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# European knowledge society, new social risks and universities

## Comparative Report

European knowledge society, new social risks and universities – The Comparative Report./ Erik de Gier and John Warmerdam (ITS Applied Social Research, Radboud University Nijmegen) Nijmegen/Barcelona. 2008. [www.nesor.eu](http://www.nesor.eu)

This report was co-financed by the European Commission's Socrates Programme (NESOR-project n° 2006-2817/001 SO2 61 OBGE)



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## **0. Preliminary**

This report integrates the various country reports of WS2 of the NESOR-SOCRATES project. The six countries under scrutiny all are EU-countries: Austria, Italy, Hungary, the Netherlands, Poland and Spain.

WS2 was dedicated to the following three more specific themes:

- (1) The discourse of the globalised knowledge society (GKS) in the six countries involved in the project
- (2) The perception of (new) social risks in these countries
- (3) The role and functions of universities.

Although in advance a common format of the country reports was agreed, the final output of WS2 proved to be rather diverse. To some extent this is caused by the fact that each country finds itself in a different developmental stage and speed on the road to the Globalised Knowledge-Based Society (GKS) and also by the fact that actual discourses and policies are deeply embedded in national cultures. So, this trans-national report will not be a true and tough comparative exercise in the strict methodological sense of the word. What it does offer, is an in-depth insight into national debates and policies and above that, also some common felt problems with respect to the GKS.

What you can expect in the remaining part of this report is not first of all a summary of the various national reports in a more or less descriptive way, but an attempt to develop a sort of coherent transnational perspective on the basis of our common starting point. This starting point will be replicated in section 1.

Those who want to go more into the details of the various countries are strongly recommended to consult the separate country reports themselves.

## 1. Introduction

The collection of the six countries involved in the project is not based on pure scientific choice criteria, but is largely accidental as is more often the case in European projects. Therefore, comparisons between the six countries remain a little bit tricky. Nevertheless, we can take some advantage of the fact that the group of six countries is divided in at least three different types of welfare states. Austria and the Netherlands can be seen as countries that belong to the family of economically well-developed continental welfare states. Inversely, Hungary and Poland are two new accession countries still catching up with the more wealthy EU-countries. Finally, Italy and Spain are somewhere in between those two groups and can be seen as Mediterranean welfare states, in which the role of the family still predominates above the role of the state. Another interesting and in this context perhaps more reliable indicator is the ranking and score of the six countries involved in the project on the Global Competitiveness Index (World Economic Forum 2007). See Box underneath.

The Global Competitiveness Index 2007-2008 (GCI) provides a weighted average of the complex reality that is called competitiveness and is based on 12 different pillars. It shows that some countries are much more successful than other countries in raising income levels and opportunities for their respective populations.

The first 4 of the 12 pillars belong to the first stage of development in which the economy still is factor-driven. It concerns the following four *basic requirements*:

- Institutions
- Infrastructure
- Macroeconomic stability
- Health and primary education.

The second stage of development is the efficiency-driven stage of development, consisting of the following six *efficiency enhancers*:

- Higher education and training
- Goods market efficiency
- Labour market efficiency
- Financial market sophistication
- Technological readiness

- Market size.

Finally, the third phase is the stage of the innovation driven economy. This stage consists of the following two *innovation and sophistication factors*:

- Business sophistication

- Innovation.

The GCI-score and ranking 2007-2008 for the respective six countries are:

Netherlands: 5.40/10 (2006-2007: 11)

Austria: 5.23/15 (2006-2007: 18)

Spain: 4.66/29 (2006-2007: 29)

Italy: 4.36/46 (2006-2007: 47)

Hungary: 4.35/47 (2006-2007: 38)

Poland: 4.28/51 (2006-2007: 45)

According to the actual scores Poland is listed in the second stage of development, Hungary is making a transition from stage 2 to stage 3, and the four remaining countries all are listed in stage three of development.

Source: World Economic Forum 2007

Apart from the divergence between the six countries, they all face the same ‘common’ (to some extent converging) challenge of the EU-wide intention to become by 2010 according to the Lisbon-goals the .... *most competitive and knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion.*

The idea behind WS2 is to get a clearer idea about how in the six countries the national discourse about this future oriented challenge is organised and translated into more concrete policy actions with respect to the required innovation of the economy and necessary reforms of tertiary or higher education. Do these countries perceive (new) social risks in this context and in what way are they willing to deliver a contribution in solving or preventing these new risks? As higher education (HE) will have to play a major role in this respect, an important question also is to what extent HE anticipates on this challenge. Are higher education institutions (universities and polytechnics)

contributing to solve the natural tension that exists between reaching the goal of the GKS and the resolution of new upcoming social risks in this context, or do they make a clear choice for one of these two not fully concordant themes?

This is not just a theoretical question. As Hillman Chartrand has shown universities have arrived now in the so-called *Third Age* (Chartrand 2007). That is, commercialisation of knowledge. From the mid-nineties of the last century universities according to Hillman Chartrand the only possibility for universities to survive on the long run is to collect and exploit new knowledge for competitiveness of the (national) economy.

