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European Universities Must Get Their Act Together¹

As *The Economist* in *The Brains Business Survey* (10 September, 2005) points out, academia in Europe are not ready for the challenges ahead. Realising mass access without sacrificing excellence demands a dynamic and competitive university system. The European challenge is to get the diversity and quality of the U.S.A. without hurting accessibility. A key problem is that central planning and steering cause a generic lack of variety, monopolistic behaviour, scale increases and grade inflation. The explosive growth in enrolment has led to erosion of academic standards. Reforms of the European university system should tackle these issues. European universities also have much less resources per student than their U.S. counterparts, so it is crucial to raise tuition fees without harming access.

Higher Education in Europe

Enrollment rates more than doubled during the last thirty years in virtually every country. From a lifetime perspective students will not be poor and can borrow more. Costs of higher education (EUR 45,000) are much less than lifetime earnings, hence higher education is an excellent investment. Also, earnings for different studies are different, but tuition fees are often the same. Typically, prices charged to students do not depend on costs. European universities suffer from bureaucracy and lack of autonomy. Almost all parameters are fixed: subsidies per student are fixed, tuition fees cannot be varied, the num-

ber of places for each course is often fixed by the ministry of education, and applicants cannot be refused once they have passed their national exams. Universities find it thus tough to respond to changes in demand and engage in competition. Much time and energy goes into securing government subsidies for education and research rather than into academic entrepreneurship.

Higher PISA (Programme for International Student Assessment) scores suggest higher educational attainment, lower dropout rates, shorter study lengths for those who actually graduate and higher wage returns. Lower student/staff ratios are associated with higher educational attainment, lower dropout rates, shorter enrollment duration for graduates and higher wage returns. Targeting government funding at students rather than universities suggest higher attainment, higher dropout rates, slightly shorter study duration for those who graduate and lower wage returns. If students borrow more and get less grants, or the share of private expenditures increases in general, this may be associated with higher attainment shorter duration of study for those who graduate, lower dropout rates and bigger wage returns.

Students, state and sponsors lack the information necessary to judge the quality of higher education. Intrinsic motivation of students and staff and trust are vital and diminish if too many monetary incentives are introduced. Objectives are typically

¹ Based on Jacobs and van der Ploeg (2006).

not profits, but how well they do compared to their peers. Rankings and peer reviews and the competition that result from it, drives universities. Peer effects are also crucial for students as they form values, academic interests and aspirations in the interchange with other students. Universities also need funding from students, alumni, estates and sponsors. However, non-profit enterprises also have a tendency for bureaucratic slack; witness big offices for central administration, “prestige projects”, etc. They also tend to underestimate the costs of its capital services such as buildings and campuses.

Potential Merits of the Bologna Reforms

The advantages of the Bologna reforms towards introducing system of bachelors and masters in Europe are:

- Reduce the risk of choosing the wrong study and encourages students to take more demanding studies. A first degree in mathematics or science that lasts three rather than five or six years is a less daunting prospect. Those who like mathematics and science go on afterwards with a specialised degree. By the same token, the Bologna reforms allow students to wait in the presence of uncertainty with regards to their capacities, interests and job market circumstances.
- Stimulate students to combine different studies. Much of technological and economic progress in contemporary society occurs in the twilight zone between different disciplines. Moreover, university students who discover that they have more of a professional interest can switch to a professional master course at a college of professional higher education and some of the more academically minded vocational bachelors may switch to university.
- Stimulate variety. Many European countries offer a higher average quality than the U.S.A., but have less centres of excellence, less diversity and less flexibility, and less choice between intensive and extensive forms of education.
- Encourage students to finish their studies more quickly as students will be matched better with universities because risks of doing a wrong study diminishes, variety increases, and students have the option to return. The Anglo-Saxon system of higher education features almost no dropouts, because students know exactly when to study and when they can work or have fun.
- Engender competition between a larger number of shorter degree programmes. Currently, however, many universities in Europe are stifling competition as may be witnessed from many mergers and the standardisation of many degrees. If students are unhappy with a particular degree programme, they should vote with their feet and go to another programme.
- It makes the European system compatible with systems of higher education found in U.K., U.S.A., Canada, Australia, New Zealand, India, Pakistan and much of Asia and Latin America. This enhanced transparency encourages European universities to compete on a global scale.

