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On the Reform of the Higher Education System

Until now I have avoided speaking out on the reform of the higher education system, focusing instead on a subject I am more concerned about, the reform of the system of financing science. I was inspired to write this paper, however, by a conversation with the rector of a Polish university. He thinks there is no need to reform the higher education sector: Just increase the government's financial support for higher education and universities will take care of themselves.

I strongly disagree. I believe we cannot afford to be complacent about the condition of higher education in Poland, or to think that its only shortcoming is a shortage of funds. At the very least, complacency will weaken the position of Polish institutions in international rankings. Personally, I am not satisfied with the position of the only two Polish universities to make it onto the Shanghai list¹ (in the fourth hundred out of 500 institutions listed), or with the 159th place of Jagiellonian University (out of 160) in the ranking published by *The Times*.² We may criticise such rankings and the methodology used to generate them, but we cannot ignore them. The most talented young people in the world consider these rankings when choosing a school, whether we like it or not.

Other available data do not look promising either. According to a July 2008 report on Poland's intellectual capital,³ higher education is in deep crisis (expert opinions of the OECD⁴ and the World Bank⁵). In terms of overall intellectual capital, Poland came last in 2007 (behind Turkey) out of 23 countries studied,⁶ while the Polish economy ranked 21st in the European Union (according to the 2007 European innovation ranking),⁷ and university courses in Poland proved the least useful from the labour market's point of view out of 17 countries studied (according to the Lisbon Council, November 2008).⁸ Obviously, this statistical data does not paint the full picture. Despite the lack of proper systemic solutions and the permanent under-financing of science, there are numerous teams working at Polish universities who achieve world-class research results (Polish physics, mathematics, astrophysics, and chemistry place very high in global rankings, in 13th, 15th, 17th and 17th place, respectively, out of 160 countries).⁹

¹ Shanghai Jiao Tong University, *Academic Ranking of World Universities – 2008*.

² 'THES-QS World University Ranking – 2007,' *The Times Higher Education Supplement*.

³ *Raport o kapitale intelektualnym Polski (Report on Poland's Intellectual Capital)*, July 2008.

⁴ M. Dąbrowska-Szeffler & J. Jabłocka-Pryśłowska, *Country Background Report from Poland*, OECD 2006; and Fulton et al., *OECD Reviews of Tertiary Education – Poland*, Paris 2007.

⁵ World Bank & European Investment Bank, *Higher Education in Poland*, Report No. 29718, 2004.

⁶ P. Białowolski & D. Więziak, 'Miejsce Polski w intelektualnym wyścigu Europy' ('Poland's Place in the European Intellectual Race'), *Rzeczpospolita* daily, 7 April 2008.

⁷ European Innovation Scoreboard – 2007.

⁸ The Lisbon Council, *University Systems Ranking: Citizens and Society in the Age of Knowledge*, 2008.

⁹ Essential Science Indicators, 2006.

Many of our academics are wonderful teachers who have much to offer their students. We also have excellent students who are eager to learn. Unfortunately, many of them emigrate as soon as they graduate, or even before that (after obtaining a *Bachelor's degree*), because they see no prospects for development in our country.

The situation is bad, and merely increasing financial outlays on higher education—although necessary—will not cure it. Refraining from a thorough reform of institutions of higher education in Poland could lead to the collapse of the country's entire system of education. Universities are the institutions which mould the people responsible for education: future primary and secondary school teachers. Unfortunately, today instead of teaching students how to think, we teach them to replicate knowledge, and teachers 'educated' in this way later require the same of their pupils. Meanwhile, education is one of the major goals that we set universities, but it is not the only one.

What, then, should we strive for when seeking to repair the higher education system? Looking at the universities that achieve the best results in international comparisons, it is tempting to generalise: Good universities maintain extensive internal autonomy and operate within an external environment that forces them to obtain their own funding for research and teaching. These are two necessary but not sufficient conditions for a university to become a 'creative place' and educate a 'creative class,' in the sense referred to by Richard Florida (*The Rise of the Creative Class*). The reform of science and higher education in Poland requires that we seek, in stages, to establish these conditions. But before we turn to the 'technical' elements of the reform, we must first determine the principles involved,¹⁰ on a nationwide level:¹¹ What is our country's education policy? Are we in favour of egalitarian financing of higher education, or a model based on differentiation and competition? In this respect I share the view of Ireneusz Białecki¹² that the 'principle of selection on merit' should apply: The most talented and motivated people should receive the best education. I regard the idea of equal access to education as a utopia that inevitably leads to erosion of the standard of education. But this principle may be understood differently: Everyone with the right intellectual ability should have equal opportunities, regardless of their financial capacity. According to Jerzy K. Thieme, 'The main goal of education policy should be to establish conditions and incentives for institutions so that they can strive to improve and act for the benefit of students, teachers, society, and the international community.'¹³ I agree with Thieme that Poland needs to educate intellectual elites for the state and for society, but also specialists for the economic development of the public and private sectors. I have written before about how science shapes culture.¹⁴ Designing the reform