In history universities have gone through three different subsequent stages or ‘ages’. The first one is the so-called *First Age*. In this Age, dating from around the year 1000 until 1800, the first newly established universities broke the long-time knowledge monopoly held by churches. Knowledge development and its application were primarily limited in that period by interpretation or transmission of (old) knowledge through teaching.

The *Second Age* started around 1800 with the founding of the first ‘research’ university by Alexander von Humboldt in Berlin generating new knowledge through research and experimentation. Finally, the *Third Age* began near the end of the 20<sup>th</sup> century by shifting attention to coherent strategies for the exploitation of new knowledge for competitiveness. The two main effects of the Third Age of the university are: a) a continuation of *vocationalisation of teaching*; and b) with respect to research a *further acceleration of specialisation* with little cross-talk between disciplines.

Source: Hillman Chartrand 2007

## 2. Methodology used

Each country created a small team of researchers to carry out the work of this WS. The co-ordinator of WS2, the Institute of Applied Social Sciences *ITS Radboud University Nijmegen* first of all designed a guideline questionnaire to be used in the interviews and also as a starting point for the document study and the separate country reports to be written.

It was decided to do the work partly by searching relevant policy documents and research reports, to make use of existing statistics where useful and finally to carry out a limited number of individual and group interviews to complement and fine tune the impressions out of the written sources.

Next to this a starting conference for all researchers involved was organised in Nijmegen at the start of the project. In this meeting important decisions about planning and content were taken, not only about the work to be done in WS2, but also for the whole project.

WS2 was actually carried out in 2007. The deadline for the country reports was the 15<sup>th</sup> of October. This (trans-national) report contains the main findings.



### **3. The discourse of the globalised knowledge society in the six countries involved in the project**

The first topic to be addressed in this trans-national report is the discourse of the GKS in the six countries in this project. It was assumed beforehand that in the various countries not only at least partly different terms are used, but also that the terms used in each country about the GKS at least also gives some indication about the most important matters in this respect.

Questions at stake with respect to this topic were for example:

- What are the driving forces of change?
- What is the leading concept in the policy discourse (knowledge society, knowledge economy, learning society, new economy, information society, etc.?)
- Which is the positive or negative value assigned to the concept?
- Are there different discourses of the stakeholders on the knowledge society?
- What are the relevant discourse(s) and role/positions of relevant stakeholders at both the demand side (government, trade unions, employer's organisations, enterprises, experts) and supply side (universities and polytechnics)?

These questions were neither exhaustive, nor obligatory. At the maximum they were giving a direction for the search process in each country.

Next we will give a summary of the results for each country. After that we will draw some conclusions. We will take the ranking position in the GCI as order for reporting, that is first the Netherlands, then Austria, Spain, Italy, Hungary and Poland respectively.

## **The Netherlands**

In the Netherlands the leading concept of the discourse on the GKS is not *information society* or *network society*, but *innovation* or *innovative power of the Dutch economy*.

It is neither an exclusive academic discussion, nor a pure policy debate. Both politicians and policy makers on the one hand and scientists on the other hand take part in the discourse on the GKS.

The most important issue in the debate is the relative position of the Dutch economy in the ranking of best performing knowledge economies. All relevant stakeholders (politicians, employers, trade unions, universities and polytechnics) part the same definition of the situation, which is that the Dutch economy in principle belongs to the top-performers in the world as it concerns knowledge production. However, if it comes to useful applications or making scientific and academic knowledge applicable industry, the performance is substantially less. This is perceived as a *knowledge or innovation paradox* that has to be solved as soon as possible to prevent that the Netherlands falls back internationally.

To be able to resolve the innovation paradox government created a few years ago the so-called Innovation Platform (IP) in which all societal stakeholders participate. This IP produced a large number of reports on various aspects of the GKS, such as how to solve the problems of secondary professional education, or how to facilitate valorisation of research knowledge.

The work of the IP, headed by the Dutch prime minister, recently culminated in the *Knowledge Investment Agenda 2006-2016*. This investment agenda foresees additional annual investments of 3 billion euros as regards to the following four themes:

- Financial means of universities have to be distributed more on the basis of quality and less on the basis of the number of students per university. At the same time, there has to be invested more money in research infrastructure; the influx of young scientific talent has to increase, and finally science and industry will have to increase and widen their interaction,
- The Netherlands has to make choices for big research facilities that can compete internationally.

- The accessibility of the country for foreign knowledge workers has to be increased.
- Scientific knowledge has to be used more effectively.

In the years to come the Knowledge Investment Agenda has to be implemented and realised. Although all relevant stakeholders have formally undersigned the agenda, which implies that there exists a broad national consensus, some of them express some doubts about its chances on success. Vested interests are very strong and the Government itself is confronted with many other priorities.

There is also another aspect to be taken into account and that is that there is evidence that 50-75% of innovation of industry not only is dependent from *technological innovation*, but also from what is called *social innovation*. Social innovation is defined as changing a firm's organisation, management and labour in a way that is new to the organisation and/or the industry, with the effect of leveraging the firm's technological knowledge base and improving organisational performance.

