European Education and Training Systems in the Second Decennium of the Lisbon Strategy

Report submitted to the European Commission by the
EENEE and NESSE networks of experts

June 2008

Education and Culture DG

NESSE
Network of Experts in the Social Sciences of Education & Training

European Expert Network on Economics of Education

The EENEE and NESSE networks of experts advise and support the European Commission in the analysis of education policies and reforms and of their implications for future policy development at national and European level.

This report was written jointly by the two networks for the European Commission's Directorate-General for Education and Culture. It was produced by **Professor Idesbald Nicaise** on the basis of written contributions by both networks and in close consultation with them.

Contents

Introduction

With the Lisbon Strategy, education and training (E&T) entered the centre stage of European policy making. It was realised that lifelong learning is a key driver of the Lisbon Strategy as expressed in the integrated guidelines for growth and employment. The leading challenges in the field of E&T were embedded in the existing policy framework and open method of coordination supporting the Lisbon process as documented in the "Education and Training 2010 Work Programme". While the (revised) Lisbon Strategy seems to start paying off in terms of growth and employment, a need is felt to further strengthen its knowledge dimension through (among other things) intensified efforts to combat early school leaving, greater mobility of knowledge and human capital, pooling of research investments and a boost in technological innovation (EC, Strategic report on the renewed Lisbon strategy, 2007).

At the same time, the context has changed quite radically since the launch of the Lisbon Strategy with the EU enlargement, major economic shocks, new geo-political tensions, increased awareness of the threat of global warming, etc. Whereas the knowledge-based society is still commonly seen as the best policy paradigm to address such challenges, there is a need to think forward about what European E&T systems should look like beyond 2010, and to develop the strategic basis for the follow-up to the Lisbon Strategy post 2010.

As a basis for the European Commission's forward thinking, this report provides first ideas on perspectives for European E&T systems in the medium and long term, based on the existing knowledge in education sciences. Given the nature of the topic which is oriented far into the future, this task by necessity has to be mainly a brainstorming exercise. Against this background, the report first discusses key challenges in three main dimensions (demography, sustainability and globalisation) and then examines their implications for European E&T systems beyond 2010. Broadly speaking, the challenges were already there a decade ago; but some new developments have emerged after the turn of the Millennium that may require adjustments in European E&T strategies.

Chapter 1. Three key challenges

Key Challenge I: Demographic Changes

Ageing of the population, due to the combined effects of decreasing fertility rates and rising life expectancy rates, is a leading phenomenon in all the European countries and will be aggravated in the coming decade until 2020. The enlargement of the EU did not change this trend because the new Member States in Eastern Europe show the same demographic patterns as the other Member States. This new age structure in Europe affects almost all parts of society such as health systems, consumer structures and also E&T systems. Trend scenarios of Eurostat (2007a) show that between 2005 and 2015, the number of children aged 14 years or younger will decrease by about 15 million in the EU 25. At the same time, the population aged between 55 and 64 years will increase by about 4 million. Until 2050, the population aged above 80 years is supposed to augment to 51 million in the EU 25, a doubling of the 2005 number.

Therefore, Europe has to deal with a reduction in the working age population and a higher share of people of retirement age. To overcome the social and economic consequences of these evolutions is a key challenge for European politics until 2020, and not least for E&T systems. In addition to general needs for adjustments, an increasing share of the elderly in society may also be associated with reduced willingness to spend money on education (Cattaneo and Wolter 2007). Yet, the level of education of young cohorts entering the labour market in the future will determine their productivity and their ability to sustain the welfare state for the elderly. As regards prime-age workers, participation rates in LLL will need to rise further in order to keep the labour force adaptable in an increasingly turbulent global context.

The ageing process is just one part of the new population structure in the next decades. In addition, the demographic evolution of European countries is characterised by **accelerating flows of immigration**. The events in Lampedusa, Ceuta and Melilla, the Canary Islands or in the Maltese and Greek waters, apart from their dramatic humanitarian character, have a highly symbolic value as they illustrate the increasing migratory pressure the EU is confronted with. Whereas the annual net immigration balance into EU member states [1] is already substantial (1,5 to 2 million), the flows are clearly accelerating. Some countries already display very high shares of foreign-born inhabitants

[1] These figures include intra-EU migration.

(Luxembourg 37%, Latvia 19%, Estonia and Austria 15%, Ireland 14%, Germany and Sweden 12% - etc. See Muenz, 2006).

The first specific determinant of migration, both into Europe and across Europe, is global and regional inequality (Pieterse 2002; Suarez-Oroco and Qin-Hillard 2004). While inequality between nations may possibly be decreasing, the gaps between the rich countries of Europe and the poor countries of Africa and Asia, in particular, remains enormous and impossible to bridge in the medium (say 20 years) or indeed long (say 50 years) term. So we may expect this to continue to be the most significant determinant of migration into Europe. *Mutatis mutandis*, the same may be true of migration across Europe, though the issues it generates can be expected to be different, for instance through the 'bottom up' construction of novel solutions to challenges of living and working in different countries. Those solutions, however, may not be optimal for migrants.

Associated with migration and as a response to global inequality, has been the growth of an organised people-trafficking industry based on force and deception. One key aspect of this is that it is estimated that over 1 million children are trafficked worldwide every year, not as 'family members', but as modern slaves working in the sex industry or as domestic servants.[2] This constitutes a very significant driver for policy in this area. A related determinant is humanitarian assistance to refugee children (Sidhu and Christie 2007).

While these responsibilities have been recognised for at least 60 years, there is a clear change from a relatively benign, 'protective', 'international responsibility', view of migrants, as refugees, or displaced persons, to the current discourse of illegal immigrants and asylum seekers who constitute a threat to national security and social cohesion. This adds to the increased tensions between marginalised immigrant youths and the local population in inner cities, as exemplified by the riots in France in the past few years. We have moved far away from the post-ware climate, where migrant workers were actively recruited to help boost the economy and fill the gaps in labour supply. Despite emerging new gaps, governments as well as the public opinion now tend to react very reluctantly to migratory pressures.

Other triggers of migration include political instability, wars, and (probably more importantly in the future) ecological change such as desertification and floods associated with global warming (Myers, 2005). For example, it has been

[2] www.unicef.org.uk/childtrafficking

anticipated that each meter rise of the sea surface will force 150 million people to move to other regions. Europe will not escape this threat.

So, what implications of migration should we expect for European E&T policies? To begin with, E&T are seen as key leverages for the integration of immigrants. The idea of integration (through education) itself raises a number of problems of definition and scope. We may see it as representing one kind of response to challenges posed by increasing migration of populations different from the host population. The importance of the definition of the issue becomes more apparent when we contrast it with alternative desired outcomes such as assimilation.

An allied issue, equally complex in itself is that of citizenship. This may include reference to political, economic, social and civic entitlements and responsibilities, and the conditions for achieving them. Citizenship courses for adults and social skills education in schools are becoming more popular as instruments of acculturation – for immigrants as well as the local population – thus illustrating the role of E&T as leverage for active citizenship[3].

One of the generic determinants we outlined above, security takes on a specific character in discussions about migration. For instance, border controls set up for the purposes of ensuring security may conflict with those set up to facilitate economic migration and the recruitment of foreign students.

Migration has also been associated with challenges of demography in both directions, creating conditions of overcrowding, on the one hand, and as a significant part of the solution to problems generated by ageing populations with low birth rates, on the other. Similarly, migration has been viewed from the point of view of its economic contribution, whether as positive or negative (because the issue of migration does not include only inward migration—consider for instance the Marie Curie programmes aimed at discouraging outward migration) 'brain mobility' (Vinokur, 2006), or through its effects on the need for/cost of technical training, or its effects on wage levels.

It is obvious that European education systems play a decisive role in accompanying migration policies: in the first place, by pulling down barriers and offering genuine opportunities for emancipation within education and training; in the second place, by offering citizenship education to newcomers; and in the third

[3] See, for example, the OECD's work on the social outcomes of learning (SOL network)

place, by preparing native Europeans (both youths and adults) for an open, multicultural society.

There is, however, another face of migration. Whereas the dominant picture refers to poor and low-skilled immigrants attracted by European welfare states, some regions in Europe increasingly receive young high-skilled workers from the outside world. This trend can help to overcome the problems arising by an ageing workforce described above. Selective immigration policies may also be seen as a response to the loss of high-skilled native workers due to the so-called brain drain to countries outside the EU (mainly the USA). As the global mobility of labour rises, there is an increasing need to manage flows in order to avoid a 'struggle for brains' and to elaborate fair, win-win solutions for all parties.

Key Challenge II: New Forces of Global Competition

Besides the overall trend that globalisation will proceed during the coming decades, a considerable shift in the distribution of the economic powers in the world can be observed. Whereas during the past decades of the 20th century Europe, North America and Japan were the most important players in the world economy, some emerging regions and countries are supposed to take over the leading role as future major forces during the coming decades. Especially the economic development of the so-called BRICs (Brazil, Russia, India and China) seems to be the driving force behind this change in the global economy.

Forecasts by some leading economists suggest that China in particular may increase its share of world GDP from 11% today to 40% in 2040 (Fogel 2007). At the same time, the stark forecasted decline of the European Union (EU 15) from 21% today to 5% in 2040 has been deemed "the most unsettling of the forecasts" by Nobel Laureate Robert Fogel (2007, p.2). Although the assumptions of these forecasts have been challenged, the figures are indicative of the speed at which the global economic balance is tilting in favour of China.