¹⁰ A. Wolf, *Does Education Matter? Myths About Education and Economic Growth*, London, Penguin Books 2002.

¹¹ M. Dutkowski (ed.), *Szkolnictwo wyższe w Polsce, uwarunkowania, ocena i rekomendacja (Higher Education in Poland: Conditions, Assessment and Recommendations)*, Gdańsk Institute for Market Economics, Report No. 28/2001.

¹² I. Białecki, 'Szanse na kształcenie i polityka edukacyjna: perspektywy równości i sprawiedliwości społecznej' ('Educational Opportunity and Educational Policy: Prospects for Social Equality and Justice'), *Problemy Opiekuńczo-Wychowawcze* 2007.

¹³ J.K. Thieme, *Szkolnictwo wyższe. Wyzwania XXI wieku. Polska-Europa-USA (Higher Education Challenges for the 21st Century: Poland, Europe, and the USA)*, Difin SA, 2009.

¹⁴ M. Żylicz, 'Inwestycje w naukę to inwestycje w przyszłość' ('Investment in Education Is Investment in the Future'), address to the Poland 2015+ Club. (www.fnp.org.pl/o_fundacji/wladze/zaradz/prof_dr_hab_maciej_zylicz).

of this sector, we have to remember that education and research today are two different (though directly connected) functions of universities. Education serves to improve society's overall level of learning. Good education requires professional action and original teaching ideas. That is why universities (and their teachers) should also compete in terms of proposing innovative instruction and be evaluated (rewarded etc.) for this, but at the same time this activity should be separated (financially) from research.

What kind of autonomy for universities?

Europe has no single university model, and that is a good thing. Institutions in different countries enjoy autonomy in various forms (Table 1).¹⁵ Generalising, Europe's systems of higher education are 'legally over-regulated'. When discussing higher education in Europe, it should be borne in mind that on a global scale, North America now has a dominant position, followed to a growing extent by Asia. European higher education is not very innovative, making it less and less effective and attractive.¹³ According to the Shanghai ranking, the world's best-known, 17 of the top 20 universities in the world, and 35 of the top 50, are American. American universities employ 70% of all Nobel Prize winners, publish about 30% of all papers in the exact and technical sciences, and publish 44% of the most-often-cited papers.

The key to the weakness of European universities could be the lack of a connection between the privileges stemming from their autonomy and performance of their duties to society and the state. 'The state gives academia great autonomy, but does not tie this to responsibility for an institution's results'.¹³

In fact, the autonomy of universities in Poland is merely superficial. They cannot freely shape their curricula (core curricula are overloaded), and their budgets are directly or indirectly dependent on the Ministry of Science and Higher Education. They cannot dispose of assets freely (consent from the Minister of Treasury, among others, is required), the salaries of researchers are low (governed by a pay scale) and not tied to the quality of their work. The appointment of university teachers through competitions and evaluations of their work are often a sham. Students are admitted to narrowly defined fields of study for which the core curricula are constructed in such a way that in practice they prevent students from following an individual development path. This is an ineffective system in which one of the parties (the state) interferes strongly in administrative issues while failing to set clear goals for higher education, and the other party (universities) fights to increase its autonomy without clearly presenting the social benefits this could bring. The result of this lack of vision of a desired university model has led to there being more than 400 institutions of higher education in Poland, 143 of them state-run.