The Quest for Quality

The Times Higher Education ranking of the world's top 200 universities considers peer review, international faculty, international students, student/staff ratios and faculty citations scores. Interesting is that 41 of the top fifty universities are from countries with an Anglo-Saxon system of education. Continental Europe (excluding Switzerland) only has three universities in the top fifty. European universities provide decent education for all with not much diversity in the fare offered. Apart from some conservatoires, theatre schools and higher hotel schools, most universities are reluctant to select. The U.S.A. has considerable experience in aptitude rather than ability tests. Ability or knowledge should not be used for selection because they can be crammed by the fortunate ones with extra training. Unfortunately, there are signals that during the last few years the aptitude tests have become more like ability tests. This threatens to move the U.S.A. away from a meritocracy towards a system where family ties and background matter. Europe would benefit from more selective entries. The majority of universities in continental Europe accept on the basis of a high school diploma only. Hence, many first year students fail and real selection takes place after one year and sometimes even later. This leads to a huge waste of resources.

In much of Europe, the market for lecturers and professors is closed to outsiders. Many scholars with excellent publication records are defeated by local heroes with the right connections. In France, Italy and Germany outsiders and foreigners find it difficult to get a chair, and

otherwise they get scared away by stifling bureaucracies. The U.K., Scandinavia and the Netherlands have more open recruitment, so benefit from a more competitive environment. Many European universities cannot reward and attract young talent, while older academics stay on even if their productivity has declined substantially. The severe tenure hurdles and the competitive publication race one sees in the U.S.A., is less pronounced in Europe.

Peer review gives incentives for high-quality research, but is weak in Europe. Where peer review of research has taken off, it tends to overshoot at the expense of educational quality, especially if professors mark their own exams. Apart from the U.K. and perhaps Denmark, external examiners are not used to audit contents or grades. But then there is a danger of grade inflation, especially if funding depends on the number of awarded degrees.

How to Set Subsidies and Tuition Fees?

Individuals invest more in a particular study if interest costs are low, they are not credit constrained, subsidies are high, tuition fees are low, expected graduate wages are high, and academic ability/aptitude for that study is large. Conversely, students are discouraged to take courses that give little esteem and a lot of sweat. It makes sense for the government to make sufficient borrowing possible, so that students are not credit constrained in financing their education and costs of living.

Education is a "customer-input technology", since students are both consumers and co-producers of edu-

cation. Institutions generate excess demand for their services by selling below cost in order to control who they sell to. Selecting and attracting the smartest students generates a positive feedback loop as it raises the quality and reputation of the institute and thus increases further demand from smart students. Having high-quality students improves academic excellence and makes it possible to attract much better employees/professors and funding from sponsors and the state.

Without peer group or reputation effects degree profit maximizing universities set prices to a mark-up on marginal cost. The mark-up is particularly high for courses with low price elasticity of demand such as pure mathematics or anthropology. These courses may have high marginal cost anyway, so are extra likely to be expensive in the absence of cross subsidies or special government support. If peer group and reputation effects matter, tuition fees are higher for the less able or less motivated students and lower for the smart students. Hence, universities award scholarships or give discounts to bright students.

The government may support merit studies that are of interest to society as a whole and will not be provided by the market, while generating public benefits (“educational welfare”). One could think of, say, anthropology, Sanskrit or pure mathematics. The government may also support studies that contribute to citizenship, democratic participation and the transmission of (cultural) knowledge and values or that induce positive R&D externalities and growth. The government may want

to reduce the popularity of studies that lead to excessive status or rent seeking and signalling. The government may give a larger weight on individuals from a disadvantaged background with relatively poor parents.

Uniform tuition fees are not optimal if social returns differ between disciplines and students. Subsidies should therefore be optimally targeted to fields of study that have the largest social returns. Furthermore, subsidies should be targeted towards the students that appear to generate most social value. Also, subsidies on studies with a relatively large private return compared to the social return violate optimal rules for education subsidies. Subsidies should be directed towards studies with a large social value, not a large private value.

Most students go to their local university. The optimal tuition fees are higher for such students, because their price elasticity of demand is lower. Also, the government has insufficient information about the preferences of individual students and the supply of courses and may wish to use vouchers rather than subsidies to universities. By giving students personal vouchers, which they can use to pay for their courses, the government encourages students to “vote with their feet”. This fosters competition between universities.

Curbing Monopolistic Practices

In response to scarcer public budgets the scale of universities has increased at the expense of creating public monopolies. Such monopolies reduce quality (“grade inflation”), ignore demand of students and employers, and increase overhead costs. Universities

engage in a race to attract students and thus more state funds, sometimes fuelled by funding based on student numbers, even when this induces grade inflation. Monopolistic price setting drives up tuition fees and lowers quantity and quality of supply of education, especially if the price elasticity of demand is low. Subsidies for a course have to be large if the price elasticity of demand for that particular course is low. Since the price elasticity of demand differs between disciplines, subsidies should be differentiated accordingly.