Other projections indicate that, within the next 40-50 years, the overall GDP of the BRIC countries could exceed those of the largest EU countries, the United States and Japan (OECD 2007a). Over the past 15 years, the trade volume grew by over 50% as a proportion of GDP in Russia, nearly doubled in China and more than doubled in Brazil and India (Eurostat 2007b). The BRICs are thus one of the most important trading and investment partners of the EU-25. Moreover, the returns to investment in these countries are the most profitable ones among all investments outside the European Union. Obviously, these facts show that almost

all firms, and hence workers, in the EU have to compete directly or indirectly in the global world and its emerging key players.

For the EU countries, these future perspectives are challenging because the industry structure has to change in order for the countries to maximise the growth potential opened up by globalisation. This in turn raises many challenges in the field of E&T.

First of all, the ongoing off-shoring and investment of European firms in the BRIC countries reveals the comparative advantages of these emerging economies, particularly in labour-intensive jobs. This may put additional strain on the declining demand for lower-skilled labour in the European Union. Cedefop has estimated that between 2006 and 2015, Europe will gain 12.5 million jobs at the highest qualification levels, and 9.5 million at intermediate levels, while 8.5 million jobs will get lost at the lower levels (Cedefop, 2008). Moreover, the overall figures conceal major shifts within qualification levels, especially at the bottom of the education ladder, where traditional agricultural and craft jobs will be replaced with low-skilled, low-paid and flexible work in the retail and distribution sectors. The study therefore warns against further 'polarisation' in the labour market.

These trends are relevant for E&T systems in several ways. First of all, if Europe wants to strive in light of the future global economic forces and catch up to the world technological frontier, its E&T systems, especially at the tertiary level, have to generate new knowledge and technologies by encouraging innovation and entrepreneurship. One may argue that the message is also relevant in terms of VET, at upper secondary and post secondary level; given that Europe's economy very much depends on SMEs whose entrepreneurs and/or staff are often trained in VET.

Secondly, it is important to adopt a proactive attitude towards the opportunities for economic cooperation with emerging economic superpowers. This may involve shifts in language education and (inter)cultural education.

Thirdly, E&T will play a major role in the upcoming European social model based on flexicurity: they are indispensable in fostering mobility between jobs and sectors, as well as adaptability within given jobs and sectors. Education and training will also become the main leverage in creating opportunities for disadvantaged groups, lifting them out of the vicious circle of precariousness and securing a prosperous future for all in a globalised economy. Targeted guidance and counselling and recognition of non-formally and informally acquired

knowledge, skills and competences are crucial, in particular for those people who have bad experience, are immigrants, feel reluctant or not confident enough to go into education and training. For those who do not succeed in securing a productive role in the globalised labour market, E&T can at least contribute to a decent treatment and access to some alternative opportunities.

Fourthly, E&T themselves have become subject to international and global competition. Both within the EU and the World Trade Organisation, the debate about the benefits and drawbacks of free movement of educational services is ongoing. A key aspect in strengthening the competitiveness of education and training itself in Europe is the quality of E&T provision. Several reforms and incentives may help to improve the quality of the teaching force (including 'learning facilitators' in non-formal and informal provision) in Europe in order to improve the educational outcomes of all learners. Furthermore, governance structures of European E&T systems have to adapt in order to deliver globally competitive outcomes.

Key Challenge III: Sustainability

Following accelerated **global warming** and several important natural disasters, there has been a major sea change since Lisbon in the area of sustainability, and it might be expected to take a more prominent role in the next 10-20 years. As well as its increasing importance in itself, the recognition of the urgency of needed responses seems likely to push it yet further up the priority list for political action. The 2007 Spring European Council agreed on an ambitious plan to transform Europe into a low carbon economy with secure, sustainable and competitive energy provision. This involves a reduction of greenhouse gas emissions by at least 20% and the achievement of a 20% share of renewable energy sources by 2020. Indirectly, it necessitates major technological innovations in all economic sectors. Whereas it must be acknowledged that E&T can do little directly that is novel to issues like global warming, they must contribute to innovations to tackle its causes as well as consequences (search for alternative energy resources, better use of resources, dissemination of alternative lifestyles etc.).

Apart from global warming, the planet has also suffered from an upsurge of **terrorism and new global political tensions** since 2000. The European response to external threats has traditionally been a rather moderate, open and peaceful attitude. In view of the accession negotiations with Turkey and the rise of islam within its own frontiers, the debate about interculturalism and inter-religious dialogue has received a new impetus. It is estimated, for example, that

by 2020 muslims will make up for 10% of the European population. Given the strong differences in fertility rates between muslim minorities and (native) Europeans, it is anticipated that the share of muslim children in European schools may well be twice as high. The fear of fundamentalism and islam extremism has fuelled xenophobia in many EU countries and triggered anti-islamic measures (such as the ban on headscarves) and further segregation in education. It is obvious that education policy has a key role in safeguarding peace and social cohesion. Respectful relationships with other cultures and religions, building on common values and human rights are a condition for peace and internal social cohesion. This can be seen as another dimension of sustainability policy.

Sustainability impinges on every aspect of life, with public policy-makers and regulators being pressed to demonstrate the sustainability of their policies as a central criterion of policy and monitoring. The education sector is no exception to this trend (see Universities and sustainability).

In a slightly different sense sustainability has come to be seen as both a condition and a target of future (knowledge and E&T) policies. This could take at least three possible forms. The first is educating the population about climate change, its consequences and possible remedies. Here, it seems likely that a major responsibility will be handed to formal and informal education, where it may be implemented as a form of cross-curricular competence. The second is to ensure sustainability through innovation in ways that make it possible to find new ways of doing things, whether that is through product innovation — with the 'hard' disciplines' of the University in the vanguard — or learning to do existing things more efficiently or effectively — where the 'soft' disciplines have a key role. This includes the development of programmes for emerging new professions/trades or new skills to be taught as part of changing job profiles within existing professions/trades. The third form may be education's involvement with 'social innovation' which is aimed at enhancing social efficiency and sustainability. It has three core elements: the satisfaction of human needs (usually at a local level); changes in social relations especially with regard to governance (with the involvement of non state actors, NGOs, civil society and corporate social responsibility); and an increase in the socio-political capability and access to resources - Moulaert et al. 2003) Sustainability may now be seen as a key element of the innovation discourse.

Chapter 2. Education and training in a global competitive environment

Global competitiveness may be expected to retain a dominant position in the Lisbon agenda, and thus to remain a central component in shaping the expectations of education systems. It is crucial to bear in mind that 'competitiveness' takes different forms (Jessop, 2002). The first is related to education's current role in global economic competitiveness, which features prominently in Communications from both DG EAC and DG Research, and may be expected to continue to do so. The second area in which changes in competitiveness may affect the conditions of education policy is that of education itself as a field of competition. Here, we may expect to see changes in the 'rules' and the stakes of competitiveness and the perceived competitors with direct and indirect implications for education and lifelong learning systems. A third field of competition relates to the recruitment of high-skilled labour from abroad (the 'brain drain – brain circulation' issue). Each of these dimensions of global competition will be dealt with separately in the subsections that follow.

2.1 Strengthening the knowledge-based economy in a context of global competition

The core of the Lisbon strategy remains fully up-to-date. According to the Heckscher-Ohlin theorems of international trade theory, free trade will spontaneously cause trading partners to specialise in producing those goods and services in which they have a comparative advantage. Where necessary, governments may lend a helping hand. As Europe is relatively poor in raw materials and labour, but rich in brain power, investing in education, research and development is indeed a recipe for success. Temple (2001) found that every additional year of education by the working population increases national income by about 10%. This effect can be broken down into a level effect and a growth effect: the former means that the working population is more productive and therefore generates more income. The growth effect can be attributed to the fact that the more highly educated have also "learned to learn": even after leaving the classroom they continue to behave creatively and flexibly under changing circumstances, producing a "snowball effect" as a result. The re-discovery of Lucas' (1988) endogenous growth theory in recent years lends further credibility to the role of human capital as an engine of growth. As far as investment in research and development is concerned, the figures are just as telling: Sakurai et al. (1996) estimate the average rate of return from R&D activities at 15%, with exceptions up to 40-50% in some countries and sectors. In other words, every

euro a company or government invests in R&D is fully recovered in an average of 7 years. The observation that few investments are as profitable as investments in education and research is perhaps one of the most important findings to come out of economics in the past decade. The European Commission has also received this message loud and clear (de la Fuente & Ciccone, 2002; Hanushek and Woessmann, 2007).

According to the 'integrated guidelines for growth and jobs', investments in R&D have to be increased, up to 3% of gross domestic product. The present record (1.85%) is still too far removed from that target (EC, 2007, part V, p.13). The innovative climate has to be nurtured, including by public-private partnerships, incubation centres, public investment in eco-technology, etc. – but also through a renewed emphasis on entrepreneurship, research and innovation skills within the education systems. Information and communication technologies (high-speed internet) as well as environment protection are key areas of innovation. The number of scientifically and technically educated people at secondary and higher levels must be further increased (this is the target that has so far been achieved most successfully). The connection between education and the labour market must also be improved. The flow of early school-leavers must be cut back to 10% by 2010 (the agreed EU benchmark), and far below that threshold by 2020. Participation in life-long learning must be increased further and every adult must have access to basic IT skills.

Recent contributions to the growth literature argue that growth-enhancing policies and institutions depend strongly upon technological development, because the engines of growth vary with the stage of development (e.g. Aghion and Howitt 2006). While growth of economies close to the technological frontier can only be driven by innovation, economies further away from that frontier can also grow based on imitation.