Universities do not teach students how to think, nor do they inculcate a flexible approach to the labour market—at best, they teach a narrowly defined profession. Because of the clan-like structure of faculties, stemming from professional solidarity among professors, students fail to learn things they could find useful in the future. Curricula are the product of teachers' required teaching load and their individual bargaining power (which does not always go hand-in-hand

¹⁵ P. Aghion, M. Dewatripont, C. Hobby, A. Mas-Colell & A. Sapir, *The Governance and Performance of Research Universities: Evidence from Europe and the US*, December 2008.

with merit-based factors). University administration in Poland is reminiscent of how ‘socialist labour cooperatives’ were managed. The rector is elected by the entire university community, where each group of university staff has its own representatives promoting different and often conflicting interests. Thus, elections often turn into a popularity contest, and unfortunately sometimes (although there are commendable exceptions) the people who win are those who have no qualms about advancing even the most populist campaign slogans, but who primarily guarantee that the status quo safe for all parties involved will be maintained. Universities operate like federations of faculties. Even if they wanted to, rectors have no great influence on what individual faculties teach, and also little say in decisions to dismiss staff who are ineffective as researchers and teachers. Responsibility for these matters is blurred between the faculty council and the university senate.

Below are what I consider to be the most important and essential guidelines for change in the higher education system, related to the issue of the autonomy of universities. Please note that these proposals do not differentiate between public and private schools.

- Elimination of state bachelor’s and master’s degrees. In order to grant these degrees, institutions offering such courses would have to obtain accreditation from a ‘Polish Accreditation Committee,’ independent of the Ministry of Science and Higher Education (in place of the current State Accreditation Committee (PKA)). In addition, schools wishing to receive public funds would have to declare in their statutes that any profit generated by the unit in question would be spent on its statutory goals. The school would design its own curricula, primarily in order to achieve the desired ‘graduate profile.’ The accreditation committee would also assess how graduates are prepared for a flexible approach to the challenges of an evolving labour market. Effectiveness of employment of graduates from individual faculties and universities should also be one of the system-wide evaluation criteria. In certain cases specialised accreditation commissions for a given field would be necessary. The number of researchers needed to create a new curriculum or maintain an existing one should not be imposed by law. What is important is the research and teaching calibre of the staff employed by the school, the curriculum they propose or are implementing, and the learning conditions.
- Differentiation among schools: Nationwide, higher education should be both broad and elite¹³. Healthy competition for funds for teaching and research leads naturally to such differentiation. When competition criteria are transparent and strictly applied, the Leading National Research Centres (‘KNOW’), proposed by the Ministry of Science and Higher Education in recently presented guidelines for higher-education reform, will be easy to select. We must remember, however, that not faculties should enter this competition (as proposed by the ministry), but teams grouped according to the research and teaching topics they represent. The structure of faculties at Polish universities varies, but we are still stuck in 19th-century divisions into fields of study. In this respect I suggest a division into subject areas as proposed by the European Research Council. This will be consistent with the policy of the proposed National Science Centre (NCN), which according to the guidelines for science reform will adopt a similar division in its activity. Among the universities with the most KNOW centres, flagship universities could be chosen in a separate competition. The competition could cover such areas as the

universities' plans for internal reforms. This would force even the best of them to carry out the soul-searching and work necessary to increase inter-faculty integration and improve the standard of teaching and research. Such rules for obtaining the status of a flagship institution would also provide tools for verification: If an institution failed to carry out its own schedule of reforms within the designated time (e.g. 5 years), it would lose its flagship status and the financial benefits this involves (see Table 2).

- Interdisciplinary education: A student at the foundational] stage would be admitted to a faculty—or better, a group of faculties—and not to a specific curriculum. The current system in which students obtain knowledge at our universities is restricted by curricula that are too narrowly defined. This complaint has also been made by the Parliament of Polish Students (PSRP).¹⁶
- Internationalisation of universities and science: Academic teachers (including foreigners) should be hired through an international competition. The membership of the selection committee should also be international. This system would require consistent procedures for recognition of degrees. Where justified, lectures and seminars should be conducted in English, to allow people who do not speak Polish to study here (currently only 0.6% of our students are foreigners (as of 2006)).
- Elimination of set pay scales and required teaching loads, and introduction of in-depth evaluation of teaching achievements (including evaluations by students) and research achievements, so that good work is well rewarded. Research posts without teaching duties should be available to certain distinguished researchers working within universities. Deep transformations are needed in the academic career path system. There should be a strict 6- to 8-year waiting period regarding professorial jobs for persons who earned their doctorate at the same university.
- Elimination of the current procedure in which the title of professor is granted by the President of Poland (requiring the signature of the President for an institution of higher education to appoint a person to the rank of professor). The Polish Accreditation Committee should establish a maximum number of professorial positions (full ('ordinary') and associate ('extraordinary')) financed from a given faculty's teaching funds. An alternative solution would be to tie the tuition fees charged by the unit with the staffing costs related to teaching. Naturally, other persons could be hired for these positions, so long as additional funding were obtained.
- In the final stage of the reform, once a competitive system for universities to raise funds for research and teaching has been put in place, the 'habilitation' (postdoctoral) degree should be replaced by an international competition for the position of associate professor.¹⁷ I stress: The aim is not to eliminate the 'habilitation', but to exchange it for a more effective instrument, better-suited to the current realities, for verifying this key stage in academic development. It is necessary in any system to check whether a talented post-doc is ready to serve as an independent supervisor of doctoral dissertations. In the

