Chapter 10). The third level of tertiary education includes doctoral (third-cycle) programmes (ISCED level C6).

Fig. 2.1: Education system in Poland



40. The following types of schools exist within the school education system:

- six-year primary school;
- three-year lower secondary school (*gymnasium)*;
- basic vocational schools where programmes last at least 2 years and not longer than 3 years; graduates can obtain a certificate confirming their vocational skills after passing a relevant examination and have access to supplementary education in secondary schools, a general lyceum or a supplementary technical school, where programmes last for 3 years;
- three-year general lyceums (secondary schools) where pupils obtain a secondary school leaving certificate upon passing the maturity examination;
- three-year specialised lyceums (secondary schools) providing training in general occupations; graduates may obtain a secondary school leaving certificate upon passing the maturity examination;
- four-year technical schools (secondary schools); graduates may obtain certificates confirming their vocational qualifications upon passing a relevant examination as well as a secondary school leaving certificate upon passing the maturity examination;
- two-year supplementary lyceums (general secondary schools) for basic vocational school graduates; graduates may obtain a secondary school leaving certificate upon passing the maturity examination;
- three-year supplementary technical schools (secondary schools) for basic vocational school graduates; graduates may obtain a secondary school leaving certificate upon passing the maturity examination and certificates confirming their vocational qualifications upon passing a relevant examination;
- post-secondary schools where programmes last up to 2.5 years; graduates who have completed secondary education may obtain a certificate confirming their vocational qualifications upon passing a relevant examination;
- three-year special schools providing vocational training to mentally disabled persons (with a high or low degree of disability) as well as pupils with multiple disabilities; graduates may obtain a certificate confirming their vocational qualifications.

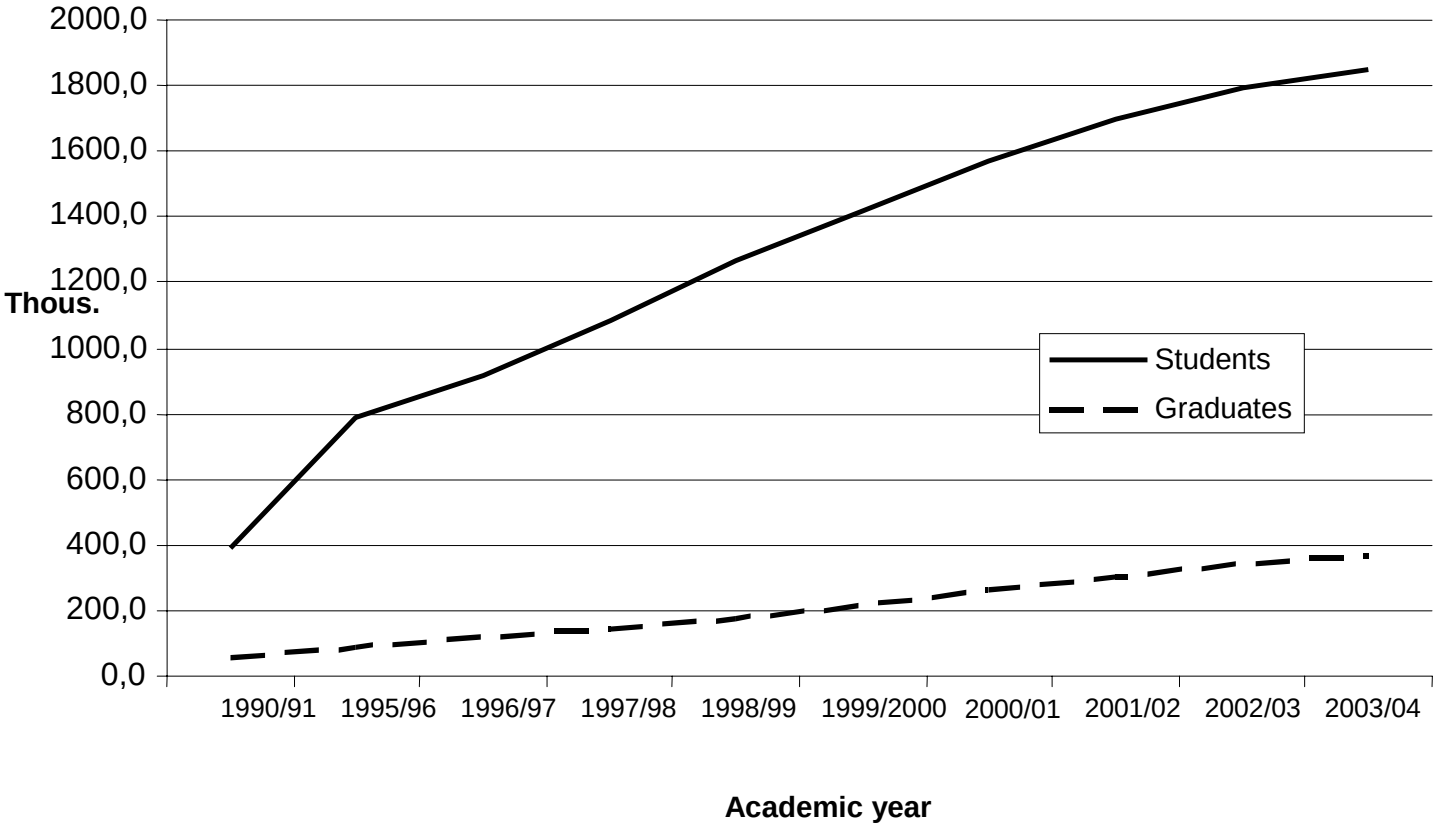
As the educational reform is currently in progress, both school systems, the one under liquidation and the new one, will coexist until the year 2006.

41. Post-secondary schools (ISCED C4) offering programmes which are open to holders of the secondary school leaving certificate and are shorter than 6 semesters are not included in the tertiary education system in Polish legislation or statistics.

42. Non-tertiary post-secondary schools in Poland had 265,700 students in the school year 2003/04.

43. In the academic year 2003/04, the total number of tertiary students (C5) in Poland was 1,926,000, including 8,829 foreign students [GUS 2005], and the total number of doctoral students (C6) was 33,040. At present (academic year 2004/05), there are 427 TEIs in Poland, including 181 non-university TEIs. In total, 854,000 students were enrolled on first-cycle (*liencjat* and *inżynier*) programmes in all TEIs [GUS 2005, p. 108]. In the academic year 2003/2004, first-cycle graduates accounted for 44.9% of the total number of tertiary graduates (see: section 2.3., Annex, Table 9). In 2004, non-degree postgraduate programmes were followed by 136,000 students (as compared to slightly less than 33,000 in 1990).

Fig. 2.2: Tertiary students and graduates, 1990/91 - 2003/04 (in '000)



2.2.2. First-cycle and second-cycle programmes

44. The present diversification of the tertiary education system into levels results both from voluntary efforts of TEIs to adapt the structure of their degree programmes to the rapidly growing and evolving educational needs of the society, and from the legislation which was at times somewhat delayed in adopting necessary arrangements. The legislation currently in force aims to introduce a tertiary education model based on the principles underlying the Bologna Declaration

45. Non-public TEIs, which began to emerge in the early 1990-ties, were not initially (and most of them are not yet) authorised to offer Master's degree programmes, and thus provide mainly Bachelor's degree programmes. In turn, public TEIs have gradually introduced Bachelor's programmes, in addition to their long-cycle Master's degree programmes, for two reasons; firstly, in order to respond to the growing demand for tertiary education; and secondly, to increase the number of their students which determined the level of the State-budget subsidy (after the introduction of the algorithm formula for the distribution of subsidies in 1993; see: Chapter 10).

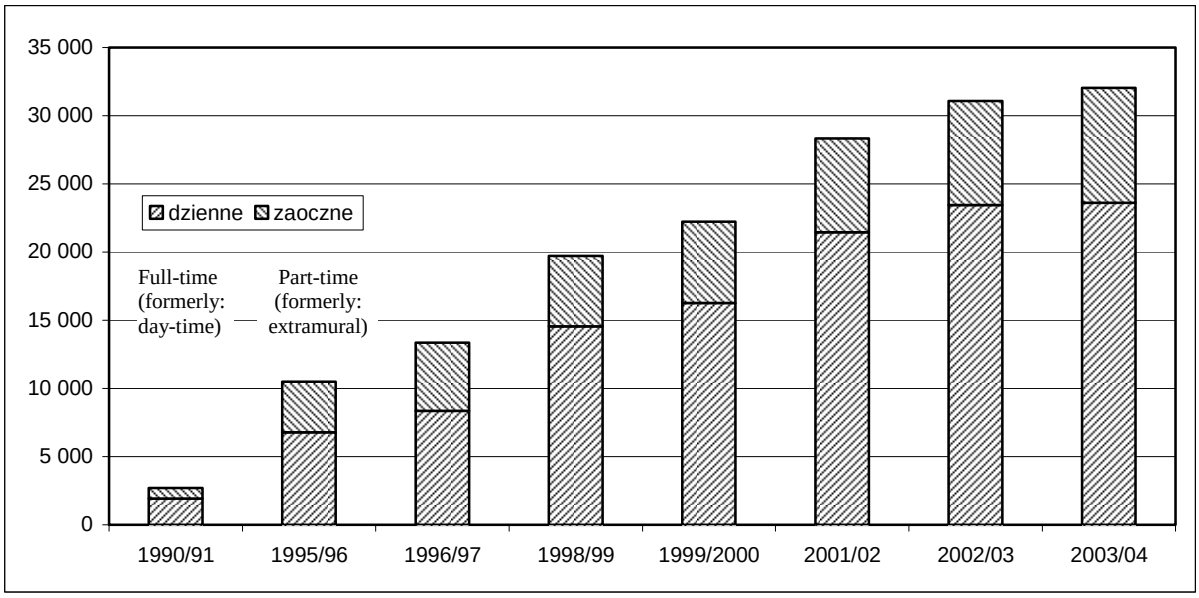
46. According to the 2005 LoHE, first-cycle (*licencjat* and *inżynier*) programmes provide knowledge and skills in a specific area of study and prepare for work in a specific profession, whereas second-cycle (*magister*) programmes provide specialist knowledge in a specific area of study and prepare for creative work in a profession [LoHE of 2005, Article 2]. Degree programmes are provided within fields of study [LoHE of 2005, Article 8]. The minister responsible for tertiary education defines, in a regulation, names of the fields of study and degree programme requirements for each field and level of study [LoHE of 2005, Article 9], and requirements to be fulfilled by organisational units of a TEI to provide degree programmes in a specific field and at a specific level of study (including the minimum number of academic teachers). The work on the guidelines for the development of degree programme requirements has been completed.

2.2.3. Third-cycle (doctoral) programmes

47. Doctoral programmes are open to holders of the Master's degree or an equivalent degree. They provide advanced knowledge in a specific area of science or discipline, and prepare for independent research and artistic activity and for the award of the doctoral degree [LoHE of 2005, Article 2].

48. The beginnings of doctoral programmes in Poland reach back to the 1960-ties, although students were preparing for the doctoral degree in the past mainly through assistantships in a TEI or a research institution. In the initial years of the transition period, the number of doctoral students declined to a half of its 1980 level (from 5,844 to 2,695 in the academic year 1990/91; GUS 1987, p. 477, Annex), but began to increase very rapidly thereafter.

Fig. 2.3: Doctoral students in TEIs and research institutes



49. In the academic year 2004/05, a total number of 33 040 students were enrolled on doctoral programmes, including 69.7% doctoral students on full-time (regular) programmes. A decided majority of doctoral students (93.0%) study in TEIs, and the remaining number in institutes of the Polish Academy of Sciences and R&D units. In 2004/05, women accounted for 48.2% of the total number of doctoral students [GUS 2005, p. 82].

50. Doctoral programmes are subject to the provisions of Chapter 6 in the Act of 14 March 2003 on Academic Degrees and Titles and Degrees and Titles in Fine Arts [*Dziennik Ustaw* 2003, No. 63] and Section IV, Chapter 3 in the LoHE of 27 July 2005. (*Dziennik Ustaw* 2005, No. 164.). The Ministry of Science and Higher Education is currently preparing a Regulation on requirements and procedures for the organisation of doctoral programmes. Doctoral programmes may be provided by organisational units authorised to award the academic degree of Habilitated Doctor (Article 37 (2)) or to award the doctoral degree in at least two disciplines [LoHE of 2005, Article 195]. These authorisations are granted by the Central Commission for Academic Degrees and Titles. The authorisation to award the degree of Habilitated Doctor and, consequently, to provide doctoral programmes may be granted to an organisational unit employing at least 12 full-time academic staff who hold the academic title of Professor or the academic degree of Habilitated Doctor in the area of science or fine arts in which the unit is applying for such authorisation, including at least 6 holding the title of Professor [Act of 2003, Article 6 (2)].

51. The legislation does not define any requirements for the content of doctoral programmes as this is the responsibility of the unit offering a doctoral programme. Resolution of the GCHE No.120/2004 recommends that the doctoral study programme should specify precise objectives, the type of courses and number of course hours, as well as clearly formulated additional requirements (e.g. participation in seminars or lectures). According to a survey conducted in 2000 among 2nd year doctoral students [M. Dąbrowa-Szefler, 2001], students value highly doctoral studies in terms of their usefulness for research career, but find them less helpful for career in any other profession. On the other hand, they do not generally agree that doctoral programmes are "only an extension of degree programmes". However, when making decision to enrol on a doctoral programme, more than half of the respondents considered the doctoral degree to be the next level of study. With no follow-up research conducted and no debate held in this area, it is impossible to determine the extent to which the current model of doctoral programmes is designed to prepare graduates for research career, and to what extent it prepares graduates, in line with the Bologna Declaration, for creative work in other professions [P. Bielecki 2005, p. 17].

52. Surveys conducted in 2005 in Warsaw TEIs (M. Dąbrowa-Szefler, P. Sztabiński) confirm that the current model of doctoral studies focuses, primarily, on preparing the graduate to embark on research career. However, nearly half of the total population of doctoral students questioned said that they were willing to undertake jobs outside the science and research sector. Recently, CRASP has taken up a challenge to develop a new model of doctoral studies in Poland.

2.3. Tertiary education by sector, type of institutions, field of study and form of study

2.3.1. Tertiary education sectors

53. Since 1990, Poland has had two, public and non-public[3], tertiary education sectors. In the socialist period, there were initially 3 non-State theological TEIs (7 in 1990[4]), including the Catholic University of Lublin as the one authorised to award the Master's degree. Two non-public TEIs, the Catholic University of Lublin and the Pontifical Academy of Theology in Cracow, are financed by the State budget [Act of 1991 Act and LoHE of 2005 respectively], except funding for fixed assets under construction [LoHE of 2005].

54. Of the total number of 427 TEIs in Poland in the academic year 2004/05, 126 were State institutions with 1,344,000 students, accounting for 69.8% of the total population of tertiary students. The number of students in State TEIs increased by more than four times between 1990/01 and 2003/04 and 2.3 times between 1993/94 and 2003/04 [Annex]. The fastest rate of growth in the number of students of State TEIs (more than 10%) was recorded between 1992/93 and 1997/98 to slow down subsequently. In the academic year 2004/05, the number of students in State TEIs increased by 2.9% (as compared to the previous academic year). Within the entire tertiary education system, the student population increased by 3.6% in the same year. Graduates of the State TEIs (both levels) accounted in the academic year 2004/05 for 65.0% of the total population of tertiary students in Poland.

55. The Minister of National Education registered the first non-State TEI in 1991, and the total number of non-State TEIs in the academic year 2004/05 was 301, including 14 denominational institutions [GUS 2005, p. XIX], and non-State TEIs continue to grow in number. Between 1993/94 and 2003/04, the number of the non-State TEI students increased 18.8 times, i.e. from 28,937 to 582,112 [Annex, Table 4]. The highest growth rate, exceeding 50% per year was recorded between 1993/94 and 1997/98. After 2000, the rate of growth in the number of students slowed down to reach the level of over 3% per year. The share of students of non-State TEIs increased in that period from 4.95% to 29.47% (end of 2003). The number of students of non-State TEIs increased between 1993/94 and 2004/05 from 1,700 to 133,710.

[3] 2005 LoHE replaced the terms "State" and "non-State" with „public" and „non-public" respectively.

[4] In addition to the CUL, these include theological TEIs established under the agreement of 29.07.1989 between the Republic of Poland and the Polish Episcopate Conference (*Dziennik Ustaw* 1989, No. 63) and tertiary seminaries of other denominations recognised as TEIs on the basis of separate legislation adopted later [GUS 2004 a) S. XI].

56. The share of graduates of non-State TEIs in the total number of tertiary graduates in the academic year 2004/05 amounted to 34.9%.

57. In 2003, of 301 non-State TEIs, one fourth was authorised to award the Master's degree and 5 TEIs were authorised to award the doctoral degree.

58. The relations between the public and non-public sectors of tertiary education are somewhat strained, which may be explained primarily by two reasons: 1) the fact that the non-State TEIs did not receive State-budget subsidies to cover teaching and operational costs until mid-2004; and 2) attempts undertaken by State TEIs to restrict the possibility for their academic teachers to take up additional employment in non-State TEIs. As regards the first problem, despite the State budget constraints, the Government decided in 2004 to allocate subsidies for financial support for students and investment projects in non-State TEIs. The second problem results from the shortage of highly qualified academic teachers (holding the title of Professor or the degree of Habilitated Doctor) in relation to the number of students which has grown rapidly in the recent years. The workload of the academic staff holding higher-level academic qualifications in State TEIs is excessive, and thus a threat to the quality of teaching and a barrier to research conducted by TEIs (Chapters 5 and 7). The 2005 LoHE includes new provisions whereby TEIs which are the primary employer may control employment of their academic teachers in other TEIs (Chapter 7).

59. The LoHE of 2005 (Article 2) divides TEIs into:

1) university-type TEIs which have at least one organisational unit authorised to award the doctoral degree;
2) non-university TEIs which do not have such authorisations and which provide first-cycle or second-cycle programmes, or long-cycle programmes.

This distinction is relevant with regard to the extent of autonomy of a TEI (see: Chapter 8).

2.3.2. Types of tertiary institutions and fields of study

60. The type of institution is defined by prevailing fields of study in which degree programmes are provided by a given institution, and which are included in a specific area of knowledge (Annex, Table 5). In the last decade, as a result of commercialisation, shifts in the structure of demand for tertiary education as well as the trend towards an interdisciplinary approach in both research and teaching, the situation in this respect has changed to some extent as certain types of TEIs, e.g. technical universities, are establishing degree programmes in fields of study which belong to economic sciences rather than the area of engineering or technology.

61. In the academic year 2004/05 (31 December 2004), with non-university TEIs (181) excluded from the analysis, the largest group comprised universities of economics (93). Only 5 such TEIs existed in 1990/91, but their number increased as a result of the rapidly growing demand for graduates in these fields. However, the largest numbers of students (554,900) are enrolled in universities, accounting for 28.8% of the total population of tertiary students. In terms of the number of students, universities of economics and technical universities rank second and third respectively. The fastest increase in the number of students between 1990/91 and 2004/05 was recorded in universities of economics (16 times), with a clear slowdown after the year 2000. Teacher education TEIs also recorded a slight decline as compared to 2003/04 but, overall, the number of their students nearly tripled in the period between 1990/91 and 2003/04 [Annex, Table 5]. Last year, a slight decline in the number of students was also recorded in technical universities, while other types of institutions continued to increase the numbers of their students, although at a slower rate. This trend does not apply to enrolment in medical TEIs, where the number of students grew last year by 12.3%. The lower level of interest in economics, business and administration can be seen more clearly when analysing groups of fields of study (see: Chapter 3). This shift in the interest in specific fields of study last year seems to result from the opening of the European labour market where graduates of IT and medical studies can find employment easier than on the domestic market.

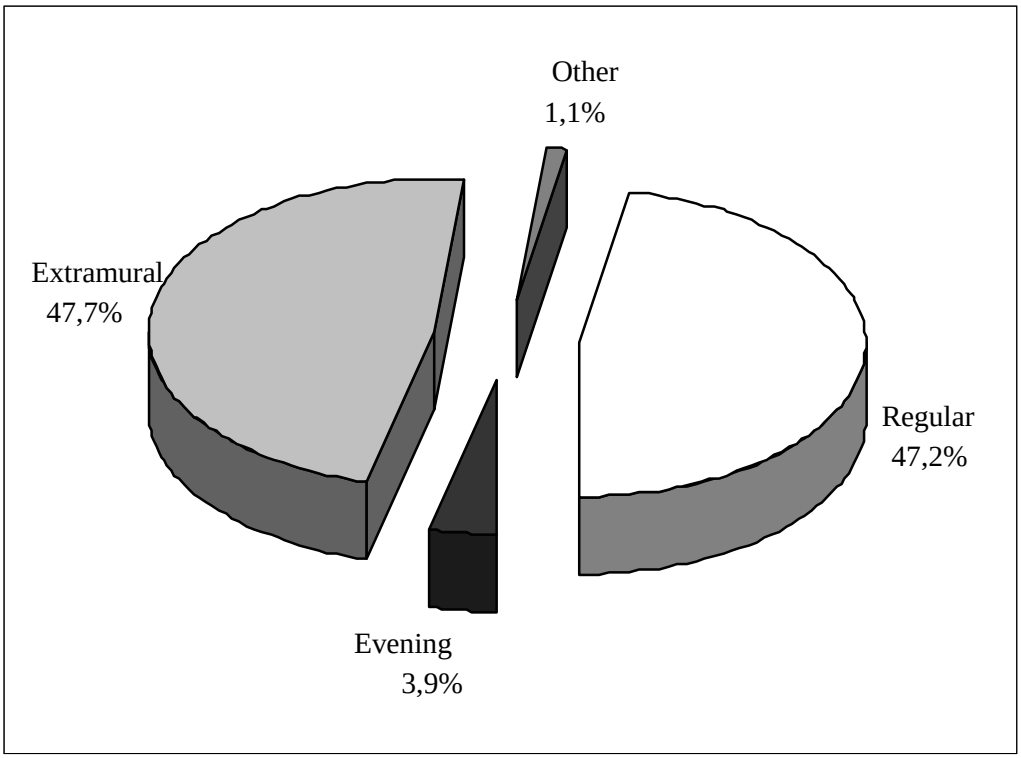
2.3.3. Tertiary education by form of study[5]

62. In terms of forms of study, the new LoHE [LoHE of 2005, Article 2] distinguishes between full-time (formerly regular) and part-time (formerly evening, extramural and extension) programmes. Forms of study differ in the number of teaching hours provided for in degree programme requirements for a given field of study. According to the Regulation of the Minister of National Education and Sport of 18 April 2002, the number of teaching hours in evening programmes may not be lower than 80%, and for extramural studies – 60%, of the number of hours specified by programme requirements for a given field of study. The Resolution of the CCHE No. 120/2004 adds "the obligation to obtain the full number of ETCS credits as provided for in programme requirements for a given field of study." Furthermore, evening and extramural students are required to complete all basic and major courses listed in programme requirements and cover the full scope of their curricular contents.

63. Full-time (regular) students of public TEIs do not pay tuition fees, while all others pay fees of varying amounts as determined by their TEI (Chapter 7).

64. The number of regular students increased at a slower rate than that of students following the other forms of study (taken jointly) [Annex, Table 6]; hence, their share in the total student population declined from 77.2% (1990/91) to 47.9%. Non-regular students account for nearly 53.1% of the total (data for 2004/05). In non-public TEIs, regular students account for 28.8% while non-regular students for 71.2%. In these TEIs, all students pay tuition fees. Evening and extension students account jointly for slightly less than 5% of the total number.

Fig. 2.4: Structure of students by mode of study, 2003/04



[5] Statistics for earlier years use the term „mode of study", while the new LoHE introduced the term „form of study."

2.3.4. Students by gender and age

65. In 1992, female students accounted for 52.8% of the total student population, and for 50.6% of regular students [Annex]. The share of female students has been steadily increasing in general; it is larger in non-public than in public TEIs. In 2003/04, the share of female students was 55.6% (54.6% of regular students) in State TEIs, and 58.8% (57.3% of regular students) in non-State TEIs [GUS, 2004 a, p. 2].

66. In 2002/03, women accounted for 61.5% of the total number of tertiary graduates [Annex, Table 9], with the largest share among graduates of Bachelor's (*licencjat*) degree programmes (70.4%). Women constituted a minority (32.9%) only amongst graduates of Bachelor's (*inżynier*) degree programmes which are provided in engineering and technology fields of study.

Students by age (excluding foreign students)

Age group	Form of study (in %)	
	Regular	Non-regular
19 and under	16.5	6.4
20-25	80.8	61.3
26 and over	2.6	32.3

2.4. Tertiary education development programme: determinants and strategic objectives

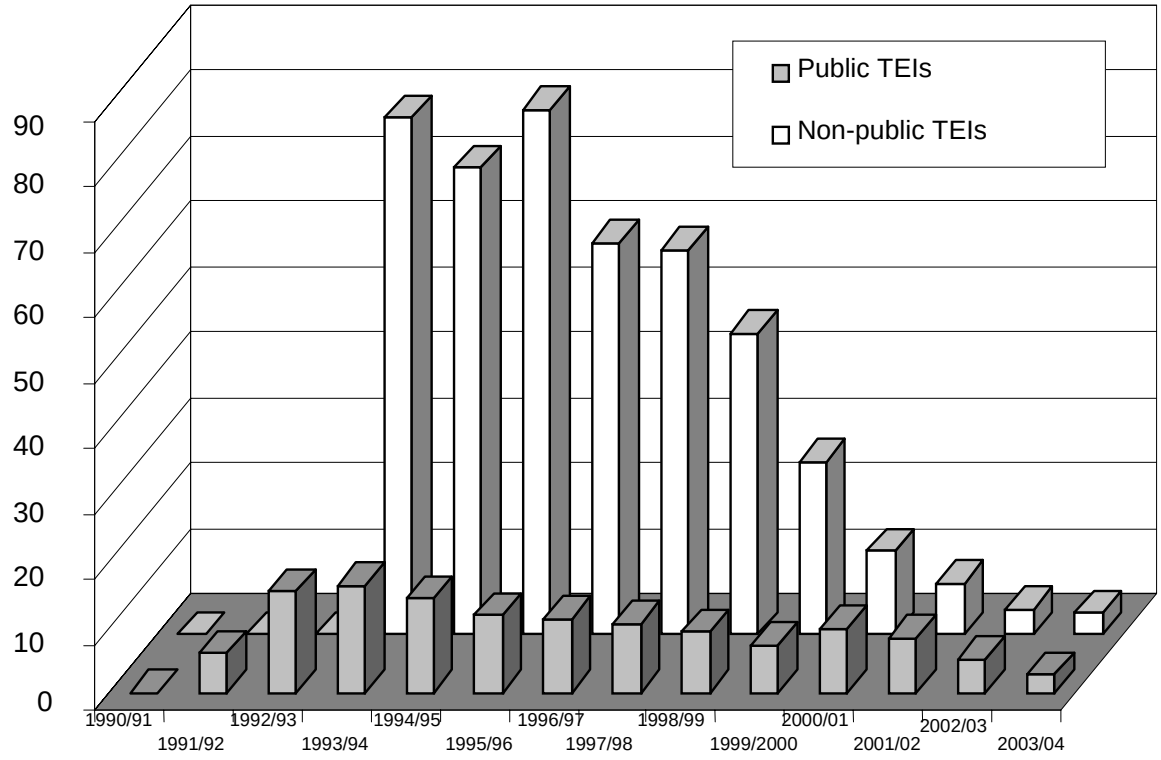
2.4.1. Determinants

67. When drafting a development programme, the following characteristics of the current situation in tertiary education should be taken into account:

- slowdown in the rate of growth in the number of tertiary students, although the increasing trend is maintained in absolute numbers;
- projected decline in the number of young people graduating from secondary schools and entering the tertiary student age (19 years);
- lack of stability in the State-budget funding for tertiary education, the need to restructure the sources of funding (taking account of EU funding);
- need to adjust tertiary education to the aims of the Bologna Strategy, and to create a common tertiary education area, and at the same time the need to cope with competition from foreign TEIs.

(The last two determinants are discussed in detail in Chapters 7, 8 and 10).

Fig. 2.5: Growth in the number of tertiary students in Poland, 1990 - 2003 (in %)



2.4.2. Strategy development

68. During the 15 years of transition, a strategy for the development of tertiary education and research has not been discussed in any debate at the State level. The Parliament adopted (in 1996), after a short discussion, only one Resolution on the need to increase funding for tertiary education and research. This Resolution is currently implemented (in the part concerning TEIs). Poland lacked an in-depth, comprehensive debate on the vision and long-term objectives, while discussion within the academic community focused on individual elements of the system (though usually very important ones). A wide academic community debate on tertiary education problems was held in the course of drafting of the new tertiary education law. Its adoption on 27 July 2005 did not, in the author's opinion, end the debate because too many issues remain controversial. These issues are primarily related to the model of education, the model of academic teacher career as well as sources of tertiary education funding (including private contribution to tuition costs). The 2005 LoHE, before a consensus about these issues may be reached, will likely need to be amended in the future. It was, however, urgently needed in order to adjust Polish legislation to the Bologna Process. Nevertheless, the debate needs to be continued on the strategic objectives of tertiary education in the context of transformations in Europe (including competition from foreign TEIs) and on the most difficult components of its performance mechanism (which are discussed in following Chapters).

69. In August 2005, the Government adopted the Education Development Strategy 2007-2013 which includes strategic aims of the development of tertiary education. The strategy requires an in-depth analysis and corrections to be adjusted to the programme implemented by the new Government. The Strategy constitutes an integral part of the National Development Plan 2007-1013. The General

Council for Higher Education has been working on the model of third-cycle programmes, which is an important contribution to development of the Strategy.

70. And thirdly, in 2003, the Council of Minister adopted the Strategy for the Development of Continuing Education until 2010, prepared by the MNES in collaboration with other ministries. The strategy defines the directions for the development of continuing education in the context of the lifelong learning concept and the development of knowledge society. However, the Strategy does not identify tasks to be performed by tertiary education in this area or forms and methods of training and retraining at the third level of education.

2.4.3. Primary objectives of the tertiary education development

71. The strategic objectives of the tertiary education development in Poland, in view of the development of knowledge-based economy, should focus on increasing the share of tertiary graduates in the total population. At present, this ratio is much lower than the European average[6]. Hence, it is necessary to increase the share of tertiary graduates in the population aged 25-59 years from the current 19% to at least 22%. This objective may be difficult to achieve with the continuously declining trend in the demand for tertiary education which may lead to a decline in the absolute number of students. There is a need to counteract this trend by removing barriers in access to education and by strengthening educational aspirations of the society. The development of continuing education, including adult education at the tertiary level, should constitute another pillar in the implementation of the strategic objective of increasing the share of tertiary graduates in the society.

Other strategic objectives are discussed in Chapters 8 and 11.

[6] The share of tertiary graduates in the total population aged 15 years and over reached 16% in EU15 (Finland and Sweden = 22%), while the average rate in the age group 25-59 years was 22% (Sweden = 31%, Finland = 34%). [GUS 2004 d, p. 195-196]

3. TERTIARY EDUCATION AND LABOUR MARKET

3.1. Tertiary education policy and the labour market balance

72. For a few years now, Poland has had a high unemployment rate. Boosted as they have, employment opportunities of young people are to be viewed as a major success, derived from the raising of the overall education level of the society as result of the demand for tertiary education over the recent decades. Certain structural imbalance of the labour market which has an impact on tertiary graduates in some fields of study is a side-effect of specific phenomena in three areas: 1) the economy (slower economic growth rate, economic growth without employment growth, and rapid changes in the structure of the economy), 2) supply of places on university courses (giving inadequate regard to the structure of demand for graduates in the labour market), and 3) demand on the part of those applying to enrol in degree programmes in certain fields of study. Indirectly, this imbalance is coupled with the considerable autonomy of TEIs and the rapid development of the entire tertiary education system (active policy of the State as regards the restructuring of the tertiary education system to satisfy requirements of the labour market has chiefly a local dimension and focuses primarily on the strategy for the development of the public non-university TEIs, to be discussed further in this Report).

73. Tertiary education seems to be increasingly treated by the national authorities (as well as by certain sections of the society) as an effort of individual students, ensuring personal success in the market economy and an investment in oneself, rather than a driving force for the social and economic development and for the growth of the modernisation potential of the society. This may be illustrated by: the unwillingness[7] of the successive governments to steer tertiary education institutions and students, e.g. towards choosing specific fields of study; the insufficient increase in expenditure on tertiary education, which in Poland does not match the growing number of students; the pace of the development of non-public TEIs and paid tertiary education being greater than that of programmes for which no fees are charged; and, on the other hand, a continued interest in taking up tertiary education studies. [see e.g. Buchner Jeziorska, 2001, p. 332].

74. In the communist era, the tertiary education system, as all other areas of social activity in Poland was shaped to fit the then economy and centrally planned, as was the entire social and economic system. The State used to set the limits for the number of places in TEIs, so it was in control of the number of students and the education structure. For all that, the State never managed to fully balance the number of tertiary graduates and the needs of the labour market. Formally, the unemployment rate in Poland was non-existent; there were jobs for all graduates, yet many individuals were employed in positions that did not correspond to their field of study or level of qualifications. Engineers frequently worked as technicians, and technicians as labourers [Buchner Jeziorska, 1998, p. 65]. The planning of demand for tertiary graduates pivoted dramatically upon the start of systemic transformations in Poland in 1990.

75. Although over the last 15 years there was no directive or indicative planning, educational policy guidelines or official government strategy for the development of the tertiary education system that would link the direction of such development and the structure of tertiary education to the labour market demand, in fact since the very outset of the transformation, the government authorities pursued a relatively clear policy of development of the tertiary education system [Lepiech, 1998]. By and large, the policy focused on ensuring greater supply of tertiary graduates to the labour market (without specifying the desirable structure of education by area of study) and increasing professional competence of those starting their careers; they were expected to contribute by definition to the upgrade and development of the economy through the use of their newly acquired knowledge. Given the general reluctance to planning, unclear transformation strategy and the resultant lack of awareness of the demand structure of the labour market, major attention was paid to the raising of the low enrolment rate in TEIs. In view of the central state budget shortages, this was to be achieved primarily by adequate legislation, enabling the establishment of non-public TEIs and the charging of tuition at public TEIs from non-regular students. The rules and procedures were set for the establishment of

[7] The unwillingness appears to result from the fact that any intervention by the State in matters of tertiary education is interpreted by the academic community as an attempt to infringe upon the autonomy of TEIs.

TEIs, branch campuses of TEIs, branch units in other locations, and for the establishment of degree programmes in new fields of study; TEIs were allowed to diversify the range of programmes offered through the introduction, in early 1990s, of shorter-cycle (Bachelor's degree) programmes in the place of long-cycle Master's degree programmes (shorter programmes were available in Poland before, but delivered exclusively in the evening and extramural mode). The number of narrow-scope fields of study was reduced through their consolidation from 192 to 106 [Szulc 2004]. The steps outlined above enabled the broadening of educational profiles and more flexible adjustment to the diversified requirements of the economy. In view of the need to adapt programme contents and individual courses to the demand of the fluctuating labour market, the so-called minimum curriculum requirements (today called degree programme requirements)[8] were adopted for individual fields of Master's degree programmes and, subsequently, Bachelor's degree programmes. These included uniform requirements for some courses, and allowed TEIs to select the remaining curricular contents, depending on the needs[9].

76. In 1997, a new Act on Schools of Higher Vocational Education was adopted to enable the establishment of non-university TEIs in the regions with underdeveloped tertiary education. Besides, the Act was also designed to adjust better the programmes provided to the labour market demand, co-relate teaching with the needs of local economies and better prepare graduates to meet employers' expectations, by equipping students with many practical skills, through the introduction of curricular requirements different than those for other types of TEIs. To this end, a compulsory 15-week practical placement was introduced for students of non-university TEIs; and an arrangement whereby practitioners, including local government officials, became members of TEI governing bodies was to enhance the influence of the local community and employers on the educational profile of graduates. Most of these goals have been achieved. However, as shown by relevant research, not all intentions have proven a complete success. Some non-university TEIs attempted to make curricula more academic, at the expense of practical skills and knowledge (the academic drift discussed earlier in this Report). Some students and employers considered the studying at a non-university TEIs as yet another stage of the education process, preparing for Master's degree programmes in university-type TEIs. Moreover, practical placements undertaken by students in the course of study in a non-university TEI were not always organised properly [Drogosz - Zabłocka et al., 2002, Wójcicka 2002].

77. However, the strategy aiming to adjust the structure of the emerging public non-university TEIs to the needs of the local labour market should be highlighted. When reviewing applications for permits to establish public non-university TEIs from different regions of the country, the Minister of Education takes into account local social and economic needs, demography and the unemployment rate in the region. Priority in this process is given to applicants from the regions affected by high unemployment as the establishment of a TEI is seen not only as a way of raising the overall level of education in the area, and thus also enhancing employability of young people, but also of creating new jobs in the local service sector, and thus reducing the unemployment rate.

78. A number of factors stimulated the **growth in demand** for tertiary education. These included: demography (i.e. baby boom generation entering the tertiary school age); the development of, and broad access to, secondary education enabling enrolment in tertiary education; growing educational aspirations; expectations of tertiary graduates to have a better position in the labour market; and lower unemployment rates among those with tertiary education, along with prospects for a higher pay.

79. The **structure of demand** for tertiary education was shaped not only by a subjective opinion of applicants that completion of a degree programme in a specific field of study will enhance their employability. Research shows that, more frequently than in the groups with lower educational attainment, what matters are personal interests, not always convergent with the labour market demand for graduates in specific fields of study. Structural unemployment among graduates has been linked to yet another factor: the number of applicants over the last decade exceeded the number of places in TEIs, so some candidates were choosing faculties where places were available, or those which did not

[8] See the previous chapter.

[9] According to some representatives of the academic community, programme requirements include too many courses, which increases the rigidity of the education system and obstructs its adjustment to the market needs.

require passing an entry examination (e.g. part-time programmes in public TEIs, or programmes in economics/business in non-public TEIs, the graduates of the latter accounting in fact for the largest portion of unemployed graduates).

80. On the other hand, the supply of places in various fields of study is also an important factor. Research shows that when establishing a degree programme in a new field of study, or increasing the number of places, TEIs take first into account their own staff capacity, and only secondly expectations of secondary school leavers. The labour market demand is not taken into account systematically as only a few TEIs analyse the labour market demand for its graduates and use results of such analysis [Oferta szkolnictwa…, 2004].