Also the IP recognised the importance of this 'soft' factor and has underlined its significance for resolving the innovation paradox and the need to improve productivity of industry by (modestly) financially supporting a newly established Netherlands Platform for Social Innovation (NCSI). This platform brings together demand and supply of knowledge.

Summarising the discourse of the knowledge economy in the Netherlands, first of all it can be concluded that the Netherlands expresses a strong ambition to belong to the top league of best performing knowledge economies in the EU. However, the innovation paradox (the existing gap between knowledge production and knowledge application) is an important impediment to be solved first. Although there is a broad common consensus about the need to resolve the innovation paradox, the road towards this is paved with some scepticism. An important key for future success in this respect is the recognition and implementation of social innovation.

## **Austria**

As in other European countries, in Austria *knowledge* is recognised as the driver of productivity and economic growth, leading to a new focus on the role of information, technology and learning in economic performance. *Education* will be the centre of the knowledge-based economy, and *learning* the tool for individual and organisational advancement. Essential in this respect is that learning is more than just acquiring formal education. Continuous *learning-by-doing* is paramount. Another related aspect is that in the GKS access to information will become much easier and less expensive. It then becomes crucial to master the *know-how* skills that can transform codified knowledge into applied knowledge.

In Austria, as elsewhere, the GKS implies a shift from production to the delivery of services. Contrary to the production economy, the service economy is less hierarchical, more skill-intensive, and more flexible. Occupations will become more high-information jobs. The accompanying political and scientific debate in Austria is partly optimistic and partly pessimistic. The optimists mainly focus on the opportunities provided by these changes, whereas the pessimists point to new inequalities that may arise in the transformation process.

The GKS is outlined as the technological, economic, political and social changes associated with the implementation of ICT's. Both pessimists and optimists agree on growing complexities with regard to the development of employment, social welfare, social justice, social economies, education and vocational training. A commonly shared policy goal is the need for a *learning society* that is able to anticipate on a type of innovation which is not primarily linear, such as the traditional innovation theory states, but open. In the open type of innovation ideas for innovation can stem from many sources, including new manufacturing capabilities and recognition of market needs. It can take many forms, including incremental improvements to existing products, applications of technology to new markets and use of new technology to serve an existing market. Open innovation requires considerable communication among different actors: firms, laboratories, academic institutions and consumers, as well as feedback between science, engineering, product development, manufacturing and marketing.

The national Austrian innovation system therefore can be seen as the result of numerous interactions by a community of actors and institutions.

## Spain

Spain is fully aware of the need to catch up timely with the GKS. The policy of the country aligns with the EU-policies.

Although different terms are used for the GKS, the most widely used are *information society*, *knowledge society* and *network society*. The latter is seen as an equivalent to knowledge society. Not only government is actively involved in the transformation of Spanish society into a GKS, but also industry. For example, the Foundation Telefónica, is also actively engaged in the implementation of the GKS. Since the year 2000 the Foundation publishes annual reports about the progress towards the GKS. The Foundation Telefónica defines the term *information society* as: *.. 'a state of development characterised by the capacity of its members (citizens, enterprises and public administration) to obtain and share immediately any information from any place and in the preferred form'*. According to the Foundation Telefónica, Spanish society moves from a productive to a services economy (or from the production of tangible products towards tangible services). This also implies unrestricted technological capacity of access to resources of information and to information itself. As a consequence this new technological capacity will provoke a profound technological driven social transformation of Spanish society. As in other European countries undergoing the same transformation, GKS will be based on *knowledge* and *learning* or permanent up-dating of the once acquired knowledge.

Apart from industry, during the last decades, also respective Spanish governments and the respective governments of the autonomous regions have put into action several programs to improve the Spanish science and technology system. The most recent is the New National Plan 2008-2011. In this plan telecommunication and the information society are jointly defined as a strategic area. The NNP is framed in a more ambitious program called Ingenio 2010 and which contains, for example, the following objectives:

- Achieve in 2010 2% of GDP devoted to R&D
- Achieve in 2010 55% private investment of whole Spanish R&D
- Achieve in 2010 0.9% of public investment R&D
- Achieve the EU-average in % of GDP devoted to ICT's.

In spite of all efforts, statistical indicators show that existing differences with other European countries could not be bridged during the last years. For instance, the number of households with internet access, with or without broadband access, remains behind the EU-average. This is partly due to the existing gap in the knowledge transfer from the public to the private sector, caused by an insufficient link between the public and the private sector.

### **Italy**

In Italy the concept and the importance of the knowledge economy or the GKS is well acknowledged. However, the country slowly exploits the chances offered by the transformation which is taking place. Both private and public investments in R&D and in higher education are very low. The low private investments in R&D are due to the fact 80-90% of Italian companies are small or medium sized companies.

Knowledge is seen as one of the most relevant production factors that are important for long-term economic growth. In this respect, the availability of young high educated people is perceived as crucial for economic development as well as for social cohesion.