Both output and input funding have unintended side effects. Output funding to curb monopolistic practices has the unintended disadvantage that it induces grade inflation and reduces incentives to cut costs. Input funding does not induce grade inflation but leaves monopolistic practices in tact and stimulates efficiency. One thus has to strike a tough trade-off between, on the one hand, avoiding grade inflation and inefficiently run universities, and, on the other hand, curbing monopolistic practices. Countries that rely on substantial output funding therefore often have quality safeguarding committees. If there is a lot of uncertainty and efforts of managers correlate little with cost reduction, high-powered incentives become less attractive.

Both private and public universities are better able to compete if subsidies are allocated directly to students through vouchers/grants. Students can spend the vouchers on the institution and courses of their preference. Barriers to enter the market for higher education should be lowered by abolishing historical funding and barring cross-subsidies that hin-

der fair competition. It helps if an independent authority publishes yearly performance criteria of universities. These criteria should cover dropout rates, average enrollment durations, average exam marks, student evaluations, quality of scientific publications, evaluations of independent scientific committees, etc. A level playing field can open national markets to the international environment, especially if students can get student loans for study abroad and can spend their vouchers abroad. In some countries internal checks and balances have



been destroyed by abolishing university democracy. Supervisory boards lack information from the “shop floor” to act as effective countervailing powers. In fact, neither governments, nor students, nor stakeholders, nor potential entrants seem able to discipline administrators in Europe.

Universities Should Rely More on Private Funding

Gap between Social and Private Returns Is Small and Declining

Each additional year of education, typically, raises wage incomes with 5 to 10%. These returns are generally larger for higher education. If social returns exceed private returns, education causes positive external effects to society and the government should support education. Estimating macro-

economic production functions where total output is explained by human as well as physical capital, one obtains macro returns to education of about 5% to 6% for each year of education. This is at the lower end of the estimated micro returns. Despite widespread belief in large externalities of education, social returns seem slightly lower than private returns.

However, empirical findings suggest that private returns to higher education are substantial. A popular argument is that the government should expand investment on education rather than reduce public debt, because the *private* returns from study are higher than the safe real return on government bonds. But the government should intervene in higher education because the social exceeds the private return to education not because private returns are large. The returns on education are higher than on government bonds because human capital is illiquid and more risky as labour incomes fluctuate due to business cycles, sectoral shifts, technological developments, international trade, etc. If skilled graduates earn higher incomes than low-skilled workers, it is profitable to invest in higher education. Especially, the U.S.A. and the U.K. have experienced dramatic increases of the skill premium.

Baumol's Cost Disease also Suggests More Private Funding

Teaching and research need to be done by highly qualified people and cannot be replaced by technology. Productivity growth in universities inevitably lags behind, so the cost and price of university education rise over time. This does not warrant a grow-

ing subsidy, since the increase in productivity elsewhere boosts purchasing power. Skill-biased technical change boosts the returns to study. Also, if higher education is a luxury good, it flourishes as technical progress makes people wealthier. Graduates can thus rationally use the higher returns to pay for the higher cost. Provided the opportunity costs of study do not increase as much as tuition fees, Baumol's cost disease expands the university sector. Hence, despite rising relative prices, the budget share of higher education rises over time.

To conclude, the crisis of European universities is not due to lack of public funds. There is no evidence that the social return to study exceeds the private return sufficiently to warrant bigger state subsidies. If anything, the private return to higher education seems to be rising as may be witnessed from the growing skill premium that graduates command in the market. However, higher education in many parts of Europe is starved of funds. The lack of funds will worsen due to the relentless operation of Baumol's cost disease. Much more can be asked from students provided they can make use of income-contingent loans. Even though student poverty is a real issue, graduates are relatively well off.

Misguided Equity Motives in Higher Education

Empirical research suggests that the ability of the student and long-run background factors (*culture, family, environment*) are the most important determinants of enrolment in higher education. Increasing enrolment in higher education of children from

lower socio-economic backgrounds requires therefore intervention in basic and secondary education and not generic subsidies for higher education. Equity grounds for large-scale subsidies to universities are doubtful. The vast majority of students in higher education belong to the richest half of the population. Moreover, the average tax payer has less lifetime income than the average graduate. All kind of politicians raise equity issues for the wrong reasons.