Such an argument could explain why EU growth rates have fallen as it has moved closer to the technological frontier. As a consequence, the EU faces the challenge to adjust its higher education system in order to increase economic growth. This would require higher spending on R&D, vocational and higher education as well as reforming the structure of the higher education system. In particular, it raises the question whether the foundation and the support of elite institutions in higher education could be beneficial in terms of creating a more innovative economy or whether a broader supply of medium-range institutions is more conducive to growth – a question on which empirical evidence is mostly lacking. The challenge of sustaining growth near the technological frontier also requires fundamental

changes in the governance of European higher education institutions, which require more autonomy, less state intervention and more competition. Finally, in order for R&D to be successfully transformed into actual innovation, another important focus will have to lie on educating people to be entrepreneurs for future innovation.

It is worth spending a few paragraphs on the specific issues relating to **older workers**. Investment in human capital formation is commonly acknowledged as a key policy to retain the older in the labour market and to upgrade their productivity (OECD 2006; Tikkanen & Nyhan 2006). Training can also help in principle those in the older age cohort to partially compensate the foreseeable decline in their relative wage, induced by the increase in their supply relative to the supply of younger workers (Brunello 2007).

In spite of the potential importance of training, training incidence declines substantially with age. One reason for this is that the time left in the labour market is often too short to recoup the costs of the investment, especially if these costs are borne by the employer. By altering the time left to retirement, pension reforms that reduce the implicit tax on continued work and increase the minimum retirement age can improve the incentives to invest (see Bassanini et al. 2007). Another reason for the declining incidence of training with age is that education and training are complements (learning begets learning, see Heckman 2000), and the older generations are typically less educated than the young. This problem is particularly severe in Southern Europe. If we consider the cohort aged 35 to 54 today – which will be aged 48 to 67 in 2020 – less than 60 percent of this age cohort has attained (at least) upper secondary education in Spain, Italy, Portugal, Greece and Ireland. In sharp contrast, this percentage is well above 80 percent in Germany, Denmark, Sweden and Norway.

In spite of the lower training incidence among older workers, it is not clear why and how governments should intervene in the training market. Compared to the young, older workers are less likely to face liquidity constraints that prevent them from investing (except the lowest-skilled). Nor is it clear why public resources should be directed to train the old and poorly educated, with benefits that are usually rather low, rather then to the young for whom the expected benefits are higher (Heckman 2000). The main argument for public support is the expected external effect on unemployment and pension schemes: training prevents older workers from leaving the labour market prematurely.

The complementarity between initial education and training and continuing training suggests that training incidence among the older can be raised if measures are taken to ensure that basic literacy and skills are acquired. An example in this direction is the Norwegian Competence Reform, which establishes a legal right for adults to the education required to attain upper secondary education. Oddly, these policies are more widespread in Northern Europe, where there is relatively less need compared to Southern Europe.

To sum up, from the perspective of global competition, priorities for the next decade may include:

- the pursuit of ongoing guidelines relating to LLL in the strategy for growth and employment;
- a greater emphasis on entrepreneurship, research and innovation skills in E&T;
- the reform of higher education to make it more competitive, responsive to change and innovative;
- a revision of language policies, taking into account the expected intensification of economic collaboration with China and other emerging economic superpowers;[4]
- a fuller integration between LLL and flexicurity policies – for example, by developing a fully-fledged social protection for low-qualified workers engaging in long-term, part-time or indeed full-time E&T (with individual learning accounts covering the indirect cost of foregone earnings);
- enhanced efforts to train older workers, for the sake of their own employability as well as for greater competitiveness of their enterprises. Validation of non-formal and informal learning is also particularly relevant for this group, both as a direct way of raising their employability and as an incentive to supplement their skills with formal learning.

2.2 Free movement of education services

The education sector is not only involved in monitoring the consequences of the globalisation process at large; it is itself also partly the subject of globalisation. In the 1990s, the WTO (World Trade Organisation) launched an offensive (in the Uruguay round and again in 2001 in the Doha round) to involve a number of subsidised services in the negotiations about trade liberalisation as well. In principle, every service over which the government does not have a genuine monopoly can be discussed at the negotiating table. Education services are included here as soon as private organisers of education are admitted, even if they

[4] For example, Chinese already appears to be the third most spoken language in Ireland.

are 100% subsidised by the state. International trade in education services can take various forms: from distance learning across national borders, international student or lecturer mobility, to the establishment of campuses abroad (Knight, 2002).

Of course, it is up to the members themselves to decide, through free negotiations, whether they want to open up their education sectors to international competition. The EU had made commitments during the Uruguay round for "privately financed education" (in other words the commercial – or at least unsubsidised – education circuit), and these commitments generally included exceptions which secured existing provisions about issues like national ownership or management, especially in the primary and secondary education domains. All compulsory education and most higher education therefore fall de facto (if not in principle) outside the scope of GATS. Only entirely private schools and commercial initiatives in adult education were liberalised. As import tariffs on education services are extremely exceptional, liberalisation essentially means in this context that non-tariff obstacles (e.g. quota restrictions, quality standards, recognition procedures for foreign qualifications, etc.) should not hinder cross-border provision by affording unfair preference to countries' own providers.

The GATS initiative was not exactly welcomed with great enthusiasm. Its intentions were good: to increase prosperity by bringing burgeoning service sectors out of their national cocoons and to allow matching between demand and supply to take place across national borders. Liberalisation means diversification, greater freedom of choice, more efficiency and quality incentives and perhaps also less of a burden on the government budget.

On the international stage, the major Anglo-Saxon countries were clearly in favour of the initiative, due to their comparative advantages in e-courses and the large market of English-speaking students. As importers, some major developing countries, led by China, can also gain from liberalisation. The Chinese government saves on higher education because most Chinese migrants pay for their studies abroad themselves. By contrast, in the European education sector, liberalisation and commercialisation meet with great reticence, not entirely without justification (O'Keeffe, 2003; Hanley and Frederiksson, 2003). Not for nothing do governments curb market forces in education because of concern for social-policy objectives such as equal access and the risk of "market failure". A free, competitive market also requires more or less homogenous goods (a nursing qualification in country A should have the same value as in country B); at the same time, all those involved must be well-informed about the quality and cost

price of the goods. Power concentrations (e.g. of large universities or associations) are out of the question, etc. None of these conditions for healthy competition is truly fulfilled. To the extent that it functions as a market, education is a very complex, opaque market. If all this applies to domestic provision, how much more then to foreign provision? Will liberalisation not lead automatically to privatisation and price increases? Will growing resort to private or mixed public-private financing bring previously protected sectors into the domain of free trade? Will E&T become less affordable for those who need it most? Does globalisation of the education sector not open the door to the contamination, or indeed overwhelming of national culture?

It is not actually clear to what extent all these objections are founded. It is a fact that the EU and its Member States pursue a somewhat ambiguous strategy in this area. Whereas the Union portrays itself to the outside world as the defender of a regulated, protected education sector, internally, it promotes liberalisation in many regards. The Bologna process and the Copenhagen process should create a "European educational space" for higher and vocational education respectively, in which supply and demand can move freely. Convergence of structures, recognition of qualifications obtained elsewhere and the development of a European Qualification Framework providing better transparency of what people have learned should help to enable EU citizens to brush up or refine their skills in other member states. Erasmus grants should boost student mobility and, last but not least, the EU services directive has paved the way for the free movement of certain educational services within the EU – at least, in higher and adult education. That same EU has a very different attitude towards worldwide liberalisation at the GATS negotiating table.

So what effects should we expect? To begin with, remember that compulsory education is also not subject to the services directive or the GATS rules, so that a great deal of movement should not be expected at this level. Secondly, higher education will also remain largely subsidised in the future. Free movement in this sector might lead to a downwards levelling-off of subsidies (or an upwards levelling off of registration fees). After all, in an open educational space, a member state cannot allow itself to offer cheaper education than its neighbouring countries for very long. In the long term, thousands of students from other member states could benefit from this transnational generosity. After all, different prices cannot be charged to EU students and to domestic students (although it should be noted that this gives some education providers additional incentives to offer places to non-EU students rather than to their own and EU nationals, as the former can be charged fees which are multiples of the fees which they are allowed

to charge their own nationals and other EU students). In higher and adult education, increased tuition fees are not actually undemocratic: they counteract the regressive redistribution currently affecting these segments because the better-off make disproportionately more use of education which is partly funded by less well-off taxpayers. The democratisation of higher and adult education will not be threatened if increased tuition fees are (over-)compensated with higher targeted study grants (adequate compensation for low-income students is obviously a *conditio sine qua non*).

The creation of a more transparent and integrated European educational space can, we believe, only be regarded as a positive phenomenon. It is the task of the government, where the market fails, to ensure that the educational supply is more transparent. This allows the user to choose more freely. The competition between provisions is also heightened as a result, which should lead to better quality and/or lower cost price.

Nonetheless, any increased "commercialisation" of higher education may also have detrimental effects: in this context, education is gradually reduced to its most utilitarian dimension. As the student himself finances a larger share of the cost of education, he will also be more likely to choose the more lucrative studies. In particular, humanities and cultural sciences could come under pressure as a result. If society attaches importance to an adequate balance between academic disciplines, it will also have to build in the required incentives for this (e.g. by differentiated registration fees). Risk aversion may also mean that only those who can fall back on family support may be willing to take on high levels of long-term personal debt to finance higher education, and that those without such support may choose to opt out of full-time education on completion of secondary education, which could seriously, weaken Europe's long-term stock of human capital. Another risk – the intensification of the brain drain – is covered in another section of this paper.

Last but not least, at international level, the risks of any forms of market forces in education and training are of course present, specifically increasing polarisation in quality and prestige among educational establishments. The Cambridges, Paris VIs, Munichs and Stockholms are undoubtedly becoming even more of a major draw within a unified European higher education space. In a liberalised EU-wide market, they will be tempted to increase their registration fees and tighten up their entry conditions in order to cream off the European or world elite. While this may be welcomed by policy makers as a positive outcome, mainstream and regional colleges, by contrast, will see a weakening of the target audience as a

result of the same mechanisms. If access to higher education (and, even more so, adult education) is to remain democratic, European positions adopted in relation to trade in education services will need to take account of societal objectives, as was also necessary for the liberalisation of other services of general interest. The question is whether this will be sustainable in a context where international student mobility is on the increase.