81. Non-degree postgraduate programmes constitute an extremely important element in the process of adjusting qualifications to the labour market demand. Lasting between 2 and 4 semesters, such programmes are designed for TEI graduates wishing to update or expand their knowledge, or partly change their professional qualifications. They cover a vast range of topics, often the skills and expertise sought by the market. This seems to be the most flexible form of education because of its quick response to the market demand. Non-degree postgraduate programmes are available at every TEI, many offering a very wide choice of courses, and information about them is easily available.

82. Continuing education is a key element in the process of adapting qualifications of potential employees to the market needs. However, it is still both under-invested and underestimated. On the one hand, only 0.6% of the State-budget expenditure on education is currently allocated for adult education. On the other hand, as shown in a GUS survey[10] among economically active population, 17% participate in education as part of their school education, 8% in extramural courses, and 29.4% in non-formal education. Regrettably, those most frequently participating in continuing education are persons in employment, well educated and living in urban areas, whereas the share of those with lower educational attainment and unemployed is relatively small.

83. Continuous education is still an unpopular option as a way of improving skills or changing qualifications, underestimated both by job seekers and by TEIs themselves. The national authorities recognised the importance of lifelong learning, adopting a strategy for the development of continuing education until the year 2010 in July 2003. The strategy sets out directions and methods of supporting the development of continuing education in the context of the lifelong learning concept and the development of knowledge society. However, the document fails to mention the role and methods of continuing education provided in TEIs. The MNES has, nonetheless, undertaken work to draft another document on continuing education that should take account of the role of TEIs and enhance the importance of non-degree postgraduate studies, short-cycle education and e-learning

84. In Poland, there are other initiatives fostering the development of continuing education, e.g. the Leonardo da Vinci Programme supporting the EU policy in the area of continuing education, which Poland joined on the basis of the decision of the Association Council in 1998. Another programme concerning the adaptation of education to the changing labour market is the EU Human Resources Development Programme, managed during the 15-year pre-accession period (i.e. before 1 May 2004) by the Polish Agency for Enterprise Development (PAED) and financed by PHARE. Following Poland's accession to the EU, the programme fell under the responsibility of the MNES, the MEL and the PAED, with financing provided under the European Social Fund. At present, the HRD Programme is included as the sectoral Human Resources Development programme in the National Development Plan. It aims, amongst others, to improve access to education, to promote continuing education, to improve the quality of education in relation to the needs of the labour market, and to develop human capital to meet the needs of modern economy and entrepreneurship.

85. In seeking new forms of preparing graduates for their future career that would extend beyond the standard education, TEIs offer courses teaching how to face competition in the labour market, e.g. by focusing on entrepreneurship or interpersonal skills. TEIs set up careers offices, providing broadly defined employment agency services that help students and graduates to prepare for entering the

[10] The GUS paper is based on the general results of a representative Survey of Economic Activity of the Population¸ BAEL and the modular Lifelong Learning survey, 2003.

labour market; they ensure flow of information between them, the graduates and their potential employers, offer individual assistance in choosing and planning career, and train in skills required to seek and apply for a job. As of 1998, career offices are associated in the National Network of Careers Offices. The first one was established in 1993, at the Copernicus University in Toruń; there were 146 such offices in 2003, and their number reached ca 200 in 2004.

86. In order to promote entrepreneurship among students, TEIs also set up academic business incubators; such establishments already exist in 10 TEIs. Recently, a contest was held for students working in the incubators to establish a company. Winners of the contest are granted access to free consultancy on the establishment of a company, administrative and legal support to obtain funds for investment and development, help in establishing co-operation, office premises, etc. (source: www. inkubatory.pl). The business initiatives presented in this Report are extremely important as they all support TEI students not only in their job seeking, but also in the creation of jobs for themselves and others.

3.2. Information (statistics, research results) as a prerequisite for successful implementation of labour market policy

87. The margin of uncertainty as to economic development strategies, related to the systemic transformation in Poland and changes of the sector and ownership structure, and the resulting shift of demand for certain qualifications are much greater in the countries with well-developed economies and stable structure. This poses certain problems in the adjustment of education patterns to the labour market. Adequate information is crucial for both the national authorities to pursue a specific policy of tertiary education development and individual prospective applicants to choose a field of study. However, comprehensive data are not collected regularly and thus are not available in Poland.

88. The Central Statistical Office (GUS) collects only partial data on changes in the labour market balance (structure of unemployment in selected professions). For instance, the data on the level of registered unemployment by level of education refer only to the registered unemployed, and thus do not include all unemployed tertiary graduates. Systematic career tracking data are not available either (a paper on careers of graduates was drafted by GUS in 1994 and 1997; another round of research was completed only in autumn 2004)[11]. Moreover, after the closing of the National Labour Office in 1999, only a portion of statistics prepared by the Office before was transferred to regional labour offices for compiling; no data exist on the market demand and its absorption potential for specific professions or fields of study. Labour offices keep only registers of the unemployed without distinguishing between those with tertiary education qualifications and unemployed graduates, and record employment offers for the so-called professionals. However, neither employers nor TEI graduates treat the labour offices as job agencies; thus, the statistics from this source do not reflect the current needs of the market, whether in terms of the structure of qualifications, or the most sought fields of study. Furthermore, as of 1996, TEI graduates who do not take up employment are no longer eligible for an unemployment benefit. Since only those unable to find a job on their own register with labour offices, the unemployment data from labour office are sketchy.

89. Furthermore, there are no systematic analyses of the labour market that would cover persons with tertiary education qualifications across the region. No surveys have been made on the unemployment of graduates in a breakdown by TEI, not to mention a systematic analysis of the salary level depending on the TEI that employees have graduated from, or any representative research on employers' preferences with respect to graduates of individual TEIs, specific type of programmes (regular, evening, or extramural), or to the level of a given programme (masters or bachelors). Henceforth, opportunities for pursuing an active educational policy which takes account of labour market needs have been limited, if only due to the absence of adequate information [Drogosz - Zabłocka, 2000, p. 116]. Moreover, the MNE can implement a specific strategy for the development of tertiary education matching the needs which emerge as the economy grows only when it has access to up-to-date information from the Ministry of Labour. So far, the MNE has not had access to adequate data from other ministries.

[11] The most recent research (2004) concerned educational tracks, and not career tracks as the previous round.

90. Forecasts of the future demand for tertiary graduates are needed in order to implement a policy and long-term strategy ensuring the labour market equilibrium. After 1990, experts in various institutions prepared occasionally forecasts of demand for highly qualified staff. In January 1998, the Inter-Ministerial Task Force for Labour Demand Forecasts at the Government Centre for Strategic Studies developed a methodology [Strzelecki 2001] and then a paper presenting the estimated demand for different groups of professions. This valuable material may be used in the future to design the part of a strategy for tertiary education development which would concern a desirable structure of education.

3.3. Employment of tertiary graduates and the level of structural unemployment in the economy

91. The educational attainment of the society has been rising (the gross enrolment rate in tertiary education grew from 17.6% in 1994/5 to 46.4% in 2003/4.) In Q4 2003, there were 3,5 million tertiary graduates among 31 million people in the age group of 15 years and over (11. 4%). Those with education were more active economically than the less educated people: the overall labour force participation rate was 54.8% as compared to 79.8% in the group of tertiary graduates; in turn, the employment rate for the entire group of economically active was 44.2%, compared to a much greater rate of 73.7% among those with tertiary education qualifications [GUS, 2003].[12]

92. In the period of economic transformation, the largest growth in the number of the economically active was recorded among tertiary graduates. Moreover, the occupational structure of those in employment has been changing. An analysis by so-called large groups of occupations[13] shows that the largest growth of employment took place in the so-called large group including persons working for providers of personal services, shop assistants and office staff, and in the large group of the so-called **professionals**, including tertiary graduates [Kryńska, 2003, page 121].

93. In 2003, 366,141 persons graduated from TEIs (Table 1, Annex), with substantial differences in the numbers of graduates by field of study. The largest group included graduates in economic sciences and administration, teacher education and social sciences. As for the popularity of different fields of study, measured by the number of students, the most attractive were: Management and Marketing, followed by the top ten that comprised: teacher education, economics, administration, IT, law, finance and banking, political and social sciences, foreign languages and literature, mechanical engineering (see Table 2 in Annex; N.B. the table includes only 21 most popular fields of study. The data are incomparable with those compiled by CSO, presented in Table 1, where the breakdown refers to groups of fields rather than individual fields. See also the explanatory note under Table 1). During five years between 1999 and 2004, individual fields of study enjoyed varying popularity: the number of management and marketing students dropped by 9.6%; a slight decrease in the number of students was recorded in history, law and Polish literature, while the number of students of management and production engineering grew nearly seven times; some increase was also recorded in the number of students of international relations, IT, sociology, and tourism and leisure (the data cover only 21 most popular fields of study). However, as shown by the data on unemployment in various occupations, the changes of students' preferences were insufficient for the supply of graduates to adjust to the structure of the market demand (see: below).

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[12] In this Report, the terms such as labour force participation rate, employment rate and unemployment rate are defined in line with GUS statistics (e.g. see *Rocznik statystyczny pracy* 2003, GUS 2003). **Labour force participation rate**: share of economically active graduates in the group of all graduates. **Employment rate**: share of employed graduates in the group of all graduates. **Unemployment rate**: share of unemployed graduates in the group of all economically active graduates.

[13] The statistics on the unemployed have not been compiled by graduates' field of study, but by occupation for which a graduate is trained, in accordance with the so-called Classification of Occupations and Specialisations, developed by the Institute of Labour and Welfare in 1995. This classification identifies the so-called **large occupational groups (**9) and **medium-size occupational groups**. The occupations that require a high level of competence and hence tertiary education are assigned to the occupational group of "**professionals"**. This large group includes a number of medium-size occupational groups which are subdivided into **specialisations, including those listed in Table 7**.

94. In 1994, the unemployment rate in Poland was 13.9%, but only 3.6% among tertiary graduates. The unemployment was declining until 1997 (when the unemployment among tertiary graduates was 2%) and then started to grow up to 7.6% in 2003 (in other words, the rate rose 3.5 times, whereas the overall rate rose by only 5.7 basis points)[14]. It should, however, be noted that over the period, the number of tertiary graduates was growing fast on the labour market; furthermore, the unemployment rate has remained in the reversed proportion to the level of education and continues to be at the lowest level among tertiary graduates (see: Table 3). Although the number of unemployed tertiary graduates registered in labour offices was on upward trend, the period of job seeking within that group was still shortest (see Table 4): in Q2 2004, the period was over 12.4 months on average, whereas the mean period for all unemployed was 16.3 months.

95. However, a reason for concern is the number of those unemployed tertiary graduates who, at the time of the survey, remained jobless for less then 12 months as from the time of their graduation: in 2003, as many as 31,399 such unemployed were registered, and their number has been growing every year (see: Table 5), in line with the increase in the number of tertiary graduates.[15] Moreover, the overall unemployment rate among **tertiary graduates overall** is lower than in the group of those who graduated less than one year before the survey.

96. The problem of unemployment does not affect to the same extent all occupational groups. In 2001, economists were the largest group of the unemployed registered with the National Labour Office, followed by marketing and trade specialists, teachers, administrative and political scientists and lawyers[16]. However, despite the decreasing demand for tertiary education programmes in these fields in the recent years, they are still the most popular and best represented in non-public TEIs.

97. Even less information is available about professionals sought and job vacancies. The Statistical Yearbook gives the number of job vacancies by type of activity and by occupation and not by field of study. Hence, it is difficult to establish which graduates are in short supply. For example, in 2002, 2,700 job vacancies were registered on the labour market as available for the large group called „professionals", including 1,100 for physicists, mathematicians and engineering and technology specialists. However, it is necessary to bear in mind that statistics are based on the information collected from regional labour offices, where employers submit job offers only after they have used all other means to fill in vacancies. Thus, the actual demand for certain professionals is much higher although never registered by statistics. Dispersed information on the shortage of engineering and technology graduates, in particular IT professionals, and foreign language professionals, can be found in various publications. According to a 2004 survey [Sztanderska, Minkiewicz, Bąba, 2004] in TEI career offices which receive offers from employers looking for prospective employees, the most sought after were graduates of ITC, services, engineering and technology fields, economics and administration, transport services and environment protection.

98. Labour market is not only about matching the competence of job candidates to expectations of their prospective employers, but also about an equally important matter of tertiary graduates taking up their own economic activity. In view of the extremely high unemployment rate in the country and the economic growth resulting more from the increasing labour productivity than from the employment growth[17], the establishment of one's own business is a particularly desirable phenomenon, much appreciated by the authorities. The National Action Plan for Employment, approved by the

[14] It should be noted that the unemployment rate has been rising steadily since 1998, i.e. the year when the rate of growth in GDP began to decline (by contrast, the rate of GDP growth between 1993 and 1997 was rising, while the unemployment rate was on the decline). Since 2002, Poland has recorded the growing rate of GDP growth (see: Table 6), which however is not yet reflected in the unemployment rate.

[15] A tertiary graduate is defined commonly as any person who holds tertiary education qualifications. The BAEL survey of economic activity defines a **graduate** as a person who completed his/her education not more than 12 months before the survey. Naturally, graduates are included in the entire population of people with tertiary education qualifications. This distinction is relevant because the unemployment rate for those who have recently graduated is higher in Poland than the rate for the total population of tertiary graduates.

[16] Because the National Labour Office was closed, no data for the period after closing are available.

[17] While the labour productivity per 1 employee in Poland in 1998 accounted for 42.5% of the EU average, it rose to 50,3% in 2003 (see. MEL, Krajowy plan…, 2004).

Government on 21 September 2004, proposes a series of facilitating arrangements for business newcomers, e.g. the development of business consultancy and training services, subsidised jobs, and one-off grants for new businesses.

99. In the near future, the Polish labour market will feel an impact of the international market. Until now, in spite of Poland's membership of the EU, few member states have opened their labour markets to Polish workers. There are no official statistics on illegal work undertaken by Poles abroad. According to incidental statistics, Poles usually go abroad for short trips, not longer than several months, to perform work which does not require tertiary education qualifications. However, increasing numbers of physicians, dentists, IT professionals, and smaller numbers of engineers take up longer-term employment in other countries. According to the National Census, ca 780,000 people stayed abroad in 2003, including 626,000 for a period longer than 12 months. Employment is given by respondents (44%) as the primary reason of travel. The most frequent destinations included Germany, the U.S., Italy, the U.K. and France. The educational attainment of Polish citizens staying abroad is higher than the average level at home [Golinowska 2004]. Poland's accession to the EU on 1 May 2004 opened labour markets to Polish workers in some member states, including the U.K., Ireland and Sweden. According to MEL estimates for the end of November 2004, jobs abroad were taken up by 417,500 Poles, including 350,000 seasonal workers. Most of workers travelling abroad are still those working seasonally in agriculture, horticulture, forestry, construction, catering and tourist services. [Ziomek 2005]. They are often well educated but do physical labour. According to a survey conducted at the end of 2005, until very recently 97% of Polish cleaners working in Sara Intl., a London company, had tertiary education qualifications, with 30% holding even two degrees. Currently, 50% of this population are people with tertiary education qualifications. However, increasingly often, Poles undertake a different kind of jobs, for example in offices. According to another survey, in the first quarter of 2005 the largest group of workers from new member states (with Poles accounting for 27%) includes office staff working in administration and business, and managers. The second largest group includes employees working in hotels or catering outlets; 19% work in agriculture, fishing and food processing, while 8% in manufacturing. According to some economists, the Polish economy can only derive benefits from Polish workers working abroad. They learn foreign languages, culture of a given country, and establish new contacts – for them it seems to be a university of entrepreneurship [Ziomek, ibid.].

3.4. Education and wages

100. Educational attainment is a major factor underlying wage differentials. In 2001, the wage level was highest among tertiary graduates (see Table 7 Annex): their salary amounted to PLN 3,292.11 on average and was over 48% higher the national average of PLN 2,216.55 per month. Differences continue to exist between the levels of remuneration of females and males. In 2002, men with tertiary education qualifications were paid 70.7% more than the average in male population, whereas women with tertiary education were making only 39.4% more than the average in the female population. Paying less in general though, the private sector of the economy creates better payroll conditions for both men and women alike. Tertiary graduates working in the private sector earn more than twice as much as the sector average, as compared to only 23.6% over the average in the public sector.

101. The wage levels differ considerably across occupations. The "large group" of "professionals", which includes people with tertiary education qualifications, is very diverse. It comprises medium-size occupational groups like academic teachers and health care professionals (on average earning PLN 3,041 and PLN 2,904 respectively), as well as those earning a relatively high salary, including:

- physics, mathematics and engineering or technology professionals (PLN 3,700); in this group, the highest salaries were paid to IT professionals (PLN 4,378), architects, engineers and representatives of similar professions (PLN 3,546); and
- the so-called other professionals (PLN 3,568.5), including lawyers (PLN 5,012), some arts and culture professionals (PLN 3,620) or business professionals (PLN 3,569).

Low salaries were paid to teachers (PLN 2,398), in particular teachers in nursery schools and the first three forms of primary schools (PLN 2,176).

3.5. Expectations of graduates, students and employers concerning competencies of potential employees

102. No reliable information is available on the role of the Bachelor's and Master's degrees in determining the employability of graduates. Some polls (e.g. Drogosz Zabłocka, Minkiewicz, Nowakowska-Siuta, 2002, Wójcicka 2002) of students' and graduates' opinions indicate that employers value the Master's degree higher than the Bachelor's degree. Likewise, students themselves often consider their Bachelor's degree as the first step towards a Master's degree programme. There are no surveys among employers on the actual value of a good or very good diploma (and grades in the student's record book) as having impact on the student's employability, but some graduates believe that grades on a diploma are not insignificant. Neither has any systematic research been conducted on the relation between the TEI of the graduate and his/her employability. However, the analyses published by some Polish daily newspapers (Rzeczpospolita, Perspektywy) show that graduates of some TEIs have fewer problems in finding a job than others. This is the case of the TEIs leading the press rankings of TEIs or faculties (see: rankings of Rzeczpospolita and Perspektywy of 14 April 2004, or of Newsweek of 16 March 2004).

103. The surveys on the relevance of the knowledge gained in the course of study at a TEI and personal qualities of graduates are fragmentary and dispersed, are not conducted regularly, and their findings are ambiguous. Polish researchers studying labour market issues and employers agree that students should not only have adequate knowledge, but also develop certain personal qualities and practical skills in the course of study. In addition to the preparation for employment, the primary objectives of tertiary education include: transfer of general knowledge that provides a basis for critical and independent thinking, making independent judgements in complex situations, and encouraging students to develop their knowledge continuously. Other crucial elements are: teamwork skills, communication and negotiation skills, and the ability to make synthesis and to undertake calculated risk. According to the survey of Polskie Forum Akademicko Gospodarcze (Polish Academic and Economic Forum) among 20 CEOs of large Polish companies, graduates applying for jobs are increasingly better prepared in terms of professional skills, but still have certain "shortcomings" in terms of their personality (employers look for those with interpersonal skills, able to cope with unpredictable environments, willing to find solutions for complex problems and to learn continuously). The most sought after employee should be creative, innovative, ready to learn and develop, flexible, open, reliable and conscientious [Jóźwiak, 2003].

104. Employers expect prospective employees to have knowledge, experience (prior employment), skills as well as the right attitude and personal qualities. These requirements are not always convergent with student's picture of employers' requirements.

105. Findings of various surveys question the practical usefulness of the knowledge provided by Polish TEIs for those working in industry. According to AIESEC, the knowledge is too theoretical [Dzidzik, Kluska, 2003, p. 233], although other surveys challenge the relatively common opinion that specific knowledge and skills developed during tertiary studies are of fundamental importance to the labour market [Sulejewicz, 2003b]. On the other hand, specialised education is ranked only 15th, and general education 17th (out of 18 categories) among employee qualities important for the employer [Dzidzik, Kluska 2003, p. 244]. Moreover, a survey on employers' preferences, based on the analysis of vacancy announcements published in the press, shows that "the expectations as to specialist knowledge and skills are relatively infrequent in job offers". This is also confirmed by interviews which show that corporations focus on a proactive approach, interpersonal skills, intellectual abilities and character, with definitely less emphasis on the candidate's academic or theoretical knowledge, or technical skills [Minkiewicz, Drogosz Zabłocka, 2003, p.189 and 192; Miciński 1999, p. 207]. Other surveys show that employees do not have any preferences concerning the applicant's field of study, the key elements being character qualities and readiness to learn [Butzke 2003, p. 151].

106. The employers themselves are to some extent responsible for the gap between curricula and market needs. The need to involve social partners from various business communities in decisions on the teaching process in tertiary education seems to be widely recognised in the context of adapting curricular contents to the market requirements or developing graduate profiles. In the Polish realities,

this partnership is not working perfectly because of certain difficulties in expressing the expectations and understanding them [Jóźwiak, 2003, p. 19]. Furthermore, employers are not too enthusiastic about contributing to surveys on their expectations towards graduates.

The employers' requirements are not always convergent with student's picture of employers' requirements.

107. Being aware of difficulties on the labour market, tertiary students and graduates try to enhance their prospects for employment. A representative survey of 1997 showed that the majority (85%) start looking for a job while still studying, or up to one month after graduation. The methods of finding a position include letters sent directly to potential employers (81.8%), registration with the regional labour office (72.3%), and responding to job offers (63%) [GUS, Losy zawodowe…1998]. However, the situation has been changing: in 2005, most students and graduates were looking for jobs via the Internet (79% of respondents), browsing job advertisements in the press (69%) and using their personal contacts (38%) [Gazeta Wyborcza, 3 October 2005, survey by Modus]. Any experience gathered in prior employment (ad-hoc jobs are sufficient) is an important factor determining employability. Jobs are taken up in the course of studies by part-time students, as well as by full-time students (detailed data are not available). As a side effect, students extend the duration of their tertiary studies and postpone preparing, or even decide not to submit, their Master's theses. Obtaining a degree in a second field of study is another way students choose to improve their prospects for employment. Moreover, employers value skills extending beyond "a standard set" developed in a TEI, such as the knowledge of another foreign language, computer and office skills or a driving licence. A number of surveys have confirmed these preferences of employers. Most students develop such competences before entering the labour market.

4. REGIONAL ROLE OF TERTIARY EDUCATION

4.1. Changes in the regional role of TEIs: national education policy and development concepts

108. The map of currently existing TEIs in Poland has been shaped by two separate processes. The first process is the gradual and slow historic (see Chapter 1) development of an elite tertiary education system, clustered in a few academic centres that also housed research and development institutes. This process continued after World War II, in a few and later dozen or so academic centres. After the war, TEIs used to establish branch campuses and extramural units, along with the so-called off-site consulting outlets to enable broader access to education for those unable to study outside of their place of residence. Some branch campuses have been transformed into independent TEIs, thereby satisfying ambitions of the local authorities and regional needs. Furthermore, higher engineering and teacher education schools were established outside large academic centres; the engineering schools were later transformed into technical universities. Until the early 1990s, the public tertiary education system was tightly concentrated in a few places. The second, spontaneous and extremely dynamic stage in the establishment of new TEIs began upon the collapse of the communist system, when non-public TEIs began to emerge under the Higher Education Act of 1990. Compared to the non-public sector, the number of the new public TEIs set up in the 1990s was relatively small. In 1997, upon the adoption of the Act on Schools of Higher Vocational Education, the concentration of the tertiary education system has been reduced as a result of the establishment of public and non-public non-university TEIs.

109. When discussing the active regional policy of the national authorities responsible for tertiary education, it is necessary to stress the different stance of the public and non-public tertiary education sectors. The minister responsible for tertiary education does not have any legal instruments to pursue a regional policy for the development of non-public education; thus, this sector has been expanding spontaneously, and for policy purposes the minister may only use accreditation processes and formal procedures for the establishment of new TEIs and degree programmes in fields of study or specialisation areas. In order to obtain a permit of the minister for the establishment of a TEI and a degree programme in a specific field of study, applicants are only required to fulfil the minimum staffing criteria and other formal criteria related to the adequate quality of teaching. As regards the regional development of public non-university tertiary education, the Ministry of Education has pursued an active expansion strategy in co-operation with local authorities (see: Chapter 3). In line with this strategy, the priority criterion is the potential contribution of a TEI to the cultural, social and economic development of a region. Likewise, the permit to establish a degree programme in a specific field of study is granted by the Ministry of National Education on the basis of an analysis of local needs and the rationale given by the applicant. However, no instruments are used to reward a TEI (e.g. by an increase in the subsidy) for involvement in the regional development or to provide conditions for such involvement. Funding for such purposes may be obtained from local authorities, various funds and private institutions contracting services.

110. In the early 1990s, most non-public TEIs were not established in the regions with a low number of such institutions, but – on the contrary – in big academic centres or close to them. This is understandable because the rapidly growing non-public tertiary education sector relied unavoidably on academic staff with limited teaching workload who were employed on a full-time basis in public TEIs and research institutes of the Polish Academy of Sciences. Thus, the non-public sector was expanding thanks to multiple jobholding and/or contractual lecturing. The number of academic staff with a regular job in non-public TEIs was very small as compared to that in the public sector. In terms of geographical distribution, the situation changed, at least formally, after the entry into force of the Act on Schools of Higher Vocational Education (non-university TEIs) in 1997. As a result, the tertiary education system became more “dispersed” than before. Today, TEIs are situated in over 100 cities and towns of a different size. It is worth emphasising that public non-university TEIs were set up after 1997 outside the traditional academic centres, with the authorities making sure that other TEIs of a similar profile did not exist in the vicinity.

111. The idea of developing a national strategy which promotes a more balanced development and defines the regional role of tertiary education is rather unrealistic because, according to the new 2005 Law on Higher Education, the Minister responsible for education may pursue a policy vis-à-vis public TEIs, but still has no legal instruments to influence the regional development of the non-public sector (the 2005 Government strategy for the development of education 2007-2013 did not include regional aspects of the development of tertiary education). It seems that the national authorities should focus on the establishment (and expansion) of the tertiary education sector in the regions with high unemployment rates and lower levels of economic development, but the core strategy and main lines of development remain the responsibility of local authorities.

112. Not in all regions are the local authorities fully aware of the importance of the education sector and the potential of tertiary education in stimulating regional development [Dietl, 2000, Buchner Jeziorska, 2000]. Another problem is the passive attitude of various stakeholders combined with a very limited number of national or regional policy initiatives aiming to promote regional co-operation between tertiary education institutions, industry, government and the civic society. However, the emerging regional development programmes may help those concerned to recognise the importance of TEIs in under-developed regions. It is worth noting that some general aims of the development of tertiary education in regions have been proposed by academic centres. They draw on the concept of regional development within the global economy in the context of the emergence of knowledge-based society. [Kukliński, 2000, Jałowiecki, 2000 Dietl, 2000]. The specific Polish realities hamper, however, the mobilisation of regions. Regional traditions disappeared in the socialism era; there are no distinct social and cultural differences between regions in terms of their economic and cultural activity, entrepreneurship and innovative approach; the development of local democracy is constrained, which impedes the establishment of regional institutional links between TEIs and regional-level institutions.

4.2. Regional distribution of tertiary education institutions

113. Regional development of tertiary education may be analysed in a breakdown by administrative units, i.e. 16 provinces (see: Table 1, Annex). The analysis shows that TEIs and students are still concentrated in several provinces, with evident impact of the historic distribution of large academic centres. In 2003/4, 86 TEIs in the Mazowieckie province (with its Warsaw academic centre) accounted for over 20% of all tertiary students. The region has also recorded the highest ratio of students to the total population and the lowest unemployment rate of 13.4%. Apart from the Mazowieckie province, the following 3 of all 16 provinces have the largest number of students: Silesia, Małopolska and Wielkopolska, whereas the lowest figures are recorded in the Lubuskie, Opole and Warmia-Mazuria provinces. These provinces take a similar position in a breakdown by the ratio of students to the population and, roughly, the unemployment rate. In as many as six provinces (Lubuskie, Opole, Warmia, Subcarpathian, Kujawy-Pomerania and Pomerania), the ratio of students to the total population is below 4%. The Lubuskie province has only 5 TEIs, training 1.8% of the total student population, and the unemployment rate of 25.4%.

114. Warsaw is the largest Polish academic centre which has the largest Polish TEI, Warsaw University, with 56,000 students. In 2003/4, over 310,800 students were enrolled in 69 TEIs in Warsaw, including 153,500 in non-public TEIs. The students in Warsaw accounted for 16.7% of the total number of students in Polish TEIs. The group of the largest Polish academic centres also includes Cracow, Katowice, Poznań, Wrocław, Lublin, Łódź and Gdańsk, accounting for 51.6% of all students. Some TEIs have branch campuses, faculties and departments in other locations (105 units training 101,800 students) and consulting centres (81 units with 25,600 students) [GUS, Szkoły wyższe… 2004].

115. In view of their different roles, geographical reach and reputation, TEIs may be divided into two groups. The first one comprises large, prestigious university-type TEIs in traditional academic centres whose influence is supra-regional or national and, presumably in the future, international. These TEIs train most highly-qualified staff (also at the doctoral level) for the entire country and also play, to a large extent, a supra-regional role in research and services for their environment (consultancy, applied research). The second group includes all other TEIs, operating mainly at regional level. Both types of TEIs seem indispensable as their activities are complementary to each other.

116. The breakdown presented above reflects the conflict between the regional function and the focus on maintaining international standards in education and research. This conflict, however, cannot be avoided in Poland in view of a large number of TEIs, not all of which, obviously, are able to meet international standards, but also due to limited human and material resources: high quality, best educated staff and „state-of-the-art" equipment. Another major factor is the high level of diversification of TEIs. TEIs are located closer to students and improve access to education but remain unable to achieve critical mass necessary to create the atmosphere of academia and to undertake ambitious research. The relevant state policy is of dual nature; on the one hand, it focuses on ensuring the minimum necessary quality of teaching through uniform degree programme requirements to be respected by TEIs and the supervision exercised by the State Accreditation Committee; on the other hand, the State pursues a policy of selectiveness and concentration as regards the performance of the research function by TEIs.

4.3. Regional role of TEI: determinants and barriers

117. In many regions of the country, there are still areas with only non-public TEIs. Unlike public TEIs operating outside the large academic centres and linked to local authorities, non-public TEIs may not be so well placed to stimulate economic activity and culture in their region. Moreover, the focus of a TEI (whether public or non-public) on local matters poses certain problems. (see: survey of Fundacja Edukacyjnej Przedsiębiorczości /Foundation of Educational Entrepreneurship/, Dietl, Sapijaszka (ed.), 2000, Dietl, 2003, among several dozen non-public TEIs in various regions). This survey and other studies identify the following constraints on the regional role of TEIs:

- Non-public TEIs are less adaptable to local market needs because their authorities have only a limited knowledge of current and future needs of stakeholders.
- Authorities of some TEIs and their staff refuse to see their TEIs as regional institutions, claiming that any applied research to satisfy local needs, or adjustments made in the programmes offered in order to bring them closer to the demand on the local labour market, diminish the quality of the institution.
- The development of local TEIs wishing to become important academic centres is constrained by the inability to create such critical mass.
- Press rankings of TEIs (and TEI accreditation criteria) have not accounted for the problem of adapting TEIs to regional requirements.
- Not only TEIs, but also the local bureaucracy is sometimes inclined to perceive the regional role and services of TEIs as an ad-hoc action. It is worth noting that the regional development strategy requires projecting long-term actions of all regional players and exerting influence that increases the attractiveness of the region for investors, along with improving the living standard and quality of life. Some researchers also highlight the role of the local environment in attracting and retaining highly-qualified graduates of TEIs who ensure further regional development [Dietl, 2003, p. 75]. Fragmentary research shows that only a small percentage of graduates of the TEIs placed outside large research centres and metropolitan areas remain in their regions (between 20 and 30%), although the situation varies actually across regions.
- In most cases (with a few exceptions), non-public TEIs situated outside large academic centres offer inexpensive courses, which do not require teaching equipment, in social and economic sciences or – more rarely – in engineering or humanities. With this narrow range of study fields covered, TEIs can hardly be successful in their efforts to retain graduates in the region, and can hardly be a factor balancing the local supply of graduates and the local demand of industry.
- The regional role of TEIs consists not only in satisfying the local demand, but also in creating new jobs, both directly and indirectly, by stimulating and developing entrepreneurship and innovativeness of graduates, conducting research useful for the region, creating intellectual elites, strengthening and developing culture, and encouraging active citizenship [Polańska, 2000].
- Non-public TEIs situated in smaller towns are not infrequently managed by rectors who, living far away from the place, have no connections with the area of the TEI's activity and do not know much about the region.

- The local business does not show too much interest in provincial TEIs. Research indicates that globalisation and internationalisation in business have not fostered the development of the local focus of TEIs; local branches of large multinational corporations have a centralised staff and training policy, often using their own training facilities.

118. So far, easier access to tertiary education for children of those running small companies has been the most important factor for the local business. In this respect, the TEIs situated outside large academic centres play a major role by raising the level of education of the next generation of SME entrepreneurs and managers. For instance, in some non-public business schools, the students representing this section of the local community account for as much as 70% of the total number of their students. [see Dietl, 2003, p. 78].

119. The analysis of the geographical distribution of public and non-public TEIs shows that it is mainly non-public TEIs and a small number of public non-university TEIs that play the role of regional institutions (as opposed to institutions operating at macro-regional or national level). It should also be noted that some of these TEIs offer only part-time (evening or extramural) programmes, and a decided majority of TEIs have most of their students enrolled on programmes delivered in this mode. This means that the regional role of such TEIs is by definition limited to weekend activities, and one can hardly speak of "day-to-day shaping" of attitudes of students and local organisations. Moreover, academic staff coming mainly from other places, see their work in such TEIs as an extra job rather than primary employment. Most of such TEIs do not conduct research, while their teaching staff are engaged in research in their home institutions. Thus, such TEIs can hardly develop their regional profile.

4.4. Roles of TEIs in the region: Examples of strong influence

120. TEIs may have a positive impact on various aspects of their environment. Although no regularly collected data are available for all TEIs as regards the extent and effectiveness of their regional role, selected examples support the conclusion that, in favourable conditions, TEIs may exert considerable impact. Examples of such impact are given below [based on: Ratajczak, 2000, Prusek, 2000, Kawałko, Kowerski, 2000, Piskurewicz, 2000, Kubiak, 2000, Woźniczak, 2000, Buchner-Jeziorska, 2000, Pawełek, Wanat, 2000, Zelazko, Remi, 2000, Mackiewicz, Wolny, 2000, Dietl 2000].

4.4.1 Educational role

121. In order to raise the level of education in the region, a TEI provides regular, evening and extramural degree programmes and training courses for the local business, adapts curricula to specific needs of the region and trains company staff at the request of their employer. Most TEIs offer non-degree postgraduate programmes. Some schools co-operate with, or support, primary or secondary schools, offering language courses or looking after their computer laboratories.

4.4.2. Culture-stimulating role

122. This includes students' cultural and sporting activities, students' initiatives that promote the TEI at regional or national level, the role of libraries, creation and dissemination of new cultural patterns, promotion of education in the local community, and development of entrepreneurial attitudes and innovative approaches. Some schools are already becoming a centre attracting intellectual, but this is a long-term process. TEIs also establish various institutions supporting social integration of local business, and networks of various institutions.

4.4.3. Economic role

123. In this context, one should distinguish between the direct and indirect impact of TEIs. A TEI has a direct impact when it creates jobs and makes investments. The most active TEIs have purchased land and buildings, made repairs and re-constructions, adapted premises of factories or primary schools closed down because of the population decline. TEIs investing least lease premises, and hence pay rent. TEIs invest less in equipment, mainly in computer and audiovisual equipment (according to the survey quoted by Dietl, equipment accounted for 17% of capital expenditure in the surveyed TEIs, of which 70% were spent for computers). The smallest budgets were allocated for the creation of libraries with basic text-books and reference materials for students. In many towns, the expenditure of non-public TEIs prevented complete ruin of many buildings, enabled effective use of unoccupied

premises in bankrupting enterprises or public institutions. Many TEIs have renovated dilapidated premises of historic value, initiated campus-construction projects in several cities, and built student dormitories and canteens.

124. TEIs also play an economic role by: creating jobs related, directly or indirectly, to the establishment of the school, e.g. in the service sector, transport, culture, catering; renting accommodation facilities for students; and, generally, raising local income levels and creating new jobs linked to the services for the TEI and its students. Independent estimates of various experts show that the creation of every 100 new jobs directly at a new TEI generates approximately 70 new jobs in the provincial parts of Poland. An extremely important economic role is played by graduates of TEIs in the region who set up their businesses and frequently create new jobs.

125. The indirect economic impact of a TEI is reflected in that its activities as well as the needs of its students and staff stimulate investment in the region. In a longer term, a TEI stimulates local entrepreneurship through education and change of cultural patterns.

5. ROLE OF TERTIARY EDUCATION IN RESEARCH AND INNOVATION

5.1. Role of tertiary education institutions in research[18]

126. Since the beginning of the transformation process, the research sector, including TEIs, in Poland has been in an extremely difficult situation because of the steady decline in the share of research expenditure in GDP since 1991. The share of R&D expenditure in GDP dropped from 0.96% in 1991 to 0.65% in 1995 and 0.56% in 2003. This was accompanied by a decline in the percentage share of R&D State-budget expenditure in GDP: 0.758% in 1991, 0.467% in 1995, and only 0.32% in 2004 (see: Annex, Table 5.1). The share of research expenditure in TEIs in the GNI amounted to 0.18% in 2003 [GUS, Main Science..., 2005].

127. TEIs constitute a major component of the Polish research potential. Research is also conducted by other State institutions: institutes of the Polish Academy of Sciences (PAS) (an organisation typically found in all countries of the former Soviet block), scientific research institutions and central laboratories supervised by sector ministers (R&D units or RDUs), as well as by the so-called in-house research services in both State-owned and private companies. In view of the number of research staff employed and the volume of R&D expenditure in individual fields of research, TEIs seem to be the key link in the national research system. In 2003, the TEI sector employed 44,455 people (including 38,455 research staff), whereas the PAS institutes – 6,443 persons, RDUs supervised by sector ministries – 19,196, and companies – 6,168 (numbers converted into full-time equivalents; see: Annex, Table 5.2).

128. The role of the TEI sector in the national R&D potential as measured by the TEI share in the total national R&D expenditure in 1998-2002 increased gradually from the level of 27.6% to the level of 33.5% respectively. This is in contrast to a rapid decline in the share of the industry sector in this period: from 22% to 14.4% respectively (see: Annex, Table 5.3).

129. The TEI sector also increased its share in the State-budget expenditure on research from 39.2% in 1998 to 45.7% in 2002, whereas the share of RDUs and the industry sector decreased in the same period (from 41.7% in 1998 to 33.1% in 2002, and from 2.1% to 1.9% respectively) (see: Annex, Table 5.4).