¹⁶ Parliament of Polish Students, 'Uczelnia dla studentów, czyli studenci wobec reformy' ('A University for Students: Students on Reform'), *Sprawy Nauki*, No. 6-7/147, 2009.

¹⁷ M. Żylicz, 'Dropping Habilitation Would Aid Progress in Poland,' *Nature* 427, p. 677, 2004.

exact sciences and life sciences, obtaining a second academic degree, i.e. ‘habilitation’, does not currently present a major factor slowing down the scientific growth of young researchers. Even so, a trend can be observed whereby researchers do not take on serious scientific challenges if these do not, for example, help them obtain their ‘habilitation’ quickly. In these fields, a ‘habilitation’ is earned on the basis of scientific papers published in international journals. Their international character provides sufficient guarantee of high research quality. The situation is much more difficult in the case of the humanities. Prof. Ewa M. Thompson from Rice University in Houston, Texas, has written: ‘It seems to me that young scholars writing a postdoctoral dissertation must think more about the group of professors who will be evaluating the dissertation than about the global intellectual market and its needs. If that is so, then young scholars will avoid controversial topics, and will certainly avoid bold and broadly outlined projects. The authors of postdoctoral dissertations stick to fragmentary contributions or micro-histories, because these represent the surest and safest path to a postdoctoral degree.’

- A new university management system: The rector of a public school would be hired and fired by a board of trustees whose members would include, in addition to the most distinguished professors at the institution (not representing specific faculties!), also representatives of the higher education ministry and the scientific and business community of a given region. The rector-elect, selected in an open competition, would propose candidates for deputy rectors and deans to the board of trustees. The university senate would only have an advisory role with regard to teaching and research.
- The reform of science must be accompanied by a labour law reform. We have to move from a system of employment for an indefinite term to hiring for fixed periods.

How do we increase competitiveness in the way universities raise funds for teaching?

The system for financing Poland’s more than 140 public institutions of higher education has changed several times over the past 20 years. In simple terms, it has depended on the number of undergraduates and PhD students (reflecting the cost intensiveness of specific courses) and the number of teaching staff. A significant element of these algorithms has been the ‘fixed carryover,’ for example 70% of the support from the previous year. Government budget issues have also had an impact; if there was a shortage of funds, the minister imposed the restriction that the teaching funds for individual universities could not change by more than 3%, for example. This caused evaluations of schools to flatten out considerably, providing no incentive for university authorities to improve the quality of instruction.

Things changed in 2007 when an algorithm was introduced under which universities received a subsidy that was 70% identical to the previous year’s and 30% dependent on 6 factors (the number of undergraduates and PhD students, the number of academic staff, a sustainable growth component (favouring schools which maintained a rational proportion between the number of students accepted and the school’s staffing capabilities), an element dependent on the number of research projects carried out by the university, authorisation to grant doctoral and

postdoctoral degrees, and a student turnover component). It was also established that the fixed carryover of the subsidy from the previous year would steadily decrease, the ultimate target being 50%. This algorithm led to a noticeable differentiation of subsidies; units with a strong and numerous teaching and research staff could obtain significantly more funding. Due to a lack of additional funds in the following years, however, not only was the fixed carryover left unchanged, but also, as a result of numerous protests, application of the algorithm was limited. In short, even the algorithm introduced in 2007, which was a step in the right direction, did not force universities to improve their teaching standards and did not introduce principles of proper competition with regard to government funds earmarked for instruction. Permanent under-financing of this sector and defective distribution of the funds among universities led to many abnormal situations. Because the teaching subsidy covered about 96% (as of 2005) of the staffing funds approved by the ministry, and little funding was left for other purposes (e.g. maintenance and renovation costs), state universities began charging fees for various types of activity, including extramural courses, evening classes, etc. At the same time, private higher education developed, its main source of financing being tuition fees paid by students.