On the whole, the "free movement of educational services" does not look as scary as many make it out to be. It is important that a distinction be made between compulsory education, on the one hand, which belongs to the field of basic social rights, and further education and training on the other hand. In these latter segments, partial commercialisation should not automatically lead to social breakdown. It can even contribute to a more balanced financing mix, which is necessary to cope with the growing participation trend in the future. EU legislation will still have to ensure the required boundary conditions to prevent negative social side effects.

2.3 Brain drain – brain circulation

A third, related aspect of globalisation concerns the migration of high-skilled workers, both from and into the EU. The emigration of high-skilled people to countries outside the European Union, in particular to the United States, is a phenomenon that can be observed all over Europe (Tritah, 2007). In the future, new destinations such as the emerging economic powers (e.g. China, India or Brazil) may become attractive for Europe's brains, according to the 'magnet economy hypothesis'. Especially young university graduates are attracted by better working conditions and higher wages abroad. This loss of high qualified talents and professionals is a major risk for Europe's position as a competitive, knowledge-based region in the world economy because this brain drain is linked to location decisions of high-technology industries and the respective jobs in these sectors. The brain drain aggravates the problems of demographic change by particularly pulling away young professionals who could make important economic and social contributions to the European economy.

There is need to identify the push factors for the emigration of young high-skilled talents out of Europe's E&T systems. This is, above all, a challenge for tertiary education because students and researchers constitute the main part of these emigrants. Therefore, providing an attractive framework to retain these talents in Europe is the major task. The building of "centres of excellence" which

concentrate on making progress at the leading edge of current knowledge and innovation may be one element in this.

E&T systems in Europe should also see the perspectives and opportunities coming along with global labour markets. So it is not sufficient to hold high-skilled individuals in Europe, but a focus should also lie on gaining back European professionals already working or studying outside of the EU and, additionally, on attracting new talents from countries outside of the EU. The respective pull factors for this brain gain can be found in a tertiary education that is open to students and researchers from abroad and encourages academic and scientific exchange between Europe and other countries and regions. Another recent initiative to make the EU more attractive for knowledge-workers from outside the Union is the 'blue card', which allows high-skilled immigrants into one Member State to move freely across the EU after two years of residence.

Such 'brain circulation' policies should be carefully monitored, as the increased mobility of highly educated labour may turn into neo-colonial practice. The benefits of brain drain for the host countries are well-known: for example, in the United Kingdom, 30% of physicians and 13% of nursing staff are non-natives. The losses for poor countries are too often explained away using arguments such as academic unemployment in home countries, the fact that some of the brains subsequently return to their mother country, the significant flow of remittances, etc. However, the heart of the story remains an enormous drain away from large numbers of poor countries. In particular, small, poor and politically unstable countries on the periphery of the OECD seem to suffer the most from the brain drain (Docquier et al., 2007). In the whole of sub-Saharan Africa, only 4% of the population are highly educated; still, this segment of the workforce makes up 40% of emigration (Schiff & Ozden, 2005). To these poverty-stricken countries, investment in further education means nothing more or less than a flow of tax revenues to the rich world. At the same time, these countries themselves remain trapped in the poverty circuit. Is it still worth them making an investment in higher education?

The most dramatic effects can be found in the health sector. In some African and Caribbean countries, more than half of all health workers have emigrated abroad. They thus help to relieve bottlenecks on the labour market for doctors and nurses elsewhere (including in Europe) while they themselves face a much more severe shortage of health workers. This raises important ethical policy questions for all the parties involved. Soft solutions, such as the "Commonwealth Code of Practice for the International Recruitment of Health Workers", do not seem to help.

Should (and can) the migration of highly skilled workers be limited? Should a multilateral monitoring system be set up to regulate flows? Under what conditions is it (un)justified to relieve bottlenecks on our labour market by recruiting highly skilled workers from the Third World? Should at least some form of financial compensation be provided? And how can a programme such as Erasmus (Mundus) contribute to a fair brain circulation, rather than a brain drain process?

The issues discussed above focus on brain drain between the EU and the rest of the world. However, similar issues have arisen within the EU as a consequence of the recent enlargements. Several groups and researchers have pointed at the potentially negative endogenous growth effect of these enlargements on CEE countries.

There is no shortage of proposals for specific solutions. One of the groups which is extremely prone to brain drain is foreign students, who come to the North for post-graduate studies. Some systems of study grants used to finance these foreign students contain compulsory return clauses. Such conditions could be generalised. Another proposal concerns the "Bhagwati tax" on emigration, which implies that expatriates should continue to pay tax to their home countries, rather than to the host country. Others propose actual transfer sums (between governments) as compensation for losses suffered (Commonwealth Medical Association, 2004) or longer-term partnership arrangements in the education sector aimed to foster win-win solutions (DG Development, 2007). In our view, these financial schemes can resolve some of the problem, but other forms of development cooperation in education also have to be found so that students from the Third World can specialise more within their region. The Thematic Cooperation Programme with Third Countries in the Development Aspects of Migration and Asylum (successor of the Aeneas programme) can contribute to this purpose.

Chapter 3. Education and social cohesion

As traditional instruments of redistribution (such as income taxes, social security and labour market policies) have reached their limits, education seems to take over part of this role. We will first discuss the generic role of E&T in a globalising environment, and subsequently focus on immigrants as a particular target group.

3.1 Dealing with the tensions between global competition and social cohesion

The link between the knowledge-based economy, global competition and social cohesion in a single strategic plan involves a major paradox which, thus far, has not been addressed adequately in any key document relating to the Lisbon Strategy. Indeed, global competition will inevitably create increasing pressures for the maintenance of social cohesion, rather than strengthening cohesion, within Europe. The associated specialisation in knowledge-intensive sectors boosts the demand for highly specialised scientists and technically trained workers. As Cedefop suggests in its medium-term skills forecast discussed above (Cedefop 2008), bottlenecks in these labour market segments may well exert an upward pressure on the wages of these workers. At the same time, the offshoring of low-skilled, labour-intensive production processes leads to reduced demand and a structural surplus of unskilled labour, which means that the wages and working conditions of these groups are gradually undermined (Wood, 1994). Whether this polarisation on the labour market is caused by globalisation itself or by technological evolution or the "tertiarisation" of the economy is more like a discussion of the gender of the angels: the three trends are after all dimensions of the same knowledge economy.

Inequality in Europe, even in the whole of the rich North, has been systematically increasing since the mid-1980s (Förster, 2000; OECD Factbook 2007). According to Pontusson et al. (2002), some countries are still managing to curb inequality by a strong trade union movement and/or public employment, but these counteracting forces are coming under increasing pressure.

The Lisbon strategy therefore seems like trying to square the circle. The more the EU competes on global markets, the more its social cohesion comes under pressure. The EU does have structural funds available to promote social cohesion (both between regions and between the highly skilled and unskilled). Since the enlargement of the EU, however (itself also a stage in globalisation), these structural funds themselves have lost part of their impact because they have not

grown in proportion to the size of the Union, certainly not in proportion to the drastically wider gap within the EU27.

In our opinion, the only way to reconcile the knowledge economy with the objective of greater social cohesion and is through massive investment in education and training. We call this the '**knowledge-extensive development path'**, as education and training are basically an instrument for the dissemination (rather than the production) of knowledge. By contrast, the **knowledge-intensive** development path (discussed in subsection 3.1) emphasizes the production of new knowledge as a means to shift the knowledge frontier. The difference between the two approaches is that investment in education and training influence the supply side of the skills market, while globalisation and intensification of the knowledge-intensive production sectors mainly affect the demand side.

This difference is essential. R&D investment and specialisation in knowledge-intensive trade (IT, financial services, pharmaceuticals, eco-technology, etc.) boost the demand for highly skilled workers, while the outsourcing of unskilled production sectors causes a decline in the demand for unskilled workers. All other things being equal, these shifts in the demand for labour cause a reverse redistribution of employment and income, from unqualified to highly qualified. In order to contain the trend toward increased polarisation and inequality, policy must be geared towards bringing about similar shifts on the supply side of the labour market. Education and vocational training are actually geared towards converting unskilled workers into more skilled workers: if this process can (at least) keep pace with the shifts on the demand side, inequality can be kept in check, or even reduced. If, admittedly, 'schools do not in themselves create jobs', they certainly contribute to a smoother matching process on the labour market and thus reduce bottle necks in high-skilled segments as well as structural unemployment in the lower-skilled segments. It is a race against time and, if we claim that "large-scale investment in education" is needed, the distribution of this investment itself among the various sections of the population is also of great importance. The deeply ingrained Matthew effect in education and training actually threatens to undermine the effectiveness of this strategy. If we want to avoid a further polarisation of European societies, the first priority in education policy is to eliminate the flow of early school-leavers; the second priority is a comprehensive basic skills plan for adults and the third is to increase the supply of engineers and those with scientific and technical skills. Not everyone will agree with this ranking. It is a matter of public choice.

From this perspective, the recommendations included in the EC's Communication on 'Efficiency and equity in European education and training systems' (EC, 2006b) are crucially important. These recommendations relate to systematic assessment of the equity and efficiency of educational reforms, greater investment in early childhood education, more comprehensive curricula in secondary education (avoiding early tracking), financial and other incentives for disadvantaged groups to participate in higher education and greater accessibility and relevance of VET.