130. TEIs and PAS institutes conduct R&D projects funded mainly by the State Budget, with the ratio of State-budget funding to other funding remaining unchanged; the State-budget funding accounted for 83.6% of the total R&D funding in TEIs in 1998, and for 83.3% in 2003 (see: Annex, Table 5.5). At the same time, the role of industry in financing R&D in TEIs decreased, which may result mainly from the economic recession and financial difficulties of companies), but also from the academic nature of research conducted by TEIs (this orientation of research in TEIs has been encouraged for more than a decade by a set of indicators applied in the assessment of their performance for the purpose of statutory funding (see: below)). Funds provided by industry accounted for 9.4% of the total R&D expenditure in TEIs in 1998 and only for 5.7% in 2002 (see: Annex, Table 5.6).

131. Within the TEI sector, research efforts are undertaken mainly by public TEIs, except public non-university TEIs, although the number of TEIs conducting their R&D activities is slowly growing. In 2002, only 119 TEIs were registered in the statistics of institutions conducting research activities, while in 2003 the number increased to 128 (see: Annex, Table 5.2).

132. In individual TEIs operating within the Polish tertiary education sector, the relationship between two functions, i.e. research and education, plays an important role. In the Polish academic traditions of a liberal university, the role of each TEI was not only to teach students but also to conduct research. This tradition continued to exist after World War II, under the communist regime, and was abandoned only after 1990, as a result of the introduction of new rules of selective funding for research as well as the expansion of the public and non-public non-university TEI sector. Arrangements for the funding of research introduced by the Act of 1991 establishing the State Committee for Scientific

[18] Most recent available statistics used in this Chapter refer to 2002 and 2003.

Research (SCSR) (with its core provisions still in force) were based on the principles of competitiveness. This implied an unequal distribution of research funding, and the concentration of funds in the best TEIs and faculties, and in the hands of those individuals who submitted best-quality applications for grants. There is, however, a contradiction between selective funding, as introduced by the SCSR Act, and the provisions of the tertiary education legislation (both the 1990 Higher Education Act and the 2005 Law on Higher Education) whereby all research-and-teaching staff and research staff (except in non-university TEIs) are required to conduct research.

133. According to the legislation in force, non-public TEIs may apply for subsidies for their in-house research, and may also apply for funds for their statutory activities on a competitive basis, pursuant to the rules applicable to public TEIs (in addition, individual researchers employed in any TEI may apply for grants). Several non-public TEIs have met competition requirements and obtained funds to finance their in-house research or have been classified in the category of institutions eligible for a subsidy for statutory research (in 2005, 3 of 10 applying TEIs obtained the first type of funding grant; and 3 basic units of non-public TEIs obtained subsidies for statutory research [MSIT data]. The share of non-public TEIs in revenues from research conducted by all TEIs remains marginal; e.g. in 2003, 99.6% of the total R&D revenues of the entire TEI sector was generated by public TEIs, with non-public TEIs accounting only for 0.4%! [GUS. Szkoły wyższe … 2004] (see also: Tables 5.7 and 5.8). The small share of non-public TEIs in research can be explained mainly by two reasons. Firstly, the non-public sector includes many non-university TEIs, which do not conduct research. And secondly, a large number of non-public TEIs are the place of primary employment only for a small number of staff, usually only the number required to be authorised to provide Bachelor's and Master's programmes; all other staff conduct research in a public TEI which is their primary employer.

5.2. Organisation and financing of research

134. In the last decade, the situation of TEIs in the area of research has been determined by the provisions of the above-mentioned SCSR Act. For TEIs, the Act introduced a number of important policy principles concerning research and its funding. Most of these principles are still in effect today:

- all public institutions involved in R&D (PAS institutes, TEIs and RDUs) receive funds for research from the research part of the State budget which is administered by one institution (formerly the State Research Committee, the Ministry of Science and IT, the Ministry of Education and Science; currently the Ministry of Science and Higher Education);
- nearly all funds are distributed on a competitive basis or as a result of indicator- or algorithm-based assessment of performance;
- the same competition rules are applied to all institutions and individual researchers, irrespective of their sector; funding for the so-called in-house research (the term is explained below) is the only stream of funding available exclusively to TEIs;
- the second element of the specific position of TEIs in the context of uniform competition rules is related to the fact that research in TEIs is also indirectly financed from the budget of the ministry responsible for tertiary education, in the form of a institutional subsidy to cover salaries of academic staff (research-and-teaching staff and teaching staff); such subsidies are not granted to PAS or RDUs supervised by other sector ministries.

135. The new Act of 8 October 2004 on the Rules for Funding Research, which entered into force in 2005, introduced – in addition to important changes in the structure of bodies responsible for research policy and resource allocation – certain modifications in the streams of funding, methods for the allocation of funds and organisation of research. The basic rules for the distribution of funds are still based on competitive criteria, management functions are centralised in the Ministry of Science (now the Ministry of Science and Higher Education), and funds for research constitute a separate part of the State budget.

136. Funding for research is divided into several streams (with those streams and organisational arrangements which are applicable to TEIs discussed below, together with changes introduced by the new Act on the Rules for Funding Research). The following streams of funding are distinguished:

- Funding for **statutory activities** includes: funding for **primary statutory activities** (for research or R&D work continuously conducted by individual organisational units, usually faculties and departments); **TEI in-house research** (for research and related tasks supporting the development of research staff and research specialisation areas; funds are allocated to a TEI and distributed internally); maintenance of **special research devices**; joint research conducted by **academic networks** (a new type of funding for statutory activities).
- Funding for **capital projects** supporting R&D activities.
- Funding for **research projects**, including: **in-house (unsolicited**) **research projects**, covering topics defined by the applicant (grant system); **solicited projects**, specified in the national framework programme or multi-annual programme with priority areas of R&D work; **development projects** which support research designed to provide a basis for practical applications (a new type of projects); **tutorial projects** undertaken to prepare doctoral theses; **special projects** implemented as part of international programmes, but not eligible for international funding (a new type).
- Funding for **goal-oriented projects**, including goal-oriented projects related to the implementation of sectoral operational programmes or regional development programmes, as submitted by sector ministries or regional authorities (a new type of funding), and projects submitted by entities capable of implementing research findings in practice. Funding for a goal-oriented project includes a part, as specified by the Minister, allocated for applied research, development work, industrial research or pre-competition research.
- Funding for **international research cooperation** which includes: R&D work conducted under EU programmes or other international programmes, activities supporting participation in such programmes; membership fees paid to international institutions or organisations under international agreements.
- Funding for **activities supporting research**, including: expert opinions, scientific opinions and evaluations/assessments; creating, processing, providing and disseminating scientific information; disseminating and promoting research achievements; promoting innovation projects to apply R&D results. Such funds are provided to ministries for their own use as well as for the use by institutions under their supervision and institutions supporting research.
- Funding for **programmes and projects specified by the Minister** (all programmes mentioned here are new types of funding) includes: programmes supporting: development of research staff to meet the requirements of international research and technological cooperation; creation of conditions for the employment of outstanding researchers to support the development of staff in selected academic areas; creation of conditions for the development of outstanding young researchers, including the award of research scholarships; development of information and IT infrastructure and its resources in the digital format.
- Funding for **consortia and networks** introduced by the new Act. Arrangements for the financing of networks and consortia facilitate interdisciplinary research and inter-institutional cooperation.

137. Solicited and goal-oriented projects co-financed by the State budget may encourage the development of university-industry links and R&D projects tailored to the needs of industry. Although both streams of funding were available for a number of years, selection rules often changed and were not linked to priorities, and the involvement of TEIs in such projects was very limited. Likewise, development projects provide an opportunity to link TEI research activities with the needs of the economy, also at local level, and stimulate research in those TEIs which are situated outside large academic centres.

138. It is difficult to assess the extent to which the arrangements discussed above contribute to better quality of research, closer link with the needs of the economy, more efficient use of State-budget funds or increased research productivity because these arrangements have only recently been introduced. However, the question is whether, and to what extent, TEIs will participate in new types of projects or TEI researchers will continue to rely in their research work mainly on funds for statutory research, in-house research and grants. The success of efforts to improve the R&D system also hinges largely on the level of funding for research.

139. As mentioned before, the research funding system is a competition-based system. It is based upon the parametrical assessment of TEIs or organisational units applying various indicators. The results of such assessment, following the application of an algorithm, determine the level of research funding granted. In the case of research projects, only the best ones are subject to assessment and funding. Specific assessment criteria, indicators, and weightings attached to various components have been changing over the last dozen years. Examples of rules given below were effective until the year 2005 (a new assessment system for applications concerning statutory research proposed by the Minister in 2005 was criticised by the research community and is currently being improved).

140. The distribution of funds to finance in-house research in university-type TEIs in 2005 was based upon the following rules:

- 70% of the amount allocated to TEIs in proportion to the preceding year's distribution;
- 30% of the funds managed by the Minister; the amount was determined by the number of doctoral degrees, degrees of Habilitated Doctor and academic titles of Professor awarded in the TEI concerned in the period 2001-2003.

141. Individual elements defining the activity of TEIs in the development of research staff were given different weightings; for example: doctoral degrees conferred by the TEI concerned to its own staff: 1; Habilitated Doctor degrees: 3; doctoral degrees conferred by the TEI to persons who are not its employees: 0.2, Habilitated Doctor degrees: 0.6; doctoral degrees obtained by the TEI staff in other institutions: 0.8; Habilitated Doctor degrees: 2.4; Professor titles: 6. Funds to non-public TEIs and a small group of non-public TEIs (operating for the period of at least 2 years and employing at least 8 Professors or Habilitated Doctors on a full-time basis) were distributed on the basis of assessment of individual cases.

142. Funding for in-house research is granted to a given TEI and the TEI decides upon internal allocation of the funds. The rules for the allocation depend on internal policies of a given TEI. The process may involve internal TEI competition or distribution using a specific algorithm. For example, at the Gdańsk University of Technology, 20% of funds are distributed among organisational units taking account of the number of persons directly involved in research, calculated as full-time equivalents. The remaining 80% are allocated by grades applied to the value of research achievements of a given organisational unit in the preceding year (grades are calculated on the basis of detailed rules adopted by a relevant Team of the State Committee for Scientific Research (rules applied in the assessment of statutory research applications by the Team).

143. In the case of funding for primary statutory activities, the parametrical assessment rules applied include the grading of specific activity types. According to the rules effective until 2005, at least 80% of the total grades available could be awarded on the basis of the assessment of the organisational unit's performance in the last 3 years preceding the year of application. The following elements were assessed:

- Reviewed publications
- Scientific monographs, academic textbooks
- Academic degrees and titles obtained during the period
- Patents, copyright designs
- Practical application of results achieved by the unit (implementation)
- Quality system, laboratory accreditation.

Each of the above elements can be given a specific grade, with the grading of individual elements varying between disciplines of science.

144. Other results, not listed above, could receive a maximum of 20% of the so-called discretionary grades. The total number of grades awarded to a unit ($R_{PARAMETRICAL} + R_{DISCRETIONAL}$) measured the unit's research productivity in the area under assessment, benchmarked against other units conducting research of similar nature and in a similar discipline of science. The grading was used as the basis to assign units to one of 5 categories (category I being the highest) and to define the level of statutory subsidy.

145. Effectiveness (E) was calculated by dividing the grades awarded by the number of full-time equivalent employees of the unit (N) participating in the implementation of a relevant research project

$$E = \frac{R_P + R_U}{N}$$

5.3. Implementation of research policy and the role of tertiary education institutions

146. The role of research policy in supporting the development of research has been one of the most controversial issues for the entire academic community since 1990. Successively designed research policies focused practically on one overall priority of ensuring high quality of research, whereas thematic, i.e. area-related, priorities linked to the socio-economic development were not implemented; the polices also included too many priorities as these were defined by the academic community in a bottom-up approach. Moreover, no attempts were made to steer research towards the needs of regional development. The above-mentioned goal-oriented projects and solicited projects were the only incentive encouraging cooperation between research and business. However, these projects were not an instrument of government policy because they were developed as a bottom-up initiative rather than a part of any national strategy or development programme.

147. Thematic priorities could hardly be implemented because of structural constraints and the lack of financing instruments. Firstly, State-budget funds were divided first between various streams of funding (statutory research funds, grants, goal-oriented projects etc.), and only then between individual RDUs or disciplines of science. Secondly, the State Committee for Scientific Research, responsible for research policy, was divided into teams representing groups of areas of science and composed of researchers "guarding" the interests of their respective areas, which made it difficult to re-allocate funds between these teams. Thirdly, funding for statutory research and funding for in-house research, as two major streams of funding (in addition to funding for goal-oriented and solicited projects), were also designed primarily to stimulate research quality. Funds for statutory research were granted mainly on the basis of academic indicators such as the number of publications or the number of academic degrees and titles awarded, with less weight given to indicators concerning the application of research results. Since 1990, no indicator to promote research in line with the government policy priorities has been introduced into funding arrangements for statutory research. Most funds available for research projects were also allocated for unsolicited projects (grants) reflecting interests of individual researchers rather than the needs of the economy. Moreover, the rules for the distribution of grants in individual areas of science did not take into account the importance of a given area for the socio-economic development or other practical applications. As a result, this meant implementing informal priorities of the academic community, individual RDUs and researchers, with the main focus, in particular in PAS institutes and TEIs, on basic research. TEIs allocated 60.2% of their R&D funds for basic research, 25.7% for applied research and 14.1% for development work (see: Annex, Table 5.9).

148. In this context, it is worth noting the position of TEI units vis-à-vis PAS institutes and RDUs in the classification based on performance indicator-based assessment designed to reflect research quality. Between 1991 and 1998 (in spite of changes in detailed rules of assessment of statutory research as well as in related indicators and weightings), PAS institutes were at the top in the classification, and TEI research units ranked second. In 1998, 89.2% of PAS institutes were given the highest statutory research grade and therefore obtained relatively highest subsidies, as compared to only 39.6% of TEI units with the highest grade, and 35.5% of RDUs supervised by sector ministries. [Sprawozdanie z wykonania budżetu, 1998]. In 2005, the highest grade in the classification (based on different rules) was given to 60.3% of the total number of PAN units, only 18.6% of TEI units assessed, and only 15.4% of sector-ministry RDUs. Thus, in spite of changes in the rules for assessment, PAS still has the largest, even if smaller than before, group of institutes representing the highest research quality in Poland, whereas the number of TEI units with the highest grade has declined significantly. As regards the total score obtained by all units in a given sector of research institutions for the number of publications in refereed research periodicals, TEIs are ranked first (778,556 points), PAN institutes were ranked second (142,776) and RDUs third (140,010). On the other hand, a comparison of the total scores received by the three sectors for practically oriented work

(patents, applications, quality systems, etc.) shows that RDUs are leading in the Polish research system (178,882 points), followed by TEIs (134,976) and PAS (only 20,986 points) [MSIT, Research Base Department). In view of the staffing level in TEIs as compared to those in other research sectors, the productivity of research staff in TEIs does not seem to be impressive.

5.4. Decision-making structure in science and technology policy

149. The 2004 Act on the Rules for Funding Research has established new bodies responsible for research policy and the allocation of funds, and strengthened the role of the responsible minister (currently, the Minister of Science and Higher Education), which may facilitate the implementation of research policy. Unlike the formerly existing State Committee for Scientific Research which had decisive powers, the new Council of Science is an advisory body for the minister responsible for science and is involved in the creation and implementation of research policy and research priorities.

150. The Council includes:

- Committee on Research an Technology Policy (CRTP)
- Committee on Research for the Development of Science (CRDS)
- Committee on Research for the Development of Economy (CRDE), and
- Appeals Committee (AC).

Chairpersons of the Committees and members of the Committees are appointed by the minister.

151. The CRTP is composed of 11 persons, including 1 appointed from among candidates proposed by the President of the Polish Academy of Sciences, the Chairman of the General Council for Higher Education, the President of the Conference of Rectors of Academic Schools in Poland (university-type TEIs) and the Chairman of the General Council of Research and Development Units.

152. The CRDS is composed of 28 members, including 26 members representing areas of science specified by the minister responsible for science, social partners and business, and representatives of the ministers responsible for the matters related to the tasks of the Committee. Members of the CRDS and the AC are appointed by the minister responsible for science after two-stage elections held jointly for both bodies every 4 years.

153. Tasks of the Committee on Research Policy include:

- giving opinions on draft documents concerning national research and technology policies and innovation policy;
- giving opinions on draft legislation and economic and financial arrangements concerning the development of science and technology;
- giving opinions on financial plans concerning the State budget allocated for research;
- giving opinions and assessments in the matters specified by the minister responsible for science or on the Committee's own initiative.

154. Tasks of the Committee on Research for the Development of Science and the Committee on Research for the Development of Economy include:

- evaluating research units applying for research funds;
- assessing applications submitted by research units for research funds to be allocated for their statutory activity and investments supporting research and development activities;
- assessing applications for the financing of research projects and special projects in the form of application rankings;
- evaluating the implementation and results of activities covered by applications mentioned above;
- giving opinions and assessments in the matters specified by the Minister or on the Committee's own initiative.

155. Now representatives of business and sector ministries have a larger number of members and a greater role than before. All these changes are likely to increase the involvement of R&D institutions and organisations in the implementation of priorities, especially because, in accordance with the Act on the Rules for Funding Research, the relevance of planned research to the aims of national research, technological advancement and innovation policy is one of the criteria in the allocation of funds for research.

5.5. Prioritisation of public R&D expenditure

156. In order to establish research priorities for research in Poland, and to ensure more efficient use of State-budget funds, the following issues were taken into account:

- conformity with the world trends and the EU research priorities,
- possibility of Polish research specialising in certain disciplines – possibility of involving the best Polish research teams,
- needs of the Polish economy, especially opportunities for the development of non-traditional production by the SME sector.

157. The needs of the economy and other determinants specific to Poland include:

- promoting and modernising areas which provide a basis for knowledge-based economy (education, R&D, hi-tech industries, services for business, information society services);
- supporting companies which implement new technologies and knowledge management methods;
- supporting innovativeness in regions, enhancing and making use of regional university and R&D potential for entrepreneurship, and strengthening competitiveness;
- opportunities for the development of the Polish economy – software engineering industry;
- modernising agriculture and traditional industries.

158. On the basis of the above-mentioned factors, priority research areas for Poland have been defined in the following documents:

- *Proposed areas of the development of science and technology in Poland until 2020* (policy document of the Minister of Science and Information Society Technologies, November 2004),
- *Aims of the national research, science and technology, and innovation policy until 2020* (adopted by the Government in December 2004),
- *The strategy for the development of science in Poland until 2020* (adopted by the Government in June 2005).

The Polish priority thematic areas for research and development activities include four groups: **Info, Techno, Bio** and **Basics**.

159. The above-mentioned research thematic areas were chosen mainly for the following reasons: their increasing relevance for the world research and economy; extensive experience of Polish research teams in research projects in these areas; availability of well-equipped laboratories, and prospects for the application of research results, in particular through SMEs.

160. Moreover, in March 2004, the Council of Ministers adopted "The strategy for increasing R&D expenditure to achieve the Lisbon Strategy objectives". The implementation of this programme may change the dramatic financial situation of Polish research, also in TEIs, and help to link the research policy with the national development objectives.

161. More precise information about the priority areas of Polish research will be provided after the completion of the **National Foresight Programme**. It was initiated by the Minister of Science and Information Society Technologies at the end of 2003 in the field *Health and Life*. The Foresight Programme was included as one of the actions supporting innovativeness in the document "A Pro-Growth Action Plan 2003-2004", adopted by the Council of Ministers on 1 July 2003 and launched in the fourth quarter of 2003. The pilot Foresight Programme was carried out in the *Health and Life* research area. The work in the pilot programme was completed in June 2006, with "The final report on the implementation of the Pilot Foresight Project in the *Health and Life* area". In 2006, Poland participated in other stages of the Foresight Programme, covering the following research areas: *Sustainable Development of Poland, Information and Telecommunication Technologies* and *Security*. The National Foresight Programme will be used to adapt the National Framework Programme to the country's changing social and economic conditions and conditions for the conduct of research.

162. The National Framework Programme (NFP), adopted in September 2005, is an important element of the new system for the organisation and funding of research in Poland. The main objective of the NFP is to focus research and development activities on bolstering sustainable economic development for an improved quality of life of Polish society.

163. It identifies research areas of key importance to the country's social and economic development, with priority research areas, important from the point of view of speeding up the development processes, defined for each one of them. The National Framework Programme will allow the Minister of Science to launch calls for several dozens of solicited research projects each year. Preferences concerning the expected results, related to four basic types of activities which aim to develop new research concepts, research staff, technologies and research facilities, will be defined for each project.

164. The first stage in the development of the NFP involved collecting proposals concerning priority research areas from ministries, Voivods (province governors), Voivodship (province-level) local government bodies, the President of the PAS, TEIs, research units, and national business self-government organisations. Over 1,600 proposals were submitted, representing various levels of detail. The prioritisation process helped to achieve a long-awaited compromise between the necessary autonomy of research and the development needs of the country and its society. The priority areas proposed at that stage served as the basis for the development of the NFP jointly by the Ministry of Science and Information Society Technologies and the Committee on Research and Technology Policy of the Council for Science. The next step is to carefully select topics for solicited projects, in particular interdisciplinary and multidisciplinary ones, which will help to integrate the dispersed research community in Poland and to achieve a new quality in research and development activities, competitive on the European scale.

Once adopted, the NFP will be reviewed and updated annually.

165. As a result of this procedure, the National Framework Programme identifies the following strategic research areas:

1. Health
2. Environment
3. Food and agriculture
4. State and society
5. Security
6. Nanomaterials and nanotechnologies
7. Information technologies
8. Energy and its resources
9. Transport infrastructure

5.6. Forms of cooperation between TEIs and business

166. The development of co-operation between tertiary education and business is a major task facing TEIs. However, as mentioned earlier on, the amount of funds obtained directly from the business sector has been decreasing steadily since 1998. Thus, cooperation between tertiary education and business remains insufficient, which is most frequently explained by the lack of interest on the part of business. Companies are clearly less and less interested in implementing innovations, following market decline since 1998, slowdown in the economic growth and growth of unemployment. Another barrier is the lack of adequate infrastructure supporting the development of co-operation. On the other hand, in view of the insufficient development of the research facilities in industry in Poland, TEIs have an important role to play in increasing innovativeness and competitiveness of the Polish economy. Gradually, adequate conditions are created both in TEIs and in the institutional environment of research. Many Polish TEIs have already set up technology transfer centres. Of the total number of 29 such centres registered in Poland, 13 are situated in TEIs [Matusiak, Głodek, 2004]. It is now too early to assess the impact of such centres on the transfer of technology from TEIs to the economy. TEIs are also establishing offices to support researchers in solving problems related to intellectual property protection. At the same time, TEIs play a major role in new networks or consortia which are now emerging.

167. The new Law on Higher Education of 27 July 2005 provides a legal basis for the establishment of academic business incubators and technology transfer centres. Technology transfer centres may be set up by TEIs in order to ensure better use of their technological and intellectual potential and to transfer results of their research to the economy. Academic business incubators may

be created to support the economic activity of the academic community or staff and students who are entrepreneurs. A technology transfer centre is usually set up to sell or provide on a free-of-charge basis results of R&D work to the business sector. Incubators and centres may be established as a TEI organisational unit, commercial company or foundation. Furthermore, even before the adoption of the new LoHE, TEIs established not only technology transfer centres but also business incubators (the latter in 10 TEIs) to support their students' entrepreneurship.

168. TEIs conducting R&D work, e.g. in the area of new technologies, may apply for grants under the Sectoral Operational Programme "Enhancing Competitiveness of Enterprises, 2004-2006" for research projects conducted in Advanced Technology Centres (in 2004, TEIs were co-ordinators in 13 of all 26 ATC consortia), R&D projects related to the introduction of innovations and implemented jointly with companies, and R&D projects, including foresight projects (the 2004-2006 budget for activities under "Strengthening cooperation between the R&D sector and the economy" amounts to ca. EUR 100 million from the EU and EUR 37.4 million of the national contribution).

169. Units developing most rapidly are Centres of Excellence, created in Poland since the late 1990-ties. Under a call for proposals for Centres of Excellence in the EU candidate countries (INCO), announced by the European Commission in 1999, 9 applications from Poland were accepted, including 2 submitted by TEIs (all other centres are situated in the PAS). Another 5 centres were set up in 1999 under the PHARE SCI-TECH II, 138 units were awarded the status of Centres of Excellence or Competence in 2001, and 5 more centres were created in 2002 (IST-2002-8.1.6.). (It is worth mentioning that the CE status is awarded for a limited period of time). In 2004, the Minister of Science granted funds to coordinators of 100 units complying with CE criteria; 47 of these units are situated within TEIs. However, funding for a centre with the co-ordinator function is low and does not cover costs of research, but only the cost of coordination, infrastructure etc.

170. Science and technology parks are a priority instrument in the implementation of the Sectoral Operational Programme "Enhancing Competitiveness of Enterprises, 2004-2006". Several hundred millions of euro will be provided for the establishment of technology parks and the development of services supporting entrepreneurship and innovation [Matusiak, Guliński, 2004]. Until now, 12 parks have already been established, including 3 which involve TEIs, and another 3 are being set up. Most parks are still at an initial stage of development, and thus effects are yet to be seen. It is worth noting that, according to surveys, the cooperation with the research sector is considered to be very important by 28% of European companies operating in such parks and as many as 43% Polish companies [B. Marciniec 2004; in Poland, the survey covered one third of the companies situated in technology parks]. If the Polish business community continues to have the same approach in the future, this will contribute considerably to enhancing the innovativeness of the economy.

171. In Poland, the process of adjusting intellectual property rights to international standards started with the signing of the Association Agreement with the EU (1991). It included the following important stages: the ratification of the agreement on commercial aspects of intellectual property rights (Exhibit to the Agreement establishing the Word Trade Organisation) and the adoption of the Act on Industrial Property Rights on 30 June 2000.

172. The Act on Industrial Property Rights provides clearly that in case an invention (or industrial design or design patent) is developed as a result of the performance of duties under a contract of employment or any other agreement, the patent rights (as well as the right to the registration and, consequently, the protection of such an industrial design or design patent) is granted to the employer or the contracting entity. The parties to the employment contract or any other agreement, however, may regulate the matter otherwise. Nevertheless, in case the patent was awarded to several entities, each of the parties jointly entitled to the patent but not benefiting from the invention has the right to obtain „an appropriate part of one fourth of such benefits minus inputs, in proportion to their share in the patent." However, as mentioned above, the agreement between the jointly entitled parties may provide otherwise. Thus, the relevant regulations are flexible enough to facilitate the establishment of different rights to obtain patents for inventors and their employers. Apparently, this arrangement fosters commercial utilisation of joint inventions, since the inventor who undertakes commercial implementation of the invention is eligible, without entering into separate agreements with other co-

inventors, to obtain ¾ of resulting benefits. This regulation may be important, for example, in the case of joint ownership of a patent right granted to a research entity and a researcher employed by such an entity. When a researcher-inventor sets up a business to use commercially the benefits from the shared patent right, he/she will be entitled only to ¾ of the benefits and will be required to share ¼ of the benefits with his/her employer, i.e. the research entity.

173. In Poland, in spite of the fact that the relationship between an inventor and his/her employer may be regulated contractually, it is still difficult to make TEIs more pro-active in the introduction of special arrangements to define the method of distribution of profits generated by innovations and patent rights.

174. It is also worth mentioning that TEIs operate 38 Regional Patent Information Centres with 19 of them fully prepared to enter the patent information network operating under the auspices of the EPO. The Polish network is well developed, with operational costs of the centre covered partly by the host institution and partly by the Patent Office (UPRP).

175. The exclusive rights to industrial property are disposable and are subject to inheritance; the transfer of such rights may only be effected in writing (Article 12). The maximum period of validity of exclusive rights in Poland to an invention is 20 years, to a design patent – 10 years, of rights to the registration of an industrial design – 25 years, and to geographic indication – no time limits.

176. It is also necessary to mention the Act of 4 February 1994 on Copyrights and Related Rights applicable to two types of rights of authors concerning their work: personal intellectual property rights and copyrights. The intellectual property right of the author never expires and may not be transferred. Copyrights normally expire at the end of a period of 70 years after the death of the author or the date of the first publication; in case the author is not known, or *ex officio*, the copyright is granted to any other person than the author. Furthermore, copyrights may not necessarily belong to the author in case he/she created his/her work as part of the performance of his/her duties under an employment contract. According to Article 12 of the Act, in case an employee created his/her work as part of the performance of his/her duties under an employment contract, the employer obtains copyrights upon receipt of the work within limits resulting from the objective of the employment contract. This provision also applies to research work. The definition of research work developed as part of the performance of duties under an employment contract includes:

- work created under work plans of organisational units;
- work created under the supervision of a superior or on his/her request;
- doctoral and *habilitation* theses in case their authors are employed by another research institution.

177. According to the above interpretation, a research institution obtains copyrights to the work created by its research staff on the basis of separate agreements between the research institution and the author, if such an agreement provides for the acquisition of copyrights by the research institution and specifies the scope of use of such rights [Analiza...2005].

6. EQUITY IN ACCESS TO TERTIARY EDUCATION

6.1. What is equal access ?

178. In contemporary, well-developed democratic societies, education is by definition a public, and thus generally accessible, good. However, as a result of economic pressures, education at tertiary level is also a rare good when places are sometimes not available for all wishing to study, in particular in certain fields of study or in programmes delivered in a specific mode of study. Candidates are then faced with formal barriers (*numerus clausus*), academic barriers (strict selection) and psychological barriers (no confidence in one's ability to achieve the objectives set). Economic problems in the country, insufficient financial support from State, high tuition fees – all these factors create economic barriers to access to tertiary education for those with limited means. A major role in creating barriers and inequality in access is also played by cultural factors (no aspirations) and the varying quality of education at secondary level.

179. In Poland, it is impossible to determine the scale of global inequality between the demand for tertiary education and the supply of places for students; moreover, it is difficult to determine whether such an imbalance actually exists on a countrywide scale. This is because candidates can apply for a place in an unlimited number of fields of study, as well as withdraw even after they have been accepted. However, structural imbalance definitely exists; the demand in certain fields of study exceeds by far the number of places available for 1st year students (for detail discussion, see: Chapter 3).

180. As a result of socio-economic development, primary education in Poland, as in other European countries, has become generally accessible (and compulsory); the same is now to be achieved at the second level of education (compulsory education in a lower-secondary /*gymnasium/* school). Between 1998 and 2002, the share of persons who have completed post-primary education increased from ca. 55% to 67%. It is expected that 80% of young people will be enrolled in secondary education and take the secondary school leaving examination [Ministry of National Education, Reform 2000].

181. Ensuring equal access requires eliminating barriers to access to education for the socially and economically disadvantaged groups and minorities (ethnic groups, the disabled) and creating conditions for an equal start. To this end, it is necessary to identify the factors underlying inequality in access to education, and to define appropriate methods and instruments for action.

6.2. Factors impeding access to tertiary education in Poland

182. The causes of unequal access to tertiary education inherent in the education system itself include:

1) the quality of education in secondary schools varying considerably between the types of schools and locations, which creates a barrier to access to education at a higher level for many pupils;
2) Insufficient funding in primary and secondary schools for various types of extracurricular activities which would reduce cultural differences and develop interests.

183. In view of the lack of adequate statistics, the analysis of access to education is based mostly on sociological questionnaire results.

6.2.1. Socio-economic factors

184. In 2002, 6.4 million people in Poland lived in poverty (2002 data), accounting for 17.7% of the total population. Increasing poverty is related to a decline in employment after 1998 [NDP 2005, p. 30]. It is impossible to determine the relationship between poverty in families and access of children to individual levels of education, and in particular tertiary education. It is well known that a secondary-school pupil and, subsequently, a tertiary student covers the costs of education related to accommodation and travel (when studying far away from his/her place of residence), costs of learning materials and – if enrolled in a non-public TEI or in a part-time programme in a public TEI – costs of tuition and other fees (registration fee, fee for a diploma). This means that costs of education vary as

depending on the place of residence and the type of TEI (programme)[19]. Even greater differences can be seen between costs incurred by students not paying tuition fees (enrolled in full-time programmes in public TEIs) and those paying for their studies (enrolled in part-time programmes in public TEIs or any programme in non-public TEIs). In the academic year 2003/2004 [author's own calculations based on MNE 2004 and GUS 2004], students paying tuition accounted for 58.4% of the total student population, and for 42.8% of students in public TEIs. Paradoxically, the surveys confirm that most of the students who do not pay tuition fees for their studies are children from better-educated and more affluent families[20].

185. Most of the costs of study are covered by parents. The average contribution of parents amounted in 1999 to 61-62% of the costs of study, with the level declining for higher-income families (from 64% of expenditure in families with the per capita income below 300 PLN to 51% in families with the monthly per capita income exceeding 1,000 PLN).

6.2.2. Cultural factors

186. Numerous sociological surveys on the tertiary student population show that the key factor determining access to tertiary education is the educational attainment of parents. Parents holding a tertiary diploma create a conducive climate developing educational aspirations of their children, while the low level of education of parents has a reverse impact. Low-educated families face (in addition to the economic barrier of low income) a psychological barrier: no confidence in one's success, negative self-evaluation [Pomoc materialna… 2000].[21]

187. The family background and the education level attained by parents have an impact on educational opportunities of their children already at initial educational levels [E. Drogosz-Zabłocka, R. Piwowarski 2002] to cumulate at the point of entry to tertiary education.[22] Statistical surveys conducted in lower secondary schools [P. Śleszyński 2004] point out to a clear relationship between learning achievements (internal examination for six-year olds and lower secondary school students) and the level of education of parents and the level of affluence. Statistical surveys conducted in primary schools and lower secondary schools confirm a clear relationship between student performance and the funds allocated for education by local authorities from their own budgets [P. Śleszyński, s.67].

[19] Statistics available in Poland cover costs of education incurred by TEIs per student, by type of costs, by type of schools and group of fields of study (Chapter 7).

[20] According to a national survey on inequality in access to education, conducted among tertiary students at the request of the MNE in 1999, most of those enrolled on full-time programmes are young people from families with the highest educational attainment (65% of the total population of full-time students). [E. Świerzbowska-Kowalik, H. Gulczyńska 2000]. This is confirmed by the Report „Młodzi 2005" AIG OFE and Gazeta Wyborcza (survey by MillwardBrown SMG/KRC, April 2005).

[21] According to an analysis of B. Ciechomski for the period 1992-1997, in families where the father had a tertiary education diploma, more than half of the children (52.2%) also completed tertiary education, whereas this figure is 4.7% in families where the father had completed only primary or lower-level education [B. Biechomski, 1998]. Views of sociologists on the impact of parents with a tertiary diploma on the level of education attained by their children in the 1990-ties are not identical. Henryk Domański argues that during this period tertiary education opportunities increased significantly for young people whose fathers belonged to the group "higher-level managers and intelligentsia". Moreover, during the period, social background (father's education level) had much greater impact on access to tertiary than secondary education [H. Domański, 2000]. According to Ireneusz Białecki, inequalities in access to tertiary education were decreasing from mid-1990-ties until the end of the decade. In Poland, persons whose fathers have a tertiary education diploma have nine-fold advantage in access to tertiary education over persons whose fathers have not completed primary education (as compared to chances increased by 4.9 times in Germany and only 4 times in Sweden [I. Białecki, 2003]. The Report "Młodzi 2005" points out to the growing importance of the educational level attained by the mother in terms of access of young people to tertiary education.

[22] Statistical surveys in lower-secondary schools show a close relationship between learning achievements of pupils (results of external examinations for pupils in the sixth grade of primary school and lower secondary pupils) and the educational attainment and economic status of their families [P. Śleszyński 2004].

188. Cultural factors operate not only within families of future tertiary students but also within the education system itself. These factors make up a certain set incorporated in the broadly defined quality of education, including curricular contents, quality of teaching and the overall structure of school activities. School should play an important role in filling "gaps" within the family, which is not always the case. The following factors are listed as determining the quality of educational process, educational aspirations at the first level of education and, consequently, future educational opportunities: foreign language teaching, introduction of specialisation streams in education, hours allocated for optional courses, pedagogical and financial support for pupils with poor learning achievements [E. Drogosz-Zabłocka, R. Piwowarski 2002, p. 17]. Only a limited number of public schools have access to funds to organise such additional activities, which reflects the varying financial capacities of local authorities. The lack of funds from the State budget and other sources to finance classes for disabled pupils results in the lack of aspirations and interests within this group and, consequently, the low level of education attained[23].

189. Improving the quality of primary and secondary education could be a factor contributing to equal access to tertiary education, provided that this process includes stimulating educational aspirations of underachieving pupils and filling the cultural environment-generated gap between students. Results of external examinations in lower secondary schools and of the secondary school leaving examination should provide a basis for an analysis of reasons underlying failures of individual students and schools, changes taking place each year, and areas where the authorities should offer special support.

190. A major factor of successful transition to tertiary education is the type of secondary school that the pupil graduates from. According to the available data, general secondary schools are most effective in preparing their students for tertiary education, whereas vocational secondary schools are at the other end of the scale. The latter also have the highest share of students from poor and low-educated families that fail to see any need for change [E. Świerzbowska-Kowalik, H. Gulczyńska 2000][24]

6.2.3. Other factors

191. Other factors creating barriers to access to education include the place of residence and disability.

192. The place of residence is to a large extent related to the level of education attained by parents as well as the level of unemployment and poverty. People with post-primary education accounted for 56% of the rural population and 73% of the urban population (2002). Those with tertiary education account for 10.2% of the total population in 15+age group (2002), but for 13.2% of the urban population and only 4.2% of the rural population (rural areas are inhabited by 38.2% of the total population in Poland) [GUS 2004 a]. Thus, urban schools can see greater involvement of parents in the development of interests and aspirations of children than rural schools. [E. Drogosz-Zabłocka, R. Piwowarski, 2002]. In 2003, the share of the age group 19-24 living in rural areas amounted to 36.8% of the total population in this age group [GUS 2004 a]. According to the survey conducted by the MNES in January 2005, young people from rural areas accounted for 20.9% of the total population of full-time tertiary students in that year, as compared to 79.1% of students from urban areas, though most of them were students coming from county-level and smaller towns (52.6% of the total). The breakdown of students in the first year of evening, extramural and extension (part-time) programmes was similar [MNES 2005, Annex][25]. According to the report „Młodzi 2005", the number of students coming from rural areas doubled between 2002 and 2005 – from 10% to 20% of the total population of TEI students.