When creating a system for financing instruction at universities which is modern, competitive, and not based on algorithms, we cannot escape the issue of tuition fees. There is an ongoing discussion on this problem in all the EU countries. A fee-based system has been in place in the UK for many years, and some of the German *Länder* have also introduced fees. It is demagoguery to claim that Poland is too poor a society to pay for education. Firstly, commercialisation of the sector has already entered through the back door, and nearly 60% of university students already pay for their education in one way or another. Secondly, one path towards making education affordable despite charging fees would be a universal system of student loans, in which banks would lend students money on reasonable terms for their education, transferring the funds to the schools in question. Good grades and on-time graduation could get part of the loan remitted. After earning a degree, the graduate would repay the loan, taking advantage of partial tax deductions and the option to suspend payments temporarily if they had trouble finding work or lost their job. The system for remitting loans and deferring payments would be supported from the budget of the Ministry of Science and Higher Education. Significantly, this system would not differentiate between public and private schools. The system of paid studies based on widely available student loans from banks (with tuition fees set by universities along free-market principles), in light of the role of science in fostering cultural development and economic growth, should be supported by the government. For example, if there were a lack of key specialists needed for economic growth, the government should earmark additional funds to supplement the loans that financed an education in these particular fields. The amount of such subsidies should depend on the quality of the courses. The amount would be decided by the minister upon a motion from the accreditation committee, after obtaining an opinion from the Central Council of Higher Education (RGSW). The system of loan supplementation should operate in such a way that students at units of comparable quality would receive the same supplementary funding.

Thanks to statistical information on loan repayment, young people selecting a course of study would have access to verified data on the realistic prospects for subsequent employment in a given field. I would also propose a return to university entrance exams. This is not just because

we have discovered that even this area can be subject to political manipulation, but mainly because an entrance exam provides students who are about to pay for a course of study with a reference point allowing them to compare their knowledge with other candidates, and to decide whether they will be able to meet all the requirements of a given course.

The proposed system of loans and supplementary funding should bring various benefits not offered by 'education vouchers.' In the case of vouchers, the difference between education costs and the voucher amount would be covered by a ministry subsidy, and thus schools would seek to increase the cost of education. The proposed system of loans and supplementary funding already has a built-in system of self-policing, because the supplementation would only be partial and would be the same for students at units of similar quality. Units would be able to demand a higher contribution from students if they were able to convince them of the benefits of taking a given course of study at that particular school. In other words, more prestigious institutions would be able to demand higher tuition fees, up to a market equilibrium threshold beyond which fee growth would result in a decline in the number of students and thus loss of the portion of tuition covered out of the state budget (in the form of loan supplements).

Free higher education is a myth, in the sense in which the economist Milton Friedman said 'There's no such thing as a free lunch.' Our choice is between the current system, in which the 'cost' (the taxes from which the state budget finances 'free' education) has been separated from the 'product' (education quality), and a system in which these two elements are once again connected. Students taking out a student loan from a bank instead of receiving money from the government will demand more of themselves (good grades, graduating on time), but also of their teachers.

In addition to these loans, there is a need for welfare loans as well as scholarships for the best students.

How do we increase competitiveness in the way universities raise funds for research?

The current research financing system could hardly be called competitive. The allocation of the state research budget, where 60–70% of funds are earmarked for 'statutory subsidies' for faculties or faculty units conducting research, significantly reduces the competitiveness of the fund distribution system. Though the State Committee for Scientific Research (KBN) introduced successive parameter-based evaluations of units from 1997, the continual under-funding of research (on which Poland spends EUR 17 per capita per year from the state budget, compared for example to EUR 260 in France¹⁸) effectively weakened this type of measure. Even when parameter-based evaluation demonstrated significant differences in the quality of research conducted at different institutions, successive ministers imposed top-down limits under which a statutory subsidy for a given unit could not vary by more than, for example, $\pm 5\%$ from the subsidy from the previous year. Similarly to the situation with the teaching subsidy, differentiation between good and bad units was minimal, and this devalued the whole concept of

¹⁸ Simona Frank, Eurostat, EC 2006.

parameter-based evaluation and was extremely frustrating for those research unit administrators who really strived for high quality of research. Moreover, at the cost of research grants (because no new funds were forthcoming), one minister after another created more new paths for financing science and increased the subsidies for the statutory activity of institutions. As a result, the government research budget share in research grants for bottom-up projects in which the applicants proposed their own research topics dropped from 20% (when the State Committee for Scientific Research was established) to 13% (when it was dissolved).