A particular problem for Italy is the demographic ageing process at the national level. The overall number of young people is permanently decreasing. This development does not imply a better economic and social position of young Italian people. In general, they are not valued as a scarce and precious resource. Young Italian graduates, seen on the average, later find a temporary and subsequently permanent job than their EU-homologues. They also earn less and have more chances to be unemployed.

The knowledge concept is, similar as in different other European, focused on innovation through human capital development. This implies a balanced and continuous upgrading of technical skills and relational and entrepreneurial skills. Still much has to be done in this respect. For instance, only one out of five Italian workers takes part in training courses (EU-average: 40%); and only 25% of Italian companies offer some kind of vocational training (EU-average: 60%).

The Italian government has recently initiated two major changes to tackle the main problems. These are the labour market reform and the reform of the university curricula.

We will return on these issues in the paragraphs on social risks and on higher education respectively.

### **Hungary**

Although there is a lot of attention in Hungary to GKS and many different terms are used simultaneously (knowledge society, information society, new economy, network economy and learning economy), it is not easy to discern a clear-cut picture of the discourse on the GKS. This is mainly due to the fact that there is a lack of consent with respect to both the notion of the concept and the content of GKS. Apart from the regular optimistic and pessimistic views on the gains and losses of a GKS, there is a third influential school of thought which might be classified as the sceptic view on GKS. This group of commentators is questioning the fundamental diffusion of the knowledge and creativity driven economy. On the one hand, in Hungary the competitiveness strategy based on low skills and low wages remains an economically viable development and on the other hand there is also the increasing importance of high skills in the GKS which requires quite a different strategy with respect to education, learning and competitiveness.

The main consequences of this dual (sceptic) view are twofold. First of all, by mixing both old and new economic policies Hungarian innovation policies have mainly focused on developing industrial, technology, science and educational policy without any respect or links with workplace development and investment in workforce skills. Because of that innovation remains one-sided. As a corollary, for GKS important strategic partnerships between government, business and higher education institutions are profoundly underdeveloped. Secondly, the system of higher education is insufficiently demand driven and still overwhelmingly supply driven and doesn't anticipate to the needs and demands of the changing labour market. Only recently, in particular polytechnics are attempting to change by developing stronger ties with the business community and the public administration.

An accompanying problem is that university-based research resources still are relatively weak in Hungary. R&D expenditure per capita in the higher education sector (HES) remains substantially lower than in all other countries involved in this project, save Poland. Whereas in 2004 Hungary spent 18 € per capita for R&D in the HES, the other

countries spent €152 (Netherlands), €175 (Austria), € 59 (Spain), € 86 (Italy) and € 9.5 (Poland).

## Poland

The general conclusion of the Polish country report is that the concept of the GKS is not very well rooted in the consciousness of the key actors. The term as such, seldom appears in scientific and public discourse.

To understand this, it is important to realise that Poland as a rather new accession country of the EU first of all needs to catch up with the wider social and economic development of the EU. This is perceived as an absolute priority over creating a GKS. Poland primarily wants to master its comparative backwardness in the socio and economic field by means of utilising EU-funding resources (structural funds). The box underneath affords more specific information about Polish actual socioeconomic condition.

- Low level of innovativeness of the Polish economy as measured by the % of so-called innovative enterprises and the participation of high-tech export products
- Very low outlays on the R&D sector (-0.345 GDP ratio)
- The lowest % of people with secondary education among the EU countries (30.6%)
- Low % of people with higher education (10.2%)
- High rates of functional illiteracy among Poles
- A low % of students choosing studies in the fields of mathematics, science and engineering
- Limited access to the Internet
- Only 17.3% of employees are knowledge or information workers (2003)
- Poland is the least advanced country in terms of building the GKS (World Bank)

Source: Country Report Poland WS2

Nevertheless, there is some, but not very popular, scientific and public debate about the significance of creating a GKS in Poland on the longer term. In this debate several



terms referring to GKS are used alternately, such as: information society, new economy, learning society, web society and knowledge-based economy.

Also attention to realising GKS is paid in the various national and regional or local development and operational plans (National Development Strategy 2007-2015; National Reform Program 2005-2008, etc.), for instance, by linking it directly to the objective of growth of competitiveness and innovativeness of the economy (increasing R&D expenditure, strengthening cooperation of scientific and research entities with enterprises, targeting research expenditures). Another important objective in the national development strategy is the promotion of life long learning with the objective to increase employment and also the quality of employment. However, in the entire relevant strategic government documents, higher education institutions play a fairly marginal role. This is caused by the fact that education is hardly seen as a basic factor for modernisation of the society and the economy.

#### 4. The perception of (new) social risks

The second topic to be addressed in this report is the perception and incidence of (new) social risks in the six countries involved in the project.

In the appearance of a GKS existing or new upcoming social risks are not to be neglected. As long as higher education also has a social objective, the system of higher education has to play an important role in preventing or combating social risks (see box underneath).