[23] Statistical primary and lower secondary school surveys confirm a close relationship between learning achievements of pupils and the level of local governments' own funds invested in education [P. Śleszyński, s.67].

[24] In a tertiary student survey conducted by the authors of this report, general secondary school leavers accounted for 54.5% of the student-respondents, with 76% of them coming from families where the father had completed tertiary education (31% with the father who had completed only primary education). Secondary vocational school graduates were in turn the largest group (70%) among students whose fathers had completed only primary education.

[25] An analysis conducted by the Higher Education Department is based on estimates: data collected from 74 public TEIs and 181 non-public TEIs (10 random selected personal files of first-year students in each field of study).

193. Disabled young people are the second group with significantly smaller chances to access tertiary education. In Poland, in 2002, there were 142.7 disabled people per 1,000 inhabitants, including 41.1 with minor disabilities per 1,000 inhabitants [GUS 2004 a]. Disabled students accounted for 0.26% of the total population of tertiary students in 2002, while in 2003 this share increased to 0.38% to reach 0.48% in 2004 – clearly a growing trend. A vast majority, i.e. 81%, of disabled students undertake full-time ("free-of-charge") programmes. Recently, public TEIs have undertaken major efforts to facilitate access to their programmes for disabled young people, adapting buildings (driveways for wheelchairs, lifts) and introducing more suitable arrangements into examination procedures. Disabled students are eligible for State-budget financial support in various forms (see: 6.4). However, the efforts made by the State and TEIs using their own resources will have no effect if access to education at lower levels for disabled children is not improved. This is, however, a separate and difficult issue, included as a major objective in the Education Development Strategy 2007-2013.

6.3. Academic selection as a condition of access to tertiary education

194. Until now, academic selection in public TEIs has been carried out through various types of entrance examinations (written tests, interviews, examination in drawing skills, etc.). The selection mechanism allows persons who have achieved best results to enrol on full-time programmes, while other candidates (who have passed the entrance exam but were ranked lower in the list) are offered a place in other types of degree programmes (for which tuition is charged). In many fields of study, places in full-time programmes are also offered to winners and finalists of national competitions in a given school subject. Detailed admission rules are specified by the TEI senate for a period of at least 3 years [LoHE of 2005, Article 169]. Following the reform of the education system and the introduction of a uniform external secondary school leaving examination, the secondary school leaving certificate (issued as of 2005, after the examination conducted in accordance with new standards) provides the basis for admission to most TEIs in the academic year 2005/2006[26]. However, in some fields of study and in the case of young people graduating from secondary schools in the previous years, TEIs applied their own selection criteria..

195. According to the new Law on Higher Education, admission to first-cycle and long-cycle programmes is based on the results of the secondary school leaving examination [Article 169]. In specific cases, a TEI may conduct additional entrance examinations upon the consent of the competent minister.

196. Special selection procedures applicable to minority groups, which are designed to ensure equal opportunities in competition with young people coming from educated, well-off, urban families and graduating from high-quality schools, are applied by Polish TEIs but only to a limited extent.[27]. The Government and local authorities are introducing support programmes for disabled persons and minorities; some programmes have already been implemented. Local authorities in many regions provide support to pupils from rural areas, using State-budget and EU funds (Chapter 7).

197. The most effective way to remove barriers to tertiary education is to improve the quality of secondary education, to eliminate qualitative differences between secondary schools, among other things, through the curriculum reform accompanying the structural reform. This reform should be combined with wider introduction of teaching quality evaluation procedures as well as institutional evaluation of secondary schools together with a self-evaluation system. Access to tertiary education for the disadvantaged groups would be facilitated by rapid development and wider use of multimedia-based distance education as an alternative of (or supplement to) traditional methods of education [T. Szulc 2004].

[26] The new secondary school leaving examination was conducted for the first time and on a voluntary basis in 2004. Since 2005, the exam is compulsory for all upper secondary schools [Regulation...2005, Chapter. V].

[27] Such arrangements are implemented at the discretion of a given TEI and include applying less strict requirements in examinations (e.g. for those suffering from dyslexia), facilitating physical access to the examination venue, etc. Such arrangements are currently given priority in TEIs, also in investment decisions.

198. Continuous development of TEI networks in regions also plays a major role in facilitating access to tertiary education (see: Chapter 5). Reducing the distance to school means reducing travelling and accommodation expenses, and thus creating an incentive to take up study at tertiary level.

199. A more in-depth analysis of barriers to tertiary education and study opportunities for minority groups would need to be based on national-level statistical breakdowns of students by social background and region and corresponding statistical breakdowns of graduates which (except for statistics concerning disabled students) are not available.

6.4. State financial support for tertiary students

200. The State support is provided to students in a repayable and non-repayable form. The main legislation regulating the provision of financial support to students includes:

- The Act of 27 July 2005 – The Law on Higher Education;
- detailed rules and regulations concerning methods to determine amounts, the allocation and payment of financial support to students, as adopted by the rector of a TEI in collaboration with the TEI student self-government body within their powers (Article 186).

6.4.1. Forms of non-repayable support

201. The non-repayable forms of State-budget support include [LoHE of 2005, Article 173]:

1) maintenance grant,
2) special grant for disabled persons,
3) scholarship for learning or sporting achievements,
4) scholarship for learning achievements awarded by the minister,
5) scholarship for outstanding sporting achievements awarded by the minister,
6) meals grant,
7) accommodation grant,
8) aid payment.

202. An accommodation grant may be awarded only to a full-time student, and all other grants and scholarships to students who fulfil certain criteria, regardless of their mode of study and type of a TEI.

203. It should be emphasised that until the year 2001 non-repayable State-budget support was granted only to full-time students of public TEIs and a small number of students in non-public TEIs. Although, according to the 1990 HEA as amended in 2001, non-public TEIs were eligible to receive student support subsidies, this was not possible in practice because of State budget constraints. In the Budgetary Law for 2001, 2.2% of the total Ministry of Education subsidy for student financial support was designated for maintenance grants for full-time students in non-public TEIs. In subsequent years, this was increased to 2.7%. The Regulation of the Minister of Education of September of 2003 laid down the requirements and procedures for non-public TEIs to apply for State-budget subsidies, including the subsidy for financial support for students. The Act of 2004 (amending the previous legislation concerning TEIs as regards financial support for students) extended the eligibility for non-repayable support to cover all students fulfilling relevant criteria, regardless of the type of school and mode of study. According to the new LoHE of 2005 (Articles 199 and 277), non-repayable support may also be granted to doctoral students.

204. Grants and scholarships are awarded for a period of one semester, except the minister's scholarship for outstanding sporting achievements which is granted for one academic year. Maintenance grants, special grants for disabled students, scholarships for outstanding learning and sporting achievements, meals grants, accommodation grants and aid payments are granted, in TEIs, by the single-person authorities (dean, rector) or, at request of the student self-government body, by the student grant committees. The minister's scholarships for outstanding sporting and learning achievements are granted by the competent minister.

205. Students following simultaneously degree programmes in several fields of study may be awarded maintenance grants, meals and accommodation grants, the minister's scholarships for outstanding learning and sporting achievements in one of those fields of study as chosen by the student, and a scholarship for learning achievements in each of those fields of study.

206. Students may be awarded several welfare benefits, except scholarships for outstanding learning and sporting achievements granted by the Minister.

207. Decisions awarding or refusing to award financial support to students, as made by the TEI, have the status of administrative decisions within the meaning of provisions of the Act of 14 June 1960, The Code of Administrative Proceedings (*Dziennik Ustaw* 2000 No. 98), and provisions of this Act apply accordingly. Final decisions made by the TEI rector or the grant appeals committee may be appealed against to the relevant Voivodship (province-level) administrative court.

208. On the basis of the rules and regulations adopted by a TEI, the amount of the grant is determined by the relevant TEI bodies. However, according to Article 184, section 6 of the Law on Higher Education, the total amount of a monthly maintenance grant, scholarship for outstanding learning and sporting achievements, meals grant and accommodation grant may not be higher than 90% of the lowest wage paid to academic staff. The above-mentioned grants and scholarships payable to students are exempt from personal income tax (art. 21, section 1 of the Act of 26 July 1991, *Dziennik Ustaw* 2000 No. 14, as amended by subsequent legislation).

209. The main source of funding for grants and scholarships awarded to students is the State budget. TEIs receive an appropriate subsidy for the performance of a given task and the funds are then distributed by the rector in consultation with the student self-government. Such a subsidy is included in the Fund for financial support for students and doctoral students. Furthermore, the Fund is replenished by charges paid by students for accommodation in student dormitories and meals in student canteens, as well as by other revenues, including those from the lease of office space in such buildings.

210. Grants and scholarships, including those awarded by the Minister, are paid to students by TEIs. TEIs are required to cover the costs of tasks related to the award and payment of grants and scholarships, and they may cover such costs using up to 0.2% of the relevant subsidy.

211. Procedures and criteria for granting non-repayable support to students are defined by the new LoHE of 2005 (Articles 199 and 277), whereas detailed regulations are laid down by the TEI Rector in consultation with the student self-government. With the scope of financial support extended, the State budget subsidy for this purpose was increased in 2004 as compared to its level in 2003 by 105.5% (from 679,700,000 PLN to 1 396,500,000 PLN). Changes introduced in financial support in 2004, including the extended eligibility for support, combined with significant increase in the relevant State-budget subsidy, ensured wider access to financial support, in particular for students with low income.

212. In the academic year 2004/2005, the number of grant-receiving students increased to 471,400, i.e. 24.5% of the total student population (as compared to 236,400, i.e. 13.9%, in 2001/02 [GUS 2005]). The number of students receiving financial support benefits in 2004 increased overall by 44.6% (by 31.5% in public TEIs and 83.2% in non-public TEIs).

213. In the academic year 2004/05, grants were awarded to 5,485 disabled students, i.e. 59.3% of the total population of disabled students (Annex, Table 2).

214. Maintenance grants are awarded to students who are in a difficult financial situation on the basis of an application submitted to the TEI. In order to determine the amount of the grant, the TEI takes into account the income generated by: 1) the applying student, 2) the student's spouse, dependent minor children and children in education or training until they have reached 26 years of age, 3) the student's parents, legal or actual guardians, and their dependent minor children and children in education or training until they have reached 26 years of age.

215. In case the student meets the conditions specified in the LoHE (Article 179, section 6) to be recognised as financially independent, the income of persons referred to in point 3) above is not taken into account to define the student's financial situation. Only the student's, the student's spouse and children are taken into consideration. The burden of proof regarding sustainable source of income lies upon the student.

216. A maintenance grant for disabled students may be awarded to a student whose disability is confirmed by a certificate from a competent authority. The grant is awarded on the basis of an application submitted by the student to the TEI.

217. Meals grants are awarded to students in a difficult financial situation on the basis of an application submitted by the student to the TEI.

218. Accommodation grants are awarded to full-time students in a difficult financial situation to cover their costs of accommodation in a student dormitory or any other facility, provided that the daily travel to the place of study would prevent them otherwise from, or significantly hinder them in, studying. Full-time students meeting the above criteria may obtain an accommodation grant to cover the cost of living with a spouse who does not work or a child in a student dormitory or any other facility. The grant is awarded on the basis of an application submitted by the student.

219. Aid payments may be granted to students who are temporarily in a difficult financial situation for reasons beyond their control, on the basis of an application submitted by the student.

220. Support for individual disabled students is also provided under the programme implemented by the Government Representative for Disabled Persons, "Student: helping disabled persons to obtain a tertiary education diploma", adopted by the Supervisory Board of the National Fund for Rehabilitation of the Disabled pursuant to Article 47 of the Act of 27 August 1997 on Professional and Social Rehabilitation and Employment of Disabled Persons. The programme is addressed to all students, irrespective of the mode of study, with severe or moderate disabilities as certified by competent authorities. The programme has been implemented at national level since 1 January 2002 and will last for 6 years. Financial support from this fund, depending on its form, is granted on the basis of the student's financial situation, learning achievements and field of study. Support is provided in various forms: contribution towards costs of study (tuition fees, travelling expenses, accommodation, purchase of learning materials etc.), scholarships for outstanding learning achievements, and grants for students taking up study in foreign universities.

221. Furthermore, TEIs themselves may establish their own scholarship funds, with scholarships awarded regardless of support provided by the State budget.

222. According to GUS statistics, the average amount of a monthly maintenance grant in public TEIs was slightly reduced in 2004 (from 146.2 PLN monthly to 135.1 PLN) and increased in non-public TEIs (from 94.8 PLN to 132.7 PLN), whereas the special grant for disabled students in public TEIs was reduced from 224.6 PLN to 210.1 PLN [GUS 2005, p. 271]. It is, however, worth noting that less well-off students frequently receive financial support in more than one form: a maintenance grant combined with meals and accommodation grants plus, often, with a scholarship for outstanding learning achievements. The State-budget subsidy for student financial support per student amounted to 38.5 PLN in 2003 and to 76.6 PLN in 2004. With no statistical research and no questionnaire surveys conducted recently, it is impossible to assess the role of the State support in covering the costs of study incurred by students.

6.4.2. Repayable support

223. In order to extend the scope of the State financial support for students and to cover students enrolled in all types of TEIs and modes of study by a uniform support scheme, a student loan and credit scheme was introduced in 1998 [Act of 1998]. The Act of 28 May 2004 extended the eligibility for loans and credits to include doctoral students, and civilian students of Akademia Obrony Narodowej (*National Defence Academy*), Wojskowa Akademia Techniczna (*Military University of Technology*), Akademia Marynarki Wojennej (*Naval Academy*), Szkoła Główna Służby Pożarniczej (*The Central School of Fire Service*) [Act of 1998, Article 4]. Student loans and credits are granted from the Student Loan and Credit Fund, managed by Bank Gospodarstwa Krajowego (*The Bank for National Economy*), by commercial banks on preferential terms. The Fund is financed primarily by State-budget subsidies, the amount of which is fixed each year in the Budgetary Law, by interest on the Fund's deposits in other banks and by other sources [Act of 1998, Article 3]. The Fund's resources are used to finance: a) student loans, b) a part of interest on credits taken by students, payable to lending banks, c) costs of remitting student credits, d) other costs [Act of 1998, Article 4].

224. Arrangements adopted in the Acts on student loans and credits are an effective solution in the context of the objective of extending the scope of the State financial support for students. Firstly and most importantly, the scheme is not an alternative but a supplement to the grant scheme (non-

repayable aid), and thus it is open to all students fulfilling certain criteria. Secondly, the monthly instalment that can be granted to a student (loans are granted for 10 months) is significantly higher (600 PLN in 2004/05) than the monthly maintenance grant or the scholarship for learning achievements, which enables students to cover a large part of their costs of study.

225. Other favourable terms include:

1) the grace period of one year (changed in 2004 to two years) between the graduation and the commencement of loan repayment by the graduate;
2) the repayment is spread over a period that is at least twice as long as the period for which the loan was taken (the borrower may reduce this period);
3) the monthly repayment instalment is limited up to 20% of the average monthly salary of the graduate repaying the loan;
4) the loan may be partially remitted for a graduate in a difficult situation or for learning achievements (20% of the loan amount remitted for 5% of the best graduates of a given TEI), or fully remitted in the case of a graduate who has lost permanently the capacity to repay the loan.

226. Although this is repayable support and, theoretically, covers all students who enrolled in TEIs before reaching 25 years of age (Polish nationals and EU nationals working in Poland), it does have – to a certain extent – a welfare dimension or means-tested element. The per capita income in the student's family giving entitlement to a student loan is determined by the minister responsible for tertiary education, after the submission of loan applications by students, on the basis of data provided by lending banks on the number of applications submitted, the income of applying students and the number of extended loans and new loans that can be granted, taking into account the level of funding available in the Student Loan and Credit Fund and the current interest rates, as for the year end. Priority is given to persons in a difficult financial situation[28].

227. The period for which a loan or credit can be granted may not exceed 6 years or, in the case of doctoral students, 4 years [Act of 2005 b]. Interest paid by the borrower and loan interest are calculated as half of the rediscount rate of the National Bank of Poland[29].

228. With the student loan scheme extended to cover new beneficiaries in 2004, the number of new borrowers increased from 22 000 to 24 100 during the academic year 2004/05. The largest number of student loans (99 000) was granted in the academic year 1998/1999, the first year of the scheme's operation, when loans were taken by students in all years of study. Gradually, the number of loans granted by banks declined and, between 2000 and 2004, the number of new loans ranged from 22,000 to 23,000 per year [Annex, Table 4]. During 6 years, the number of student loans serviced increased from 99,000 in 1998 to 191,000 in 2004. Currently, loans are used by 196,000 students, i.e. ca. 11% of the total student population [Raport MENiS 2005]. The ratio of loans granted to applications submitted ranged from 73.4 to 76.6% in the last 3 years. Most of the borrowers are full-time students, taking ca. 68% of the total number of loans granted in individual years (67% in the academic year 2003/2004).

229. Ca. 22% of all loans granted between 1998 and 2005 were taken by non-public TEI students (21.7% in the academic year 2003/04). The average ratio of newly granted loans to the total student population was 1.3% in 2004/05 (as compared to 7.87% in 1998/99), with 1.4% for public TEI students and 0.9% for non-public TEI students [Raport MENiS 2005].

230. Uncertainty of employment after graduation resulting from the continuously high rate of unemployment is likely to be the cause of declining interest in student loans[30]. Another factor is the high rediscount rate of the National Bank of Poland which determines the level of interest charged (although the rate is still lower than for commercial loans), as well as students' difficulties in finding guarantors. Improvements to the scheme should involve extending the grace period and introducing deferral of repayment for unemployed borrowers who have started to repay the loan.

[28] In 2004, the per capita income in the student's or doctoral student's family giving entitlement to a loan could not exceed PLN 1,400.

[29] Detailed rules, procedures and eligibility criteria for granting, repaying and remitting student loans are laid down in the Regulations of the Minister of National Education of 30 September 1998 and 1 October 1999.

[30] Though the grace period is currently two years, the repayment may be deferred for unemployed graduates.

231. State support, including loans, plays a limited role in covering costs of study [E. Świerzbowska-Kowalik, H. Gulczyńska 2000 and Raport "Młodzi 2005"]. Budgets of individual students rely mainly on two sources: financial assistance provided by families and students' own earnings. Increasing the level of support for individual students would require increasing the relevant State-budget subsidy.

6.5. Tuition fees and equity in access to tertiary education

232. The concept of tuition fees is based on the assumption that study costs should be shared by the State and the student (and his/her family) as both sides share the benefits from this investment [B. Johnstone, 1989]. The first step in this direction in Poland involved the introduction of partial payment for evening and extramural programmes in public TEIs. Currently, the academic community and opinion-forming circles support the introduction of fees also for full-time programmes. Results of surveys conducted by *Pracownia Badań Społecznych* confirm that 62% of the population of respondents is against the introduction of tuition fees for full-time programmes in public TEIs. The Education Development Strategy 2007-2013 (adopted in August 2005), in its part concerning tertiary education and planning in this area, provides that all students will pay tuition fees covering a part of costs of study, but may obtain financial support in the form of grants and credits to pay their tuition [Strategia 2005, p. 50]. The above provision has raised significant social opposition. Full-time programmes in public TEIs are free of charge, while payments for evening and extramural (part-time) programmes in public TEIs and all forms of study offered by non-public TEIs range from 1,600 to 8,000 PLN per year, depending on the type of TEI, form of study and field of study.

233. Supporters of tuition fees use the following arguments:

1) need to ensure greater transparency in arrangements for financing degree programmes ("uniform rules applicable to all");
2) need to limit the income re-distribution currently in favour of students who are privileged because of their family and social background, as this group accounts for the majority of non-paying students;
3) possibility of improving "discipline" in study and encouraging students to graduate within a set time limit;
4) stronger competition between TEIs and increasing demands of students, which would improve the quality of teaching.

234. Arguments against sharing the costs of study are usually similar (or identical), but given with a different interpretation:

1) access to tertiary education would be limited for the most gifted young people from socially and economically disadvantaged background (families with low education level, living in rural areas and small towns);
2) students themselves would be burdened with additional costs of study, with no accurate assessment of the impact of the burden on the demand for tertiary education;
3) the introduction of tuition fees would make it necessary to have a more extensive and diversified system of financial support for students, which needs a long time to be prepared.

235. Moreover, the Constitution provides for free education at tertiary level, which is a legal argument against the introduction of tuition fees.[31]

236. Legal discussions are centred around the interpretation of the term "educational services" which – in the light of the Constitution – may be provided by public tertiary education institutions for a fee [J. Woźnicki, M. Wyrzykowski 1998]. [32]

[31] Article 70, section 2, of the Polish Constitution stipulates that: „Education in public schools shall be free. An Act of Parliament may provide for public tertiary education institutions to charge a fee for certain educational services".

[32] See. Discussion in: „Współodpłatność za studia a Konstytucja Rzeczypospolitej Polskiej, Jerzy Woźnicki and Mirosław Wyrzykowski (ed.), Instytut Spraw Publicznych, Warsaw 1998.

237. Most students asked about their opinion on the issue in a questionnaire survey did not approve of the concept of tuition fees paid by all students, with an option for certain groups (the poorest or having the highest learning achievements)[33] to be exempted therefrom. Neither did they accept the concept of partial payment of fees, with simultaneously extended scope and increased amounts of financial support for students (grants, credits and loans). This approach is by no means exceptional as student protest against any attempted increase in the level of tuition fees in other European countries as well. Each government must be prepared to face protests when trying to introduce such changes in Poland.

238. The academic community (staff) in its majority approves of the idea of partial payment of tuition for all types of degree programmes. They interpret the term "tuition fee" as implying freedom in determining the level of fees, which is currently the case, even though the legislation in force provides that the amount of fees should be based on the costs of teaching [Regulation ... 1991]. The costs of teaching have not been properly calculated, hence the relevant powers of the rector have been transferred to faculty councils by a decision of the TEI senate. Faculties determine the amount of fees on the basis of estimated costs, taking mainly into account the expected demand for places in degree programmes in a given field of study. Regulations laying down rules to determine the level of fees have not been adopted yet on the basis of the new LoHE of 2005. Actually, it may as well turn out that TEIs would obtain smaller revenues because of the reduction of State-budget subsidies granted to them for teaching. Such reduction would be justified by the need to increase subsidies for financial support for students, including in particular grants, tuition fee exemptions, loans and credits. Furthermore, revenues obtained by TEIs could be also reduced if the levels of tuition fees were regulated by the State (Ministry). Today, however, it would be difficult to introduce and accept such a regulated tuition fee level in view of the imprecise definition of the term "costs of study".

239. We do not have data on the actual or estimated costs of study in Poland: social costs (global), the share of such costs covered by the State on the one hand, and students and their families on the other hand. It would also be necessary to have a simulation-based calculation of the demand (probability of achieving the target enrolment rate in tertiary education) as well as of TEI revenues in variants for different forms of payment and levels of tuition fees.

[33] According to a 1999 survey, 46% students were in favour of free tertiary education for all students [H. Gulczyńska, E. Świerzbowska-Kowalik]. This opinion was shared by 78% of Warsaw secondary school students and TEI students surveyed in 2005 [K. Macioł… 2005].

7. TERTIARY EDUCATION HUMAN AND FINANCIAL RESOURCES

7.1. Supply of, and demand for, academic teachers in tertiary education institutions

240. Academic teachers perform basic tasks of tertiary education institutions: they teach students and conduct research. They account for 55.9% of all employees in tertiary education; 55% of all employees in public TEIs and 60.9% in non-public TEIs [MNES 2004, Table 9].

241. The supply of academic teachers in tertiary education is too small in relation to the number of students and the resulting workload. This was already mentioned in the OECD report of 1995 [Report 1995, p. 26], and slight improvement has been achieved since then.

Between the academic years 1995/96 and 2003/04, the number of academic teachers increased by 36%, whereas the number of students by 134% [Author's own calculations based on GUS 2004 c, p.356 and 360]. In the entire period between 1990/91 – 2003/04, the number of students in Poland increased 4.7 times, whereas the number of academic teachers by 42% [GUS 2004c, p. 360, GUS 2001a, p. 252 and GUS 2004c p. XXI][34].

242. This is the reason of a significant increase in the workload of academic teachers (sometimes at the expense of other tasks). The teaching load of academic staff varies considerably between TEIs and within individual TEIs (depending on the fields and disciplines), as well between the sectors of tertiary education. Non-public schools are in a particularly difficult situation as regards the number of senior academic staff.

243. The ratio of student equivalents to this group of academic teachers was[35]:

- 84.2 in all tertiary education institutions,
- 87.4 in public tertiary education institutions,
- 93.3 in public tertiary education institutions supervised by the MNES,
- 74 in non-public tertiary education institutions.

244. The situation of non-public TEIs is more difficult than the average statistical indicators suggest (as they do not show for how many senior academic staff members the employment in a non-public TEI is a second (or another) job). Within the non-public sector, the situation varies between TEIs, but few of them have their "own" academic staff. Academic teachers employed in a TEI other then their primary employer use curricula, lectures, teaching aids, tests, etc. developed as part of their duties in the place of primary employment. [E. Chmielecka, 2004, pp. 28-30]. The property rights to such products are a controversial issue because it is the home institution of teachers that covers the costs of their production (by paying a salary to a given teacher). In this way, public TEIs support the non-public TEI sector in terms of staff, bearing high additional costs of staff development. E. Chmielecka in her report on the survey of the opinions of rectors of public and non-public TEIs, conducted by the Institute of Knowledge Society, writes that „Non-public TEIs could be established and operate successfully because they could benefit from academic staff resources existing and not fully tapped in public TEIs and the PAS. ...Problems arise when the programmes offered by non-public TEIs create a situation where not only reserves but the entire working capacity is used – beyond any common sense and ethical standards". [E. Chmielecka, 2004, s.28-30].

245. Moreover, the structure of academic staff by field of study is inadequate for the needs, which results from dynamic changes in the structure of degree programmes by field of study and in the demand for tertiary education (Chapter 2 and 3).

[34] According to the classification for 31.12.2003, public TEIs included the Catholic University of Lublin (CUL) and the Pontifical Academy of Theology (PAT) in Cracow. In all statistical materials, full-time academic teachers are included in the calculations for every workplace, which distorts the real picture because one teacher is frequently employed in two or more institutions. Part-time teachers were converted into full-time equivalents. Annex to Chapter 2, Table 2, and Annex to Chapter 7.

[35] The following indicators were used to calculate "student equivalents": full-time students = 1.0; evening students = 1.0; extramural students = 0.5; non-degree postgraduate students = 1.5; doctoral students = 2.5. CUL and PAT are not included in any of the two, public or non-public, sectors [MNES 2004 a, Table 8, p. 95].

246. The annual load of an academic teacher employed in a given position is laid down in the Law on Higher Education [LoHE of 2005, Article 130, subsections 3 and 8], and rules for defining the workload and calculating teaching hours are set by the Senate of a TEI.

247. The second factor determining high demand for senior research staff is related to legal requirements regarding the number of persons holding the title of Professor or the Habilitated Doctor degree working in the place of their primary employment. TEIs meeting these criteria are authorised to: 1) conduct professorship, habilitation and doctoral proceedings, and offer doctoral programmes; 2) offer degree programmes in a given field of study; and 3) have a more extensive or more limited autonomy (university-type or non-university TEIs).

248. The Act on Academic Degrees and Title and Degrees and Title in Art of 14 March 2003 provides that the authorisation to confer doctoral degrees can be granted to the organisational unit which employs at least 8 full-time staff members holding the title of Professor or the Habilitated Doctor degree, and representing the field of science or art in which the authorisation is to be granted (Article 6). In order to be authorised to confer the degree of Habilitated Doctor, an organisational unit is required to employ 12 staff members fulfilling these criteria.

249. The minister responsible for tertiary education determines, by way of a regulation, *inter alia*, staffing requirements to be fulfilled by an organisational unit in order to provide degree programmes in a given field of study and at a given level of study (2005 LoHE, Article 9).

250. The above-mentioned requirements are responsible for insufficient supply of senior academic staff, in particular in non-public TEIs.

251. Some share the view that the problem could be solved by the flow of research staff from the Polish Academy of Sciences to TEIs and greater inter-sectoral mobility.

7.2. Rules and criteria for employment and promotion of academic staff

252. In order to understand staffing problems in tertiary education in Poland, one needs to be acquainted with the rules of employment and promotion of academic staff, because these rules themselves create certain barriers: quality barriers to the quantitative development of academic staff. Basic promotion criteria are defined in the Law on Higher Education of 2005, the Act of 2003 on Academic Degrees and Title and Degrees and Title in Art and other legislation. Academic staff can be employed as research and teaching staff, teaching staff or research staff (depending on the type of their tasks: research and teaching or one of them). Research and teaching staff and research staff are employed in the following posts [LoHE of 2005, Article 107]:

a) Full Professor *(profesor zwyczajny)*
b) Associate Professor *(profesor nadzwyczajny)*
c) Visiting Professor *(profesor wizytujący)*
d) Assistant Professor *(adiunkt)*
e) Assistant *(asystent)*

253. TEIs have a small number of staff with the degree of Habilitated Doctor employed in the position of Reader. The 1990 Higher Education Act abolished the position, keeping it only for those who had taken it up before 1990, and were not promoted to the position of Professor. Such a position may be provided for in the statutes of a TEI [LoHE of 2005].

254. Teaching staff are employed in the following positions[36]:

a) Senior Lecturer *(starszy wykładowca)*
b) Lecturer *(wykładowca)*
c) Language Teacher *(lektor)* or Instructor *(instruktor)*

255. To be employed in a given position, academic staff are required to meet qualifying criteria defined in the LoHE: to hold an academic degree or academic title as well as have research and teaching achievements.

[36] In a non-university TEI, teaching staff may also be employed in the positions of Professors and Assistant.

256. Research and teaching staff or research staff employed in a given position at a public TEI is required to hold the following formal qualifications (starting with the highest level):

	Position	**Type of diploma/degree/title**
1	Full Professor	Academic title of Professor *(profesor)*
2	Associate Professor	Academic title of Professor *(profesor)* or academic degree of Habilitated Doctor *(doktor habilitowany)*
3	Visiting Professor	Academic title of Professor *(profesor)* or academic degree of Habilitated Doctor *(doktor habilitowany)* – a person employed in another TEI
4	Assistant Professor	At least the doctoral degree (*doktor*)
5	Assistant	Master's degree *(magister)* or an equivalent degree

257. The period of employment in the position of Assistant Professor for a person who does not hold the degree of Habilitated Doctor is determined by the statutes of a TEI. The employment relationship with academic staff shall be established by appointment or on the basis of a contract of employment according to the procedure laid down in the statutes [LoHE of 2005, Article 115]. The predominating form is the employment by appointment[37], although the recent years have seen a tendency to employ academic staff on the basis of an employment contract. The first appointment in a given TEI is based on qualification in an open competition procedure. The appointment procedure for each position is laid down in the statutes. The procedure for awarding an academic degree or academic title is laid down by the Act of 14.03.2003 on the Academic Degrees and Title and Degrees and Title in Art. The doctoral and postdoctoral degrees are awarded through the proceedings initiated at the request of a candidate for the degree or, in the case of the degree of Habilitated Doctor, by the employing unit upon the consent of the candidate. Doctoral proceedings are conducted and the doctoral degree is awarded by the faculty council or the academic council of the authorised organisational unit to a person who fulfils the criteria defined in the Act: 1) holds a Master's degree *(magister, magister inżynier, lekarz)* or an equivalent degree; 2) has successfully passed doctoral examinations as provided for by the council of the organisational unit; 3) has submitted and successfully defended a doctoral thesis. The proceedings for the degree of Habilitated Doctor are conducted and the degree is awarded by the faculty council or the academic council of the authorised unit (arrangements effective since the entry into force of the new LoHE of 27.07.2005; previously, resolutions of the council required approval by the Central Commission for Academic Degrees and Title). To be admitted to the Habilitated Doctor proceedings, a candidate must hold the doctoral degree, have remarkable research or artistic achievements, and must have submitted a *habilitation* thesis.

258. The President of the Republic of Poland confers the academic title of Professor, at the request of the Central Commission, to a person who holds the degree of Habilitated Doctor and fulfils additional criteria concerning research or artistic and teaching achievements. Proceedings leading to the conferment of the title of Professor are conducted by the councils of organisational units authorised to award the degree of Habilitated Doctor. In exceptional cases, the Central Commission may agree to the initiation of the proceedings leading to the conferment of the professorial title for a person who holds the doctoral degree and has outstanding research or artistic achievements.

259. As it can be seen, after the award of the doctoral degree, the academic career pathway leads through two successive stages: the award of the academic degree of Habilitated Doctor and the conferment of the academic title of Professor.

260. The proceedings for the degree of Habilitated Doctor are particularly important because those who are awarded this academic degree obtain the status of senior researcher which allows them to supervise Master's and doctoral theses and to review doctoral and *habilitation* theses. Some academic

[37] In public TEIs, the minimum staff resources required to provide a degree programme in a given field of study includes appointed academic teachers and retired senior research staff employed on the basis of an employment contract (provided that they have not reached the age of 70).

staff (in particular, Assistant Professors without the degree of Habilitated Doctor) consider this academic degree to be redundant and the requirement to hold this degree to be a barrier to increasing the number of Professors and senior researchers in tertiary education. There are different opinions on the issue. Supporters of *habilitation* believe that it is necessary for the following reasons:

- the status of doctorate being diminished because of the mass-scale training of doctoral students and the lack of diverse models for doctoral programmes [M. Dąbrowa-Szefler, 2001 and 2002],
- the lack of alternative and effective forms of evaluation and selection of academic staff, like e.g. those in the USA [O. Achmatowicz, 2003].

261. The proceedings for the degree of Habilitated Doctor are at present the only serious test of research qualifications of academic staff and their aptitude for research work [J. Filipczak 2005, p. 95]. The abolition of the degree of Habilitated Doctor would lead to a decline in the quality of academic staff in the future, particularly in a situation when academic staff teach too many classes. However, there is a need for more in-depth analysis of the reasons for difficulties in the academic career of academic teachers, mainly during the postdoctoral proceeding (reasons on the side of academic staff as well as system-related, legal, institutional, material reasons, etc.) and after the award of the degree of Habilitated Doctor.

262. TEI practices created an additional barrier between the degree of Habilitated Doctor and the title of Professor, thus adding to the difference of opinion. According to some academic teachers, the degree of Habilitated Doctor should be sufficient to be promoted to the position of Professor for a limited period of time, since the practice of extending "trial" periods undermines the reasons to undertake *habilitation* proceedings and constitutes a disincentive.

263. This does not mean that the degree of Habilitated Doctor may be abolished in the future when, with the restored balance between the supply of and the demand for academic staff, it will be possible to conduct real selection of staff based on the criteria of research development of the candidate for successive position levels in tertiary education. Academic staff, and in particular senior research staff authorised to train research staff, should distinguish themselves by their research (and not only teaching) achievements, contacts with the world science, and knowledge of research methods. However, it is necessary to consider broader use of the provisions of Article 17, section 2 of the Act on Academic Degrees and Title, according to which the *habilitation* thesis may be "the work created after the author has been awarded the doctoral degree or a single-subject series of publications" or "a completed original project, a design, engineering or artistic project" (section 3), "if it provides a substantial contribution of the author to the development of a given discipline of science or art". It is also worth-while to consider the possibility of presenting all research achievements accomplished after the doctorate instead of preparing a *habilitation* thesis [Z. Pacholski 2005]. Such changes may also be accelerated by the introduction, as in the US or the UK, of two types of doctorates: professional doctorate, with the degree obtained upon completion of a doctoral programme, and research doctorate requiring the preparation of a dissertation at an advanced level [P. Bielecki 2005, M. Dąbrowa-Szefler 2001].

264. The percentage of applications for promotion rejected by the Central Commission increased in the last two years, with the Commission suggesting that the academic critique might have been "weakened" in the academic councils awarding academic degrees (Report 2005 p. 3][38]. However, the number of awarded academic degrees is increasing (Annex, Table 4), whereas the number of conferred titles of Professor is not (in 2004, the number of applications submitted was smaller than in 2003). The percentage of the applications from organisational units for the authorisation to award academic degrees which were rejected by the Central Commission is also quite high and reaches 38-39% (in the last 2 years). The reason for rejection was the lack of sufficient research achievements in the applying units. Facilitating advancement in the academic career cannot consist in lowering the requirements and criteria used in the assessment of achievements of an academic teacher or the unit awarding academic

[38] The percentage of rejected applications in relation to the total number of applications submitted by a given type of institutions: 11.6% from organisational units of TEIs, 4.7% from the Polish Academy of Science, 7.4% from R& D units supervised by sector ministries.

degrees. In the light of these facts and in the context of fierce discussions concerning the role of the degree of Habilitated Doctor, it seems justified to continue reflecting on a set of conditions which, when fulfilled, would allow the abolition of this degree. The problem has recently been taken up by the CRASP which appointed a task force for the development of a new research promotion model.

7.3. Structure of academic staff by position and age

265. The situation in Polish TEIs is characterised not only by the too small number of academic teachers, but also by the inadequate structure of academic staff.