Looking at the development of science in other countries, without a doubt the most effective system for financing research has proved to be the system in which research topics are proposed by the researchers themselves, based on the principles of international peer review. The German Research Foundation (DFG), for example, earmarks 90% of its funds for this purpose. The Polish State Committee for Scientific Research, established in the early 1990s, was a major achievement for both the research community and politicians. It also had certain drawbacks; one of them was its omnipotence (in addition to running the research grant system, the committee was involved in research policy, evaluation of units and awarding them subsidies for statutory activity, and assessment of projects on topics defined by the minister, or sometimes even the Council of Ministers). Nonetheless, I think it was a terrible mistake to close down the State Committee for Scientific Research. It should have been reformed, and its executive function (grant selection and evaluation of units) separated from research policy. The Research Council (*Rada Nauki*), built on the ruins of the State Committee for Scientific Research, has gone to the opposite extreme; it fulfils a merely advisory role and cannot take any binding decisions, for example on awarding grants. From being a leader among Central and Eastern European countries, Poland has suddenly become the only country in the EU with such an outdated centralised system for financing research. I hope the establishment of the National Science Centre (NCN—an agency distributing grants through competitions, the topics to be proposed by applicants), as part of the reform proposed by the Ministry of Science and Higher Education, and changed rules of operation for the National Centre for Research and Development (NCBiR—an agency distributing grants for topics proposed by the government, including long-range projects crucial for Poland's scientific and economic development), which now too closely resembles a ministry department, will result in proper management of government funds for research. One of the conditions is that the additional funds from the budget promised by the current government should be used specifically to strengthen the system of grants for projects proposed by applicants, and not spent on programmes announced by the minister as 'priorities' or on the statutory activity of research institutions. This part of the research financing system's reform will depend on an honest system of peer review, which will play a key role here. It must be as objective as possible, based on international assessment whenever possible, in order to eliminate the possibility of funds being awarded on the basis of criteria other than merit. The grant evaluation system of the former State Committee for Scientific Research and now the Research Council is well established and only needs to be improved. Applications should also be reviewed by foreign researchers. In no event should a 'Russian roulette' system be used—drawing reviewers from a database of persons volunteering to serve as reviewers. Such bad ideas might be proposed by officials in Brussels, but not by people who care about getting the best projects selected. Grants should be much bigger and spread over a longer timeframe, with the possibility

of implementation up to 5 years, not the currently stipulated 3 years. A competitive grant system should be the basic mechanism for financing research. Major indirect costs of grants, which could sometimes be as high as 50%, represent a possible additional source of financing for rectors, deans, and institute directors (used for example as an internal system for financing their own research). Such a system of financing would force them to employ only the best scientists (capable of winning a grant), who would receive a decent salary. It is also necessary to build a reliable research staff evaluation system using external review (involving experts from outside the unit, and whenever possible from other than Polish institutions). Employment based on competitiveness will mean that a ban on multiple jobs will no longer be necessary: A good salary, combined with fair work assessment, will in my view effectively discourage researchers from working extra jobs.

For the reform by the Ministry of Science and Higher Education to succeed in this area, the system needs to be tightened and the purpose of subsidies for statutory activity must be precisely defined. Today deans and institute directors spend these statutory funds, among other things, on ‘maintaining’ researchers who consistently fail in grant competitions. In other words, by applying a grant system we ensure greater competitiveness, but at the same time we reduce the competitiveness of the system thanks to funds for statutory activity. I have been horrified to observe that even deans at prestigious universities are in favour of retaining such an ineffective system. In my view, these funds should be used to maintain research infrastructure: the costs of maintaining research laboratories (not those used for teaching!) and other infrastructure necessary to conduct research. In the humanities, this includes libraries, archives, language labs, etc.,¹⁹ while for experimental sciences this includes service units, which in other countries are often found at ‘research parks,’ the costs of maintaining unique research apparatus and unique collections, the costs of patenting and commercialising research results, subscriptions to on-line scientific journals, access to databases, and salaries for essential technical staff as well as research positions (without teaching duties) for an institution’s key researchers. (In my view, such positions should be available at universities, just like they are today at institutes of the Polish Academy of Sciences or R&D units.)