In the European Social Model (ESM) higher education must complete two functions:

- Promoting social equality in the widest sense of the concept
- Protect from the new risk of social exclusion

Source: Country Report Austria WS2

The most pervasive risk in this context is inequality of chances and outcome. But in principle, there occur also many other old and new risks which accompany the unfolding the GKS.

The following questions were leading in scrutinising this theme:

- Which are the new social risks in the knowledge economy and how are they perceived (ageing of society, employability, transitional risks on the labour market, rapid knowledge erosion, increasing income disparities, long term unemployment, uncertainty and safety, reinforcement of traditional mechanisms of exclusion)?
- What strategies have been adopted to combat new social risks?
- What is the role of learning and education and in particular of higher education in these strategies? Do HE-systems contribute to the incidence of new social risks?

As in the previous chapter, next, we will give a summary of the results of our exercise for each of the six countries in the same order.

## **The Netherlands**

The following old and new social risk seems to be predominant in the Dutch situation:

- (a) Insufficient and unequal access to knowledge for certain groups.

This risk not only addresses problems rising with respect to access to knowledge, but also the problem of mastering the proper skills to be able to work effectively and efficiently with knowledge and information in the GKS. Particular vulnerable in this respect in the Netherlands are elder workers, elderly people and people with an immigrant background. The existing system of higher education contains an inherent inclination to advantage younger people and born nationals. People with an immigrant background, inclusive second generation immigrants, less often than born nationals go to universities. Moreover, they also perform less.

- (b) Weak national commitment to lifelong learning

In the Netherlands there is much rhetoric about the significance of life long learning in the GKS, but in practice there is almost a complete neglect of programs directed at life long learning. Only 15 percent (equal to the EU-average) of the working population actually participates in activities that might be classified as life long learning. The tertiary system is focused on the group 18-30 years old. Enrolment in higher education beyond the age of 30 is roughly half of the OECD average.

The need for both government and industry to play a more active role is increasing because for the next decade a shortage of higher educated is forecasted.

- (c) An increasing gap between low and high educated workers

Despite a very successful transformation (in terms of decreasing social benefits and increasing labour market participation) from a mainly redistributive welfare state to a more activating participation society, the socioeconomic position of low educated workers on the labour market remains vulnerable. Their chance to become unemployed is twice or three times higher as the chances of high educated workers. Next to this, a large group of active mainly low or at the middle level educated workers in industry and services will experience strong difficulties with catching up with the GKS. They easily feel themselves socially excluded.

(d) Critical labour market transitions during the life course

Increasing labour market flexibility in combination with further decrease of legal worker protection will make all categories of workers prone to the risk of social exclusion that might occur during transition periods on the labour market.

### **Austria**

As is the case in the Netherlands, inequalities start before the university. So, not everyone has equal opportunities in reaching the university level.

Apart from this, the sustainability of life long learning programs is mainly dependent from available means and money.

In Austria, as elsewhere, the question is put forward if social justice still has to remain a task of universities in the GKS. Provisionally, universities will first have to solve their own financial, bureaucratic and managerial problems. At least, universities do not have a clear cut future vision about their contribution to combating social inequality.

### **Italy**

Italy runs substantial (new) social risks in the context of the GKS.

First of all, there is the risk of social exclusion. Some groups are more exposed to this risk than other groups. These are: women (women earn 27 percent less than men, enter the labour market 6.2 months later than men, less often succeed in getting a permanent job, tend to work 6 hours less than men and tend to find lower organizational positions than men) , people located in southern Italy, young people (youth unemployment is >17% above OECD average), first level graduates (completion of university graduation at age 27-28; EU-average: 22-23), and people with limited linguistic and/or informatics skills.

Through the process of precarisation of jobs, relatively late first labour market entrance, low labour market entry wages and high costs of housing, there is a strong dependency of young adults of relatively long remaining family shelter. An important background

for this is that in Italy on the average young graduates find later a job than in other EU-countries. They also earn less and have more chances to be unemployed or to find a temporary job instead of a permanent one. At the national level, the Italian society is ageing rapidly, whereas the overall number of young people is constantly decreasing.

To improve the efficacy of the labour market government initiated a labour market reform in 2003 by introducing more flexibility in employment contracts and also with a reform of employment services (privatisation). Although the labour market reforms had some positive impact, such as an increase of the national level of labour market participation, there were also some important drawbacks, such as a substantial decrease of permanent jobs. With the new welfare protocol set up in 2007, the Italian government is trying to correct this by limiting the term of temporary jobs and at the same time by encouraging Italian companies to keep permanent jobs or to enlarge the number of permanent jobs.

## **Spain**

The incidence of social risks related to the labour market in the GKS is somewhat related to the situation in Italy. The number of precarious jobs is relatively big and young adults meet severe difficulties in finding a permanent job. Also the role of the family in giving shelter to young adults is important in Spain. Youngsters relatively late leave their family home before starting an own household. As in Italy, this is mainly due to insufficient labour market mechanism to include young adults, but also because cost of housing is expensive. If we focus on high educated knowledge workers, there still is insufficient demand for this category in comparison with the number of people with a university degree (bachelor, master, PhD). Nevertheless, persons with higher education have better possibilities to find a job.