266. The main structural problems are as follows:

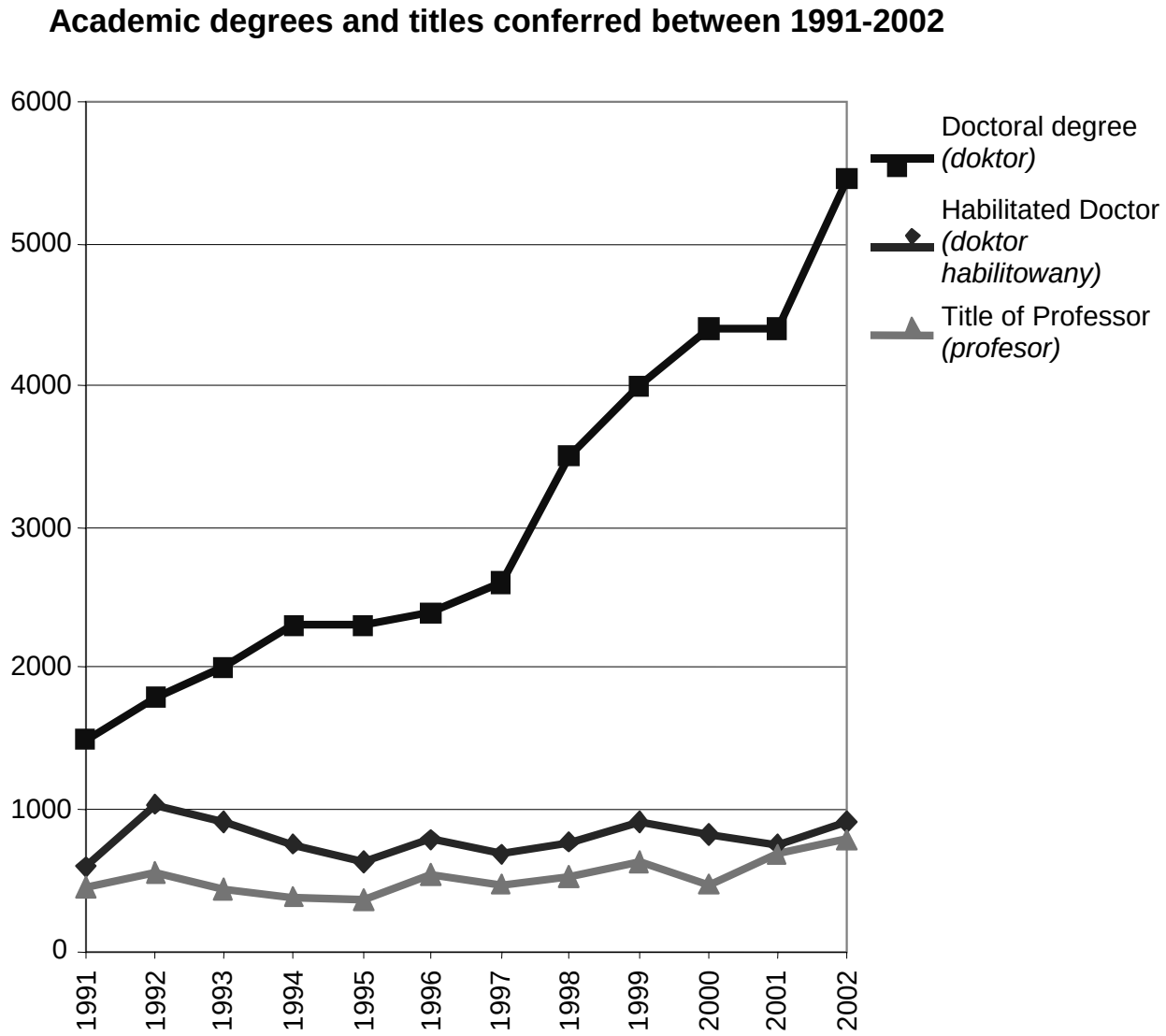
1) too small share of senior researchers (those with the degree of Habilitated Doctor and titular professors) who may perform all teaching tasks and manage research work;
2) the degree of Habilitated Doctor and the title of Professor are often obtained at an advanced age,
3) a major part of costs related to the training of research staff is covered by public TEIs; trained staff either take up a job outside tertiary education (staff with the doctoral degree) or find additional employment in the sector of non-public TEIs (mostly senior researchers).

267. The largest group in the structure of academic staff positions includes Assistant Professors (almost 40%), ¾ of them holding the doctoral degree and ¼ holding the degree of Habilitated Doctor (Annex, Table 1). Assistant Professors holding the degree of Habilitated Doctor belong to the group of senior researchers. The positions of Professors are held by ¼ of all academic staff employed at TEIs, but the share of Titular Professors is much smaller (they account for 1/3 of Professors and 7.4% of all academic staff). More than a half of them are over 60 years of age[39].

268. Although some increase in the number of conferred titles may be observed over a long period of time (1991–2002) [Annex, Table 4], the number of applications submitted and reviewed by the Central Commission in 2004 (549) was significantly lower than in 2002 (789). The number of submitted applications dropped by ca. 4.8% in 2003 and by 9.4% in 2004 [Report 2004, p. 5]. However, the number of Habilitated Doctor degrees submitted for approval to, and approved by, the Central Commission, has increased in the recent years. In 2004, 931 Habilitated Doctor degrees were approved (as compared to 923 in 2002) [Annex, Table 4].

[39] The most recent data on the age structure of research staff in Poland refer to the year 2000 because GUS conducts such surveys every 5 years.

Fig. 7.1: Number of conferred academic degrees and titles



269. The share of women in the total number of academic staff is increasing, in particular in the number of candidates for the doctoral degree, but also the degree of Habilitated Doctor (Annex, Table 4).

270. The main goal of the strategy of increasing the number of academic staff in the position of Professor is to increase the number of *habilitation* proceedings conducted and to lower the age at the which the degree of Habilitated Doctor is obtained.[40] The first step towards this goal was an increase in the number of awarded doctoral degrees and the lowering of the age at which this degree is obtained. The number of doctoral degrees awarded annually from the year 2000 has been by more than three times higher than the number of doctorates awarded in the early 1990-ties [Annex, Table 4]. The share of persons aged up to 31 in the total number of persons awarded a doctoral degree is increasing: 11,5% in 1992, 21.1% in 1999, and 38.5% in 2003[41]. More than half of persons who are awarded a doctoral degree obtains it within 2 years of the initiation of doctoral proceedings. [Annex, Table 6].

[40] Of all 803 Habilitated Doctor degrees approved in 2003, 278 were awarded to persons aged over 51 years and 391, i.e. almost half, to persons aged between 41-50 years [GUS 2004c) p. 87].
[41] Author's own calculations based on successive statistical yearbooks issued by GUS, TEIs and their finances, Warsaw. In the 2005 yearbook, the required data are not included.

The indicator was decreasing during the 1990-ties, but reached 67.5% in 2003. The share of those who obtain the doctoral degree within 5 years of the initiation of doctoral proceedings is steadily increasing, and exceeded 93% in 2004.

271. The increase in the number of awarded doctoral degrees, including degrees awarded to persons aged up to 29, is only a preliminary step towards the goal of qualitative and quantitative development of academic staff, because only a part of those obtaining the degree pursue an academic career. Because of the lack of statistical analysis concerning careers of doctoral programme graduates, the percentage of doctors taking up academic career cannot be determined.

272. Until 2003, the number of academic degrees awarded in non-public TEIs was not recorded in overall statistics. Non-public TEIs did not train research staff because they did not have the authorisations required[42]. In 2003, non-public TEIs (excluding theological TEIs) awarded 4 doctoral degrees and no degree of Habilitated Doctor [GUS 2004 a) p. 79][43], and the number of doctoral degrees awarded rose to 23 in 2004. Non-public TEIs should therefore recruit staff with the doctoral degree (offering remuneration at an adequately high level and funding *habilitation* scholarships) from among the group of those holding the doctoral degree who have so far chosen a career outside tertiary education. In this way, non-public TEIs could (following the example of theological TEIs) develop gradually their own pool of academic staff, including senior researchers, for whom this would be the place of primary employment.

7.4. Remuneration system for academic staff, salaries and multiple jobholding

273. The rules for the remuneration of academic staff are laid down in the Law on Higher Education [LoHE of 2005], as well as in the Act on the Rules for Funding Research [Act of 2004] and other legislation. The remuneration of academic staff includes basic pay[44], depending on the position, and – in the case of those conducting research – copyright royalty fees. The main source of funding for the basic remuneration of staff in public TEIs is the State-budget subsidy for teaching activities, administered by the MNES and competent ministers; the remuneration for research work is financed from the R&D subsidy administered by the Ministry of Science (Chapter 5). The possibility of regulating the level of remuneration in public TEIs is limited, on the one hand, by the amount of the subsidy granted and, on the other and, by the regulations of the competent ministers who determine the level of remuneration for each position (as ranging "from" – "to") and the amount of function-related allowances. However, governing bodies of TEIs are, to some extent, free to make decisions within the specified limits, and how they use these powers depends on the decision of the Senate. Remuneration may also be financed from fees for some educational services provided by a TEI (section 7.6).

274. In non-public TEIs, remuneration can be financed from tuition fees. The rules for remuneration are laid down in the statutes.

275. The amount of basic remuneration of academic staff has for a long time been a reason for dissatisfaction of the academic community, particularly when compared with the remuneration of high-class professionals in other sectors[45].

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[42] This does not apply to theological TEIs which had over 2,500 doctoral students in 2003.

[43] Excluding theological TEIs which awarded 9 Habilitated Doctor degrees and 40 doctoral degrees in 2003 [GUS 2004a p. 79], and 8 and 24 respectively in 2004.

[44] Remuneration for an individual academic staff member increased by length-of-service allowance, overtime pay, function-related allowance, and awards granted from the institutional award fund.

[45] In 2000, the average gross salary of a titular professor in a TEIs accounted for 253% of the average gross wage in the State-budget sector and 252% of the average gross wage in industry. The salary of a staff member holding the doctoral degree in a TEI amounted to 126% of the average gross wage in the State-budget and 126% of the average gross wage in industry. Author's own calculations based on GUS "Science and Technology" *(Nauka i Technika)* in 2000, Warsaw 2002, p. 95.

The too low level of salaries in the R&D sector in general, including tertiary education, was identified in a survey of 2000 [M. Dąbrowa-Szefler 2001, p.219] as a factor discouraging those holding the doctoral degree from pursuing a career in research and tertiary education. The qualitative survey of the late 1990-ties showed that low salaries were a reason for the staff of the R&D sector, and in particular the research sector, to take up

276. The 2001 amendment to the 1990 Higher Education Act [Act of 2001, Article 66a] provided a basis for significant, gradual increase in the level of remuneration for academic staff, in relation to the remuneration in the State-budget sector, between 2002 and 2004. Financial terms of employment for academic staff are also determined by a number of entitlements [LoHE of 2005, Part III, Chapter 2][46], including the following most important entitlements to: an anniversary award paid after 20, 30, 40, 45 years of service and other awards, holiday leave (amounting to 36 working days per year), health leave, and social insurance. An appointed academic teacher may be granted a one-year sabbatical leave (every 7 years).

277. A difficult problem for TEIs is the so-called multiple jobholding: additional employment of academic staff (under an employment relationship) outside their home TEI. Reasons for additional employment outside the home TEI may be various: e.g. purely economic or related to further development (through the contact with the practice, participation in research, in which case it is a desirable element of academic mobility). Academic teachers' opinions on additional employment also vary, depending on its objective and character (excessive number of additional teaching hours and supervised Master's theses to the detriment of their quality are assessed negatively). For some researchers, this phenomenon is an example of contradiction between rational action and the interests of an employee on the one hand, and the arguments and mission of a TEI on the other hand [I. Białecki 2005]. In my opinion, this problem should be solved not so much by legal regulations prohibiting additional employment as by TEIs ensuring that academic staff actually perform the tasks assigned to them in their employment contract or appointment document.

278. According to the new Law on Higher Education, academic staff are still allowed to be employed by one additional employer or to pursue economic activity (employment with more than one additional employer requires the consent of the Rector).

7.5. Sources of funding and level of expenditure on tertiary education

279. The expenditure on tertiary education in Poland accounted for 0.87% of GDP in 2003 [GUS 2005 p. 256] and for 1.0% in 2004. These figures include only public expenditure on teaching in TEIs, financial support for students and capital expenditure[47]. In 2005, the expenditure will reach 1.01%, as planned in the tertiary education section of the draft State budget. However, research in TEIs is financed from another section of the State budget (Chapter 5), and expenditure from this section is not included in the indicator of 1.0% of expenditure on tertiary education. Moreover, statistics concerning expenditure on tertiary education do not include private expenditure. Thus, the share of public expenditure on tertiary education in Poland is comparable to the average share in EU and OECD countries. However, the expenditure per tertiary student, in absolute numbers, is several times lower[48],[49].

280. The largest share of public expenditure is the State-budget expenditure, whereas the share of expenditure from local government budgets is very small [Information 2004 b) p. 25].

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additional employment in another TEI (mostly non-public) or, in the case of doctorate holders, any additional employment [M. Dąbrowa-Szefler, H. Gulczyńska...1998, p. 35].

[46] In 2003, the average monthly gross salary of a titular professor in a TEI amounted to 290%, of staff holding the Habilitated Doctor degree to 227% and of staff holding the doctoral degree to 154% of the average wage in the State-budget sector [author's own calculations based on GUS 2005 pp. 85-86].

[47] According to unofficial calculations (Annex, Table 10), the share of the total (public and private) expenditure on tertiary education in Poland in 2003 was twice as high as the official indicator which includes only public expenditure.

[48] Public expenditure on tertiary education accounted for 0.75% GDP in 1995 and 0.89% of GDP in 2001. In the same year, 2001, the share of public expenditure on tertiary education in OECD countries amounted on average to 0.9% GDP. With a large share of private expenditure (0.9%), the total expenditure in these countries amounted to 1.8%. Relevant data for Poland are not comparable because they do not include expenditure in non-public TEIs.

[49] In 2001, the expenditure per tertiary student amounted to 2,864 PPP US dollars in Poland as compared to the average amount of 10,724 in OECD countries [Education at Glance OECD Indicators 2004, Table B. 1.1.b)].

7.6. Funding for public tertiary education institutions

281. Public tertiary education is financed from the State budget in the form of:

1) subsidies allocated to individual TEIs for teaching activities and maintenance, with almost the entire amount used for remuneration (staff costs accounted for 71% of the total State-budget expenditure in the TE section (2004), and for 78.9% of the total amount of subsidies in this section);
2) subsidies allocated to individual TEIs for financial support for students (which accounted for 16% of the State-budget expenditure and 18.6% of the total amount of subsidies in the TE section);
3) specific-purpose subsidies for capital (construction) projects; capital expenditure accounted for 5.3% of the total expenditure[50].

282. The Law on Higher Education of 2005 has changed the nature of subsidy, introducing subsidies related to 10 types of tasks (Article 94)[51]. These regulations will enter into force on 1 January 2007 (Article 277). The planned growth in expenditure on tertiary education in 2005 (7.6% in nominal terms, in 4.4% in real terms) is reflected mainly in the increased amount of State-budget subsidies because of the increase in salaries of academic staff (as a result of pay rises in 2004) and the increase in the financial support for students.

283. The main part of State-budget expenditure on tertiary education, i.e. 80.6% (in the draft budget for 2005) is administered by the MNE, and the remaining part is divided into budgets administered by the competent ministers supervising certain types of TEIs.

284. Current expenditure accounts for 97.3 % and capital expenditure for 2.7 % of the State-budget expenditure on tertiary education budgeted for 2005 [Information b) p. 16]. Current expenditure includes mainly staff costs (accounting, according to the draft, for 72.8% of the MNE expenditure [Information 2004 b].

285. After 1990, the MNE and other sector ministries supervising TEIs introduced gradually an algorithm to distribute State-budget subsidies among TEIs. The rules and criteria for distribution were instruments used to implement the educational policy in some areas. For example, between 1993 and 2001, the MNE divided the teaching subsidy on the basis of an algorithm which included the following major components: a) the number of student equivalents, b) the number of academic staff equivalents[52]. This algorithm was a contributing factor in the growth of the number of students, the reduction of administrative staff (at least initially after its introduction), and the transfer of a large number of academic staff employed in the position of Assistant to doctoral programmes[53]. The algorithm also limited, to a certain extent, the possibilities of promoting the staff with the Habilitated Doctor degree to the professorial posts (which increased staff costs). The algorithm was used for public TEIs operating on the basis of the Higher Education Act of 1990 (i.e. excluding non-university TEIs).

[50] Other sections of the State-budget expenditure on tertiary education for 2004 include: expenditure on military TEIs, fire service TEIs, the Student Loan and Credit Fund and other expenditure.

[51] These provisions come into force on 1 January 2007 (Article 277).

[52] The algorithm used to divide the teaching subsidy also included "part c" (the so-called "constant amount carried over from the previous year"): a part of the subsidy calculated as a certain percentage of the subsidy granted in the previous year (initially amounting to 0.7 and finally to 0.2).

[53] Academic staff equivalents included academic staff with the doctoral degree (weighting: 1), and staff with higher-level academic qualifications (staff with the Habilitated Doctor degree – 1.5 and titular professors – 1.5). While Assistants, like non-academic staff, were thus not included in the subsidy, doctoral students were included in the "student equivalent" part (from "2.5" to "5"). The following elements were taken into account in the part "number of student equivalents": mode of study with appropriate weightings and cost index of a given field of study (with 5 groups of fields of study distinguished by cost index). A separate part of the total teaching subsidy was designated for the renovation of buildings used for teaching, and calculated on the basis of a different algorithm (with appropriate weightings) and by field of study (weighting based on cost index).

286. Subsidies for teaching were divided by TEIs and transferred to their organisational units on the basis of their own algorithms, usually a modified version of the MNE algorithm [Financing, 1996].

287. In recent years, the amount of the teaching subsidy allocated to TEIs has been determined by the rules for increasing remuneration adopted in the 2001 Act and introduced in 3 stages (in years 2002-2004, with consequences for the 2005 budget). The basic formula of the algorithm is still applied (with slight adjustments). A major adjustment is that the algorithm now takes into account teaching quality assessments in specific fields of study (Chapter 9). Algorithms[54] are also used to distribute the subsidy for financial support for students in public and non-public TEIs.

288. The basic problem of public TEIs in the past 15 years was that the State-budget subsidy was increasing at a much slower rate (or temporarily even decreasing in real terms) than the number of students. The State budget expenditure on tertiary education declined in real terms in 1992, 1993, and 2000. In other periods, the rate of growth in the subsidy was uneven, while the number of students was growing steadily [Ministry of Education 2002, p.7]. This forced TEIs to reduce teaching costs, but also to substitute State-budget funds with an increasing amount of revenues from other sources (section 7.6). The new budgeting rules used in recent years, including the rule that expenditure on tertiary education are recognised as flexible and developmental type of expenditure, are only the first step in the process of changes in tertiary education funding. In the future, the amount of the subsidy should be strongly related to the tasks performed and results achieved by TEIs, e.g. the number and structure of graduates. It would also be necessary to find a way of ensuring the stability of subsidy within a certain period of time, which would allow TEIs to plan their tasks and methods of funding them for a few years in advance. It may also be useful to consider a subsidy consisting of two components: section I ensuring continuity (the same level of tasks), and section II related to growth (new tasks), possibly granted on the basis of a contract. Such additional tasks would be based on the government strategy for education.

289. The comments about instability and unpredictability also apply to State-budget capital expenditure. Another major problem for TEIs is the small share of that expenditure in the State-budget section for tertiary education[55]. It is insufficient not only for the development of facilities but also, in some TEIs, for the replacement of existing facilities (with the number of students growing steadily) as the limited State-budget capital expenditure is concentrated on few investment projects implemented in successive years. Thus, the capital expenditure in public TEIs (also financed by a part of the depreciation fund which remains in a TEI and revenues from sources other than the State budget) was increasing unevenly or, in some years, was even decreasing in nominal terms[56]. The total capital expenditure provided for in the tertiary education budget for 2005 (272,425,000 PLN) accounts for only 51.6% of the actual expenditure in the previous year. The General Council for Higher Education expressed opposition to the low planned level of State-budget capital expenditure [Position ...18.11.2004], emphasising that the year 2005 will be ”yet another period ... of further depreciation of TEI fixed assets”. It is worth mentioning that some of those assets are monuments of historic value which require larger outlays for renovation.

7.6. Revenues of tertiary education institutions

7.6.1. Revenues of public TEIs and their structure

290. The total revenues of public TEIs amounted to 9,683,948,300 PLN in 2003, including 9,576,730,900 PLN of the operating revenues. The total research subsidies amounted to 1,016,136.4 PLN. Total revenues include operating revenues and financial revenues.

[54] 50% of this subsidy is calculated in proportion to the number of students, 10% to the number of students receiving maintenance grant, 40% to the number of students entitled to accommodation in a student dormitory.
[55] Capital expenditure accounts for 2.7% of the total expenditure planned in the MNES budget 2005 for TEIs under its supervision, and for 2.8% of the State-budget expenditure on tertiary education [MNES, Information 2004b].
[56] Capital expenditure increased by 7.1% in 2001 (as compared to the previous year), but decreased in 2002 and 2003 (Annex, Table 9).

291. In terms of sources of funding, revenues of public TEIs may be divided into:

- State-budget revenues (subsidies), and
- revenues from sources other than the State-budget (including fees for educational services, revenues from financial and economic activities, and other revenues; 2005 LoHE, Articles 98 and 99).

292. In 2003, the subsidies for teaching and research taken jointly accounted for 65.7% of the total revenues and for 65.5 % of the revenues from primary activities (operating revenue) [author's own calculations based on GUS 200a, Section II, Tables 4-7].

293. The primary activities of TEIs include:

- teaching activities (accounting for 82.4% of the total revenue),
- research activities (12.5% of the total revenue),
- separate economic activity and sale of products and services (0.9%),
- other (3.5% of the total revenue).

294. As illustrated by the data above, the main characteristics of the revenues of public TEIs are the following:

- State-budget subsidies are the main source of revenues;
- the main part of subsidies comes from teaching activity, and a considerably smaller one from research activity.

295. In public TEIs, tuition fees accounted for 24.6% of the revenues from teaching in 2003 and for 21.8% in 2004. The value of the indicator varies considerably between the types of TEIs: from 48.4% of the total revenues from teaching in universities of economics to 12.3% in medical universities and 9.1% in academies of fine arts [GUS 2004b, Table 6.2].

296. Subsidies for statutory research constitute the largest part (33.3%) of the total revenues from research activities (detailed information in Chapter 5). It is worth noting that only a small part of the revenues comes from the sale of research results, i.e. projects contracted by the business sector. In accordance with the new Law on Higher Education [LoHE of 2005, Article 93)], the State-budget expenditure on public TEIs will now be indexed by the Government on an annual basis.

7.6.2. Revenues of non-public TEIs and their structure

297. Until 2004, non-public TEIs did not receive teaching subsidies from the State budget, except 2 catholic TEIs (Catholic University of Lublin and Pontifical Academy of Theology) subsidised on the basis of relevant legislation [Act of 14.06.1991 and Act of 03.09.1997]. However, non-public TEIs obtained subsidies from the research section of the State-budget for their research activity and, as from 2001, for financial support for students. These subsidies, amounting to 5,387,900 PLN accounted for 0.3 % of the total revenues of non-public TEIs (0.27% from the primary activities).

298. On the basis of Article 24 of the 1990 Higher Education Act and relevant regulations of 2003 (Regulation of the Minister of National Education and Sport of 04.04.2003), non-public TEIs may, under certain conditions, apply for a teaching subsidy designated for staff training, a subsidy for financial support for students, and a subsidy for a construction project. The requirements to be fulfilled to receive a subsidy for staff development are as follows: the authorisation to confer doctoral degrees or to offer Master's degree programmes; confirmed achievements in staff development in the previous two years; and a contribution of at least 50% from the TEI's own funds to finance the task. These requirements are laid down in the Regulation of the Minister of National Education and Sports of 4 April 2003 on the requirements and procedure for non-public TEIs to apply for a State-budget subsidy. In spite of that, the share of State-budget subsidies and subsidies from other public sources in the revenues of non-public TEIs did not increase considerably in 2004. The conditions of eligibility for non-public TEIs to receive subsidies for the tasks related to non-repayable support for students and doctoral students and for other tasks are laid down in the Law on Higher Education of 2005 (Article 94, subsections 4 and 5, and Article 95).

299. Teaching and research activities (as defined in Article 113, subsection 1 of the 2005 LoHE) of all TEIs as well as their activities related to the administration of student dormitories and canteens are exempted from income tax, value added tax, tax on real assets, agriculture and forest tax and tax on legal transactions [LoHE of 2005, Article 91].

7.7. Financial management in public TEIs

300. According to the Act on Public Finance of 28.11.1998 [Act of 1998], public TEIs are included in the sector of public finance. As regards the level of remuneration, they are included in the State-budget sector. Thus, they are covered by the provisions of the Act of 23.12.1999 [Act of 1999] on the Remuneration in the State-Budget Sector as well as by relevant provisions of the 2005 LoHE and other legislation.

301. TEIs manage independently the funds obtained from the State budget and their own revenues (from teaching, research and economic activities as well as from other sources listed in point 1 above) on the basis of an activity-and-finance plan. TEIs are fully autonomous in the implementation of capital projects financed from their own funds (decisions on capital projects financed from the State-budget subsidy are taken by the ministry).

302. With the entry into force of the 2005 Law on Higher Education, the real estate owned by the State Treasury and held by TEIs in perpetual usufruct has become their property [Article 90].

303. Public TEIs establish and manage the following funds:

1) the financial support fund for students and doctoral students (Article 103) based on the relevant State-budget subsidy, fees for student dormitories and canteens and other fees (e.g. for renting premises). In public TEIs, a major part of the fund is designated for grants, scholarships and aid payments; the remaining part may be used for the renovation of student dormitories and canteens as well as for the remuneration of their staff;
2) the capital fund reflecting the value of real assets of a TEI and increased by deductions from the net profit.

304. A TEI may also establish its own scholarship fund, based on deductions from the net profit or contributions from natural and legal persons, and designated for scholarships for staff, students and doctoral students granted by the TEI pursuant to the rules laid down in its statutes; an institutional award fund based on deductions from the net profit and designated for awards for staff and students; and an implementation fund related to contracted research conducted by the TEI.

305. Between 1991 and 1995, the costs of primary activities of public TEIs exceeded the revenues from these activities, which resulted mainly from the debit balance of the teaching activity (due to the dramatic decrease in the State-budget subsidy, which – as mentioned earlier on – could not be compensated by revenues from other sources). Currently, public TEIs have a positive financial result, generated by subsidies and non-subsidy revenues from the teaching activities, but also revenues from the financial activity (Annex, Table 11).

306. Most large public TEIs have transferred some of their powers in the area of financial management to their organisational units (faculties). Faculties have more extensive powers as regards the management of funds from sources other than the State-budget, including revenues from teaching and research activities which are in fact generated by faculties (and another organisational units). Faculties and other organisational units manage a part of revenues which remains after a given percentage of revenues from non-subsidised teaching activity, revenues from research activity and non-subsidy revenues of faculties has been deducted to cover institutional costs of a given TEI's activity. Funds from sources other than the State budget are most often used by faculties to cover the costs of renovation and their own capital projects, as well as a part of current expenses that is not covered by the State-budget subsidy for teaching activities. The subsidy for statutory activities and the so-called in-house research is used by faculties to cover their own costs related to these activities as well as institutional overheads. This gives rise to disputes between the central administrative services of a TEI and its faculties, the latter claiming that the part of their revenues taken for institutional costs is too large. Disputes concerning the use of non-State-budget funds are also held within faculties

which, in turn, transferred some of their powers to internal units, i.e. departments providing degree programmes in (a wide variety of) specific fields of study.

7.8. Costs of teaching

307. Polish statistics contain data concerning the following types of costs in tertiary education:

- prime costs,
- total teaching costs,
- teaching costs per tertiary student (in two variants).

308. Prime costs of TEIs include: costs of primary activities in a breakdown by type of activity (i.e. teaching, research, and economic activity as a separate type of activity) and financial costs (interest, exchange gains/losses, etc) [GUS, 2004 a, p. XII].

309. Teaching costs are a sum of prime costs, costs of the financial support fund and costs of the TEI's own scholarship fund. In 2003, operating costs accounted for 91.2% of the total teaching costs (90% in public TEIs and 98.5% in non-public TEIs).

310. Teaching costs per student in variant I include prime costs, the financial support fund for students and the TEI's own scholarship fund in relation to the number of student equivalents[57]. Teaching costs per student in variant II are calculated as a sum of costs of the teaching activity, the financial support fund for students and the TEI's own scholarship fund in relation to the number of student equivalents. The latter is proportionally lower because it does not include costs of the research activity.

311. The teaching costs per student in public TEIs in 2004 amounted to 8,168 PLN in variant I and to 7,320 PLN in variant II. The costs varied considerably between the types of schools, with the highest level in academies of fine arts (25,943 PLN in variant I) and the lowest level in non-university TEIs (4,045 PLN in variant I).

312. These differences result mainly from the cost indices of courses taught (remuneration, materials) and the share of research conducted in certain types of TEIs; for instance, costs per student in medical universities amounted to 18,126 PLN in variant I and 14,943 PLN in variant II. Teaching costs in public TEIs increased by 6.6% in nominal terms (variant I) and by 7.7% in variant II between 2002 and 2003, and by 6.9% (variant I) and 4.5% (variant II) in 2004.

313. The teaching costs per student in non-public TEIs in individual years were lower than in public TEIs (in 2004, amounting to 5,358 PLN in variant I and 5,301 PLN in variant II) for the following reasons:

1) the structure of degree programmes in the non-public sector which includes mainly TEIs teaching economics, business and administration, etc., and no TEIs offering programmes in medical areas or fine arts as those with the highest teaching cost indexes;
2) most of non-public TEIs do not conduct research, hence no research costs incurred;
3) non-public TEIs employ a large number of retired professors or academic staff from public TEIs on the basis of a contract for specific tasks (which does not involve social security costs).

314. Comparing figures for universities of economics calculated according to variant I, teaching costs per student in public TEIs are by 14.8% higher. Teaching costs per student in non-public TEIs increased by 12.7% (variant I) and by 13.4% (variant II) between 2001 and 2003, and by 9.7% (variant I) and 9.4% (variant II) in 2004. The increase in costs was therefore bigger than in public TEIs.

[57] Weightings used to calculate student equivalents: regular/full-time student =1.0, evening/part-time student =1.0, extramural/part-time student =0.5, non-degree postgraduate student =1.5, and doctoral student =2.5.

7.9. EU funding for tertiary education[58]

315. After the accession of Poland to the European Union, Polish TEIs may benefit from various forms of financial support from EU programmes, in addition to funds for the exchange of students and academic staff under the TEMPUS and SOCRATES/ERASMUS programmes (Chapter 10).

316. The beneficiaries of the Integrated Operational Programme for Regional Development (priority II: Strengthening human resources development in regions), which is financed in 75% by the European Social Fund (with the remaining 25% provided by the State budget), will include primarily local government units, but also TEIs. They may submit applications under the activity "Development of skills linked to regional labour market needs", where the planned EU contribution amounts to 97.95 million euro (with the national contribution of 32.6 mln euro).

317. Under the activity "Ensuring equal educational opportunities through scholarships schemes", scholarships will be granted to tertiary students (18.7 million euro+6.2 million euro). Under the activity "Regional innovation strategies and transfer of knowledge", funds will be available for practical placements of tertiary graduates and staff of the R&D sector to facilitate mobility between this sector and business (networking), as well as for scholarships for best tertiary students continuing their studies at the doctoral level in the fields of sciences, engineering and technology and other fields contributing to the development of strategic areas of the region. The budget for this activity includes 44.5 mln euro as the EU contribution and 14.8 mln euro as the national contribution.

318. Within the priorities "Upgrading and modernisation of infrastructure to strengthen the competitiveness of regions" and "Regional development", support will be provided for capital projects, including capital projects in TEIs. Projects will be financed in 75% by the European Regional Development Fund and in 25% by national funds. The total budget designated for regional educational infrastructure for years 2004-2006 amounts to 187.1 mln euro (140 mln euro – EU contribution, 46.7 mln euro – national contribution).

319. TEIs which conduct research and development work, e.g. in the field of new technologies, will be eligible to apply for support for projects under the activity "Strengthening co-operation between the R&D sector and economy", for which 138.2 mln euro (100.8 mln + 37.4 mln) are earmarked.

320. It is difficult to predict the amount of funds obtained by TEIs applying for support within the National Development Programme, co-financed by EU funds, because it depends on their invention and capacities in a competition for funds co-ordinated by the Ministry of Economy and administered mainly by local governments.

[58] Based on MNES data.

8. PLANNING, MANAGEMENT AND REGULATION IN THE TERTIARY EDUCATION SYSTEM

8.1. Tertiary education system management

321. The rules of tertiary education system management in Poland as well as the powers of institutions involved in the processes of designing and implementing policies for the development of education are an expression of cultural continuity and a consequence of the importance attached by the academic community to institutional autonomy and academic freedom. According to the World Bank, autonomy of tertiary education institutions in Poland is far more extensive than in most European countries [2004 Report, Sustainable Financing...2005]. It reduces automatically the role of central-level institutions. The second major feature of management in Polish tertiary education is the significant role of collective bodies, composed of representatives of the academic community, in management processes in relation to that of single-person authorities, at the level of both the tertiary education system and individual TEIs. It is also worth noting how institutions involved in management have evolved over time. In the Communist era, the only representative body of the academic community at the level of the minister responsible for tertiary education was the General Council for Higher Education (GCHE). The GCHE retained its monopolistic position of an advisory body in the early years of the transition period, playing a key role as an institution safeguarding interests of the academic community and a group of experts. However, it was gradually losing its position because of the development of the minister's advisory bodies and the establishment of new bodies, first the Accreditation Committee of Higher Vocational Education (ACHVE) (for non-university TEIs) and, subsequently, the State Accreditation Committee (SAC). The evolution of the education management system outlined above is closely related to changes in legislation.

322. The most recent changes were introduced by the Law on Higher Education (LoHE) of 27 July 2005 (with some of its provisions coming into force in September 2005 and other provisions at a later date). Implementing regulations have not been adopted yet, and all practical consequences of the new legislation can hardly be foreseen at the moment. Therefore, the present description of arrangements existing in the last decade is based mainly on the legislation which was in force in the period under analysis, with references made to new provisions.

323. A major role in forming the tertiary education system was played by both institutions established on the basis of legislation (mentioned above) and academic organisations and voluntary associations set up as a bottom-up initiative, in particular conferences of rectors of different types of TEIs and non-public schools. The Conference of Rectors of Academic Schools in Poland (CRASP), representing university-type TEIs, was especially influential. Accreditation committees (mentioned in other chapters) created voluntarily by the academic community were connected with the rectors' conferences. Moreover, it should be emphasised that the process of developing the national tertiary education policy also involves other organisations representing the academic community. Every new draft Act is submitted for opinions and comments to several organisations representing trade unions which operate within the education system as well as to employers' organisations: the Confederation of Private Employers, the Confederation of Polish Employers, Business Centre Club – the Association of Employers or the Association of Polish Crafts.

324. It should be stressed that in Poland, like in every democratic country, the management of the tertiary education system and the research system is first of all based on indirect, legal and financial, instruments for exerting influence, and to a lesser extent on directives and instructions. In Poland, successive Acts of Parliament concerning tertiary education and research adopted after 1990 have laid down basic procedures, in some cases basic requirements and standards, as well as the powers of various bodies at the system and institutional levels, thus determining the broad scope of TEI's autonomy. The Minister often issues regulations and decisions after considering proposals and opinions of the above-mentioned collective bodies composed of experts as well as representatives of the academic community. The collective bodies operating at the national level prepare opinions, pass resolutions, adopt positions; however, their influence on the development of tertiary education policy is in fact much bigger than their formal powers would suggest, because they are a strong opinion-forming community that has an impact not only on the government policy but also on the attitude and institutional policy of TEIs.

325. According to the Law on Higher Education of 27 July 2005, the Minister determines by way of regulations the general framework for the functioning of the system; e.g. requirements to be fulfilled by TEI to establish and provide Bachelor's and Master's programmes in fields of study, including the minimum staff requirements, names of fields of study, programme requirements (qualifications, framework teaching contents, duration of programmes and internships, etc), as well as the conditions for establishing branches, branch units, branch teaching centres of TEIs. The Minister also supervises the compliance of TEIs' activities with the law, their statutes and the permit for the establishment of a non-public TEI, as well as the propriety of public expenditure. As compared to the legislation previously in force, the Minister's powers have been extended to include the authorisation to conduct inspections of TEI, among others in order to evaluate the conditions of the teaching process. In the case of a gross violation of the law, the Minister initiates proceedings to liquidate the public TEI concerned or withdraws the permit for the establishment of the non-public TEI and orders its liquidation by the founder. The Minister may also submit to the TEI's senate a motion to dismiss the rector; in the case of a gross violation of the law by the rector, the Minister may dismiss him/her after consultation with the GCHE, CRASP or the Conference of Rectors of Non-University Higher Education Institutions (CRNUHEI). The new LoHE has provided the Minister with more instruments to implement the tertiary education policy because the Minister may assign to a TEI a specific task in the area of teaching or research staff training after consultation with its senate, providing funds for this purpose[59].

326. In spite of the gradual reduction of its powers in favour of other bodies, the GCHE still plays a major role in designing development strategies and "shaping" the tertiary education system. The GCHE, defined in the 2005 LoHE as an elective representative body, is composed of representatives of various groups of academic staff and students: academic staff holding the title of Professor or the Habilitated Doctor degree (21 members), academic staff holding the doctoral degree (6), doctoral students (4), students (4), and representatives of trade union organisations in an advisory capacity. At present, the term of office of the Council lasts, like in the case of other bodies, 4 years. The democratic procedure for its appointment and its composition prove that it is indeed a representative body of the academic community. The Council submits proposals for names of fields of study and programme requirements, gives opinions on its own initiative and presents its conclusions in matters related to tertiary education referred to it by the Minister, gives opinions on draft legislation, including acts concerning the establishment, abolition and change of the names of fields of study, draft State-budget for tertiary education, draft international agreements, etc.[60]

327. The above-mentioned Accreditation Committee of Higher Vocational Education (ACHVE), which took over some powers from the GCHE, acted in the short period of its existence between 1997 and 2001 as the body safeguarding the quality of non-university TEIs. It evaluated curricula, teaching quality, criteria for awarding State-budget subsidies to TEIs, etc. At present, all its powers in the area of accreditation have been taken over by the State Accreditation Committee (SAC) (described in another Chapter). Unlike the GCHE, the SAC is not an elective body; according to the 2005 LoHE, its members are appointed by the Minister from among candidates proposed by the GCHE, CRASP, CRNUHEI, the Students' Parliament of the Republic of Poland, senates of TEIs, scientific and professional associations as well as employers' organisations. It is composed of 60-80 members. By the virtue of law, one of the members is a representative of the Students' Parliament of the Republic of Poland.

[59] According to the HEA of 1990, the Minister's powers focused on supervising TEI governing bodies as regards their compliance with the law and the TEI's statute. Within these supervisory powers, the Minister could request clarification and information from TEI bodies, order them to rectify irregularities, as well as suspend the authorisation of a TEI to provide degree programmes or withdraw the permit. However, the Minister was not authorised to dismiss the rector, even in the case of breach of the law by the latter, this being reserved for the remit of the TEI body appointing the rector. The Minister also supervised the development of the non-public TEI sector and laid down the rules for the distribution of State-budget funds between TEIs.

[60] Before the amendment to the Act in 2001, its powers also included proposing programme requirements for each field of study and names of fields of study. After 2001, programme requirements were defined by the Minister. The Council also lost its powers to define the requirements, incl. staff requirements, to be fulfilled by TEIs in order to establish and provide programmes in fields of study, and to verify whether the submitted applications complied with the requirements (this function was first taken over by the ACVHE as regards non-university TEIs and then by the SAC with regard to all TEIs).

