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GLOBAL CHALLENGES TO EUROPEAN UNIVERSITIES

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In recent years, the scientific organization of the world has been undergoing several fundamental changes. The early islets of learning – monasteries and first universities – were separated from the surrounding society, but connected with their peers abroad. By the 19th century, the centers of learning were converted into national universities and, later on, national systems of science policy. This change meant also a transition from elitism to democracy.

Now the structure of the scientific enterprise, and science policies in general, have become increasingly regional and global as well. Universities forge transnational ties and establish offshore campuses, especially in the emerging economies. In addition, the corporate R&D has become increasingly mobile. While China and India have been gaining ground as sites of research and development, R&D is still conducted predominantly in the home country and other industrialized countries. Predictions about China, India, and a few other countries becoming over the medium term the leading powers in science and technology are premature at best.

The reason for this optimism, as seen from a small industrialized country, is that the global system of science and technology is becoming increasingly layered; high value-added activities are still located in a few industrialized countries. In addition, new scientific openings, such as the breakthroughs in nano sciences, still occur in the West. This is important for the very simple reason that a high rate of investment – fixed and R&D investment combined – is the best assurance for the economic and productivity growth.

On the other hand, more routine and applied development tasks are moved to countries that combine adequate expertise with acceptable labor costs. There is no doubt that a countries like China and India will move up in the science and technology ladder. The accumulation of huge current account surpluses and currency reserves especially in China – to the tune of 940 billion dollars today – facilitates the investment in R&D. At the same time, the free availability of excess money creates the risk of misplaced and unproductive investment.

Money helps but it is not the only solution as the institutions matter as well. In other words, it has to be made sure that the public and private agencies work well together and utilize the synergies that their cooperation creates. A successful policy of science and technology also requires the preservation of the autonomy of the partners to enable them to find their own best way to innovation as well as the protection of the intellectual property rights.

Yet, the challenge from the emerging economies is for real. The institutions of higher education, research funding agencies, and corporations cannot stay put, but they have to find new ways to move forward. The challenge appears to be three-fold. First, these actors have to develop robust systems of **quality assurance** (but not in the industrial but in the intellectual sense). The best way to do this is to conduct in each and every major university an international evaluation of their scientific stature. This has been done by now in several Finnish universities.

The problem with Europe is not so much the lack of strong places of learning. In a Newsweek (August 21-28, 2006) assessment, the list of the ten best universities in the world contained eight American and two British universities. However, among the 45 best universities, there were additional eight European universities of which three were British and, somewhat surprisingly, five were Swiss. Be as it may, one could mention several strong European universities and, as a consequence, there is a certain quality assurance in the European higher education.

On the other hand, there are too many mediocre European universities. It is not exaggerated to say that the European higher education is in a crisis; too many sites of higher education are suffering from being overcrowded and providing substandard education. Thus, the challenge is not only to invest in peak performance but also to lift the bottom to a higher standard. This is not only the issue of educational but also of social and employment policy. One problem with Europe is, as Jean Pisani-Ferry has pointed out, that the average EU adult is significantly less educated than adults in the United States and Japan. Moreover, the emerging countries are catching up also in this regard.

The second challenge is to **internationalize the universities** more effectively. Of course, universities are international almost by definition. For instance, in Europe 140,000 students participate in the Erasmus program each year. Yet, with few exceptions, most European universities are pretty national, even parochial in nature. With the exception of some British and French universities, there are very few genuinely international universities in Europe. The fact is that foreign students earn 30 per cent of the doctoral degrees awarded in the United States (and an even higher figure, 38 per cent, in the UK).

The European universities have simply to find out ways to attract more well-qualified international students and professors. This is a special challenge to Finland which, despite its high scientific standard, where universities still remain quite domestic in their orientation. Talk on brain drain and brain gain is outmoded; the real target should be brain circulation. Yet, it has to be kept in mind that most Chinese students now return after graduating abroad as the conditions to continue their work at home have improved.

The third challenge is to find a **proper balance between public and private funding**. In European universities, public funding plays the key role and this is the way it should be; public universities are repositories of common knowledge, institutions to educate our shrinking youth, and spearhead technological and social innovations through basic research. Universities have also had an important role in revitalizing the local economic and cultural activities.

The outsourcing of R&D from industrialized countries is a fact of life. The big question is what elements of R&D are outsourced. It is in the interest of the industrialized countries to keep the activities in the scientific and technological forefront within their own borders (while they are strongly linked in transnational networks). This is not only due to the need to employ highly-qualified manpower, but also the beneficial externalities of research and development as well as positive cultural influences.

The only way to do this is to make sure that the national systems of science, technology, and innovation are well funded and effective. If these systems are able to produce a strong scientific basis and applied research, it is more likely that transnational companies will also keep their R&D activities "at home". In other words, economic globalization means that the national factor enters the science and technology policy in a new way as the functioning public R&D system becomes a condition to keep the country attractive to international business.

The strategies to be pursued in different European countries differ, but in most of them the most burning issue is the university reform. We have now several reports that point the way to the future. The European Commission has recently issued its report on universities and the contribution by the Centre of European reform, “The Future of the European Universities: Renaissance or Decay”, is also useful. In the reform process, one has only to make sure that the institutional changes to be introduced do not damage the most valuable stock of the universities, their intellectual capacity.