Compared to EU-15, all categories of workers have a higher unemployment rate: primary education: 11.0 percent (EU: 9.0 percent); secondary education: 9.5 percent (EU: 6.2 percent); tertiary education: 7.3 percent (EU: 4.3 percent).

Compared to most other European workers, Spanish workers work a substantial number of hours per year more and Spain also has a high percentage of self-employed people (20.4 percent opposite to 14.7 percent in the EU). Part-time work is relatively sparse.

So, in sum it can be stated that both the general labour market as the labour market for scientific workers is rather precarious, not only by overwhelmingly much temporary contracts, but also by long working hours and modest wages.

## Hungary

The so-called sceptic commentators in Hungary insist that the inequalities characterising the old economy will not disappear in the GKS. It is recognised widely that public primary and secondary education play a key role in combating social inequalities in Hungarian society. To a certain extent the massification of Hungarian higher education has weakened the former existing social inequalities. The share of students in higher education (in the % of high school graduates) has increased from 30 percent in 1990 to 75 percent in 2002. However, the massification process of higher education itself reproduced social inequalities in a more sophisticated way because the quality of the university diploma has levelled off significantly through the enormous increase and variety of the quality of degrees. Another consequence of the massification process is the steady erosion of the research portfolios of universities. And last but not least, massification did not meet the demands of the labour market. This means that many graduates dispose of knowledge and skills for which there is insufficient demand on the labour market.

A second social risk and at the same time significant drawback of the system of higher education is the lack of role in developing long life learning programs. As a result, in 2006 only 3.8 percent of adults participated in life long learning, which is the lowest percentage of all six countries in this project (see table underneath).

<b>Adult participation in life long learning 2002 and 2006</b>		
	<b>2002</b>	<b>2006</b>
EU-27	7.2	9.6
EU-15	8.1	11.1
Spain	4.4	10.4
Italy	4.4	6.1
Hungary	2.9	3.8
Netherlands	15.8	15.6
Austria	7.5	13.1
Poland	4.2	4.7
Source: European Labour Force Survey		

The low percentage of participation in life long learning in Hungary is seen as one of the biggest social risks in Hungarian society in the context of the GKS.

### **Poland**

For Poland the biggest social risk, in the context of the upcoming GKS is not sufficiently and at the same time not timely being able solving the socioeconomic backwardness of the country. That is mastering the problem of unemployment, increasing the innovative capacity of the economy, increasing the mobility of the labour force, to include a large number of different socially excluded groups in Polish society and to remove the shortcomings of the system of education. Inversely, the advent of the GKS is also seen by many as the perfect chance to resolve satisfactorily the majority of these problems. Perhaps, higher education can play a key role in this perspective. However, the GKS cannot be the ultimate remedy for all existing social problems in Polish society, also because of the fact that GKS itself creates new social risk.

## **5. The role and functions of universities and polytechnics**

The third and last topic to be addressed in this report is the role and functions which are assigned to universities in the transition to the GKS.

We put forward the following questions:

- Which functions are assigned to higher education (polytechnics and universities in the knowledge society)?
- Which functions are assigned to vocational education & training in the knowledge society? Which roles play education & training for the universities?
- How can universities contribute to equal opportunities and the evasion of social inequalities against the background of budget restrictions and privatisation trends?
- Are universities VET-institutions?
- What are the main challenges for universities in the knowledge society and how do they anticipate on these challenges?
- What is the relation between research and training?

The background of these questions is to measure to what extent universities and polytechnics anticipate on the advent of the GKS with their educational and research programs. Apart from that, our main interest was to get a proper idea on how higher education institutes in this context are dealing with the risk of social inequality.

What follows is a summary of the results of our investigation for all six countries.



## **The Netherlands**

With respect to role and functions of the higher education system in the Netherlands at least two more or less opposite views exist as regards to the delivery of a substantial contribution to the resolution of the knowledge paradox.

In one view both the existing binary system and the way of financing the higher education has to be adapted in a rather fundamental way. In this view the existing system of higher education has to be de-institutionalised to be able to transform it subsequently from a rather homogeneous system of comparable universities and polytechnics into a network structure in which universities and polytechnics are linked by means of high performing research and educational centres. A possible outcome of such a reform would be better skilled and better equipped students who will be able to deal with large and rapid knowledge growth in society.

Also in this view the existing rather static way of financing the higher education system has to be adapted substantially. The important basic public financing of universities (the so-called first money stream) has to be diminished in favour of more financial incentives and competition targeted on a better performance of scientists in the so-called re-distributive second money stream. More in general, in this view entrepreneurialism and risk-taking behaviour of teaching and research staff has to be reinforced.

Last but not least, in the same context the infrastructure for technology transfer from universities and polytechnics towards industry has to be improved strongly.