328. Both the GCHE and the SAC are State-financed bodies.

329. Another institution operating at the national level is the Central Commission for Academic Degrees and Titles (CCADT) (described earlier on). It is responsible for ensuring the appropriate quality of academic staff by controlling the quality of academic degrees and the title of professor awarded by authorised organisational units. It is an important function because the authorisation to provide first-cycle, second-cycle and third-cycle programmes is conditional upon an organisational unit complying with the minimum staff requirements, i.e. the number of academic staff with academic degrees and titles employed in the unit. Academic staff resources in a TEI also determine the extent of its autonomy (the right to adopt the statutes without the Minister's approval).

330. The 2005 LoHE provided for the first time a legal basis for the Conference of Rectors of the Academic Schools in Poland (CRASP) and the Conference of Rectors of Non-University Higher Education Institutions (CRNUHEI). Such conferences may be established by university-type ("academic") or non-university TEIs which account for more than a half of students enrolled in the university and non-university sector respectively. (The Conference of Rectors of Non-Public TEIs is not mentioned in the LoHE as a statutory body as the rectors of non-public TEIs can become members of the CRASP or the CRNUHEI). The rectors' conferences support the development of tertiary education, research and culture, and raise with the authorities matters concerning tertiary education, research and culture as well as give opinions and present proposals in these areas. Public authorities consult the conferences on the rules for the functioning and the directions of development of tertiary education, research, financial support for students and doctoral students, management of TEIs, academic staff training, material base, draft State budget for tertiary education, draft legislation concerning tertiary education, research, culture and school education (in so far as relevant to tertiary education).

331. A major role in the management processes concerning teaching activities and students matters is played by: the Students' Parliament of the Republic of Poland and student self-government organisations existing in all Polish TEIs. The Students' Parliament: represents the student community before various public authorities; contributes to the government youth policy; gives opinions on legislation concerning students; supports activities aiming to increase the number of students, TEIs' financial support and improvement of teaching quality; inspires international students exchanges; assists self-governments and student organisations in their efforts to obtain additional funds; strives to ensure tax benefits and transport fare reductions for students, etc. Student self-government organisations in individual TEIs take decisions on the distribution of the financial support fund for students and grants for activities of youth organisations at a TEI; participate in the elections of authorities at the level of the TEI and its internal units; exert influence on curricula and schedule of study; promote students and graduates on the labour market; create cultural life at TEIs [LoHE of 27 July 2005, and: www.samorzad.uw.edu.pl].

8.2. Educational policy and tertiary education planning

332. While discussing tertiary education planning and management, one should note that public authorities in Poland ensure conducive conditions for bottom-up initiatives, rather than interfering in activities of individual institutions and steering the system by way of directives (one can observe similar trends to limit the role of the state in other European countries). In Poland, there are three basic aspects of tertiary education where public authorities are clearly more involved: increasing broadly defined access to tertiary education, preventing a decline in the quality of teaching, and implementing the Bologna Process (discussed in more detail in other Chapters). It should be once more underlined that the limited scope for government policies and active role of public authorities vis-à-vis TEIs was already pre-determined by the HEA of 1990. According to the 1990 HEA and 2005 LoHE, TEIs are organised and operate on the basis of the principles of freedom of academic research, freedom of artistic creativity and freedom of teaching, while public authorities or local government bodies may take decisions only on matters concerning TEIs in so far as provided for by Acts of Parliament.

333. As mentioned in the previous Chapters, after the year 2000, the Ministry of Education prepared a strategy for the development of tertiary education, but it was never officially adopted by the government. Despite the absence of an official document, since the early 1990-ties, the MNE has

implemented fairly consistently an educational policy aimed, among others, at increasing gross enrolment rates in tertiary education. This policy was implemented by using legal and financial instruments of management. One of those instruments was the Act providing the basis for the establishment of non-public TEIs and for collecting tuition fees for extramural programmes at public TEIs, as well as the algorithm-based rules for the distribution of funds among TEIs, described earlier. According to the algorithm, the amount of the subsidy depended on the number of "student equivalents" and weightings assigned to each category of academic staff. This has created mass tertiary education, accelerated research development of staff, and changed the structure of employment, i.e. the gradual elimination of assistantships not included in the subsidy and the development of structured doctoral programmes. Thus, public authorities were implementing a specific strategy and development policy, but after the year 1990 have not been involved in tertiary education planning in the strict sense of the word.

334. "The education strategy, 2007-2013", approved by the government in August 2005, was prepared as linked with other documents, e.g. the National Development Plan 2007-2013, as well as EU documents and strategies in several areas. The documents relevant to tertiary education include the Lisbon Strategy, the Bologna Declaration and the Copenhagen Declaration. The Strategy, based on a SWOT analysis of the educational sector, identifies the following priorities for tertiary education: improving the management system of TEIs while respecting their autonomy and using the best business practices; changing the funding system, including the introduction of arrangements for the partial payment of tuition fees by all students, correlated with the student loan scheme, and allowances for students to cover a part of their tuition fees, such as maintenance grants and motivational scholarships; improving the quality of teaching and modernising teaching methods; developing co-operation between TEIs and economy; opening TEIs to lifelong learning; as well as the internationalisation of TEIs [Educational Strategy, 2005]. Some of the changes proposed will require amendments to the legislation in force, including the Constitution of Poland. The publication of the Strategy by the government coincided rather unfortunately with the approaching parliamentary elections. Therefore, it is difficult to determine to what extent the public debate in media, with all political parties criticising in particular the proposed contribution of students towards tuition fees, reflected their actual attitude, and to what extent this was a part of their political campaign. The new Government, formed in autumn 2005 after the parliamentary elections, has raised several objections to the Strategy which is thus likely to be modified substantially.

8.3. Management at the TEI level

335. The LoHE of 2005 applies to all TEIs existing in Poland, regardless of the procedure of their establishment. In terms of autonomy, it makes no distinction between university-type and non-university TEIs or public and non-public TEIs. However, the legislation has frequently been amended in the last 15 years. In order to assess the impact of the legislation on the directions of TEIs' development in the analysed period, one has to look back at the legislation previously in force which resulted in the different status of public and non-public TEIs, "autonomous" and "less autonomous" TEIs as well as those established pursuant to the Acts of 1990 and 1997 as university-type and non-university institutions.

336. Starting with the establishment of TEIs, the relevant procedures were laid down in the HEA of 1990 and the Act of 1997 on Schools of Higher Vocational Education. According to the HEA of 1990, a public TEI was established, transformed, merged and liquidated by an Act of Parliament. On the other hand, institutions established under the Act on Schools of Higher Vocational Education were established by a regulation of the Council of Ministers. The Minister granted a permit to establish such a non-university TEI after consultation with the CCHE (and the Accreditation Committee of the Vocational Higher Education (ACVHE) and the State Accreditation Committee (SAC) as from the time of their establishment).

337. In the Polish regulations concerning tertiary education, TEI statutes constitute an important component. All matters to be covered by regulations and not regulated by the relevant Act are governed by TEI statutes; hence, the right of TEIs to adopt their own statutes without the need to submit them for approval by the Minister is so important. The right to adopt statutes independently

(and thus to take independent decisions on all matters not regulated by the law) depended on the number of titular professors employed at a TEI on the basis of appointment (at least 60) and the authorisation to award the degree of Habilitated Doctor granted to at least half of the organisational units. The statutes of TEIs not complying with these conditions required the approval by the Minister, which was the case of all non-university TEIs and non-public TEIs. The statute of a public TEI was adopted by its senate, by at least a two-third majority of valid votes of its statutory members (in a non-university TEI, jointly by the senate and the council).

338. The Acts of 1990 and 1997 specified the main governing bodies of TEIs. There were certain differences between TEIs established on the basis of these two Acts as well as between public and non-public TEIs.

339. Most matters concerning the management system, types of bodies and composition of collective bodies of a TEI were regulated in the statutes of a TEI. A faculty was the basic organisational unit of a TEI (unless the statutes provided otherwise).

340. In a public TEIs established on the basis of the Act of 1990, the collective bodies included the senate and faculty councils, and single-person authorities: the rector and the dean. The single-person authorities were elected by the faculty council (or the senate respectively) or the electoral college. According to the HEA of 1990, the senate was composed of the single-person authorities (the rector and the deans) and representatives of professors and academic staff holding the degree of Habilitated Doctor (with their number and procedure for the election determined in the statutes), other academic staff and student self-government (their number could not be smaller than 10% of the Senate), and non-academic staff (their number could not exceed 10%).

341. Within its remit, the senate of TEI established, among other things, activity-and-finance plans for the TEI, and the teaching load according to the rules laid down in the law and in the statutes. The senate also defined the directions of activities of the TEI, established and abolished degree programmes in fields of study at the request of faculty councils, assessed the performance of the rector and approved annual reports on the TEI's activities. The senate was assisted by committees responsible for a specific area of the TEI's activity or set of issues.

342. The collective bodies did not include representatives of the TEI's environment: local government units, employers, representatives of professional associations or graduates. Some TEIs set up associations of alumni and other stakeholders which still exist. However, they do not take an active part in designing the institutional policy, although some of them create favourable conditions to implement the TEI's mission (the importance of personal connections and influences) and may support TEIs financially.

343. The considerable financial autonomy of TEIs at central institutional level should be underlined: a TEI was allowed to pursue economic activity and manage independently the revenues from this activity, e.g. tuition fees for extramural programmes; the TEI was not required to return the State-budget funds not used in a given year. The subsidy for teaching and the subsidy for the TEI's in-house research were independently divided by the TEI. Most TEIs divided these funds according to their internal algorithms, often based on the algorithm used by the MNE. The rector often had a separate pool of funds earmarked for the institutional research policy, could use the reserves to grant extra scholarships to certain groups of students, and grant awards for outstanding research achievements (at some TEIs, employees received special awards for publishing books) or bonuses to academic staff who did not take up an extra job outside the TEI. Most of such efforts of the TEI's authorities are linked with the TEI's policy aiming to improve the quality and productivity of research activities.

344. TEIs were allowed to recruit staff independently, pursuant to the rules laid down in the statutes (according to the Act, through an open competition unless employment was based on an employment contract as opposed to appointment). The provisions of the Act laid down the overall mandatory teaching load and the Minister's regulations limited the space for a remuneration policy by fixing the minimum and maximum pay levels for each position; however, TEI authorities, even at the faculty level, could raise remuneration by using revenues from sources other the State budget, including the so-called TEI own funds, tuition fees or fees for various types of services.

345. As an important element of their autonomy, TEIs were allowed to determine admission requirements for individual fields of study and the level of enrolment (however, the legislation determined the required ratio of students to academic staff in every field of study and, in public TEIs, the ratio of full-time students to part-time students).

346. The institutional autonomy provided TEIs with the possibility of pursuing an independent development policy and shaping their own profile. In the late 1990s, some public TEIs, following the example of TEIs in Western countries, set to define their missions and long-term strategies in the context of the emerging educational market, the competition for students and the internationalisation of tertiary education (strategies and business plans are more common among the Polish non-public TEIs, as are the knowledge of the concept of entrepreneurial university and resulting attitudes). These efforts were supported under financial assistance programmes (e.g. TEMPUS). However, it is hard to say to what extent the strategies and missions devised as a result of this exercise remained on paper, and to what extent they actually guided the development of TEIs.

347. One should also notice some shortcomings in decision-making processes (not eliminated by the new LoHE). The collective bodies in public TEIs have a large number of members, often several dozen and sometimes more than 100, which slows down considerably decision-making processes. Moreover, they have extensive powers, which limits in turn the scope of powers of single-person authorities (according to the HEA of 1990, the rector and the dean were authorised to take decisions that were not reserved for the remit of other TEI authorities or its administrative director). The LoHE of 2005 has neither extended the powers of single-person authorities nor created conditions for the reduction of the number of collective bodies). Furthermore, there are rectors, acting as single-person authorities elected from amongst academic staff. The three factors impairing the effectiveness of management are: strong collective governing bodies, the lack of professional management skills among the rectors and the fact that these bodies are elected. However, so far there have been no initiatives on the part of tertiary education authorities to improve institutional management of the TEIs.

348. Another aspect which should be mentioned along with the institutional autonomy is the large extent of independence of internal units within a TEI. The Act of 1990 granted a number of important powers (in some countries reserved for the Minister) to faculty councils; these included: adopting curricula after consultation with the student self-government, initiating the establishment of programmes in new fields, approving activity-and-finance plans of the faculty, and assessing the performance of the dean. In practice, they had even more extensive autonomy than provided for in the Act as a result of the decentralisation of financial powers within TEIs; e.g. they decided on the use of revenues from tuition fees (for part-time and non-degree postgraduate programmes). The faculties were also authorised to award doctoral and Habilitated Doctor degrees if they complied with the staff requirements laid down in the legislation. Staff and students were represented in the faculty council in proportions similar to the membership of the senate.

349. However, the faculty-based structure and autonomy of faculties had some disadvantages and sometimes led to the federalisation of the structure, preserved especially by the faculties that had bigger revenues from extramural programmes or services for business than other faculties. Moreover, as a result of the division into faculties, the structure of education was more rigid because programmes in fields of study could only be established within faculties. Formal barriers made it more difficult to establish interfaculty and doctoral programmes extending beyond the faculty structures. (The 2005 LoHE eliminated these difficulties by referring to basic organisational units rather than faculties).

350. The management structure in public non-university TEIs was slightly different. According to the Act of 1997, public non-university TEIs had different collective bodies and single-person authorities: the chancellor in addition to the rector, and the council in addition to the senate. The council consisted of representatives of social partners: national authorities, local government, professional self-government organisations, scientific and professional institutions and associations, employers' organisations, TEIs with which a given TEI co-operated and the TEI's authorities (rector, chancellor, vice rectors). The powers of the council included: giving opinions on activity-and-finance plans, approving the areas to be covered by programmes and/or specialisation areas at the request of

the senate, giving permission to the conclusion of agreements with companies and other business organisations. Potentially and, in many cases, actually, the council was a place where needs and expectations of local employers were articulated and discussed, and where programmes provided by a TEI were adapted to local needs.

351. Members of the senate in a non-university TEI included heads of organisational units and TEI's authorities, as well as representatives of academic staff, non-academic staff and the student self-government. The procedure for their appointment and the number of senate members were specified in the statutes adopted jointly by the council and the senate; these two bodies also determined jointly the directions of development and activity of a public non-university TEI, assessed the performance of the chancellor (in charge mainly of financial affairs) and approved the rector's annual reports.

352. The Act of 1997, like the Act of 1990, determined the minimum teaching load for academic staff and the requirements for each position. Moreover, non-university TEIs decided on the level of enrolment, with admission procedures laid down by the senate. Non-university TEIs provided Bachelor's degree programmes, did not provide Master's degree programmes and did not award doctoral and postdoctoral degrees. Academic staff of non-university TEIs were not required to conduct research. It should be underlined that, like TEIs established on the basis of the Act of 1990, non-university TEIs were allowed to determine the level of tuition fees for extramural programmes.

353. The situation of non-public TEIs depended on whether they were established after 1997 as a non-university TEIs or were established earlier, on the basis of the Act of 1990; however, the internal structure and single-person authorities and collective bodies were not subject to any of the above mentioned Acts. Non-public TEIs enjoyed much more extensive autonomy as regards management structures, financial or staff policies, rules of recruitment and many other matters than public TEIs; these matters were governed by their statutes. Statutes of non-public TEIs were subject to approval by the Minister, although they were reviewed only in terms of their compliance with the legislation in force. Such TEIs were established by natural persons, associations, foundations or limited-liability companies. Non-public TEIs, like public TEIs, were required to respect the same quality standards and, first of all, the same staffing requirements. However, they were free to determine the level of tuition fees and the level of enrolment..

354. The establishment of the non-public TEI and non-university TEI sectors was expected to contribute to the diversification of the system which would meet different needs and social expectations. As mentioned before, some developments seem to indicate that the system is drifting towards a more academic model, because a part of the academic community still regards the Bachelor's degree as "incomplete" tertiary education. Many non-public TEIs aim to raise their status and to launch second-cycle programmes.

355. The 2005 LoHE has introduced a number of new arrangements, and consolidated existing arrangements in one legal act, without changing their content. In order to avoid repetitions and to highlight the key directions of the evolution of the legislation, the following analysis focuses on new arrangements.

356. The new Law divides tertiary education institutions into public and non-public TEIs, replacing the previous division into state and non-state TEIs. It also introduces different rules for distinguishing university-type from non-university TEIs. The former criterion was based on the legal basis for the establishment of a TEI (Act of 1990 or Act of 1997). At present, the distinction is based on the number of units authorised to award the doctoral degree: in a university-type TEI, at least one unit should be authorised to award this degree; a non-university TEI can provide first- and second-cycle programmes, but none of its organisational units is authorised to award the doctoral degree (see: glossary). Moreover, the LoHE distinguishes universities, technical universities, academies and other types of TEIs. This classification is also based on the number of academic areas in which TEI units are authorised to award the doctoral degree.

357. The LoHE defines explicitly the scope of TEIs' autonomy. TEIs are autonomous in all areas of their activity pursuant to the rules laid down in the Act. Their activities are governed by the principles of freedom of teaching, freedom of research and freedom of artistic creation. Central and local government bodies can take decisions concerning TEIs only in cases provided for in the LoHE.

Among other things, a TEI may establish admission requirements, including the student enrolment level (except for medical studies), study plans and curricula in accordance with programme requirements laid down by the Minister, and issue national tertiary education diplomas. Some TEIs may also establish individual programme requirements, provide programmes in macro-fields of study and interdisciplinary programmes (these rights also depend on the number of areas in which basic organisational units, replacing "faculty, of a TEI may award academic degrees).

358. University-type TEIs are merged and liquidated by an Act of Parliament after consultation with the senate of the TEIs concerned. Non-university TEIs are merged and liquidated by a regulation of the Council of Ministers at the request of the Minister or the Province Parliament. A TEI can pursue separate economic activity within the scope, and in forms, determined in the statutes. The right of the TEI's senate to adopt statutes without the Minister's approval is an important element of autonomy as the LoHE provides for many matters to be regulated in the statutes; this right can be exercised by the TEIs where at least 4 organisational units are authorised to award the doctoral degree. The senates of these TEIs can establish, transform and abolish their basic units (in TEIs which do not fulfil this requirement, units are established, transformed and abolished by the Minister).

359. The senate and councils of basic organisational units are collective bodies of public TEIs. The share of students and doctoral students in these bodies has increased as compared to the former legislation, and it should not be smaller than 20%.

360. The statutes of a non-university TEI may provide for a body other than the senate. An important novelty is the fact that public university-type TEIs, like non-university TEIs, may – but are not required to – have a council composed of representatives of external environment. Its powers are laid down in the TEI's statutes.

361. A new single-person authority is the head of finance and administration responsible for administrative and economic matters, who has replaced the administrative director, but whose powers have not been extended as compared to the former. The rector of a TEI and other single-person authorities of public TEIs are elected by an electoral college (with its composition specified in the Act). The term of office of all TEI's bodies has been extended from three to four years.

362. The LoHE does not define the organisational structure, collective bodies or single-person authorities for non-public TEIs, except for the rector and the senate. Furthermore, a person to become the rector of a non-public TEI should hold at least the doctoral degree. The new Law grants non-public TEIs the same extent of autonomy as they enjoyed before.

8.4. Horizontal links: co-operation versus competition

363. The autonomy of TEIs has many advantages, but independence also has some disadvantages. Many TEIs focus more on the competition than on inter-institutional co-operation in the area of education and research. Inter-institutional programmes are not provided on a large scale, and in-country inter-institutional student mobility is not well developed. This results mainly from the generally low level of mobility in Poland. Until the adoption of the 2005 LoHE, there were no legal instruments regulating inter-institutional co-operation, and the existing legislation did not facilitate the inter-institutional mobility of staff and students. There are no statistics available to illustrate mobility of students in Poland. The only statistics on mobility available are gathered under the aforementioned initiative MOST. Pursuant to the 2005 LoHE, public and non-public TEIs may establish associations and set up inter-institutional and joint units; partners involved in such projects may also include academic organisations and foreign institutions. Associations of university-type and non-university TEIs aim in particular to ensure high quality of teaching, the development of research staff and opportunities for the continuation of studies by non-university TEI graduates.

364. Regardless of the conditions created by the legislation, voluntary co-operation between TEIs is developing, and TEIs situated in a given region increasingly often conclude agreements to undertake joint projects in the areas of education, promotion, research, material infrastructure or the transfer of know-how (science and technology parks). Agreements are also concluded to share library resources or laboratories. Some TEIs sign agreements concerning the admission of Bachelor's degree programme graduates to Master's degree programmes. As an element of this change process, rectors

representing TEIs in a given academic centre are setting up so-called rectors' colleges which aim to support exchange of experience, organise joint ceremonies or cultural and sports events, and sometimes co-operation in the area of teaching and research.

365. Some TEIs have established links with the school education sector, providing patronage for secondary schools and sending their academic staff to teach classes there; graduates of those schools may be enrolled in a given TEI without examinations. Few agreements have also been concluded by non-public TEIs (e.g. to establish a university in the future) which, however, co-operate with a varying degree of success [Chmielecka 2004a, 2004b]. However, few TEIs have close and sustainable relationships with secondary schools.

366. Various forms of co-operation between TEIs in the area of education are currently being formalised through agreements. An interesting example in this field is MOST (Bridge), a cross-country student mobility programme initiated in 1999 by the Conference of Rectors of Universities in Poland and implemented by the University Accreditation Committee, which involves all Polish universities. The basic requirement is that students must follow an individual study programme. After the second year of study, a student can undertake a period of study (one or two semesters) at another university. In order to have a study period recognised by their home universities, students are required to obtain at least 30 credits per semester or to complete a chosen course and obtain the remaining credits in their home university. The number of participating students is increasing (500 students in the winter semester 2005). A similar initiative has been undertaken by the Conference of Rectors of Technical Universities (MOSTECH Programme).

367. Co-operation between TEIs is limited as regards bridges between formal academic education and other streams of formal and alternative education, links with non-traditional and non-academic centres offering training and practical placements, adult education, lifelong learning or short-cycle training outside TEIs. TEIs themselves provide non-degree postgraduate programmes and various short courses, and some also offer distant learning courses. However, such initiatives (except non-degree postgraduate programmes) are often treated by some academic staff as an additional activity and are not valued by the academic community as highly as traditional education. There is no government policy in this area; but first of all, there are no instruments of educational policy to stimulate the development of non-traditional education, despite its growing importance in knowledge society. Moreover, TEIs do not provide a wider range of courses (except short preparatory courses) for those who wish to refresh or update their knowledge or did not enrol in tertiary education immediately after the secondary school leaving examination.

368. Students have a fairly good access to information about opportunities for study; several directories are published for candidates, and each TEI presents its programmes on its website. Moreover, TEIs are required by law to provide information about admission conditions 6 months in advance. However, generally accessible information on the possibilities of transfer to another field of study or TEI is missing. Each TEI defines independently the rules for transferring to another field of study, and faculties decide on their own whether to admit graduates of Bachelor's degree programmes from another TEI to Master's degree programmes without an examination. However, when undertaking a Master's degree programme in a different field of study, students have to complete courses included in the programme requirements for the Bachelor's degree programme in that field of study, which may require 1 or 2 additional semesters of study.

369. While discussing management and co-operation issues, it is worth noting that TEIs merge into bigger organisms in order to enhance their research potential and to improve the quality of teaching in the context of growing competition, especially after Poland's accession to the EU. The OECD report on tertiary education in Poland in mid-1990s recommended merging small, scattered and specialised TEIs. At present, two opposing processes are taking place: on the one hand, many small non-public, often one-faculty, TEIs are being established; on the other hand, attempts are undertaken, though sporadically, to establish stronger public TEIs by merging different types of schools. For example, some medical academies have merged with universities, and specialised universities (providing degree programmes in medical areas, agriculture, teacher education or engineering and technology) in smaller academic centres are merging into bigger institutions.

9. IMPROVING THE QUALITY OF EDUCATION

370. Factors that influence the quality of education at tertiary education institution are:

1) staff resources, qualifications and commitment of TEIs employees,

2) material resources, including laboratory equipment, computer laboratories, libraries,

3) organisation and management of a TEI, including "quality management",

4) regular evaluation of quality.

371. Staff resources in terms of their number and qualifications, material resources as well as organisation and management of tertiary education were discussed in the previous Chapters. The analysis in this Chapter will focus on procedures that encourage the optimum use of the above-mentioned factors in the process of quality assurance and improvement.

372. Quality evaluation means, in fact, assessing to what extent and how factors 1-3 are used in the educational process. This serves as a basis for defining criteria of analysis. The evaluation itself and final conclusions are an extremely important factor in quality improvement. This applies to both internal evaluation conducted by a TEI and evaluation conducted by external institutions. The two types of evaluation are complementary. Accreditation[61] is an element of measures undertaken to assure quality as well as of external evaluation.

373. Quality evaluation can be voluntary or obligatory. The quality evaluation system existing in Poland since 2002 (on the basis of the amended Higher Education Act of 1990 [Act of 2001] and the Law on Higher Education of 2005) is a system of external and obligatory assessment, applicable to all TEIs, based on the accreditation of fields of study (i.e. degree programmes by field of study) as combined with internal assessment. Much earlier, voluntary peer accreditation had been developing on the initiative of the academic communities representing specific types of TEIs. The need for such accreditation has been discussed in the academic community since the early 1990s in the context of the rapidly growing number of non-public TEIs and degree programmes as a result of the dynamic growth in the number of students.

374. Peer accreditation was initiated in 1994 by the Agreement of Business Schools on the Quality of Education [World Bank 2004]. Currently, peer accreditation is conducted by 7 Accreditation Committees appointed by the Conferences of Rectors of individual types of TEIs that operate within the Conference of Rectors of Academic Schools in Poland (CRASP) (for university-type TEIs). Since 2001, their activities have been co-ordinated by the CRASP Accreditation Board.

375. These committees include [A. Kraśniewski 2004, p. 24]:

- *Uniwersytecka Komisja Akredytacyjna* (University Accreditation Committee),
- *Komisja Akredytacyjna Uczelni Technicznych* (Accreditation Committee for Technical Universities),
- *Komisja Akredytacyjna Uczelni Medycznych* (Accreditation Committee for Medical Universities),
- *Komisja Akredytacyjna Uczelni Ekonomicznych* (Accreditation Committee for Universities of Economics), operating under the name and with the status of the Foundation for Promotion and Accreditation of Economic Fields of Study
- *Komisja Akredytacyjna Uczelni Pedagogicznych* (Accreditation Committee for Teacher Education Universities)
- *Komisja Akredytacyjna Uczelni Wychowania Fizycznego* (Accreeditation Committee for Physical Education Academies)
- *Komisja Akredytacyjna Uczelni Rolniczych* (Accreditation Committee for Agricultural Universities)

376. Peer accreditation is a voluntary accreditation of fields of study. It is not required by law, but obtaining such accreditation raises the status of a given field of study and TEI. It is therefore an important factor motivating TEIs to respect programme, curricular and staffing requirements

[61] Accreditation means formal confirmation that a TEI or a field of study (group of fields of study) complies with the agreed standards. The term also refers to appropriate procedures as a result of which such confirmation is given.

[Regulation of 2002, and Chapter 2]. However, the voluntary nature of such accreditation limits to some extent the effectiveness of peer accreditation committees [A. Jamiołkowski 2003, p. 80] as regards the use of their conclusions by the faculties offering degree programmes in a given field of study and the ministry responsible for tertiary education. Peer accreditation is carried out to confirm that a programme in a given field of study complies with quality standards, which is increasingly important on the educational market. The State Accreditation Committee (SAC) should consider the possibility of using assessments of peer accreditation committees in its overall evaluation system. At the end of November 2005, the SAC met with representatives of all Community Accreditation Committees to discuss ways and forms of future cooperation.

377. The external evaluation procedures were established in 1993 by the General Council for Higher Education which prepared "The framework for the evaluation of teaching quality in TEIs" and tested the arrangements proposed in the following years in selected fields of study. The Act on Schools of Higher Vocational Education [Act of 1997] set up the Accreditation Committee of Higher Vocational Education. The tasks of the Committee were as follows: 1) defining requirements to be fulfilled by a non-university TEI to establish and provide programmes in fields of study and/or specialization areas, 2) defining staff requirements, 3) assessing curricula and the compliance with the requirements by a TEI, and 4) presenting opinions on these matters to the minister responsible for tertiary education. It was therefore the first institution responsible for obligatory, but not generally applicable (as limited to non-university institutions), accreditation and evaluation of TEIs. Subsequently, the committee monitored how post-audit recommendations were implemented by the TEI. [Act of 1997].

378. The obligatory external accreditation of degree programmes in fields of study combined with evaluation was introduced in 2002 on the basis of the amended Higher Education Act of 1990 [Act of 2001], and at present is provided for in the LoHE of 27 July 2005. Accreditation and evaluation are conducted by the State Accreditation Committee. According to the LoHE [LoHE of 2005, Article 49][62], the statutory responsibilities of the SAC include presenting to the minister responsible for tertiary education opinions and conclusions concerning:

- the establishment of tertiary education institutions, granting TEIs the authorisation to provide programmes in a given field of study and at a given level of study;
- the evaluation of teaching in a given field of study in terms of compliance with the requirements for the provision of programmes.

379. The evaluation of programmes in fields of study conducted by the SAC is based on the criterion of their compliance with programme requirements, laid down in the relevant legislation [Regulation of 28 March 2002 and Regulation of 15 April 2002], concerning:

- study plans and curricula (appropriate number and proportions of teaching hours assigned to general courses, basic courses and major courses) for each mode of study, and internships;
- basic staff requirements (number, structure and academic profile of staff);
- material resources, the so-called "learning facilities" (library resources, laboratories, computer hardware and software);
- international co-operation, student mobility;
- with regard to staff teaching master-level students: conducting research and its link with the teaching process.

Therefore, the requirements are used as the criteria [European Commission 2004].

380. However, the process involves not only accreditation (confirmation that standards/ requirements are fulfilled), but also an assessment of the extent to which such standards/requirements are fulfilled. The grading system of the Committee includes the following grades:

- outstanding,
- positive,
- conditional approval,
- negative.

[62] Further information on the composition and procedure for the appointment of the SAC: Chapters 2 and 8.

381. The positive grade is a benchmark for defining other grades, and it confirms fulfilling basic staff, curricular and organisational requirements and requirements related to material resources [Resolution 1042/2004].

382. SAC Assessments, in the form of resolutions, are forwarded to the minister responsible for tertiary education. In case a negative grade is given, the Minister withdraws or suspends the permit to provide degree programmes in a given field and at a given level of study [LoHE of 2005, Article 11, subsection 6). Consequently, admissions to a given programme are suspended. In the case of conditional approval, the resolution of the Committee Presidium identifies the shortcomings to be rectified by the TEI concerned and the date of re-assessment.

383. Grades given to degree programmes in fields of study can influence the amount of the State-budget subsidy granted to TEIs. The Minister allocating the subsidy for teaching and maintenance of TEIs can award additional funds for degree programmes to the TEI where programmes are of particularly high quality, as confirmed by SAC evaluation. The funds allocated for this purpose cannot exceed 0.5% of the basic subsidy [LoHE of 2005, Article 95, subsection 3]. Pursuant to the decision of the Minister of National Education and Sport of February 2005, the amount of the subsidy as determined by the basic algorithm[63] has been adjusted as follows: the subsidy increases by 0.3 point for every outstanding grade, and decreases by 0.15 point for every conditional grade and by 0.3 point for every negative grade. For TEIs that have obtained an outstanding grade, the subsidy has also been supplemented with a corresponding amount (for every outstanding grade given to a field of study).

384. During the term of office 2002-2004, 77 SAC members (SAC appointment procedures are described in Chapters 2 and 8) worked in 10 teams representing groups of fields of study. The Committee was assisted by ca 500 experts, mainly academic teachers [SAC, Report 2005, p. 6]. The SAC Presidium chooses degree programmes by field of study and TEIs to be inspected in a given year. Moreover, SAC evaluates specific degree programmes at the request of the minister responsible for tertiary education. (Until the end of the year 2004, only 5 of 687 assessed degree programmes were in the fields of study selected by the minister.)

385. The accreditation procedure includes: a) drawing up a list of TEIs and fields of study to be inspected in a given year; b) self-assessment carried out by a TEI and submission of a summary report drawn up in accordance with a model developed by SAC Presidium [Resolution no. 18/2002 of 28 February 2002]; c) site visit of an expert team in a given TEI (faculty offering a degree programme in a given field of study); d) preliminary assessment: preparation of a report and its presentation to the evaluated institution; and e) adoption of the final resolution containing the assessment.

386. In addition to the information on the organisation and structure of TEI, student admissions and number of students and graduates, the self-evaluation report should contain: data on the number of full-time staff, qualifications, specialisation areas, teaching load, as well as data concerning the staff appraisal system (e.g. class inspections and use of student evaluation forms), teaching methods, system of student assessment, including any programmes or courses offered to the disabled, number of students in one group, data concerning student welfare issues, description of research activities of the TEI/unit, international co-operation (students and staff exchange), description of TEI's strengths and weaknesses, and future plans[64].

387. Between 2002 and 2004, the Committee inspected 687 TEIs and adopted 847 valid resolutions on the quality of education (including 761 resolutions relating to first visits and 86 to second visits). Outstanding grades account for 2% of the total number, positive grades for 74%, conditional approvals for 20% and negative grades for 4% [Report 2005, p. 12]. The largest number of conditional approvals and negative grades were given in the first year of the SAC's activity, which proves that TEIs are adapting fast to the standards and criteria applied in evaluation. Although the Committee has been operating for a relatively short time and it is a completely new body without a tradition, its impact upon improvement of quality of the entire tertiary education system is unquestionable. At the

[63] This was based on quality grades obtained by 62 TEIs operating on the basis of the 1990 Higher Education Act (including CUL and PAT).

[64] For detailed recommendations, see: Regulation of the Presidium of the State Accreditation Committee of 28.02.2002 on the guidelines for drawing up self-evaluation reports.

beginning of the SAC's activities, study plans and curricula were improved to adjust to educational concepts as well as the structure of TEI staff, in terms of disciplines of science, and to profiles of diplomas issued in individual fields of study. The Committee also informed a number of TEIs on deficiencies in their assets (teaching aids and assets) and the documentation of internships (Działalność… 2005).

388. The second area of the SAC's activity which aims to improve the quality of education includes giving opinions on applications submitted by TEIs for the authorisation to provide degree programmes at a given level and in a given field of study, and for the establishment of organisational units in other locations. Reviewing applications, the SAC assesses the compliance of the applicants with the relevant requirements. Between 2002 and 2004, the SAC assessed 1,980 applications, 46.8% of which were given a positive opinion, and 48.5% which were given a negative opinion (by 1 December 2004, 3% were still being reviewed). A negative opinion on the applications for the authorisation to offer Master's degree programmes was given in case the application did not include precisely formulated research plans and separate funds allocated for research.

389. While peer accreditation and the rules for quality assessment introduced by the General Council for Higher Education in the 1990s were determined by the spontaneous emergence of non-public TEIs and many new fields of study, requiring quality control, the efforts currently undertaken in the area of quality development are also determined by the Bologna Strategy.

390. Quality development is a part of the process leading to the establishment of the European Higher Education Area, which facilitates the recognition of qualifications acquired in TEIs across Europe. Therefore, co-operation in this field involves many TEIs (Chapter 10), as well as the State Accreditation Committee. The SAC co-operates with international organisations responsible for the assessment of education quality and accreditation (it is, for example, an observer-member of ENQA[65]).

391. Currently, ENQA is working on joint quality assurance procedures and criteria. Most of the Polish TEIs and managing institutions believe that, although the need to unify Basic accreditation terms may be accepted, nonetheless the introduction of uniform procedures and criteria does not seem to be possible in view of significant diversity of tertiary education systems (in spite of the unification of the main elements of these systems). Establishing more in-depth cooperation in the area should rather provide for mutual recognition of systems and procedures between countries[66]. As a result of cooperation between the SAC and other European accreditation bodies, Spanish experts participated in site visits in several Polish TEIs under the assessment procedure in 2005. In December 2005, the SAC became a member of the European Consortium for Accreditation.

392. In addition to the minister responsible for tertiary education, the "beneficiaries" of SAC evaluations are tertiary education institutions themselves; the evaluation together with self-evaluation encourages efforts to improve the quality of education in individual fields of study. Results of SAC evaluations are available to the public and can be accessed via the Internet by those interested, including students choosing a specific field of study and TEI.

393. After a period which is necessary to assess the existing system, efforts to improve the quality development procedures in Poland should focus in the future on extending the scope of evaluation: combining the evaluation of conditions for teaching with the evaluation of outcomes. Evaluation should aim in the future to verify whether and to what extent a given TEI achieves its goals as defined in its mission and performs successfully the tasks defined for it by beneficiaries (students, employers, State). There is, therefore, a need to design a strategy for the development of a quality regulation system as an instrument of the strategy for the development of tertiary education. The SAC publishes annual reports on its activities.

394. Funding for statutory activities of the SAC accounts for only a fraction of the total expenditure on tertiary education in Poland. These funds amounted to PLN 1,736,300 in 2000, and increased in 2005 to as much as PLN 4,094,300. Furthermore, the costs of the system should also include relieving academic teachers who are members of the SAC from their teaching duties. These costs amounted to

[65] European Network for Quality Assurance.
[66] Position of ESIB regarding the objectives of the Bologna Process [Realizacja 2003, p.74]

PLN 1,845,600 in 2002 and to PLN 1,981,600 in 2005. The funding for statutory activities and overheads budgeted for 2006 amounts to PLN 6,707,000, including PLN 1,981,600 to cover the cost of relieving the academic staff involved from teaching duties.

395. As regards quality assurance procedures, Poland has been implementing the recommendations of the Conference of Ministers of the countries-signatories to the Bologna Declaration. The work has been undertaken to adjust degree programme requirements to the European Qualifications Framework. These adjustments will establish higher requirements concerning quality assurance mechanisms, strengthen arrangements for the monitoring of the teaching process, as well as place more emphasis on learning outcomes, while providing TEIs with greater freedom in determining the number of students [E. Chmielecka 2005]. Thus, internal quality assurance mechanisms, which are at present under development in the majority of TEIs, will gain in importance. Internal evaluation will focus more on whether and to what extent a given TEI achieves the objectives formulated in its mission statement and the objectives formulated by stakeholders (students, employers, national authorities). Hence, there is a need to create a strategy for the development of a quality assurance system as an instrument of overall tertiary education development.