The ultimate underlying issue here is not just whether E&T can help contain the dualisation of European labour markets by adjusting the flows of supply and demand at various levels of qualification. It is, above all, whether education and training contribute to a fair and free society for all. Whereas the qualification structure of school leavers can be seen as a 'symptom' of the fairness of education and training systems, it is important to dig deeper and examine the degree of social stratification or fluidity of national systems. This opens new perspectives for the OMC agenda in the future.

We now propose three key priorities relating to the improvement of social cohesion: early childhood education, early school leaving, and a basic skills agenda for adults.

- ***Strengthening Early Childhood Education***

Empirical studies have revealed two important facts: Returns to education are highest at early stages of the educational process, and receiving institutionalised pre-school education is mostly beneficial for children from socially disadvantaged groups of the population (cf., e.g., Cunha et al. 2006; Wößmann and Schütz 2006). Hence, strengthening early childhood education is a matter of both efficiency and equity.

In terms of efficiency, the goal must be to design pre-school education such that children are confronted with learning environments at an early stage. Creating high-quality education at the pre-school level all across the EU can act as a multiplier for future educational returns and potentially raise overall achievement at later stages.

In terms of equity, the goal must be to secure an adequate pre-school education for everyone. While institutionalised early childhood education is already widespread in many European countries, it is often precisely the group of children

not attending pre-school education that would gain the most from it. A particular example would be children of immigrants. Quite often these children are disadvantaged at school entry simply because of language problems. A generalised and institutionalised early childhood education could substantially reduce these disadvantages.

The success of a generalised system of day-care and pre-school institutions crucially depends on the implementation and maintenance of educational standards already at this level. While this is unlikely to be achievable through tests at this early stage, it is all the more important to design strategies to ensure quality control in pre-school education.

- ***Addressing Early School Leaving***

Low achievement in school and early school leaving are among the most important factors explaining social exclusion (see Tsakloglou and Papadopoulos 2002). 15.3% of all young persons in the EU27 still leave school with no more than lower secondary education; at the current pace of progress, it is highly unlikely that the 10% target will be met by 2010. Moreover, in several countries the early dropout rates show signs of an increasing rather than decreasing trend. Even more alarmingly, about 20% of young people aged 15 achieve only the lowest level of proficiency with hardly any basic capabilities in the fundamental domain of reading literacy (according to the PISA survey) and the share of this group seems to rise (EC 2008). Individuals who fail to learn in school and achieve any recognised qualifications will inevitably face enormous difficulties in securing employment in the labour market and are most unlikely to progress into further E&T to enhance their life chances. A survey of the econometric literature produced by Psacharopoulos (2007) has documented the gigantic economic and social costs involved by early school leaving, both for the individual and for society at large.

Simultaneously, the phenomenon of "Not in Employment, Education or Training" (NEET; cf. Istance et al. 1994) is growing in all European countries. For example, it is estimated that in Britain alone 1.1 million people are part of this growing group of people who have left full-time education at the earliest opportunity with little or no educational qualifications. This large group of young people are a massive social and economic drag on society that is vastly disproportionate to their numbers.

The persistently high rates of early school leavers in the EU and the associated high risks of unemployment, marginalisation and, ultimately, social exclusion incur considerable individual, social and economic costs. Deteriorating job prospects for the low-skilled threaten to raise these costs further. Equally important, facing up to a shrinking and ageing workforce (see Key Challenge I) it is of utmost importance that the EU succeeds in making full use of the human resource potential that the youth represents. Each youngster needs to acquire basic competences to be capable of learning, working and achieving fulfilment in a knowledge-based economy and society.

Although early and sustained intervention is commonly seen as the most cost-efficient way of tackling the problem of early school leaving, there are other tools as well. A major reason for the failure to reduce early school leaving is that the action undertaken by Member States is often piecemeal with policies mostly consisting of special measures to support the most vulnerable students outside the mainstream E&T system. One other crucial factor hampering progress in this field is the limited evidence-based knowledge available on the complex patterns underlying early exits and subsequent under-performance in life in general and in working life in particular.

Most importantly, dropout must be seen as the result of unequal opportunity and disenchantment of the lowest achievers. Therefore (a) all measures aimed at combating inequalities within mainstream education and training will automatically contribute to stronger motivation and prolonged participation. Successful policies also include (b) a tight monitoring of students, (c) alternative curricula combining work and education and (d) a holistic approach to improve the well-being of groups at risk. Finally (e) Nordic countries have also tackled the problem by means of "learnfare" measures, which make access to welfare benefits conditional on participation in second-chance E&T schemes.

A potential strategic option for the longer term may be the conversion of ‘compulsory schooling’ (linked to age brackets) into ‘compulsory qualification’ laws. This would mean that young people stay on at school until they graduate from secondary education (or an equivalent qualification such as an apprenticeship), rather than until a given (artificial) age threshold. We believe that the shift of the focus, from an age to a qualification target, will significantly affect the expectations and behaviour of students as well as schools. Of course, this idea also necessitates a re-thinking of the balance between learners’ rights and obligations as well as the legal obligations of schools.

- ***Raising adult literacy, numeracy and ICT skills***

The monitoring of basic skills of adults is even more problematic than for young people, as many member states have not even invested in (national or international) skills measurements. As a consequence, it is not even possible to assess whether progress has been achieved at the EU level. Whether progress can be expected is actually uncertain: whereas rising education levels across successive birth cohorts suggest that literacy and numeracy skills should have risen since 2000, the growing dualisation of society, the deterioration of the quality of education in the new Member States and the arrival of low-literate immigrants tend to point into the opposite direction.

The most urgent priority in the OMC in E&T should therefore be a consensus to invest in adult skills measurements. Such skills surveys are essential, not just to reveal existing deficits but also to identify and help validate skills that can be validated through accreditation of prior (experiential) learning. Further, reaching beyond the well-known participation gap in LLL between low- and highly qualified adults, it is necessary to examine systematically the (lack of) basic educational provision for adults in the Member States, and to learn from good practice in designing effective strategies to raise their level of basic skills. Developing networks of outreaching counselling services, guaranteeing learning opportunities at the most basic level in all regions, developing systems for the validation of non-formal and informal learning, and transforming welfare policies into genuine 'learnfare' should be the key priorities in this area.

3.2 Education and migration

Currently, 18.5 million people with a migration background live in the EU. In the future this number is expected to rise as Europe partly depends on immigration to counter a shrinking workforce. The number of undocumented immigrants is estimated at 8 million. Hence, integrating immigrants into the European societies is of key importance and one of the major challenges of the 21st century. Integration is an economic necessity to supplement our stagnating labour supply for economic growth. Moreover, it is a social and ethical necessity to provide immigrants with the opportunity to become fully integrated into their host society.

For a fuller account of educational policies in favour of immigrant youth, the reader is referred to the specific analytical report on this topic produced by the NESSE network (Heckmann, 2008). The report summarises some facts about the educational situation of immigrant children and reviews the scientific literature

about the effectiveness of various approaches to improve their educational opportunities. It concludes with 16 policy recommendations, which we briefly summarise here.

The causes of the educational disadvantage of immigrants can be roughly classified into *socioeconomic* and *socio-cultural* categories. To the extent that immigrants share the socioeconomic conditions of disadvantaged native students, the same remedies apply to both groups: targeted material and human support (e.g. homework classes, mentoring of students, remedial teaching, avoiding referrals to special education…) as well as structural reforms of the education system (e.g. extending early childhood education, more comprehensive education). Socio-cultural remedies may include specific language teaching as well as home-school liaison, desegregation measures, intercultural education, magnet schools, educational priority funding, anti-discrimination [5] or indeed positive discrimination measures. Specific attention should also be given to the training of teachers with a migration background.

Remarkably, Heckmann does not believe that strategies such as bilingual education or 'content and language integrated learning' are essential for the immigrants' successful school careers: "*There is no compelling research evidence regarding the interdependence of learning first (family language) and second (lingua franca) languages and for the assumed effects of bilingual education.*" Nevertheless, he admits that *"Since multilingualism is of high value the first language should be further developed in general language learning in school."*

[5] Denied support appears to be the most frequent form of (indirect) discrimination.

Chapter 4. Raising the quality of education.

The emphasis on quality as the first goal of the E&T 2010 work programme is illustrative of its importance for the legitimacy and its impact on the success of the Lisbon Strategy. Quality and effectiveness are thought to depend mainly on the quality of teachers and the relevance of learning contents and curricula. We add to this list the (changing) nature of learning and the governance of E&T systems.

4.1 The changing nature of teaching and learning

There have for some time been discussions about the changing nature of knowledge as increasingly produced outside universities and transmitted outside formal education systems (see, for example, Etzkowitz 2002; Krucken et al 2006; Jensen et al 2007; Nowotny et al 2003). This is related to the press for a shift from 'teaching' to 'learning' as the centre of gravity of educational activity, and discussions of new modes of education and knowledge (such as Mode 1 and Mode 2 learning); this has so far been largely confined to the higher education sector, but it may also be relevant at other levels of education.

At another level, e-learning, as a product of the knowledge-based economy, retains attention and promise as an alternative means of delivering education, particularly to populations who might otherwise not be able to access it (e.g. Hodgson 2002). Thirdly, ICTs have been seen as being at the core of strategies to improve teaching (OECD 2004, Ch 2), and even to enable/require the shift of the centre of gravity of the educational enterprise from 'teaching' to 'learning' — which is certainly a key project for many. In this area, the past few years have seen something of a maturing of the discussions about the relationship between ICT and teaching, and this may be an area in which quite radical advances are made — though that does not mean that they will be fully implemented. Recent history shows us that the development of uses of ICT is very difficult to predict. However, one rapidly burgeoning development - known as Web 2.0, may become a significant determinant in the sense of the qualitative extension of the possibilities of education and learning over the next decade. The possibilities of its non-hierarchical, bottom-up rather than top-down basis are already being exploited in business. We may expect to see experimentation around their potential in education. The use of ICT to enable "just-for-me", rather than '"just-in-case" or "just-in-time" education, as has already been canvassed by OECD

(OECD, 2001, p.7). In other words, mainly adult learners will demand a different, more flexible and learner-centred type of E&T in the future.[6]

These tendencies obviously impact on the role of teachers and the governance of E&T institutions.