The government is under great pressure today to tone down the reform of financing for research and give up certain provisions set down in bills currently under discussion in the parliament. Many demagogic arguments can be heard in this debate, which I would like to address:

1. ‘The reform will make it impossible to conduct preliminary studies.’

Under the reform guidelines, the National Science Centre and the National Centre for Research and Development would run competitions, including those for financing anticipatory research. Such systems are already applied in other countries: New research ideas are reviewed in competitions where the only thing that counts is an original idea. Limited funds for this purpose are awarded for a period of up to 2 years. That is quite enough for an idea to be checked sufficiently thoroughly to seek a proper research grant.

¹⁹ W. Bolecki, E. Dahlig-Turek & P. Urbańczyk, ‘Humanistyka a reforma polskiej nauki’ (‘The Humanities and Reform of Polish Science’), *Forum Akademickie* No. 5 pp. 24–27, 2009.

Such a system would also support growth of young researchers, who often have good ideas but are unable to generate preliminary results.

2. 'The changes will mean a lack of funds to set up new research teams and conduct research as part of PhD studies.'

There is nothing standing in the way of using competitive financing also for these fields under competitions organised by the National Science Centre and the National Centre for Research and Development. The reform guidelines take account of these issues.

3. 'If we limit the possibility to finance research directly from statutory subsidies, we limit the possibility of conducting long-term research.'

To begin with, units very seldom used their subsidies for statutory activity for this purpose; the funds were simply insufficient. Under the reform guidelines, the National Centre for Research and Development, among others, would be responsible for grant competitions for long-term research. We must not forget that even the results of long-term research have to be evaluated from time to time!

Let us be frank: these are basically arguments for maintaining the status quo. By hiring the right people, a good dean or institute director will obtain more money from the indirect costs their research projects generate than from the statutory subsidy. It will finally be possible to use statutory funds to finance research infrastructure, for which funds have always been in short supply. The system I am proposing here certainly demands a great deal of research unit directors: They will be responsible for choosing the best teachers and researchers, and this will usually mean having to fire staff who pretend to conduct research.. Having conducted a parameter-based evaluation over the past 10 years, every unit head knows that only about 30% of the staff are scientifically effective. Nothing could be simpler than dismissing those who have not been conducting research work or have only pretended to do so for years. This will make it possible to raise the salaries of scientists who meet international standards. Funds for this type of restructuring are already available. So why isn't this mechanism functioning yet? This brings us back to the diagnosis from Jerzy K. Thieme: 'The state gives academia great autonomy, but does not tie this to responsibility for an institution's results'.

Table 2 presents the extent to which the guidelines for reforming higher education recently (July 2009) released by the Ministry of Science and Higher Education are compatible with what I have proposed. Since I agree with many elements of the ministry's proposal, I list only the differences.

To sum up, for reform of higher education to succeed, not only do changes need to be made to the internal constitution of universities (by legal deregulation), introducing real autonomy and not just the illusion of autonomy, but principles of competition must be introduced in the way these schools raise funds for research and teaching. It is important for such changes to be effected in steps. Once the research budget is increased, all the additional funds thus obtained should be earmarked for grant systems. For at least two years, the National Science Centre and the National Centre for Research and Development should operate under new rules. This will allow scientists to see the benefits of the new system, and will convince deans and institute directors that thanks to indirect costs, they can obtain much more funding. Only when this

groundwork has been laid should a system of baseline subsidies and a system of loans for tuition fees be introduced. After this interim 'preparatory' period, we should make changes to university administration. The proposed package of reforms will create natural competition: Universities that abuse their autonomy and fail to conduct real research or meet their obligations towards their students will go bankrupt. I believe that when we decide to introduce such a package of reforms, 20 years later we will no longer be focusing on criticising the drawbacks of international rankings of universities, but instead we will stand a chance of scoring high in those very rankings.