10. INTERNATIONAL ASPECTS OF TERTIARY EDUCATION

10.1.Government policy, development of international links and its historical determinants

396. Since the first TEIs were established, Polish tertiary education has been operating in an international context. Polish students took up or continued studies in European tertiary education institutions, and foreign students were hosted in Polish universities. After World War II, the Communist regime limited the scope and changed the directions of international co-operation, which focused on the Soviet Union, the Soviet block countries, the neighbouring countries, and African and Asian countries under the Soviet influence. It is worth mentioning that courses in Poland were taught only in the Polish language; this is why special schools were established where foreigners were required to complete a language course before taking up studies. Student exchange with the countries behind the iron curtain was limited; Polish students rarely went to study in Western countries, and students who came from Western countries to study in Poland were mainly Polish immigrants. Likewise, international co-operation in the area of research focused mainly on academic centres in communist countries, which often represented high world quality, particularly in sciences.

397. Despite the pressures, Polish world-class scientists maintained professional links with Western countries. In the area of research, except in cases of individual scientists persecuted for political reasons, co-operation with Western countries was limited mainly by financial reasons (lack of foreign currency); as a result, Polish scientists went to Western units, for longer and shorter periods as well as conferences, at the invitation and the expense of the inviting institution. Nevertheless, Polish academic institutions signed co-operation agreements not only with tertiary education institutions in the Eastern block, but also with institutions across the world. Visits of Western scientists to Poland (to conduct research or lectures) were however rare (except for conferences). The openness of the Polish system to the Western world and the international character of Polish research is confirmed by numerous publications written in English as well as the position of Polish publications in the Philadelphian List, which in some disciplines was higher in the 1980s than it is now. Before 1990, Poland had a number of (rather elite) scholarship programmes based on agreements with Western countries, under which Polish scientists and students went to foreign institutions for study and research purposes (e.g. German Humboldt scholarships, American Fulbright Programme, British Council programmes, programmes of the French government and others).

398. Since 1990, international co-operation has been evolving in terms of its scope, directions and forms of contacts. Programmes such as PHARE or TEMPUS/PHARE launched in the 1990s became an important element of internationalisation of Polish tertiary education. For many years, the membership of various international associations has enabled Polish TEIs to participate in European initiatives supporting the internationalisation of tertiary education. The Bologna Declaration signed by Poland and Poland's accession to the EU on 1 May 2004 open new opportunities in this area.

10.2. Legal context of the internationalisation of tertiary education (agreements, equivalence of diplomas)

399. Requirements for enrolment in degree programmes, admission procedures and rules underlying the equivalence of diplomas in Poland are laid down in the legislation and international agreements. They reflect the government policy which aims to support the development of international co-operation in the area of education.

400. Qualifications obtained abroad are recognised in Poland on the basis of international agreements or through a nostrification procedure. Qualifications in the so-called regulated professions are recognised in accordance with additional regulations. For many years, a major instrument for the recognition of foreign qualifications was the Prague Convention of 7 June 1972, which – apart from Poland – was signed by the Soviet Union, Eastern European countries, Vietnam, Cuba and North Korea. Poland is not a party to this Convention as of 6 August 2004, but qualifications awarded in the period during which it was in force will still be recognised on its basis; it is not, however, applicable to qualifications awarded after 6 August 2004 in the countries with which Poland has not concluded a bilateral agreement.

401. In addition, Poland was also bound by bilateral agreements on scientific and cultural co-operation with the Czech Republic, the USSR, Bulgaria, Yugoslavia and Cuba, and temporary agreements (e.g. with Latvia, Estonia, Croatia, Slovenia, Moldova) which were signed in the 1990s. Instruments of major importance are also bilateral agreements on the academic recognition of degrees and academic degrees concluded in the 1990s with Austria and Germany.

402. On 17 march 2004, Poland ratified the Lisbon Convention on the recognition of qualifications concerning higher education in the European region of 11 April 1997 (with its ratified provisions entering into force on 11 May 2004). Rules for the recognition of tertiary education diplomas obtained abroad are also laid down in the Regulation of the Minister of National Education and Sport of 10 August 2004 on the nostrification of diplomas obtained abroad. Nostrification proceedings must be conducted in the case of diplomas issued in the countries that have no bilateral agreements on the recognition of diplomas with Poland. In most cases, bilateral agreements provide for academic recognition of qualifications. Separate legislation lays down the requirements to be fulfilled by non-nationals to enrol on, and follow, degree programmes and participate in research and training courses in Poland (Regulation of the Minister of National Education and Sport of 24 April 2004). Since the entry into force of the Law on Higher Education of 27 July 2005, most of the above-mentioned matters related to internationalisation are regulated in this Act (the provisions concerning non-nationals enrolling on, and following, degree programmes in Poland are presented in the Annex).

10.3. Development of international aspects of Polish tertiary education after 1990

403. The TEMPUS programme, the first EU programme for tertiary education after 1990, provided support for student and staff mobility as well as for the modernisation of teaching and management in TEIs, preparing at the same time Polish TEIs for active and effective participation in the currently implemented SOCRATES programme. In all years of its implementation, over 13,000 students completed a period of study in EU countries. In March 1998, Poland joined the SOCRATES programme. Student mobility and activities related to the improvement of teaching under TEMPUS were “smoothly” taken over by the SOCRATES/ERASMUS programme.

404. An important stage in the integration of Polish tertiary education within the European system is the Bologna Process, which was initiated by the Bologna Declaration signed by higher education ministers of European countries, including Poland, in 1999. In Poland, the process is co-ordinated by the Ministry of Science and Higher Education, but a major role is also played by a number of other organisations. These include: General Council for Higher Education (GCHE), State Accreditation Committee (SAC), National SOCRATES-ERASMUS Agency, Bureau for Academic Recognition and International Exchange (Polish ENIC/NARIC), Conference of Rectors of Academic Schools in Poland (CRASP), and Students’ Parliament of the Republic of Poland. The Ministry has also established the Bologna Process Council which will act as a consultative and advisory body for the Minister. Another body which has recently been established is the Group of the Bologna Process Promoters; some of its 15 members worked for several years as ECTS/Diploma Supplement Promoters. Moreover, the Rectors’ Conference CRASP has a Bologna Task Force created in 2004.

405. While the role of the ministry is to support the activities through legislative changes, information and promotion campaigns, and mechanisms stimulating active involvement of the academic community, the key role is played by TEIs themselves which implement the Bologna Declaration.

406. At the institutional level, activities designed to implement the Bologna arrangements are organised by special representatives, rector’s commissions or vice-rectors responsible for student affairs or teaching. The authorities assess the extent to which the provisions of the Bologna Declaration concerning two-cycle programmes, the European Credit Transfer System (ECTS), student mobility, Diploma Supplement and the promotion of European issues in tertiary education are implemented by TEIs (see: data in Annex).

407. Both the national authorities and TEIs attach considerable importance to the internationalisation of tertiary education. This is clearly confirmed by the participation of Polish representatives in international meetings on internalisation, the establishment of the above-mentioned institutions supporting internationalisation in Poland, and by the progress towards the achievement of

the aims of the Bologna Declaration. Great benefits from internationalisation are recognised as a major component of the European integration, the process of building Europe based on knowledge and a strong role of education in improving the competitiveness of the European economy. Closer research links, joint research projects and exchange of students are likely to improve the competitive advantage of Polish TEIs; and the introduction of common quality standards within the European area of education is likely to contribute to maintaining and improving the quality of education in Poland. The Bologna Process is seen to have a particularly important and positive role in the process of internationalisation. The opening of the Polish education system to the world provides an opportunity to increase the share of foreign students, in particular from countries behind the Polish eastern border, including Asian countries, coming to study in Polish TEIs. There are, however, concerns in the academic community regarding the ability of Polish TEIs to face international competition on the educational market. This applies above all to weaker TEIs facing potential outflow of students to foreign institutions. Another concern is related to the opening of the international labour market, encouraging students to stay abroad. Until now, in view of job market restrictions introduced by EU Members States, no statistics have been compiled on the number of people who decide to stay legally abroad. There is no data on the numbers of foreign students choosing to stay in Poland either.

408. Since the first years of the transition process initiated in 1990, new trends have been emerging in the internationalisation of tertiary education. Some of them resulted from changes in the international dimension of education, which occurred after 1990, and the need to adapt to new conditions and opportunities for international co-operation.

- At present, there are two main co-existing types of student mobility: completing a full degree programme in another country or completing a period of study in one country and continuing studies in another country. After 1990, the first type of mobility is still common, but the second type is rapidly developing.
- The number of Polish students going to EU countries has increased considerably. However, according to statistics, the mobility of Polish students is still low. Moreover, the number of outgoing Polish students still exceeds by far the number of EU students coming to study in Poland. According to SOCRATES/ERASMUS data for the academic year 2004/2005, 9,000 Polish students went to study abroad, whereas only 2,000 students came to study in Poland (see: Annex, Table 10.1). Most Polish students go to study in Germany, France, Spain and Italy (Annex, Table 10.2) and students coming to study in Poland are mostly form Germany, France and Spain (Annex, Table 10.4).
- The role of foreign students studying in Poland has diminished (and their origin has changed as well). In the past, students came mainly to complete a full degree programme. Nowadays, although students still follow full programmes in Poland, the number of students coming for a period of study (one or two semesters) is increasing. For more than a decade, students of Polish origin (mainly from the territories belonging to Poland before World War II, families deported to the Soviet Union and post-war emigrant families) take an increasing share among those who complete full degree programmes in Poland. Full programmes are also undertaken by representatives of the Polish communities living in Western countries. In the academic year 2003/2004, over 8,100 students were enrolled in full degree programmes, including mainly students from Ukraine, Belarus, Lithuania, Russia and Kazakhstan, as well as the USA, Canada and Germany.
- There are considerable differences between various TEIs and types of TEIs as regards the number of outgoing students. The percentage of students undertaking periods of study is larger in public TEIs than in non-public TEIs and in university-type TEIs than in non-university TEIs; in a breakdown by profile, universities of economics and technical universities have the largest share of outgoing students (see: Annex, Table 10.3).

409. Polish students leaving to study abroad under programmes such as SOCRATES/ERASMUS, receive financial assistance. The funding for the programme is provided by the European Commission; the funds used to finance student grants in the academic year 2003/04 amounted to EUR 5.37 million. The average amount of a monthly grant for students studying abroad was dramatically reduced from EUR 375 in 1998/99 to EUR 148 in 2003/04. In 2003/04, Polish TEIs subsidised additionally their

own students studying abroad, contributing a total amount of EUR 1.03 million, which accounted for ca. 19% of the total ERASMUS grant. The final amount of a grant per student is determined by his/her home institution. The maximum amount may not exceed EUR 350. The amount of a grant may be determined in relation to the level of average living costs in a given country [Programme Sokrates Erasmus, 2005].

410. The scale of exchange, and in particular the number of incoming students, is determined by the language barrier. Incoming students who enrol on full degree programmes in Poland may attend various Polish language courses. Students who undertake a study period in Poland as part of student exchange are often interested in courses delivered in English rather than in learning Polish. The number of courses delivered in English is increasing. The CRASP has published a catalogue of such courses offered at Polish TEIs on its website; it includes ca 150 full degree programmes and 1400 courses delivered in English at 68 TEIs (2005/2006). The Law on Higher Education of 2005 allows TEIs to offer courses in foreign languages in accordance with the study regulations or, alternatively, provides for the organisation of Polish language courses for foreigners by the receiving TEI.

411. A major element of the Bologna Process is the introduction of joint study programmes (and degrees) in co-operation with foreign TEIs. The number of programmes which have been launched and are currently provided jointly by Polish and foreign TEIs can hardly be estimated. One can find examples of first-cycle and second-cycle programmes as well as, quite often, MBA programmes (which are regarded in Poland as postgraduate courses). Joint programmes may be organised in such a way that each student completes a part of the courses required during a study period in a foreign TEI, and is awarded a document confirming the involvement of that TEI in the programme. Other arrangements may provide for a Polish TEI using "the trademark" and curriculum of a foreign TEI, and lectures given in Poland by foreign teachers. This approach was common in particular in non-public TEIs. Joint programmes may also be provided within the framework of curricular co-operation between TEIs, which includes student and/or staff exchange (less regular than in the first variant) [Szapiro, 2003]. According to the SOCRATES data for the academic year 2003/2004, Polish TEIs were involved in 81 of 273 multilateral programmes of this type implemented in Europe. However, curricular co-operation is not the same as the joint award of diplomas by Polish and foreign TEIs, which requires the development of integrated curricula. Awarding joint diplomas may be difficult, especially because all Polish TEIs issue national diplomas and are obliged to respect the resulting requirements. The legislation which was in force until the adoption of the Law on Higher Education of 2005 did not contain any provisions concerning the award of joint diplomas; moreover, degree programme requirements to be respected by Polish TEIs, which may cover a different set of compulsory courses than those in foreign TEIs, were an obstacle to the development of integrated programmes in co-operation with foreign partners. The LoHE of 2005 allows TEIs for the first time to establish inter-university units, to provide joint programmes and to award joint diplomas together with foreign TEIs. Such programmes are to be provided in accordance with the study regulations included in an agreement between TEIs, which should lay down the rules for the provision of programmes and the award of a joint diploma.

10.4. Implementation of the Bologna Declaration

10.4.1. Two-cycle programmes

412. The process of introducing two-cycle programmes began in Poland in the mid-1990s, but has gathered momentum after the start-up of the Bologna Process. However, the progress in this area varies considerably between TEIs. (The last decade has also seen the development of third-cycle programmes organised as structured doctoral programmes which replaced former assistantships).

413. Two-cycle programmes may be introduced in 100 of all 106 fields of study; in the remaining 6 fields (law, psychology, pharmacy, medicine and dentistry, medicine, veterinary medicine), only long-cycle Master's programmes may be offered. The progress in the introduction of two-cycle programmes was assessed in 2003 in a survey covering TEIs supervised by the MNES [Kraśniewski, 2004]. The analysis showed that only 10% of public TEIs had two-cycle programmes in all fields of study, and 50% of TEIs in at least half of fields of study; however, there was no public TEI where

two-cycle programmes had not been introduced in any field of study. (Data concerning non-public TEIs are incomparable because few of them provide Master's degree programmes.) (Table 10.6). These figures refer most probably only to full-time programmes, and only scarce data is available about the structure of part-time programmes. The division into first-cycle and second-cycle programmes does not say much about the real profile of programmes; it is not clear to what extent long-cycle programmes were divided mechanically into a two-cycle structure. It must also be underlined that a part (but increasingly smaller) of the academic community, in particular in well-known TEIs with long traditions, is rather reluctant to introduce two-cycle programmes, claiming that high-value degree programmes should last at least 5 years. The introduction of two-cycle programmes is thus a slow and diversified process.

10.4.2. Introduction of a credit system based on ECTS (European Credit Transfer System)

414. A national credit accumulation and transfer system has never been developed in Poland. However, individual TEIs set to design credit systems based on ECTS in various fields of study, following the Anglo-Saxon model, long before the Bologna Process. In the mid-1990s, this process was taking place within the framework of the Tempus/Phare programme, and is at present taking place under the Socrates/Erasmus programme. In the academic year 2002/2003, 70 Polish TEIs were involved in ECTS projects (compare: ~~www.menis.gov.pl/proces_bolonski~~). The Law on Higher Education of 2005 includes a provision that the organisation and schedule of studies should take into account the transfer and recognition of results achieved by students in a TEI, including a foreign one, in accordance with the rules for the transfer of achievements (requirements and procedures for the transfer will be laid down by the minister in a regulation).

415. Table 10.7 in the Annex shows the progress in the implementation of ECTS at TEIs. It shows that public TEIs are more advanced in this respect than non-public TEIs, with public agricultural universities, universities of economics and technical universities taking the lead. 60% of public university-type TEIs have introduced ECTS in all fields of study; 61% of non-public TEIs have not introduced a credit system in any field of study; and 81% of public non-university TEIs have not implemented ECTS at all. These figures refer to full-time programmes. According to a survey conducted by the University Accreditation Committee among universities, ECTS was implemented only in 10% of fields of study in which evening and extramural (part-time) programmes are provided. No information is available as regards the basis for the allocation of credits to courses: whether this is done mechanically in proportion to the number of teaching hours or on the basis of a reliable assessment of the student workload. TEIs which have implemented ECTS correctly in each field of study may be awarded an ECTS Label by the European Commission; in the first round of applications (to 30 November 2003), 1 of 5 Polish applying TEIs was awarded an ETCS Label.

10.4.3. Diploma Supplement

416. "Readability" of a degree (diploma) means that it is easy to determine its level and profile. The key instrument in this area is the Diploma Supplement, based on the model developed by the European Commission, European Council and UNESCO/CEPES. In Poland, the Supplement is Part B of a tertiary education diploma. As of 1 January 2005, it is issued in Polish and English for every graduate of a TEI in Poland. The Supplement contains information about the graduate (holder of the diploma), TEI and teaching contents, student's achievements and function of the diploma, as well as detailed information concerning programme requirements, curricula as well as grades and (ECTS) credits.

10.4.4. Promoting European dimension in education

417. European integration issues are taught as a specialisation area in the following fields of study: political science, international relations, law, economics. "European studies" have been introduced as a new field of study by a relevant regulation of the Minister of National Education and Sport, with programmes to be launched as of the academic year 2004/2005. Moreover, a number of TEIs provide non-degree postgraduate courses in the area of European studies/European integration.

11. FINAL REMARKS

418. On the basis of the characteristics of the current situation of the tertiary education system in Poland and recent change trends, as presented in the above chapters, a number of strengths and weaknesses can be identified, with the former clearly predominating. It should be emphasised that the strengths of the Polish tertiary education system result, at present, to a large extent from measures taken by the authorities and the implementation of specific national priorities, which have created an appropriate institutional and legal framework to define the lines for further development of tertiary education (as described in more detail in the Executive Summary).

419. The strengths include **mass access to education at tertiary level** which has enabled Poland to achieve enrolment rates comparable to those in the most developed countries. Polish TEIs contribute to the building of knowledge society in Poland. The spectacular, nearly fourfold, increase in the number of students after 1990 resulted, on the one hand, from the growing demand linked to increasing educational aspirations of the society. These aspirations still prevail in the society and reinforce this strength of the Polish tertiary education system. On the other hand, the support for the mass access to tertiary education resulted from the specific national legislative policy, influencing the supply side: a sufficient number of places were made available at TEIs as a result of the development of degree programmes for which tuition fees are charged by public TEIs, the development of non-public TEIs, as well as the autonomy of TEIs.

420. Another strength of the Polish tertiary education system is **the well-developed non-public sector.** This seems to be reinforced further by the direction of changes in the legislation, including, on the one hand, the establishment of the State Accreditation Committee and, on the other hand, changes in the regulations designed to put the public and non-public sectors on an equal footing in terms of rights and conditions for operation (among other things, the access to State financial support or the access to State-budget funds allocated for education and research). The development of the non-public sector increased the competition for students between Polish TEIs. It is a beneficial change which should support the diversification of programmes and courses offered by TEIs. It should also facilitate better adjustment of curricula and fields of study to the labour market needs; in particular in the near future when the competition for students is expected to become increasingly fierce due to the negative demographic trends. Another positive consequence of the development of non-public TEIs is their location: in particular since the mid 1990s, non-public TEIs have been established outside the largest academic centres, in smaller towns and less developed regions where they perform their educational and cultural functions, revitalise the regional economy and have an impact on employment.

421. The third most important strength of the Polish tertiary education system is **the institutional autonomy and freedom of research and teaching.** With the autonomy of TEIs, restored by the Higher Education Act of 1990 and confirmed by the Law on Higher Education of 2005, the minister responsible for tertiary education retains the responsibility for adopting legislation, ensuring the compliance with the law by TEIs and their authorities, financing, and developing strategies and programmes. It should, however, be mentioned that, when taking various decisions, the minister consults national representative bodies of the academic community. The recent changes have increased the scope of supervision exercised by the minister, enable the minister to take penalising measures against TEI authorities' failing to observe the law, and safeguard the interests of students. It is also worth mentioning that many matters, including the organisational structure of TEIs, management, financing, staff policies, number of places available and admission rules, level of tuition fees for programmes where these are charged, promotion in the academic career or, to a large extent, the development of curricula, are left by the LoHE to be regulated in TEI statutes. Thus, given such a large extent of autonomy, it was possible for TEIs to adopt a flexible, bottom-up approach to meeting the needs of the growing numbers of students and to diversify significantly the range of programmes offered.

422. Furthermore, the list of strengths includes the establishment of a complex system of complementary **accreditation and quality assessment systems**, comprising mandatory evaluation and accreditation by the State Accreditation Committee, and voluntary accreditation by the sectoral accreditation committees operating under the auspices of the CRASP. These organisations are

extremely important in view of the mass access to tertiary education and facilitate the development of the evaluation culture supporting processes of self-improvement in TEIs.

423. Another strength is the fact that competition-based, **selective rules for funding research** have been applied in Poland since 1990. The fund allocation system is based upon algorithms linked to the results of the assessment of research conducted by research institutions and their research achievements, or on a peer review system in the case of different types of research projects.

424. Other strengths include: the **internationalisation of the tertiary education system** in Poland, and considerable progress in the implementation of the aims of the Bologna Declaration as compared to the situation in other countries, in particular the introduction of the three-cycle structure of programmes and the ECTS on an increasingly large scale. The Bologna Process has aroused considerable interest and has been supported by measures taken by the Ministry as well as by academic organisations and TEIs themselves.

425. The strengths presented above also have their negative aspects. The first problem concerns **ensuring equal access to education**. The mass access to tertiary education was achieved mainly through the development of programmes for which tuition fees are charged. A trend which can still be seen clearly is that those enrolled on degree programmes for which no tuition fees are charged, but where admission is conditional upon passing an entrance examination, are mainly young people who are better prepared and come from families with higher educational attainment and income levels; whereas those enrolling on programmes for which public and non-public TEIs charge tuition are people from families with lower income and educational attainment, more frequently from rural areas, as well as those who are forced to combine tertiary studies with employment for financial reasons.

426. The second problem is related to **the excessive number and profiles of non-public TEIs**. While the number of non-public TEIs is nearly threefold higher than that of public TEIs, the former have only over ¼ of students as compared to the number of students in public TEIs. Thus, non-public TEIs are often small, sometimes offer degree programmes in one field of study, and do not develop their own staff. These TEIs usually offer programmes in the least costly fields of study which do not require expensive equipment but only qualified staff. The fields of study in non-public TEIs include mainly social sciences, economics and business. A large part of the academic community of public university-type TEIs has a negative attitude towards non-public TEIs; this results in particular from the quality of education in the latter considered to be low by the former, as well as from the multiple job holding and the fact that non-public TEIs use the academic staff of public TEIs and curricula they develop. The opinion that the quality of non-public TEIs is significantly lower has been only partially confirmed by the results of assessments conducted by the State Accreditation Committee; more than ten non-public TEIs can easily compete with public university-type TEIs. The new Law on Higher Education has limited opportunities for multiple job holding, but the problem of the use of teaching aids and curricula by non-public TEIs remains unsolved.

427. The third issue to be considered concerns **negative consequences of the autonomy** in its current form. The institutional autonomy of TEIs is based on the important role played by collective bodies and the relatively weak position of the single-person authorities (rectors, deans) who are elected by academic staff and usually have no experience and knowledge in the area of management. This situation has a negative impact on the pace, flexibility and quality of the management process. The second element undermining the positive role of institutional autonomy is the fact that stakeholders (employers, local authorities) are not represented in decision-making or advisory bodies, this resulting in a weak link between the teaching process and the labour market needs.

428. Among major weaknesses of the system, one should also mention the **increasing unemployment amongst tertiary graduates**, in particular in the period immediately following graduation. This results, amongst other things, from the fact that the economic growth does not create new jobs, as well as from the lack of information and research on labour market needs, and the excessive number of students enrolled on degree programmes in the fields of study which are represented by unemployed graduates. The number of students in engineering, technology and natural sciences is too small, while the number of those economics, business and social sciences is too large.

429. Furthermore, a major weakness is that the **increase in the number of academic staff** and the **promotion in the academic career**, in particular as regards the award of the degree of Habilitated Doctor the title of Professor, is too slow as compared to the rate of growth in the number of students.

430. Other elements which can be considered weaknesses are: the **underdeveloped system of co-operation with the external environment**, i.e. social an business partners, **in the area of research and education,** as well as the excessively academic focus of research (focus on basic research at the expense of applied research), which results from the evaluation criteria applied to allocate funds for research activities.

431. The factor which clearly has a very negative impact is the **excessively low level of expenditure on education as a percentage of GDP and per tertiary student**. With the simultaneous reduction of the proportion of students enrolled in public TEIs on degree programmes for which tuition fees are charged, this may result in lowering the quality of education.

432. While various tertiary education stakeholders are largely in agreement about major strengths, weaknesses include many issues which are controversial, and the difference of opinion does not necessarily go along the lines: educational authorities – academic community – employers. Opinions vary considerably within the academic community itself (for example, representatives of university-type TEIs and non-public TEIs differ in their opinions about the weaknesses of the non-public sector; as regards the management system, the academic community is divided into few supporters and numerous opponents of managerism; another issue dividing the academic community concerns the payment of tuition fees by all students). Similar differences in opinion can be found in the Parliament and between representatives of the successive governments.

433. In the absence of widely shared views, it is difficult to foresee the development of tertiary education in Poland in the coming years. Among the specific measures designed to implement the Educational Strategy 2007-2013, approved by the previous Government in 2005 and requiring – according to representatives of the Ministry of National Education – significant adjustments, the following areas of development seem to be least controversial and thus most likely:

- streamlining the management of TEIs;
- improving quality and disseminating modern teaching methods;
- enhancing cooperation between TEIs and the business sector;
- opening TEIs to continuing education; and
- internationalisation of tertiary education.

ANNEXES

Chapters 1 and 2

Table 2.1. Enrolment rates in tertiary education in Poland, 1990/91 - 2005/04 (in %)[1)]

Enrolment rates	1990/91	1995/96	1999/02	2000/01	2001/02	2002/03	2003/04	2004/05
Gross	12.9	22.3	36.9	40.7	43.6	45.6	46.4	47.8
Net	9.8	16.2	28.0	30.6	32.7	34.5	35.3	36.8

Source: GUS, Szkoły wyższe i ich finanse w 2003 r., Warsaw 2004, p. XVI; year 2004, Warsaw, 2005, p. XVIII
[1)] The gross enrolment rate is defined as the ratio of all students enrolled on programmes at a given level to the total population in the relevant age group (for tertiary students: 19-24 years of age). The net enrolment rate is the ratio of students aged 19-24 years to the population in the same age group.

Table 2.2. Tertiary students and graduates in Poland, 1990/91 - 2003/04 (in '000)

	1990/91	**1995/96**	**1999/2000**	**2000/01**	**2001/02**	**2002/03**	**2003/04**	**2004/2005**
Students	394.3	785.5	1 421.3	1 572.5	1 699.4	1 792.9	1 850.6	1 926.0
Graduates	56.1	89.9	215.4	304.0	342.2	366.1	384.0	-

Source: GUS, Szkoły wyższe i ich finanse w 2003 r., Warsaw 2004, p. XXII; year 2004, Warsaw 2005, p. XXIII; MNE&S, Strategia rozwoju szkolnictwa wyższego w Polsce do roku 2010, Warsaw 2003, annex; and MNE&S, Szkolnictwo wyższe 2002, Dane podstawowe, p. XXI, Warsaw 2003, year 2001, p. 20 (data for the calendar year), year 1997, p. XI, year 1998, p. XVIII.

Table 2.3. Number of students in State and non-State TEIs, 1990 - 2003: rate of growth

A. State TEIs

	1990/91	**1995/96**	**1996/97**	**1997/98**	**1998/99**	**1999/2000**	**2000/01**	**2001/02**	**2002/03**	**2003/04**
Number of students [x)]	390,292	709,431	788,687	871,091	951,116	1,020,318	1,119,201	1,211,379	1,271,728	1,306,225
Annual growth(%)	-	11.79	11.17	10.45	9.19	7.28	9.69	8.24	4.98	2.71

B. Non-State TEIs

	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04
Number of students[y)]	28,937	49,578	89,399	142,928	226,929	331,483	419,167	472,340	509,279	528,820	545,956
Annual growth(%)	78.97	71.33	80.32	59.88	58.77	46.07	26.45	12.69	7.82	3.84	3.24

Table 2.4. Tertiary graduates, 1990 – 2003

	1990	1994	1995	1996	1997	1998	1999	2000	2000/01	2001/02	2002/03
Graduates (in '000)	56.1	70.3	89.9	115.9	145.8	174.8	215.4	261.1	304.0	342.2	366.1
Annual growth (%)	-	-	27.88	28.92	25.80	19.89	23.23	21.22	16.43	12.57	6.98

Source: GUS, Szkoły wyższe w roku szkolnym 1995/96, Warsaw 1996,p. XII; GUS, Szkoły wyższe w roku szkolnym 1996/97, p. XIII; GUS, Szkoły wyższe i ich finanse w 1999r., Warsaw 2000, pp. XVII i XX; GUS, Szkoły wyższe i ich finanse w 2001r., Wasraw 2002, p. XX; GUS, Szkoły wyższe i ich finanse w 2003r., Warsaw 2004, p. XXIII; and GUS, Szkoły wyższe i ich finanse w 2004 roku, Warsaw, 2005, p.XXIII.

Table 2.5. TEIs and students by type of institution and rate of growth, 1990/91 - 2003/04

	Type of institution	Institutions			Students [a)] (in '000)			Rate of growth in the number of students	
		1990/91	2002/03	2003/04	1990/91	2002/03	2003/04	1990/91 - 2003/04	2002/03 - 2003/04
	Total	112	377	400	403.8	1800.5	1858.7	360.3	3,2
1.	Universities	11	17	17	141.1	572.2	543.4	285.1	-5,0
2.	Technical Univ.	30	22	22	84.0	344.3	342.4	307.6	-0,6
3.	Agricultural Univ.	9	9	9	36.4	98.1	104.1	186.0	6,1
4.	Univ. of Economics	5	94	93	24.0	389.5	382.3	1492.9	-1,8
5.	Teacher Educ. TEIs	10	17	17	47.6	138.9	137.2	188.2	-1,2
6.	Medical Univ.	12	10	10	38.7	37.7	42.3	9.3	12,2
7.	Maritime TEIs	3	2	2	2.5	12.4	12.2	388.0	-1,6
8.	Acad. of phys. educ.	6	6	6	14.6	23.7	24.9	70.5	5,1
9.	Acad. of fine arts	17	22	22	8.2	14.1	14.6	78.0	3,5
10.	Theological TEIs	7	14	14	6.7	10.1	10.2	52.2	1,0
11.	TEIs supervised by the Ministry of National Defence[b)] and the Ministry of Interior and Administration [c)]	.	10	10	.	11.4	12.2	-	7,0
12.	Other TEIs	2	26	27	4.1	63.0	66.1	1512.2	4,9
13.	Non-university TEIs	.	128	151	.	130.1	166.8	-	28,2

a) Including foreign students.
b) Included under "Technical universities" until 1998.
c) Included under "Technical universities" and "Other TEIs" until 1998.

Source: GUS, Szkoły wyższe i ich finanse w 2003r., Warsaw 2004, p. XX (author's own calculations).

Table 2.6. Tertiary students by mode of study[1) a)] and gender

		1992 [b)]	1995/96	2004	Female (%)
1.	Regular degree programmes	345,502	454,724	915,653	
	incl. female students	175,158	234,703	507,425	55.4
2.	Evening degree programmes	3,403	27,099	65,946	
	incl. female students	1,375	14,423	39,099	59.3
3.	Extramural degree programmes	129,638	307,869	912,306	
	incl. female students	75,696	192,358	520,924	57.1
4.	Total	480,806	794,642	1,917,293	
	incl. female students	253,813	445,116	1,082,871	56.5

1) *Source*: GUS, Szkoły wyższe w roku szkolnym 1992/93, Warsaw 1993, s.356, and: GUS, Szkoły wyższe i ich finanse w 2004 roku, Warsaw 2005, Author's own calculations.
a) Extension programmes not included.
b) as on 31 December 1992
c) as on 31 December 2004

Table 2.7. Graduates of Masters and Bachelors programmes by type of TEI, mode of study and gender[1) a)]

		2000/01					2003/04					
		Total	Incl.: females	Mode of study[a]			Total	Incl.: females		Mode of study		
				Regular	Evening	Extram.				Regular	Evening	Extram.
	Total	260,314	n.d.	104,769	11,546	141,285	38,2851	248, 212	64.8,%	142,313	14,989	219,168
1.	Total Bachelors programmes	121,070	n.d.	31,496	7,851	80,111	17,2282	110,613	64.2%	51,578	7,715	108,348
2.	Bachelors programmes (*inżynier)*	n.d.	n.d.	n.d.	n.d.	n.d.	31,770	10,144	31.9%	10,715	1,998	18,854
3.	Bachelors programmes (*licencjat*)	n.d.	n.d.	n.d.	n.d.	n.d.	140,512	100,469	71.5%	40,863	5,717	89,494
4.	Long-cycle Masters programmes	86,049	n.d.	65,426	1,960	18,216	105,180	63,547	60.4%	77,057	2,743	24,924
5.	Second-cycle Masters programmes	53,195	n.d.	7,847	1,735	42,958	105,389	74,052	70.2%	13,678	4,531	85,896

a) Extension programmes not included.

1) *Source*: GUS, Szkoły wyższe i ich finanse w 2000r., Warsaw 2001, p. 28; GUS, Szkoły wyższe i ich finanse w 2004r., Warsaw 2005, p. 15

Table 2.8. Tertiary graduates by field of study groups, 2000/01 - 2002/05 (structure in %)

	Fields of study [x]	2000/01	2001/02	2002/03
1.	Teacher education	15.8	14.7	14.3
2.	Fine arts	0.7	0.7	0.8
3.	Humanistic [y]	9.4	7.6	7.4
4.	Social	14.3	14.5	14.4
5.	Journalism and information	0.4	0.5	0.6
6.	Economy and Administration	32.4	33.2	32.3
7.	Law	2.4	2.2	2.4
8.	Biology	1.5	1.6	1.6
9.	Physics	1.0	0.9	0.8
10.	Mathematics and Statistics	0.9	0.8	0.8
11.	Information Technology	1.3	1.3	1.6
12.	Engineering and Technology	6.8	6.2	6.4
13.	Production and Processing	1.3	1.5	1.4
14.	Architecture and Construction	1.4	1.6	1.7
15.	Agriculture, Forestry, and Fishery	2.1	1.9	1.7
16.	Veterinary Medicine	0.2	0.1	0.1
17.	Medicine	2.3	2.2	2.1
18.	Services	1.1	1.3	1.5
19.	Transport Services	0.6	0.5	0.6
20.	Environment Protection	2.0	2.7	2.6
21.	Security and Protection	0.3	0.2	0.3
22.	All Specialisation areas	1.8	3.7	4.6

x) According to ISCED 97; y) Including Theology.

Source: GUS, Szkoły wyższe i ich finanse w 2003r., Warsaw 2004, p. XXII.

Table 2.9. Doctoral students in TEIs and research institutions, 1990/91-2003/04

Year	Doctoral students				Incl. PAS and RDUs	Foreigners obtaining doctoral degrees in Poland
	Total	Regular	Extramural	No. of doctoral degree procedures opened		
1990/91	2,695	1,926	769	869	n.d.	482
1995/96	10,482	6,779	3,703	1,946	n.d.	715
1996/97	13,351	8,355	4,996	2,740	678	806
1998/99	19,735	14,538	5,197	5,061	836	579
1999/2000	22,239	16,261	5,978	5,341	795	775
2001/02	28,345	21,455	6,890	7,016	1,038	695
2002/03	31,072	23,451	7,621	7,237	1,493	660
2003/04	32,054	23,626	8,428	7,953	2,040	597
2004/05	33,040	23,027	8,949	8,869	2,333	488

Source: GUS, Szkoły wyższe w roku szkolnym 1995/96, Warsaw 1996, p. 68; GUS, Szkoły wyższe i ich finanse w 1997r., Warsaw 1998, p. 79; and GUS, Szkoły wyższe i ich finanse w 2004r., Warsaw 2005, p. XXVIII and p. 82.

Chapter 3

Table 3.1. Tertiary students in 2003/04 and tertiary graduates in 2002/03

Group of fields of study	Students in 2003/04	Graduates in 2002/03
Total	1,858,680	366,141
Pedagogy	239,719	55,367
Arts	19,808	2,900
Humanities	146,173	27,001
Social sciences	248,906	53,277
Journalism and information	13,743	2,369
Economy and administration	505,389	129,007
Law	5,727	8,903
Biology	16,101	2,887
Physical sciences	34,315	5,930
Mathematics and statistics	17,106	2,895
IT	66,425	6,434
Engineering	177,557	23,912
Production and processing	33,261	5,033
Architecture	55,279	6,237
Farming, forestry and fishery	36,955	6,403
Veterinary	3,962	485
Medical	61,993	7,626
Social work	1,549	98
Social services	44,349	6,683
Transport services	14,591	2,103
Environmental protection	56,776	9,731
Security and safety	7,448	933

Source: GUS, Rocznik statystyczny, 2004, Tables 263 and 264 .

NOTE: According to GUS, the breakdown into groups of fields of study is based on ISCED (see: reference 6), and hence is not directly related to the fields of study approved by the General Council for Higher Education.

Table 3.2. Change in the share of students enrolled in most popular fields of study, 1999-2004

Ref. No.	Field of study	Year 1999/2000	Year 1999/2000	Year 2003/2004	Year 2003/2004	% of change
		Number	% of the total	Number	% of the total	
1	Management and marketing	241,442	17.4	218,380	12.9	-9.6
2	Pedagogy	122,635	8.8	151,955	9.0	23.9
3	Economy	104,376	7.5	118,898	7.0	13.9
4	Administration	73,859	5.3	93,651	5.5	26.8
5	IT	32,261	2.3	67,525	4.0	109.3
6	Law	58,836	4.2	57,275	3.4	-2.2
7	Finance and banking	52,238	3.8	54,043	3.2	3.5
8	Political science and social sciences	41,122	3.0	54,069	3.2	31.5
9	Foreign lang. and literat.	37,631	2.7	52,223	3.1	38.7
10	Mechanical engineering	40,807	2.9	43,747	2.6	7.2
11	Construction	29,437	2.1	35,725	2.1	21.4
12	Polish lang. and literat.	33,023	2.4	32,953	1.9	-0.2
13	Sociology	17,197	1.3	33,800	2.0	96.5
14	Environmental engin.	23,561	1.7	28,616	1.7	21.5
15	Electrical engineering	23,931	1.7	25,681	1.5	7.3
16	History	25,652	1.9	24,820	1.5	-3.2
17	Environment protection	20,223	1.5	26,618	1.6	31.6
18	Tourism and leisure	14,129	1.0	27,772	1.6	96.6
19	International relations	10,931	0.8	27,634	1.6	152.3
20	Physical education	19,551	1.4	22,988	1.4	17.6
21	Management and production engineering	2,997	0.2	23,596	1.4	687.3

Source: Szulc T., 2004, Edukacja i nauka w narodowym planie rozwoju na lata 2007-2013, MNES, A conference paper, Wrocław, 18 October 2004.