4.2. The future of the teaching profession

The ongoing shift from traditional formal education to learning systems based on multiple (formal and informal) settings has meant a diversification of the 'teaching' profession. E&T professionals currently include, apart from teachers, trainers in institutions as well as enterprises, tutors etc. Those professionals in turn contribute to further innovations, as policies are being decentralised and diversified.

Changing expectations derive directly from the Lisbon agenda and especially from its Mid-Term Review. These involve both the intensification of existing expectations and the development of new, or quite radically changed, expectations, as responding to globalisation and contributing to the knowledge based economy have become increasingly salient items on the education agenda. Increased pressure has been put on teachers and trainers from another direction, too, the rapidly spreading influence of the PISA programme, where teachers have frequently been the first to be held accountable for what is perceived as 'poor' performance of national education and training systems. As we note below, these pressures are typically combined in calls for improved quality of education and training systems, the first component of which is taken to be teachers and trainers.

Research corroborates the common sense that teachers and trainers are extremely important for student achievement (e.g. Rivkin et al. 2005). The variation across teachers and trainers in terms of their impact on student achievement seems to be of the same order of magnitude as the impact of family background. A high-quality teacher and trainer workforce is therefore crucial for the performance of E&T systems as a basis for future global competitiveness.

[6] Note that the extension of e-learning involves new issues of equity, accessibility and affordability which will not be elaborated on here, as the focus of this section is on quality. E-inclusion has become a major strand of European and national education policy.

Some countries experience that many teachers leave schools for more attractive alternatives. In a medium term perspective, it is important to keep the high-quality teachers within teaching. More importantly, in both the medium and long term perspective it is essential to recruit talented students into teacher and trainer education and provide them with a relevant education. In order to recruit talented students, teaching and training must be regarded as an attractive profession. Under the globalisation process, the working conditions and career possibilities have changed for most workers. It may be important to allow for similar changes also for teachers. The working conditions for teachers and trainers today differ markedly from other professions with about the same amount of education, and this fact will probably not be regarded as an advantage for potential students in the future. For example, the availability of on-the-job training and career possibilities within the teacher and trainer profession may be regarded as more important in the future than it has been in the past. Making teacher jobs more similar to other jobs will in turn require more flexible work loads and wages. For example, in many countries it is difficult to recruit teachers in natural science, which calls for appropriate compensations in terms of higher wages or other means.

It is a common view that teacher education needs to be reformed. This is probably true in many countries, but research has not established credible evidence on which type of education is most successful. Contrary, research indicates that the general type and amount of education of teachers do not have a major impact on student achievement. A lot more well-founded research is needed to provide the basis for evidence-based reform of teacher education. Several trends need to be taken into account in such research: for example, the rising demand for teachers and trainers working with adults necessitates the inclusion of andragogy in teacher profiles; the diversification of target groups and their increasingly multicultural composition requires more intercultural teaching skills.

The issue of supply of teachers is coming under scrutiny, with falling teacher numbers and an ageing profession; as the Communication "Education & Training 2010: The success of the Lisbon Strategy hinges on urgent reforms" points out these will have to be introduced 'in the face of a worrying shortage of teachers (by 2015, mainly because of the retirement of existing teachers, over a million teachers will have to be recruited)' (CEC 2003, p.1).

Indeed, demographic change does not only affect the population at large, but also – and particularly – the teaching profession. In the average OECD country, 26% of primary-school teachers and 31% of secondary-school teachers are aged over

50 years (OECD 2005). European countries with particularly large fractions of teachers aged over 50 include Germany (47%), Denmark (45%) and Sweden (43%) in primary school and Germany (49%), Italy (48%) and Sweden (44%) in secondary school. As few as 5% of teachers in Italian lower secondary schools are younger than 40 years. Marked trends towards an ageing teaching workforce are also evident in France, the Netherlands and the United Kingdom.

An ageing teaching and training force means that teaching experience increases, but also that additional efforts may be required to update existing skills. While research does not generally find important effects of teacher age or experience on student learning, experience of burn outs of teachers and trainers may be an issue.

Finally, because most countries at least to some point link teacher pay to teacher age or experience, the ageing of the teaching force has a tendency to increase the education budget per student. These increased costs of schooling may limit the manoeuvring space due to reduced student cohorts.

This raises the question whether, how and how far the status quo can and should be maintained. At an immediate level, the issue becomes one of how to cope, to maintain the status quo with a declining numbers of teachers. Partial solutions have already been found by recruiting from business and industry as well as recognition and validation of non-formal and informal learning for VET teachers and trainers (Cedefop, 2007).

What steps can be taken to ensure that all children – not to forget adults ! - continue to receive a level of education that they have become used to (and that their 'societies' have become used to)? Failing that, what components of the current educational offerings will have to be cut back, or cut out? Alternatively, will we need the same number and type of teacher in the next 30 years as we have for the last 30 years? Will we need schools, classrooms, class sizes, disciplinary distinctions as the basis of teacher qualification and the organisation of educational activities? Is it necessary that all the responsibilities undertaken by teachers actually need skilled professionals to carry them out, or can some degree of specialisation and hierarchisation of the tasks currently performed by teachers be seen as more effective? Rigorous self evaluation and external evaluation may be expected to continue as central features, but there are increasing calls for the investigation of the value and appropriateness in the school context of approaches that have proved effective in enhancing the performance of businesses.

4.3 The governance of E&T institutions

An important ingredient in improving the quality of education lies in a strengthened focus on providing the right incentives to E&T establishments, teachers and trainers, so that behaviour that is conducive to students' actual learning is rewarded and behaviour detrimental to student learning is sanctioned. This requires new institutional arrangements and incentive schemes in the governance of schools and E&T systems more generally.

The array of possible combinations of agents, activities and scales that form the basic determinants of governance of education systems is seen in Figure 1 (taken from Dale and Robertson 2002). The traditional form of running education and other sectors, which was based on the assumption that 'the state did it all' (which would be represented in the Figure by the first row), dominant in the "trente glorieuses", has ceased to be feasible. Now an array of other possible agents to carry out these tasks has emerged — and been encouraged — especially through the involvement in various ways of the private sector. The other element that is absolutely central in this context is that over the same period the governance of education has ceased to be exclusively a matter of national policy. Both sub-national and supranational agencies now have to be taken into account in understanding the governance of education systems. This of course includes the EU, which is why this is such a significant topic in the context of this paper.

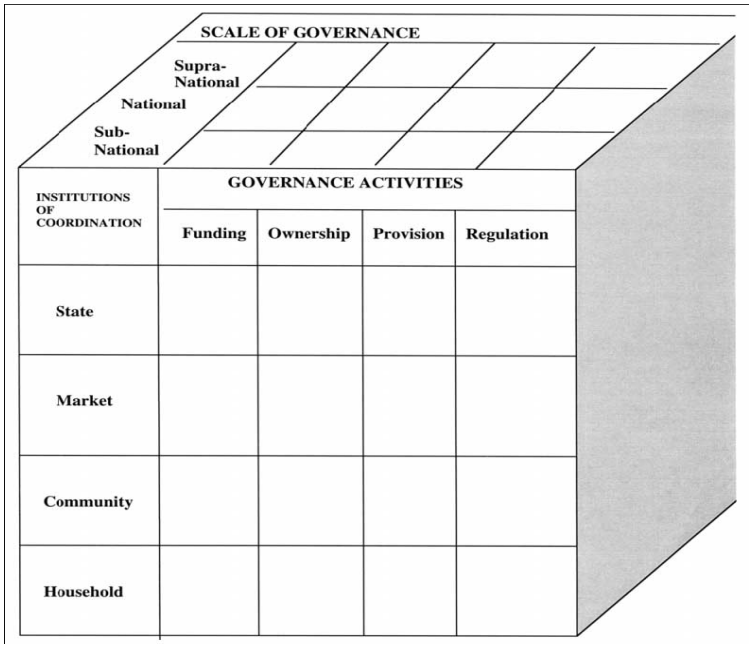

Figure 1. Pluri-scalar governance of Education

We might identify three fundamental sets of issues through which questions about variations in the construction of the issues of governance of education systems might be expressed.

The first concerns the **outcomes** of educational governance, briefly whether it is directed at enhancing the efficiency, the effectiveness or the equity of education systems. It is here, for instance, that we find issues of "privatisation", "marketisation" and so on, which can all be reflected by the combinations in the diagram (which are not intended to be seen as mutually exclusive; indeed, various forms of hybrid may be considered the most effective way of realising goals of governance).

The second concerns the **composition** of the coordination of education activities as an issue in itself rather than as a means towards achieving desirable outcomes. That is to say, governance has been increasingly seen as having importance in its own right, for instance as a reflection of political and democratic values (Derouet and Derouet-Bresson, forthcoming). 'Who should be involved in the governance of education' is a different question from 'how do we do it more efficiently, effectively and equitably', and the two clearly intersect in numerous possible ways. Here, questions of e-governance, and the increasing interest in community participation in decision making about matters that concern them directly, may become increasingly salient. In mainstream (initial) education, the question refers to the implementation of the European Convention on Children's Rights, which provides for participation of children in the public debate on matters such as education.