Warsaw, August 2009

Table 1

(wg Aghion, P., Dewatripont, M., Hobby, C., Mas-Colell, A., Sapir, A. *The Governance and Performance of Research Universities: Evidence from Europe and the US*, December 2008)

Country	France	Germany	Holland	Spain	Sweden	Switzerland	Great Britain
Country position in the Shanghai ranking (500 institutions)*	6	3	7	17	10	12	2
<u>Share of the universities in which:</u>							
- budget is accepted by the Minister	1,0	1,0	0,25	0,5	0,2	0,92	0,13
- there is a fixed pay scale	0,5	0,09	0,13	0,5	0,0	0,67	0,0
- they are state-owned	1,0	0,91	0,75	1,0	0,8	0,83	0,47
- the buildings belong to the state	0,0	0,5	1,0	1,0	0,2	0,42	0,94
- with self developed education system	0,5	0,91	1,0	0,67	0,9	1,0	1,0
<u>Share of independent researchers with the PhD degree from the same institution:</u>							
	0,53	0,08	0,33	0,69	0,58	0,24	0,088
<u>Share in the university budget:</u>							
- subsidies from the country budget	0,71	0,73	0,68	0,62	0,6	0,72	0,35
- funds acquired on a competition basis	0,09	0,22	0,14	0,1	0,34	0,18	0,22

*position of the country in the ranking was calculated in the following way: the number of universities covered by the ranking was 500. The best university received 500 points, the next one 499. The points acquired by the universities from the same country were added. The country which received the largest number of points was ranked first (USA). Poland with two universities (the Jagiellonian and the Warsaw University) was n the 31st position out of 34 countries

Table 2

The comparison of the higher education reform assumptions on the basis of two projects – the one prepared by the Ministry of Research and Higher Education and the project favored by the author. Since most of the elements are similar, below you will find only the discrepancies

	Ministry's project (from July 2009)	Project postulated by the author
Do consistent system solutions apply to whole higher education system?	No	Yes. All the institutions which possess accreditations from the PKA ¹ and KJEJ ² are empowered to enjoy the same rights including the right for tuition fee paid by the banks in the form of a loan
How is research funded in higher education institutions?	statutory subsidy and grant system	complex grant system
Research & infrastructure?	statutory subsidy and investments grants	basic subsidies and investments grants
Teaching & infrastructure?	subsidies and grant system	common credit for funding tuition, complex grant system Ministry, basing on the opinion of the RGSW ³ and following the PKA's application funds credits, giving preferences to the selected groups of faculties / institutions that perform defined curriculum (f.ex. "flagships", KNOW- ⁴)
How do we assess the quality of: teaching?	PKA (also assessment of the readiness to take up a job)	PKA (identical to the Ministry's project). Banks monitor loan repayment, monitoring of the state loans, monitoring of the state exams
research?	Parameter-based assessment rights to grant doctoral degree granted by the CK ⁵ . Quality assessment done by the CK.	identical to the Ministry's project identical to the Ministry's project

How do we stimulate institutions to increase the level of research?

the department applies for a KNOW status. Status of a „flag-ship” institution is granted when 40% of departments acquire KNOW status. The flag-ships get additional subsidy.

competition for KNOW status (within groups of disciplines defined by the ERC⁶),

Competition for a “flag-ship” status for a university with the largest number of KNOW. Competition criterion: The “flag-ships” get additional investment grants and subsidies for students credits.

How do we study?

Bachelor’s and MA degrees granted by the State

BA and MA degrees are granted by the institution, which received the PKA accreditation

PhD degrees – granted by the State
Recruitment for the faculties within departments

identical to the Ministry’s project
recruitment for department or groups of faculties,

Creation of new curricula by the universities:
limited by the requirement that the general
of university number of students should not
increase

creation of new curricula only accreditation of
the PKA

How do we motivate academic teachers to improve teaching?

Periodical assessment, competition for new positions

liquidation of the present pay scale and teaching load. Salary in a strict correlation with the research and teaching work (assessed also by the students). International competitions for university positions, including positions of associate professors with PhD degree.
Contracts for academic teachers, prolonged after the periodical international assessment

How will the university be managed?

System to choose: the system remains unchanged or the management with help of board of trustees

Board of trustees organizes an international competition for position of a rector and accepts proposed by the rector: vice rectors and deans.
Rector manages the university. The Senate of the university is obliged to assess all the matters which concern teaching and research.

¹ PKA –Państwowa Komisja Akredytacji, the State Accreditation Committee

² KJEJ- Komitet Ewaluacji Jednostek Naukowych, The Evaluation Committee of Research Units

³ RGSW- Rada Główna Szkolnictwa Wyższego - Central Council of Higher Education

⁴ KNOW- Krajowe Naukowe Ośrodki Wiodące - National Scientific Leading Units

⁵ CK- Centralna Komisja ds. Stopni i Tytułów Naukowych, winna przyjąć nazwę: Centralna Komisja ds. stopnia doktora- Central Committee for Academic Degrees and Scientific Titles

⁶ ERC – European Research Council