Table 3.3. Unemployment rate by educational attainment (%), 1994-2003

Year	Total	Higher education	Post-secondary education	Secondary vocational education	General secondary education	Basic vocational education	Primary and incomplete primary education
November 1994	13.9	3.6	9.0	12.5	16.2	17.8	14.0
1995	13.1	3.0	9.3	11.6	15.3	16.4	14.4
1996	11.5	2.9	8.2	10.3	13.1	14.1	12.9
1997	10.2	2.0	7.6	9.1	13.0	12.0	12.5
1998	10.6	3.0	8.4	8.7	13.5	12.5	14.4
1999	15.3	4.8	11.3	13.2	19.2	18.4	19.3
2000	16.0	4.8	12.4	13.8	19.6	19.2	20.2
2001	18.5	6.4	13.8	16.5	22.9	22.4	22.6
2003	19.6	7.6	16.7	17.4	23.6	22.6	26.2

Source: GUS: Aktywność ekonomiczna ludności, w latach 1992-2001, Table 3.5, Warsaw 2002; and Drogosz Zabłocka E, Minkiewicz B.: Pracodawcy i absolwenci- oczekiwania i rzeczywistość, ed. J. Dietla i Z. Sapijaszki, (op. cit., (Annex, Table 1), GUS, Rocznik Statystyczny 2004.

Table 3.4. Number and structure of the unemployed by educational attainment, Q2 2004 (‘000)

Description	Total (000’s)	Seeking a job for up to 3 months	4 to 6 months	7 to 12 months	13 and more	Average period of job seeking, in months
Total	3,225	430	536	731	1528	16.3
Education level:						
Higher	208	44	40	55	68	12.4
Post-secondary	103	17	24	21	42	14.4
Vocational secondary	718	111	127	159	321	14.9
General secondary	280	45	47	61	127	14.7
Basic vocational	1,307	160	208	302	638	16.9
Lower-secondary and below	608	52	90	133	333	18.6

Source: GUS, Aktywność zawodowa ludności, Q II 2004, Table 3.14.

Table 3.5. Unemployed post-primary school graduates, 1996-2003

Year	Total unemployed graduates	Higher education	Post-secondary and secondary vocational	General secondary	Basic vocational
1996	86,006	3,743	39,543	12,731	29,147
1997	85,426	4,436	32,189	10,323	37,740
1998	110,678	7,334	40,447	13,174	48,713
1999	149,846	12,497	56,995	17,781	60,955
2000	167,880	18,841	64,381	18,626	63,113
2001	180,696	27,299	71,637	20,245	58,377
2002	157,097	31,204	59,829	19,585	43,672
2003	145,218	31,399	51,063	22,099	37,237

Source : GUS, 2002: Aktywność ekonomiczna ludności w latach 1992-2001, Table 3.5, Warsaw, based on: Kryńska 2003, op. cit. P. 128, ML&W: Informacja o stanie bezrobocia 30 września 2002, p. 18, ML&W, Bezrobocie absolwentów, November 2003, Table 25. NB: The table does not include data on persons with primary and incomplete primary education.

Table 3.6. Rate of GDP growth in Poland (%: previous year + 100%)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
% growth on the previous year	3.8	5.2	7	6	6.8	4.8	4.1	4	1	1.4	3.7

Table 3.7. Average gross remuneration by educational attainment and sector of the economy, in absolute terms and % in 2001

Description: **a PLN** **b total 100%**	**Total**	**Females**	**Total public sector**	**Females**	**Total private sector**	**Females**
Total a	2,216.55	1,988.78	2,255.09	2,017.21	2,177.64	1,947.94
b	100.0	100.0	100.0	100.0	100.0	100.0
of which						
Higher education						
a	3,292.11	2,756.90	2,788.53	2,487.93	4,443.43	3,716.47
b	148.5	138.6	123.7	123.3	204.0	190.8
Post-secondary						
a	2,052.53	1,934.82	1,890.84	1,801.96	2,349.39	2,230.75
b	92.6	97.3	83.8	89.3	107.9	114.5
Secondary vocational						
a	2,108.15	1,872.55	2,142.16	1,898.52	2,074.96	1,838.47
b	95.1	94.2	95.0	94.1	95.3	94.4
Basic secondary						
a	2,163.14	2,050.06	2,179.44	2,097.20	2,146.85	1,997.38
b	97.6	103.1	96.6	104.0	98.6	102.5
Basic vocational						
a	1,750.71	1,323.29	2,001.56	1,385.76	1,616.92	1,291.12
b	79.0	66.5	88.8	68.7	74.3	66.3
Primary and incomplete primary						
a	1,617.86	1,325.77	1,726.06	1,335.75	1,529.31	1,315.08
b	73.0	66.7	76.5	66.2	70.2	67.5

Source: GUS.: Struktura wynagrodzeń wg zawodów, Table 2, Warsaw 2002.

Chapter 4

Table 4.1. Number of tertiary students and unemployment level by province, 2003

Ref.	Province	No. of TEIs	No. of students	% of total students	Total students to population	% of the unemployed
1	Mazovia	86	362,808	20.3	7.1	13.4
2	Silesia	36	194060	10.9	4.1	16.2
3	Małopolska	31	167,278	9.4	5.2	13.6
4	Wielkopolska	31	155,138	8.7	4.6	15.6
5	Lower Silesia	29	145,441	8.1	5.0	22.1
6	Łódź	25	114,667	6.4	4.4	18.0
7	Lublin	24	91,552	5.1	4.2	15.0
8	West Pomerania	18	91,250	5.1	5.4	26.2
9	Pomerania	18	86,014	4.8	3.9	21.1
10	Kujawy-Pomerania	17	77,406	4.3	3.7	22.1
11	Subcarpathian	15	70,878	4.0	3.4	16.1
12	Świętokrzyskie	15	63,637	3.6	4.9	17.7
13	Podlasie	14	50,506	2.8	4.2	14.1
14	Warmia-Mazuria	8	50,130	2.8	3.5	27.7
15	Opole	7	35,257	2.0	3.3	18.6
16	Lubuskie	5	32,067	1.8	3.2	25.4
	Total		1,788,089	100.0%	4.7	

Source: Author's own calculations based on: Szulc, 2004 and GUS, 2004.

Chapter 5

Table 5.1. State-budget expenditure on research as % of GDP, 1991-2004.

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
%GDP	0.758	0.644	0.573	0.554	0.467	0.468	0.464	0.465	0.441	0.409	0.412	0.345	0.335	0.320

Source.: Bartosik 2004.

Table 5.2. Number of research units and companies involved in R&D, 1998-2003

Year	Research sector – PAS institutes	TEIs	RDUs supervised by sector ministries	Companies
1998	82	114	246	438
1999	81	115	240	408
2000	81	114	240	402
2001	81	121	232	463
2002	81	119	257	345
2003	80	128	234	446
Total employment in R&D in FTE* in 2003	6,443	44,455	19,196	6,168
Researchers in FTE* in 2003	4,494	38,455	11,387	3,668

Source: MSIT: Nauka i technika w liczbach 1998-2002, Warsaw 2004, and Proponowane kierunki rozwoju…, 2004, GUS, Main Science and Technology Indicators in Poland in 2000-2003, Warsaw 2005.

*FTE – full time equivalent

Table 5.3. Share of research units and companies in national R&D expenditure, in %

Year	Research sector – PAS institutes	TEIs	RDUs supervised by sector ministries	Companies
1998	10.7	27.6	39.4	22.0
1999	10.8	27.8	39.5	21.5
2000	11.5	31.5	39.6	16.5
2001	12.8	32.7	37.1	16.5
2002	12.8	33.5	38.3	14.4

Source: MSIT: Nauka i technika w liczbach 1998-2002, Warsaw 2004.

Table 5.4. Share of research units and companies in State-budget R&D expenditure, in %, 1998-2002

Year	Research sector – PAS institutes	TEIs	RDUs supervised by sector ministries	Companies
1998	16.0	39.2	41.7	2.8
1999	16.2	39.7	42.4	1.3
2000	16.2	42.3	37.4	2.9
2001	17.4	44.1	35.8	1.7
2002	18.2	45.7	33.1	1.9

Source: MSIT: Nauka i technika w liczbach 1998-2002, Warsaw 2004.

Table 5.5. State-budget expenditure as % of total R&D expenditure, by unit type, 1998-2002

Year	Research sector – PAS institutes	TEIs	RDUs supervised by sector ministries	Companies
1998	88.0	83.6	62.6	7.6
1999	87.4	83.6	62.7	3.5
2000	89.5	85.1	60.0	0.2
2001	88.1	87.3	62.5	6.5
2002	87.0	83.5	52.8	8.1

Source: MSIT: Nauka i technika w liczbach 1998-2002, Warsaw 2004.

Table 5.6. Company expenditure as % of total national R&D expenditure, by unit type, 1998-2002

Year	Research sector – PAS institutes	TEIs	RDUs supervised by sector ministries	Companies
1998	1.7	9.4	16.7	92.1
1999	2.3	8.9	8.4	95.8
2000	1.7	7.3	19.1	87.4
2001	2.0	6.1	18.3	92.1
2002	2.3	5.7	19.2	90.6

Source: MSIT: Nauka i technika w liczbach 1998-2002, Warsaw 2004.

Table 5.7. Structure of revenues from research in various types of TEIs by source of funding (funding stream), 2003. (in %)

TEIs	Research revenues	Subsidy for statutory research	Subsidy for in-house research	Grants for special research programmes and equipment	Subsidy for research support activities	Grants for research projects	SCSR grants for goal-oriented projects	Sale of other R&D work and services
Total	100	33.2	14.2	6.5	0.5	21.3	5.1	19.2
State TEIs	100	33.3	14.2	6.6	0.5	21.2	5.0	19.1
Universities	100	37.8	17.4	9.7	0.7	21.4	2.0	11.2
Technical Univ.	100	28.9	10.8	7.6	0.3	21.9	8.1	22.4
Agricult. Univ.	100	39.2	20.7	2.1	0.5	22.7	1.9	12.8
Univ. of Econom.	100	67.1	13.6	2.0	0.6	7.5	4.2	5.0
Teach. Educ. TEIs	100	35.3	30.5	2.6	4.3	19.2	4.7	3.5
Medical Univ.	100	29.9	14.2	0.9	0.6	20.0	1.7	32.6
Acad. of Phys. Ed.	100	53.0	21.6	1.8	2.4	17.1	1.9	2.2
Acad. of Fine Arts	100	49.9	15.4	-	9.2	11.6	2.2	11.6
Non-univ. TEIs	100	-	48.4	-	19.6	0.0	17.3	14.7
Other	100	32.6	13.7	3.4	1.4	17.2	27.2	4.6
Non-State TEIs	100	5.5	7.6	1.8	49.5	0.9	25.2	31.0
Including: Business and Economics TEIs	100	7.2	2.0	3.3	41.5	1.4	29.8	48.3

Source: GUS, Szkoły wyższe i ich finanse, w 2003 r. Warsaw 2004.

Table 5.8. Structure of R&D revenues of the TEI sector by school type, 2003 (in %)

TEIs	Research revenues	Subsidy for statutory research	Subsidy for in-house research	Grants for special research programmes and equipment	Subsidy for research support activities	Grants for research projects	SCSC grants for specific-purpose projects	Sale of other R&D work and services
Total	100	100	100	100	100	100	100	100
State TEIs	99.6	99.9	99.8	99.9	99.3	99.5	97.4	99.4
Universities	27.5	31.4	33.7	40.5	35.5	27.6	10.6	16.0
Technical Univ.	46.8	40.8	35.8	53.7	22.5	48.3	74.1	54.6
Agricult. Univ.	8.7	10.3	12.8	2.7	8.8	9.3	3.3	5.8
Univ. of Econom.	1.8	3.6	1.7	0.5	2.1	0.6	1.5	0.5
Teach. Educ. TEIs	0.7	0.7	1.5	0.3	5.7	0.6	0.7	0.1
Medical Univ.	12.9	11.7	12.9	1.8	16.0	12.2	4.4	22.0
Acad. of Phys. Ed.	0.4	0.6	0.6	0.1	1.7	0.3	0.1	0.0
Acad. of Fine Arts	0.3	0.5	0.3	-	5.4	0.2	0.1	0.2
Non-univ. TEIs	0.0	-	0.0	-	0.3	-	0.0	0.0
Other	0.5	0.5	0.5	0.2	1.3	0.4	2.5	0.1
Non-State TEIs	0.4	0.1	0.2	0.1	0.7	0.5	2.6	0.6
Including: Business and Economics TEIs	0.4	0.1	0.0	0.1	0.6	0.3	2.2	0.1

Source: Szkoły wyższe i ich finanse w 2003 r., Warsaw 2004.

Table 5.9. Share of funding for basic, applied and development research by unit type, 2002, in %

Type of research	Research sector – PAS institutes	TEIs	RDUs supervised by sector ministries	Companies
Basic	85.7	60.2	16.6	2.8
Applied	8.7	25.7	36.8	9.7
Development	5.6	14.1	46.6	87.5

Source: MSIT: Nauka i technika w liczbach 1998-2002, Warsaw 2004.

Chapter 6

Table 6.1: Disabled students by mode of study
Table 6.2: Students receiving grants by type of grant, 2003-2004
Table 6.3: Student loans, 1998-2004
Table 6.4: Student loans granted by mode of study and type of TEI, 1998-2004
Table 6.5: Number and structure of first-year students by place of permanent residence and type of TEI

Table 6.1: Disabled students by mode of study

Mode of study	2002	2003	2004	Increase 2002/2003	2002	2003	2004
	No. of students				Share in total student population		Increase 2003/2004
1.Regular programmes	3,783	5,751	6,493	52.0%			11.3%
2.Evening programmes	80	102	157	27.5%			15.4%
3.Extramural programmes	819	1,253	1,381	52.9%			16.9%
Total	4,682	7,106	9,247	51.7%	0.26%	0.38%	0.48%

Source: GUS, Szkoły wyższe i ich finanse w 2003 r, p.195, Warsaw 2004, Szkoły wyższe... w 2002 r, Warsaw 2003, p. 503, 573 i 576, Szkoły wyższe i ich finanse w 2004 r, Warsaw 2005, p. 207.

Table 6.2: Students receiving grants by type of grant, 2003-2004

Type of grant	State TEIs	Non-State TEIs	Total	2004 State	2004 Non-State	2004 Total
Only maintenance grant	88,904	20,471	109,375	158,814	68,351	227,165
Only scholarship for achievements	117,321	7,176	124,497	149,061	48,123	197,184
Only sponsored scholarship	95	1,277	1,372	313	2,089	2,671
Maintenance grant and scholarship for achievements	25,249	1,007	16,256	33,166	8,749	41,915
Only scholarship for achievements granted by the minister	709	41	750	1,136	75	1,211
Maintenance grant and scholarship for achievements granted by the minister	65	38	103	15	12	27
Only special grant for disabled students	3,066	253	3,319	_	_	_
Disabled students receiving grants and scholarships, total	5,003	415	5,418	3,740	1,745	5,485
Foreign students receiving grants and scholarships	1,733	166	1,899	1,640	229	2,671

Data for 30 November, GUS Szkoły wyższe… 2003, s. 221, szkoły wyższe....2004 r., Warsaw 2005, p.233.

Table 6.3: Student loans, 1998-2004

Year	New loans granted	Cumulative number of loans granted
1998/1999	99 623	99 623
1999/2000	28 636	128 259
2000/2001	23 810	152 069
2001/2002	22 677	174 746
2002/2003	23 102	197 848
2003/2004	21 980	219 828
2004/2005	24 086	243 914

Source: MNE&S, Raport o kredytach studenckich 2004/2005, Warsaw 2005

Table 6.4: Student loans granted by mode of study and type of TEI, 1998-2004, (in %)

Year	Mode of study		Type of TEI		Number of new loans in relation to number of students (%)[xx/]
	Regular	Other [x/]	State	Non-State	
1998/1999	69.6	30.4	82.4	17.6	7.9
1999/2000	64.5	35.5	76.4	23.6	2.0
2000/2001	63.7	36.3	77.0	23.0	1.5
2001/2002	63.5	36.5	77.3	22.7	1.3
2002/2003	64.4	35.6	76.9	23.1	1.3
2003/2004	67.0	33.0	78.3	21.7	1.2
2004/2005	68.7	31.3	78.3	21.7	1.2

x/ evening, extramural, extension programmes; data for 31.03.2004.

xx/ Data for 30 November 30, GUS Szkoły wyższe… (foreign students not included).

Table 6.5: Number and structure of first-year students by place of permanent residence and type of TEI (as on 04.01.2005[1)]

TEI group	Mode of study													
	Full-time (F-T) programmes							Evening (E), extramural (E), extension (E) programmes						
	No. of F-T students, total	No. of students in:			%			No. of EEE students, total	No. of students in:			%		
		Province capitals	District-level and smaller towns	village	Province capitals	District-level and smaller towns	village		Province capitals	District-level and smaller towns	village	Province capitals	District-level and smaller towns	village
Univer-sities	5,263	1,734	2,601	928	32.9	49.4	17.6	4,502	1,376	2,292	834	30.6	50.9	18.5
Theological TEIs	50	13	29	8	26.0	58.0	16.0	40	12	19	9	30.0	47.5	22.5
Technical Univ.	2,781	769	1,425	587	27.7	51.2	21.1	2,148	514	1,112	522	23.9	51.8	24.3
Univ. of Econ.	200	50	112	38	25.0	56.0	19.0	310	81	172	57	26.1	55.5	18.4
Agricultural Univ.	610	223	237	150	36.6	38.9	24.6	570	145	185	240	25.4	32.5	42.1
Teach. Ed. TEIs	697	174	345	178	25.0	49.5	25.5	751	118	386	247	15.7	51.4	32.9
Acad. of Phys. Ed.	210	66	123	21	31.4	58.6	10.0	330	107	186	37	32.4	56.4	11.2
State Non-univ. TEIs	1,770	36	1,130	604	2.0	63.8	34.1	1,235	39	739	457	3.2	59.8	37.0
Non-State TEIs	4,640	1,234	2,526	880	26.6	54.4	19.0	6,114	1,425	3,261	1,428	23.3	53.3	23.4
TOTAL	**16,221**	**4,299**	**8,528**	**3,394**	**26.5**	**52.6**	**20.9**	**16,000**	**3,817**	**8,352**	**3,831**	**23.9**	**52.2**	**23.9**

[1)] *Source*: MNES on the basis of data collected from 70 % of TEIs.

Chapter 7

Table 7.1: Structure of employment in TEIs, 2003
Table 7.2: Academic staff in TEIs by position, 1990/91-2003/04
Table 7.3: Structure of senior researchers by age (in %)
Table 7.4: Academic degrees and titles awarded between 1991 and 2002 (share of women and men in %)
Table 7.5: Age of persons obtaining academic degrees
Table 7.6: Awarded academic degrees by the time span between the initiation of proceedings and the award of the degree
Table 7.7: Draft State-budget expenditure plan 2005, section "Tertiary Education"
Table 7.8: Draft State-budget expenditure plan within the MNES budget 2005 (section "Tertiary Education") by type of expenditure
Table 7.9: Level of funding for tertiary education in relation to GDP, 1995-2003 [in '000 PLN]

Table. 7.1. Structure of employment in TEIs, 2003

Post	Total TEIs		Public TEIs		Non-public TEIs	
	Number	Share in %	Number	Share in %[67]	Number	Share in %
Academic staff Total [x/]	82,302	100	72,306	87,9	9,996	12.1
1. Professors	18,188	22.0	14,094	77.5	4,094	22.5
a) Full	6,030	7.3	4,248	70.4	1,782	29.5
b) Associate	12,158	14.7	9,846	81.0	2,312	19.0
2. Readers	237	0.3	119	50.2	118	49.8
3. Assistant Professors,	32,364	39.3	29,410	90.9	2,954	9.1
including those holding the Hab. Doctor degree	2,849	8.8	2,754	96.7	95	3.3
4. Assistants	15,984	19.4	14,477	90.6	1,507	9.4
5. Teaching staff [y/]	15,529	18.9	14,206	91.5	1,323	8.5
Non-academic staff	66,674	100	60,205	90.5	6,369	9.5

[x/] Employed on a full-time basis.
[y/] Lecturers, Senior Lecturers, Language Teachers, Instructors.
Author's own calculations based on GUS, TEIs and their finances in 2003, Warsaw 2004, p. 93.

Table 7.2. Academic staff in TEIs by position, 1990/91 – 2003/04[68]

Academic staff	Academic year			Change 2003/04: 1990/91 =100
	1990/91	2000/01	2003/04	
Total, of which:	64,454	79,947	91,530	142.0
Professors	5,597	16,365	20,549	367.0
Readers	5,766	547	251	4.3
Assistant Professors	22,755	29,023	32,921	144.6
Assistants	17,220	17,741	18,484	107.3
Other	13,116	16,271	19,325	147.4

[67] Share of the total number of academic staff employed in a given position in State and non-State TEIs.
[68] Full-time staff. Academic staff employed on a full-time basis in more than one TEI are included in each place of employment. GUS 2001, p. 252 and GUS 2004 p. 360.

Table 7.3. Structure of senior researchers by age[69] (in %)

Staff holding academic degree or title	Staff with the Habilitated Doctor and doctoral degrees		Titular professors	
	1995	2000	1995	2000
29 years and under	0.61	1.9	-	
30 – 39 years	18.9	24.1	0.54	0.2
40 – 49 years	46.7	33.5	9.8	6.7
50 – 59 years	26.5	30.8	33.7	35.9
60 years and over	7.3	9.7	55.9	57.2

Table 7.4. Academic degrees and titles awarded between 1991 and 2002[1] (share of women and men in %)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Doctoral degree	1,500	1,800	2,000	2,300	2,300	2,400	2,600	3,499	4,000	4,400	4,400	5,450
a. women	28.6	30.0	32.0	33.2	33.2	36.4	37.9	37.4	41.4	41.7	44.5	44.7
b. men	71.4	70.0	68.0	66.8	66.8	63.6	62.1	62.6	58.6	58.3	55.5	55.3
Habilitated Doctor degree	593	1,031	912	759	628	784	685	780	915	829	755	923
a. women	22.7	28.0	26.3	31.6	27.2	26.7	25.4	30.1	29.5	29.0	29.4	27.0
b. men	77.3	72.0	73.7	68.4	72.8	73.3	74.6	69.9	70.5	71.0	70.6	73.0
Professor's title	451	568	447	379	367	543	479	524	630	470	680	789
a. women	22.4	23.4	22.6	19.7	16.7	22.0	23.0	24.1	23.5	23.7	25.0	27.1
b. men	77.6	76.6	77.4	80.3	83.3	78.0	77.0	75.9	76.5	76.3	75.0	72.9

Table 7.5. Age of persons obtaining academic degrees[70]

Age	Doctoral degree		Habilitated Doctor degree	
	1999	2003	1999	2003
Total	4,000	5,460	915	803
26 and under	28	70	26	23
27-30	817	2,035		
31-35	1,555	1,866		
36-40	765	702	98	111
41-45	451	381	209	176
46-50	228	218	287	215
51 and over	152	188	295	278

[69] This table is based GUS data which have not been published. Breakdowns of research staff by age are prepared by GUS every 5 years.

[70] Based on GUS, TEIs and their finances in 1999, Warsaw 2000, pp. 62 and 63, TEIs and their finances in 2003, Warsaw 2004, pp. 86 and 87.

Table 7.6. Awarded academic degrees by the time span between the initiation of proceedings and the award of the degree

Doctoral degree				Habilitated Doctor degree				
Time span	**1999**	**2003**	**2004**	**Period**	**1999**	**Period**	**2003**	**2004**
Up to 2 years	2,256	3,684	3,919	Up to 3 years	899	Up to 2 years	797	921
3-4 years	1,266	1,416	1,421	4-7 years	6	3-8 years	5	10
5-6 years	314	254	263	8 years and more	10	9 years and more	1	3
7-8 years	92	73	73					
9-10 years	36	19	19					
11 years and more	36	14	27					

Based on: GUS TEIs.... 2000, pp. 62-63 and 2004 pp. 86-87, Warsaw 2005, p. 90.

Table 7.7. Draft State-budget expenditure plan 2005, section "Tertiary Education"

Section of the budget		Sum (in '000 PLN)	Share (in %)
Section 29	National defence	250,718	2.6
Section 24	Culture and national heritage	332,330	3.4
Section 21	Maritime economy	85,649	0.9
Section 83	Special-purpose reserves	17,350	0.2
Section 46	Health	1,154,263	12.0
Section 42	Internal affairs and administration	24,176	0.3
Section 38	Tertiary education	7,742,908	80.6
	Total	9,607,394	100.0

Based on: MNES, Information on draft state-budget 2005, section "Tertiary education", Warsaw, October 2004.

Table 7.8. Draft State-budget expenditure plan within the MNES budget 2005 (section "Tertiary Education") by type of expenditure

Type of expenditure	Sum (in '000 PLN)	Share (in %)
1. Remuneration	4,515,939	58.3
2. Remuneration- related expenditure	1,121,940	14.5
Total remuneration expenditure	5,637,879	72.8
3. Grants and scholarships	1,219,147	15.7
4. Student Loan and Credit Fund	150,000	1.9
5. Capital expenditure	210,425	2.7
6. Other non-remuneration expenditure	525,457	6.9

Based on: MNES, Information... X 2004.

Table 7.9: Level of funding for tertiary education in relation to GDP, 1995-2003[71] [in '000 PLN]

Lp	Enumeration	1995	1996	1997	1998	1999	2000	2001	2002	2003
	1	2	3	4	5	6	7	8	9	10
1	Gross Domestic Product [in mln PLN]	329,561.1	387,826.6	472,350.4	553,560.1	615,559.6	723,886.3	760,595.3	718,112.4	814,992.4
2	Public expenditure in section "Tertiary education "[in mln PLN]	2,177.5	3,011.31	3,763.6	4,283.0	5,084.7	5,347.1	6,403.3	6,868.2	7,077.4
	of which: in the State budget	2,174.7	3,002.4	3,752.2	4,272.3	5,070.5	5,326.7	6,370.7	6,829.6	7,049.2
3	Share of public expenditure in section „Tertiary education" in GDP [in%]	0.66	0.78	0.80	0.77	0.83	0.74	0.84	0.88	0.87
4	TEIs total {5+6+7	3,673,816.7	5,270,229.3	6,969,465.0	8,717,385.8	10,773,376.5	12,042,727.2	1,3251,259.0	13,543,597.5	1,423,0497.1
	of which: public TEIs	3,548,872.7	5,007,779.3	6,468,695.2	7,906,246.2	9,511,224.7	10,295,478.6	11,150,166.2	11,357 476.3	1,186,7796.6
5	TEIs total revenues	2,957,591.5	4,211,916.7	5,535,585.2	6,969,683.2	8,662,437.0	9,528,612.7	10,535,454.7	10,987,746.2	11,691,663.4
	of which: public TEIs	2,846,240.0	3,984,816.5	5,126,528.9	6,254,873.5	7,573,784.5	8,041,747.7	8,779,892.3	9,092,866.1	9,683,948.3
6	Student Financial Support Fund	422,55,.8	554,871.1	695,090.6	788,773.6	82,857.7	938,340.1	1,025,162.6	1,015,491.8	1,059,975.4
	of which: public TEIs	422,214.3	554,462.8	694,656.8	787,880.9	881,620.6	936,631.7	1,012,373.2	999,136.2	1,041,400.7
7	Capital expenditure in TEIs	293,667.4	503,441.5	738,789.2	958,929.0	1,228,081.8	1,55,774.4	1,690,641.7	1,540,359.5	1,478,858.3
	of which: public TEIs	280,418.4	468,500.0	647,509.5	863,491.8	1,055,819.6	1,317,099.2	1,397,800.1	1,265,474.0	1,142,447.6
8	Share of sums from point 4 in GDP [in %]	1.11	1.36	1.48	1.57	1.75	1.66	1.74	1.73	1.75
	of which: public TEIs	1.08	1.29	1.37	1.43	1.55	1.42	1.47	1.45	1.46

Based on: Statistical Yearbook RP 2000 (p. 526), Statistical Yearbook RP 2004 (p. 656).
Data GUS „TEIs and their finances in 2003" (p. 250). Data on revenues of TEIs, financial support for students and capital expenditure in public TEIs based on: GUS, „Finances of TEIs" for 1995-1996 and „Tertiary institutions and their finances" for 1997-2003.

[71] Table by Witold Pakuła

Chapter 10

Table 10.1. Basic statistical data on SOCRATES/ERASMUS

Specification	Year 1998/99	Year 99/2000	Year 2000/01	Year 2001/02	Year 2002/03	Year 2003/4	Year 2004/5
Number of TEIs with Institutional Contracts (holding ERASMUS ID code)	46	74	98	99	120	151	187
Number of TEIs involved in student exchange	40	72	90	96	118	138	158
Number of TEIs involved in staff exchange	38	66	82	94	111	132	150
Number of TEIs implementing ECTS	22	37	52	53	70	36	56
Number of incoming students	220	466	614	750	1054	1324	2000
Number of outgoing students	1426	2813	3691	4322	5419	6323	9000

Source: based on ~~http://www.menis.gov.pl/proces_bolonski/realizacje/szkwyz.php~~, Kraśniewski, 2004, Table 3, and MNES information.

Table 10.2. Mobility of Polish students to EU countries under SOCRATES/ERASMUS, academic years 1998/99- 2001/02

Country	Outgoing flows 1998/1989	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	Increase rate: 2003/4 to 2002/3- %
Germany	500	972	1,190	1,393	1,682	1,870	11.18
France	168	334	529	624	745		
UK	151	227	281	262	314	337	7.32
Netherl.	139	218	207	243	292	294	0.68
Belgium	124	162	218	230	224	358	21.77
Italy	71	160	252	304	403	481	19.35
Spain	63	165	245	319	442	546	23.53
Finland	44	135	174	188	280	310	10.71
Denmark	82	158	159	197	241	362	50.21
Sweden	32	97	143	192	246	286	16.26
Portugal	22	61	119	152	131	159	21.37
Greece	5	56	77	96	106	122	15.09
Austria	22	46	61	73	131	159	21.37
Ireland	3	22	35	50	51	74	45.1
Luxemb.	0	0	1	0	0	0	1
Total	1,426	2,813	3,691	4,323	5,419	6,278	15.85

Source: ~~http://www.menis.gov.pl/proces_bolonski/realizacje/szkwyz.php~~, typescript, MNES 2005.

Table 10.3. Outgoing Polish students under SOCRATES/ERASMUS, 2003, by type of TEI

Type of TEI	No. of TEIs which responded to the question. (bracket: total no. of a given type)	Outgoing students (as a % of students in one year): 5% and more	2-5%	1-2%	Less than 1%	0%
State university-type TEIs	61(62)	8 (13%)	18 (29%)	8 (13%)	21(34%)	6 (10%)
Universities	17 (17)	2	6	3	6	0
Technical Univ.	17 (18)	3	8	2	4	0
Univ. of Economics	5 (5)	3	1	1	0	0
Agricultural Univ.	7 (7)	0	1	0	5	1
Teacher Ed. TEIs	7(7)	0	1	0	3	3
Acad. of Phys. Ed	6 (6)	0	1	2	3	0
Theological TEIs	2 (2)	0	0	0	0	2
State non-univ. TEIs	26(26)	0	0	1	3	22
Non-StateTEIs	212 (272)	5 (2%)	13 (4%)	14 (5%)	14(5%)	169 (62%)

Source: Kraśniewski A.: 2004: Bologna Process: where is European tertiary education going? *(Proces Boloński: dokąd zmierza europejskie szkolnictwo wyższe)*; data in tables based on a questionnaire..

Table 10.4. EU students coming to Poland under SOCRATES/ERASMUS

Country		1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04
Austria	AT	0	8	8	14	30	22
Belgium	BE	22	26	27	44	54	69
Denmark	DK	6	5	11	7	13	12
Finland	FI	14	30	42	46	63	60
France	FR	41	92	98	95	217	314
Greece	GR	0	8	8	13	22	14
Spain	ES	12	30	78	80	123	176
Netherlands	NL	16	21	27	26	25	21
Ireland	IRL	0	4	0	6	1	10
Luxembourg	LUX	0	1	0	0	1	1
Germany	DE	51	119	153	193	232	395
Portugal	PT	5	22	39	62	86	125
Sweden	SE	7	24	21	19	24	24
UK	UK	34	44	31	47	40	42
Italy	IT	11	33	70	98	123	174
Total		220	466	614	750	1,054	1,469

Source .: ~~http://www.menis.gov.pl/proces_bolonski/realizacje/szkwyz.php~~, MENS, typescript, 2005

Table 10.5. Non-nationals in tertiary education institutions in Poland („Full degree programmes")

Country of origin	Students in 1995/96	Students in 2000/01	Students in 2002/03	Students in 2003/04	Graduates in 1995	Graduates in 2001/02	Graduates in 2002/03
Total	5,202	6,563	7,608	8,106	697	1,002	1,307
Incl. those declaring to be of Polish origin	2,454	3,618	3,977	3,907	170	600	659
Incl. Afghanistan	25	5	2	12	4	1	-
Albania	20	42	59	69	-	1	4
Algeria	19	11	10	7	11	1	1
Austria	11	8	19	27	2	1	-
Belarus	53	909	1,088	1171	28	118	167
Brasil	15	28	28	28	3	4	7
Bulgaria	125	136	114	105	17	20	21
China	11	34	37	51	-	14	8
Cyprus	-	-	-	13	-	-	2
Denmark	4	19	10	8	4	1	2
Estonia	10	19	14	15	-	3	5
Finland	4	9	7	12	1	2	-
France	48	28	28	32	3	3	3
Greece	45	43	25	32	5	12	3
Spain	6	18	18	17	-	2	3
Iraq	28	6	4	7	6	1	1
Jordan	1	54	38	36	16	9	6
Canada	50	101	127	152	3	17	27
Kazakhstan	181	409	430	422	4	51	71
Kenya	31	34	34	29	10	4	5
Columbia	16	8	9	11	6	-	3
Laos	10	40	39	30	7	4	8
Lebanon	31	18	23	21	9	6	2
Libya	82	31	26	42	13	7	2
Lithuania	445	634	628	543	53	175	136
Latvia	47	54	71	59	4	8	13
Morocco	53	25	12	10	11	1	3
Mexico	5	6	5	9	2	-	1
Mongolia	18	44	64	72	2	1	3
Nigeria	47	50	54	52	9	8	12
Germany	140	154	148	182	19	21	25
Norway	77	343	411	451	-	31	50
Portugal	2	9	7	10	-	-	-
Czech Rep.	274	229	242	208	29	34	46
Russia	290	289	346	381	20	36	46
Romania	41	45	3	36	-	5	8
Slovakia	41	3	180	119	6	25	36
USA	93	339	359	545	4	65	67
Sudan	49	18	12	11	11	3	3
Syria	110	59	54	54	47	14	9
Sweden	58	92	102	117	3	7	12
Tunisia	18	12	11	12	13	1	3
Ukraine	790	1,272	1,809	1,880	21	175	367
Hungary	59	5	68	69	10	9	7

UK	13	21	26	22	2	8	5
Italy	10	18	20	18	6	4	2
Vietnam	144	156	148	161	14	8	22

Source: GUS, Statistical Yearbook 2004

Table 10. 6. Progress in the introduction of two-cycle programmes, by type of TEIs

Type of TEI	Number of TEIs	Two-cycle programmes in all fields of study	Two-cycle programmes in at least half of fields of study	Two-cycle programmes in less than half of fields of study	Two-cycle programmes in no field of study
State univer.-type TEIs	60(62)	6 (10%)	32 (50%)	23 (37%0	0
Universities	17 (17)	0	8	9	0
Technical Univ.	18 (18)	2	9	7	0
Univ. of Economics	4 (5)	1	3	0	0
Agricultural Univ.	6 (7)	0	4	2	0
Teach. Ed. TEIs	7(7)	1	2	4	0
Acad. of Phys. Ed.	6 (6)	2	4	0	0
Theological TEIs	2(2)	0	1	1	0
Non-State TEIs	212 (272)	14 (5%)	15 (16%)	23 (11%)	154(57%)

Comments: the data in the column show the number of TEIs which have provided data; the total number of TEIs to which the questionnaire was sent is given in brackets. The percentages in the table refer to all TEIs to which the questionnaire was sent; thus, where no information is provided, they do not sum up to 100% in the line.

Source: Kraśniewski A.: 2004: *Proces boloński, dokąd zmierza europejskie szkolnictwo wyższe*?

Table 10.7. Progress in the implementation of ECTS (2003), by type of TEIs

Type of TEI	No. of TEIs which responded to the question. (bracket: total no. of a given type)	ECTS in all fields of study	ECTS in at least half of fields of study	ECTS in less than a half of fields of study	ECTS in no field of study
State univer.-type TEIs	54(62)	37	13	4	0
Universities	17(17)	7	7	3	0
Technical Univ.	17 (18)	14	3	0	0
Univ. of Economics	5 (5)	4	0	1	0
Agricultural Univ.	6 (7)	6	0	0	0
Teach. Ed. TEIs	4 (7)	2	2	0	0
Acad. of Phys. Ed.	4 (6)	3	1	0	0
Theological TEIs	1(2)	1	0	0	0
Non-State TEIs	26 (26)	3	1	1	21
State non-univer. TEIs	212 (272)	26	13	12	161

Source: Kraśniewski A., 2004.

Table 10.8. Mobility of Polish academic teachers to EU countries under SOCRATES/Erasmus

Country	Number of flows, 2000/2001	Number of flows, 2001/02	Number of flows, 2002/03	Number of flows, 2003/04
Germany	215	248	263	259
France	103	109	34	144
UK	58	70	56	65
Italy	52	50	79	83
Spain	44	69	78	95
Finland	38	33	47	42
Belgium	34	41	48	47
Greece	25	29	42	35
Portugal	25	42	41	55
Netherlands	24	34	21	29
Denmark	22	19	19	30
Sweden	18	25	27	20
Austria	14	22	24	36
Ireland	6	8	5	6
Luxembourg	0	0	0	0
Total	678	799	884	947

Source.: ~~http://www.menis.gov.pl/proces_bolonski/realizacje/szkwyz.php~~, MENS, typescript, 2005.

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