The third question concerns the **scope** of educational governance being discussed. Though we are now in an era of the introduction of Lifelong Learning as the overriding theme of European education initiatives, the pattern of governance may be expected to continue to vary considerably across levels and sectors of the education.

Education is mainly publicly provided in most countries. But when market forces are out of play, other incentives are crucial in order to stimulate efficiency and high student achievement. Intrinsic motivation of the actors in the education system is without doubt important, but relying only on intrinsic incentives is a risky strategy for such a large and important industry as education. At least there is no reason to believe that the intrinsic incentives are of similar intensity for different cohorts of teachers. Thus, an active and evidence-based governance of

education is likely to be crucial to improve the performance of E&T systems in order to make it globally competitive.

The evidence-based approach calls for controlled pilot projects and evaluations at all levels of education and training. Often it is hard to know what the best policy is, so that it is crucial to have a strategy for evaluation instead of relying only on abstract approaches. Evaluations in turn must be based on data of the outcomes that are regarded as the most important tasks of schools. The appreciation of the importance of evidence-based policy must be followed by collection of vital and comparable data on the functioning of schools.

Examples of such instruments for the monitoring of quality include the PISA programme, the set of indicators and benchmarks for the OMC in E&T or the World-Class Universities Indexes (eg. Shanghai Jao-Tong or Times) which, it may be anticipated, will continue to frame conceptions of success and effectiveness in education systems, in a very influential way. The significance of PISA, for instance, is that it allows comparison not only across countries but also as it provides a means of comparing the success of Europe as a whole with that of other competitors. The power and legitimacy of PISA are now clearly established and embedded (e g, Germany; see Allmendinger and Leibfried 2003), and this may also lead to it being used as a kind of meta-framework for the development of other systems of indicators; they may have to be 'PISA compatible', or at least to take PISA as a reference point. Admittedly, the use of uncorrected achievement measures has been contested and alternative yardsticks aimed at measuring 'value added' rather than 'output' have been put forward (European Commission, 2006c). Whatever the details, however, we may be able to assume that judging the 'quality' and 'effectiveness' of education systems on the basis of measures of student performance will continue to be the dominant form of such judgments, and that it will have a relatively independent effect on whatever public education systems attempt.

More generally, governance of school systems should make use of external incentives. Mobilizing the private sector may contribute in this direction by introducing elements of markets. This must, however, be done in a careful way to ensure that low-performing students also profit from individual choices. Within public sector schools, decentralised decision-making will utilise local knowledge, increase the influence of parents who care about the progress of their children, and make inefficient use of tax money more visible. Similar pressures can be observed in VET, where systems face tensions between central steering and decentralised decision making and implementation. However, decentralisation

may fail because of information problems, given that school outcomes are hard to observe – see the debate about a common quality assurance framework in VET; or the trend to accreditation in particular in adult learning and the question whether accreditation as such means quality in provision. Therefore, national (or EU based) accountability systems will help to overcome information problems and make decentralisation effective. In particular, it is important to identify bad schools in terms of achievement growth in order to promote cohesion. Evaluations of programmes and outcomes at all levels of education and training can provide the broad public with access to reliable comparative information, within and between countries.

As regards alternative modes of governance, research indicates that the organisation of quasi-markets - based on competition between schools and free school choice - has a positive impact on average performance but adverse effects on equality (see among others, Lauder & Hughes, 1999). Whether the net result for low-SES groups of students remains positive, is currently a matter of debate.

Paradoxically, one type of stakeholder that has been largely overlooked in the debate of school governance is pupils / learners. Yet, giving a voice to learners may be expected to enhance the quality of education to a large extent: firstly, because user involvement corresponds to the philosophy of the new mode of knowledge production; and secondly, because participatory settings always tend to improve the motivation and commitment of all parties. As mentioned above, there is a role for the EU in fostering the implementation of the convention of children's rights by encouraging Member States to adapt their institutional frameworks accordingly.

4.4 Learning for life

The scientific literature about education in the past decades has been characterised by intense debate about the relationship between the school and the economy. The economic approach, focussed around the human capital approach (Becker, 1963) has sometimes been challenged as a narrow, single-minded view implying a subordination of schools to the labour market and reducing the motivation of learners to financial gains. This debate is even more relevant at the EU level, as the Union is mainly competent in the economic field. Hence, economic and labour market arguments have also dominated in the OMC, despite the explicit recognition of other goals in the European discourse.

Recent trends point to a shift of paradigm in the economics of education as well as the policy discourse. Amartya Sen's capability approach, which has radically widened the definition of welfare, is currently being adopted in theoretical and empirical economic research on education. The concept of 'capability' refers to the feasible set of "functionings" of a human being in various dimensions of life (health, work, leisure etc.) – where feasibility takes into account the individual's freedom of choice. Empirical work has highlighted a substantial range of beneficial effects of education (health, citizenship, family life etc.) which were often disregarded by economists. This shift in the economics of education has brought the discipline closer to other social sciences of education.

The relevance of the new paradigm is obvious, as the value of learning has equally further widened. Apart from its role in raising employability and productivity, education has become the key instrument in developing more sustainable lifestyles, fostering citizenship, promoting intercultural skills, including elderly people etc. It appears that the era of 'competences' has already been replaced with the era of 'capabilities'.

European policy makers proved to be sensitive to this broader view of education. In 2004, for example, the Council has adopted a report on the broader role of education, which stressed that "*education contributes to preserving and renewing the common cultural background in society and to learning essential social and civic values such as citizenship, equality, tolerance and respect, and is particularly important at a time when all Member States are challenged by the question of how to deal with increasing social and cultural diversity*." And in 2006, the European Parliament and the Council issued a joint Recommendation on key competences for lifelong learning, which re-iterated the objectives of lifelong learning as personal fulfilment and development, active citizenship, social inclusion and employment. The list of 8 key competences includes communication in the mother tongue, in foreign languages, mathematical and scientific competences, digital competence, learning to learn, social and civic competences, sense of initiative and entrepreneurship, and cultural awareness and expression.

The OMC in E&T will need to continue updating this agenda with its multiple and shifting objectives – including its operational priorities, as we have tried to indicate in this paper. For example, it may be worth adding 'sustainability' competences to the list of key competences.

Chapter 5. Concluding remarks.

This report has highlighted three key challenges – demographic change, globalisation, and sustainability – that European education and training systems will have to face in order to flourish in the future. Each challenge brings about a whole set of implications for European E&T systems that will require political attention for a long time to come. We have grouped these implications into three broad categories: competition, social cohesion and quality, with many dimensions that are mutually overlapping.

It is self-evident that such a future-oriented exercise has a brainstorming character that contains a lot of imponderability. There is no scientifically rigorous way of saying how European E&T systems will look like in 2020 and what the key challenges will be at that time. There are a lot of possible future scenarios – some more bleak, some more friendly – and we abstain from speculating about things for which there is no rigorous basis to argue from. What we have attempted, is to frame the debate by documenting hypotheses about the future with information about trends and reflections from the scientific literature. There is no doubt that this way of addressing uncertain futures is better than trying to maintain the status-quo.

Apart from 'trends and scientific reflections', the exercise has highlighted inherent tensions between various legitimate priorities such as, for example:

- competitiveness and social cohesion - and, related to this, the balance between knowledge-intensive and knowledge-extensive development paths;
- the global 'struggle for brains' versus regulation of international markets for high-skilled labour;
- early childhood education (as a basis for equal opportunities) versus lifelong learning and education for the elderly;
- a focus on skills needs for the labour markets and a broader approach focussed on the development of capabilities;
- modes of governance aimed at enhancing incentives versus more rights-based principles.

These tensions should not necessarily be seen as 'dilemmas'. Instead, in many cases, public choices need to strike a balance between the objectives, taking on board the interests of all stakeholders - including those of the most vulnerable groups and the outside world.

To conclude this report, let us emphasise the remit of this exercise, not just for the researchers involved in documenting trends, but even more for the policy makers who are supposed to ground their future strategies on such contributions. The awareness of the importance of basing policies on sound research in order to see real results is growing all over Europe. However, more often than not, short-term considerations of politics override the search for the best solutions evidenced by research also within the area of E&T policies. Today, there are many firm research results in the education sciences that fail to be enacted. If Europe wants to really face the challenges of the future, E&T policies will have to be better grounded in research.

To start with, in most EU countries this requires a much better data base on education processes and outcomes. Europe also has to build the research excellence using the best methodological tools to generate evidence on the success of educational reforms. Europe-wider interaction, research collaboration and international comparison can help produce the best research knowledge. In addition, because initial conditions are different in each country, further country-specific research on the relevant policy issues would add to the knowledge which kind of reforms are most promising in the different countries.

Most importantly, decision-making procedures on E&T policies have to ensure that reforms are grounded in well-designed research evidence. The EU may play a helping role in holding national governments accountable to important insights from research.

References

Aghion, Philippe, Peter Howitt (2006). Appropriate Growth Policy: A Unifying Framework. *Journal of the European Economic Association* 4 (2-3): 269-314.

Allmendiger, J and Leibfried, S (2003), Education and the welfare state: the four worlds of competence production. *Journal of European Social Policy* 13,1, 63-81.

Barr, Nicholas (2004). Higher Education Funding, *Oxford Review of Economic Policy* 20 (2): 264-283.

Bassanini, Andrea, Alison Booth, Giorgio Brunello, Maria De Paola, Edwin Leuven (2007). Workplace Training in Europe. In: Giorgio Brunello, Pietro Garibaldi, Etienne Wasmer (eds.), *Education and Training in Europe*. Oxford: Oxford University Press.

Brunello, Giorgio (2007). The Effects of Cohort Size on European Earnings, *Journal of Population Economics*: in press.