Contrary to this view, the other view with regard of role and functions of the higher education system in the GKS is more system-affirming. In principle the existing higher education system is performing well by educating too a large extent successfully academics and professionals for which there is demand and need in the Dutch services economy. At the same time the Dutch universities perform well comparatively with respect to knowledge and research production. Only some adaptations are needed for enhancing and improving in a qualitative sense the output of the system, such as:

- Increasing the numbers of beta-students (physical and technical sciences)
- Improving the spin-off activities and practical valorisation of academic research

- Preventing the hidden process of integration between universities and polytechnics and instead of that reinforcement of the professional angle of polytechnics.

If we look to the contribution of the Dutch higher education system to preventing (new) social risks in the arriving GKS, we can conclude that at the moment this is not a big issue. Contributing to the employability of graduates on future labour markets is generally seen as important in this respect. At the same time the system is, at least formally, open and accessible for everyone who has the right qualifications. Nevertheless, as OECD-figures turn out, the Dutch educational system contains unintended segregation aspects. In particular, ethnic minorities more often choose for professional education instead of academic education and in addition perform less successfully than born nationals.

### **Austria**

The changing role and functions of the higher education system in Austria focus on two points. First of all, the Austrian higher education system is developing programs that contribute to the improvement of the employability of students and alumni. Secondly, in the last five years under the aegis of the Bologna declaration far-reaching adaptations of the educational curricula have been implemented with the intention to fill the gap between supply and demand.

Until recently the main objective of the Austrian higher education system was the increase of graduates because of a structural lack of academic professionals on the labour market. In the mean time the lack of professionals has been solved and the nature of the problem has moved towards the employability of graduates and the need to improve the growing mismatch between supply and demands of the higher educated. Apart from numerous curriculum adaptations universities have implemented tracking systems with the intention to improve contacts with alumni. Thus, in this way information can be afforded to alumni about what is going on in terms of actual labour market developments and offers for life long learning. Also, by means of tracking systems feedback on needs and expectations on labour markets can be assembled.

Some Austrian universities offer courses in the field of life long learning, mobility, flexibility and work-oriented courses.

In principle, Austrian universities want to create equal opportunities for everyone. This seems to work out quite well as the question of equal opportunities doesn't seem to be a hot issue as such.

## **Italy**

Also in Italy an important function of the higher education system still is to improve the employability of young people. According to the Italian Country Report Italy still has a long way to go before reaching this goal. The biggest problem in this respect is the overwhelming self-referential nature of the Italian higher education system. For this reason the higher education system doesn't fit well with the demands and needs of the Italian labour market. Therefore, the weak links between the higher education system and enterprises have to be strengthened. One possible form is a permanent dialogue between higher education, public institutions, companies and trade unions directed at the renewal of curricula and the pedagogical models in use. At the same time, despite recent legal reforms, a big challenge for the universities remains to diminish on time the substantial drop out rate of students as well as the delay in completing higher education studies.

As the interviewing showed, there is a strong awareness in Italy to overcome the most important drawbacks of the higher education system if the country wants to be a serious player as a competitive GKS. Some remarkable points in the interviews were:

- Teaching should be more innovative, flexible, open and pragmatic
- The advent of the knowledge economy calls for high skilled workers, having a strong sense of autonomy and self initiative, with interdisciplinary skills and relational abilities
- Increased attention should be paid to low-income groups to promote social mobility and inclusion.

## Spain

With respect to roles and functions of universities in Spain, more in particular two reports are important. These are the so-called Bricall Report and the 2004 report of the Conferencia de Rectores de las Universidades Espanolas (CRUE).

The Bricall Report addressed the issues which are related to the implementation of the Bologna process in Spain. According to this report a deep transformation of Spanish society is required toward a situation in which not only the quantitative growth of higher education is at stake, but also a change of quality. The higher education system has to be more oriented on the needs of the labour market, towards professional training and towards life long learning. Continuous training and education has to be integrated in the educational programme of the universities. This also implies the introduction of new forms of learning, such as the binomial 'education-learning', newly designed flexible curricula, and the introduction of practical parts.

Another point stated in the Bricall Report is the need for more funding and improvement of the links between the higher education system and enterprises and technology transfers. According to the Spanish country Report a weak point of the Bricall Report is the fact that it overlooks the precarious position of the knowledge workers in the higher education system with respect to fixed employment and income security.

In the slip stream of the Bricall report the implementation of the Spanish Bologna Process contains two pillars.

The first pillar concerns the reorganisation of academic titles according to the indication of the Bologna Process. The second pillar regards the innovation of the teaching process alongside a longed paradigm shift from teaching to learning.

This matter is also strongly related to the second report to be discussed from the CRUE. In this report the rectores firmly underline the need to strengthen the Spanish university system with the use and application of modern ICT and communication technologies in the context of the GKS. The university system needs to be able to catch up timely in a pro-active way with the development of Spanish society towards the GKS.

The rectores report pleas for the application of ICT's in four main functional areas. These are training, research, services to society and management and administration of

the universities respectively. Crucial will be the growing virtuality of the learning spaces, requiring major changes in the organisation of the learning and teaching activities.

## **Hungary**

The Hungarian higher education system contains a structural weak point which prevents a habile fit with the development towards the GKS. This is way the higher education system is governed and managed. The following four factors have a decisive importance:

- A too strong state intervention, even in case of private universities, with respect to annual financial contributions
- Corporate governance of higher education system lacks real owners. Although universities are governed by a board composed of different tiers, the real power is in the hands of the faculties and the students.
- Economic, financial and HRM autonomy: universities have no autonomy in their asset management and they don't have significant freedom in the field of HRM-practices.
- - Endogamy (that is the percentage of in-house trained faculty staff at PhD-level).

One of the consequences is that university-based research activities are relatively weak. Another related consequence is that Hungary has an extremely high number of higher education institutions which looks fragmented. Inside this large group of higher education institutions exist strong differences. Four groups can be distinguished:

- Universities which are competing at the international level. With the exception of Budapest this level is missing in Hungary.
- Regional universities which have the ambition to compete with the largest national universities located in Budapest
- A third cluster of universities that wish to be a knowledge centre of their region and that want to play a role as engine for the regional and economic development

- A group of small polytechnics and universities that take care of training of the local intellectuals.

The whole system is mainly supply side driven and does not meet real labour market demands. At the same time the undergraduate system is very rigid, containing a large number of overspecialised programs contradictory to the strategic aims of the Bologna Process.

### **Poland**

As has been stated before, in Poland higher education institutions play a marginal role in all strategic programs directed at the construction of a Polish GKS. Nevertheless, with respect to research three priority fields are established in the national Foresight Programme “Poland 2020”. These are: sustainable development, information and telecommunications technologies and safety. Higher education institutions will play a role in this. In the same document greater mobility of scientists is propagated.

With respect to education, a strategy for the development of higher education in Poland in the period up to 2010 has been elaborated by the Ministry of Science and National Education in 2004. But unfortunately, this strategy has not been published yet.

## 6. General conclusions

Overlooking the various country reports of WS2 and the main points of these reports taken together in this transnational report we can paint the following picture.

Indeed, there are strong differences in dealing with the GKS between the countries that make up this project. At the same time we can discern some common denominators.

First of all the differences, we can distinguish between two sorts of differences. On the one hand, as also is shown in the ranking of the Global Competitiveness Index there are significant differences in development. The Netherlands and Austria seem to be clearly ahead on the road toward the GKS, whereas Italy and Spain take some middle position and Hungary and Poland for the time being can be seen as laggards. These last two countries are confronted with other more basic economic and social problems and will have to put almost all effort into catching up with the better performers.

On the other hand, we can see that the differences are at the same time very country-specific. For instance, the discourse on the GKS in the Netherlands is almost entirely focused on the need to solve the so-called innovation paradox. If the country succeeds, nothing will stand in the way to return to a European top position in the ranking of best performing GKS's. Italy, on the other hand is constrained by the fact that the population of the country belongs to the most aged populations of the EU and that at the same time the relevant institutions to some extent still deny this in their behaviour. Adults on the labour market, for instance, meet strong impediments for a smooth integration on the labour market. Spain confronts a traditional very weak income and working conditions position of higher educated knowledge workers. Another particularity is the rather static and governance of the extremely fragmented higher education system in Hungary.

If we look to common denominators a lot of points have to be mentioned.

First of all, there is not one commonly used term in the national discourse of the GKS. A wide array of terms is used everywhere, such as information society, knowledge economy, network society, etc.

Secondly, there still seems to be a broad consensus about the traditional task of the higher education system in preventing social inequality. Open access to higher education is not under siege, although in some countries oppositional voices are heard

in putting forward the question if prevention of social inequality needs to remain an outspoken task of the higher education system in the future GKS (Austria and the Netherlands). Equality of chances might therefore become a more important issue in the near future in the more wealthy countries. But if we look to practical policies and intentions, we see that in all countries stimulating life long learning and improving the employability of graduates and alumni is defined as a top priority. The lack or neglect of attention for life long learning and neglecting the importance of employability in increasing flexible labour markets could be seen as new social risks in the GKS and because of that it is understandable that the countries in this project want to ‘engineer’ these issues seriously in the context of the GKS. Nevertheless, a lot still needs to be done. Life long learning still isn’t a proven practice in almost all countries in the project.

Other common denominators are:

- Higher education systems that still are too much supply side driven than demand oriented. The consequence of this is a too big mismatch on the labour market for the higher educated.
- Higher education systems still don’t have a strong interaction with enterprises; although there are differences between the countries.
- The expenses for R&D are perceived in all countries as too low despite significant differences between the countries.
- All six countries still know binary system of higher education. Only in the Netherlands some people challenge this system and prefer a more integrated system that in their eyes will be better equipped for the GKS.

Al in all, the resulting picture is not convincing across the board if we assess it from the ambitious Lisbon and Bologna intentions. The idea of GKS is almost everywhere embraced, but practical and institutionalised impediments prevent a rapid realisation,



## 7. Literature

Hillman Chartrand, Harry (2007), *The Third Age of the University. From Interpretation to Generation to Commercialization of Knowledge*. Inaugural World Universities Forum 2008, Davos, Switzerland.

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