Cattaneo, M. Alejandra, Stefan C. Wolter (2007). Are the Elderly a Threat to Educational Expenditures? CESifo Working Paper 2089, Munich: CESifo.

Caviedes, Alexander (2004), The open method of co-ordination in immigration policy: a tool for prying open Fortress Europe?, *Journal of European Public Policy* 11, 2, 289-310

CEC (2003), Communication from the Commission - *"Education & Training 2010": The success of the Lisbon Strategy hinges on urgent reforms* (Draft joint interim report on the implementation of the detailed work programme on the follow-up of the objectives of education and training systems in Europe) COM (2003) 685 final

CEC (2007), Communication from the Commission to the Council, the European Parliament. The European Economic and social Committee and the Committee of the Regions. *Third Annual Report on Migration and Integration,* COM(2007) 512 final, Brussels, 11.9.2007

Cedefop (2007), *Recognition and validation of non-formal and informal learning for VET teachers and trainers in the EU Member States,* Luxembourg: Office for Official Publications of the European Communities

Cedefop (2008), *Future skill needs in Europe. Medium-term forecast synthesis report*, Luxembourg: Office for Official Publications of the European Communities

Cunha, Flavio, James J. Heckman, Lance Lochner, Dimitriy V. Masterov (2006). Interpreting the Evidence on Life Cycle Skill Formation. In: Eric A. Hanushek, Finis Welch (eds.), *Handbook of the Economics of Education*, Vol. 1, pp. 697-812. Amsterdam: North-Holland.

Dale, Roger (2007/8), Changing meanings of 'the Europe of Knowledge' and 'Modernising the University' from Bologna to the 'new' Lisbon, *European Education*, 39, 4

Dale, Roger and Robertson, Susan (2002), The Varying Effects of Regional Organizations as Subjects of Globalization of Education, *Comparative Education Review*, 46, 1, 10-36

Derouet, Jean-Louis and Derouet-Bresson, Marie-Claude (forthcoming) "*Les recompositions parallèles des formes de l'État et des formes de justice"*

Etzkowitz, H. (2002), "Incubation of Incubators: Innovation as a Triple Helix of University - Industry- Government Networks.", *Science and Public Policy,* 29:, 1, 111-128.

European Commission (2006a). Detailed Analysis of Progress Towards the Lisbon Objectives in Education and Training: Analysis of Benchmarks and Indicators (Annex). European Commission.

European Commission (2006b), *Efficiency and Equity in European Education and Training Systems. Communication from the Commission to the Council and the European Parliament,* COM(2006) 481 final

European Commission (2006c), *Efficiency and equity in european education and training systems. Commission Staff Working Document accompanying the Communication from the Commission to the Council and the European Parliament,* COM(2006) 481 final

European Commission (2007), *Strategic report on the renewed Lisbon strategy for growth and jobs: launching the new cycle (2008-2010). Keeping up the pace of change*, Communication from the Commission to the Spring European Council, 11/12/2007

European Commission – DG Development (2007), *Resolution on the migration of skilled workers and its effects on national development*, DEV/02/AB D(2007) 5590

European Commission (2008), Draft joint progress report of the Council and the Commission on the implementation of the 'Education and Training 2010' work programme, Brussels, 31/1/2008

Eurostat (2007a). *Europe in Figures: Eurostat Yearbook 2006-07*. Luxembourg: Office for Official Publications of the European Communities.

Eurostat (2007b). Statistics in Focus, Economy and Finance 111/2007. European Communities.

Eurydice (2004), 'Keeping teaching attractive for the 21st century', Volume 4 in *The teaching profession in Europe: Profile, trends and concerns,* Brussels: Eurydice

Eurydice (2007), '*School autonomy in Europe. Policies and measures,* Brussels: Eurydice
Hochschul-Informations-System (HIS) (2005). Eurostudent. Hannover: HIS. [*http://www.his.de/Eurostudent/report2005.pdf*]

Fogel, Robert W. (2007). Capitalism and Democracy in 2040: Forecasts and Speculations. NBER Working Paper 13184. Cambridge, MA: National Bureau of Economic Research.

Hanushek, Eric A., Ludger Wößmann (2007). The Role of School Improvement in Economic Development. NBER Working Paper 12832. Cambridge, MA: National Bureau of Economic Research.

Heckman, James J. (2000). Policies to Foster Human Capital. *Research in Economics* 54 (1): 3-56.

Heckmann, Friedrich (2008), *Education and the integration of immigrants*. NESSE Analytical Report 1 for EC DG Education and Culture, Bamberg: European Forum for Migration Studies.

Hodgson, V (2002), The European Union and e-learning: an examination of rhetoric, theory and practice, *Journal of Computer Assisted Learning*, 18, 3, 240-252

Institute of Higher Education (2007). The Academic Ranking of World Universities. Shanghai Jiao Tong University, Institute of Higher Education. [*http://ed.sjtu.edu.cn/en/*]

Istance, D., G. Rees, H. Williamson (1994). *Young People Not in Education: Training of Employment in South Glamorgan*. South Glamorgan Training and Enterprise Council.

Jensen, Morten Berg, Johnson, Bjorn, Lorenz, Edward and Lundvall, B-A (2007), Forms of knowledge and modes of innovation, *Research Policy* 36, 680-93

Jessop, B (2002), *The Future of the Capitalist State,* Cambridge: Polity

Krucken, G, Meier, F and Muller, A (2007), Information, cooperation, and the blurring of boundaries –technology transfer in German and American discourses, *Higher Education*, 53, 5, 675–696

Lucas, Robert Jr., 1988. On the mechanics of economic development, *Journal of Monetary Economics*, Elsevier, vol. 22(1), pages 3-42, July

Lutz, W, O'Neill, B and Scherbov, S (2003), Europe's Population at a Turning Point, *Science* 28 March, 299, 5615, 1991 – 1992

Kruger, Justin, David Dunning (1999). Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-assessments. *Journal of Personality and Social Psychology* 77 (6): 1121-1134.

Lauder H., Hughes D. (1999), *Trading in futures. Why markets in education don't work*, Buckingham: Open Univ. Press

Mishan, E. (2002). Why Students Should Pay the Full Costs of Their Education. Institute of Economic and Social Affairs, *Economic Affairs* 22: 36-40.

Moulaert, F., Rodriguez, A. and Swyngedouw,E. (eds) (2003), *The Globalized City. Economic Restructuring and Social Polarization in European Cities*. Oxford: Oxford University Press

Muenz, Rainer (2006), *Europe: Population and Migration in 2005*, Washington: Migration Policy Institute / Hamburg Inst. of International Economics (*http://www.migrationinformation.org/Feature/display.cfm?ID=402*)

Myers, Norman (2005), *Environmental Refugees: An Emergent Security Issue*, Prague: 13th Economic Forum

Tikkanen, T., Nyhan, B. (2006), *Promoting lifelong learning for older workers: an international overview*, CEDEFOP, Luxembourg: Office for Official Publications of the European Communities, 2006. 270 p.

Nickell, Stephen (2004). Poverty and Worklessness in Britain, *Economic Journal* 114 (494): C1-C25.

Nowotny, H, Scott, P and Gibbons, M (2003), 'Mode 2' Revisited: The New Production of Knowledge, *Minerva* 41, 2 179–194

OECD (2001), *E-learning: the Partnership Challenge,* Paris: OECD

OECD (2004), *Education Policy Analysis,* Paris: OECD

Organisation for Economic Co-Operation and Development (OECD) (2005), *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*. Paris: OECD.

Organisation for Economic Co-Operation and Development (OECD) (2006), *Live Longer, Work Longer*. Paris: OECD.

Organisation for Economic Co-Operation and Development (OECD) (2007a), *OECD Employment Outlook*. Paris: OECD.

Organisation for Economic Co-Operation and Development (OECD) (2007b). *Education at a Glance 2007*, Paris: OECD.

Pieterse, Jan Nederveen (2002), 'Global inequality: bringing politics back in', *Third World Quarterly*, 23:6, 1023 – 1046

Psacharopoulos, George (2007a). Funding Universities for Efficiency and Equity: Research Findings vs. Petty Politics. Proceedings of the Conference on *Funding, Equity and Efficiency of Higher Education*, Portorož, Slovenia, November 21-24, 2007.

Psacharopoulos, G. (2007b), *The costs of school failure: a feasibility study*. Paper produced for the European Commission on behalf of the EENEE network

Rivkin, Steven G., Eric A. Hanushek, John F. Kain (2005). Teachers, Schools, and Academic Achievement. *Econometrica* 73 (2): 417-458.

Sidhu, R and Christie, P (2007), Spatialising the scholarly imagination: globalisation, refugees and education *Transnational Curriculum Inquiry* 4 (1) *http://nitinat.library.ubc.ca/ojs/index.php/tci*

Suárez-Orozco, Marcelo M and Qin-Hilliard, Desirée (2004), *Globalization: Culture and Education in the New Millenium,* University of California Press

Tritah, A. (2007), Brain-Drain Between Knowledge-Based Economies: the European Human Capital Outflow to the US, in: *The CEPII Newsletter* n° 35, 4th Quarter 2007

Tsakloglou, P., F. Papadopoulos (2002). Aggregate Level and Determining Factors of Social Exclusion in Twelve European Countries. *Journal of European Social Policy* 12: 209-223.

Vinokur, A (2006) Brain Migration Revisited *Globalisation, Societies and Education*, 4,1,7-24

Wößmann, Ludger, Gabriela Schütz (2006). *Efficiency and Equity in European Education and Training Systems*. Analytical Report for the European Commission prepared by the European Expert Network on Economics of Education (EENEE) to accompany the Communication and Staff Working Paper by the European Commission under the same title. [http://ec.europa.eu/education/policies/2010/back_gen_en.html]