Some argue that university education is a “basic right” and should be free of charge. Universities should be accessible to all with sufficient academic capabilities. But this does not imply that higher education should be free from charge, neither does it imply that all should pay the same price, or should pursue the same quality of education. Another misguided argument is that subsidies are good as graduates pay more taxes. But the extra tax revenues do not recoup subsidies as most governments over-subsidise education (de la Fuente and Jimeno, 2005). Also, high-income earners who do not study do not receive subsidies, but still pay higher net taxes compared to those who do study. The poor may benefit from regressive higher education subsidies as they allow the government to use the progressive income tax at lower efficiency costs. Education subsidies reduce the tax distortions on human capital investments. The costs of study should therefore be tax deductible, but not the interest as this induces over-investment and distorts saving.

Some politicians reject “elitist” universities where the brightest students receive the best and most ex-

pensive education. This boils down to a plea for high taxes on investments in higher education and thus obstructs profitable investments in human capital. The best students migrate abroad. And individuals with lowest incomes are worse off than with direct redistribution. Both efficiency and equity are harmed by holding back talented students. Low tuition fees should not be used for equity reasons either, since it is inefficient to tax study at 100% above the fixed tuition fee for those who want to pay. Income redistribution should be carried out through the tax system and not through the education system. Too low tuition fees erode the tax base by causing under-investment and the poor are eventually worse off than with more progressive taxes. If the purpose of low fees is to guarantee access to universities, and not income equality, an income-contingent loan scheme is sufficient.

From Student Grants towards Income-Contingent Loans

Capital markets fail to deliver the loans to finance tuition and costs of living as banks cannot easily assess the risks of some students and face difficulties monitoring efforts by students and graduates. Resulting adverse selection and moral hazard effects give rise to high interest rates, credit rationing or even a collapse of the credit market for student loans. In addition, students are risk averse and hesitate to take up large loans. Indeed, risks associated with study cannot be insured due to incomplete contracts and information problems. Imperfect capital and insurance markets induce underinvestment in higher

education and hurt especially more loan-averse students from poorer backgrounds. Such students are forced to work, disturb the quality of teaching and more frequently dropout. Hence, there is a case to help such students so that they can pay higher tuition fees.

Income-Contingent Loans Rather than Student Grants and Subsidised Tuition

To tackle student poverty, students should be allowed to borrow for fees and cost of living. Income-contingent loans (ICL) can overcome problems of capital market imperfections with risk-averse students. ICL only require students to pay back principal and interest if their incomes after graduation are high enough. ICL thus offer a combination of loans and social insurance. If income risks of graduates are pooled, fewer subsidies are needed to eliminate risk aversion.

Commercial banks and insurers are unable to write contracts based on future incomes, but the government can enforce contracts through the tax authorities and verify earned incomes. By selection and tracking of student performance and denying funds to non-performing students, the government can more easily eliminate the “rotten apples”. It can also collaborate with other tax authorities in Europe to track down graduates who try to default. In principle ICL feature no subsidies. However, the risks of default may be borne by society. ICL avoid perverse redistribution from the average taxpayer to students, because the majority of students comes from higher income classes and will belong to the higher income classes after graduation.

An alternative is a graduate tax (GT) where graduates receive grants financed by issue of government debt. Graduates repay a fraction of their lifetime incomes. The government pools this income to repay government debt including interest. From the individual perspective, repayments under a GT can exceed loans (including interest) as graduates with high incomes under a GT typically pay more. A GT thus has more insurance and redistribution than ICL. In practice, there is only a gradual difference between a GT and ICL. Under a GT repayments by high-earning graduates exceed the costs of their education and the surplus is used to subsidise low-earning graduates. If a GT is budgetary neutral, it is like ICL with risk pooling. In the absence of moral hazard, a GT provides more insurance than ICL and thus dominates a pure loan. With moral hazard, however, ICL provide better incentives as it features less insurance and performs better than a GT if risks are pooled among students and not borne by the government.

Both ICL and a GT distort labour supply and encourage delay of career choices in order to avoid repayments that are contingent on future incomes. Students may not put enough effort in studying hard; they may study longer or enrol in “fun” studies. These moral hazard problems can be avoided by selection and penalties for those who do not make satisfactory progress. A bigger loan warrants a higher tariff. This prevents cross-subsidies from cheap to expensive courses and avoids income redistribution from smart (high return, low risk) to less bright (low-return, high-risk) students. As a result, there is less

moral hazard and more pure insurance. To prevent cross-subsidies from profitable to loss-making studies, tariffs per course and per discipline must be differentiated. We prefer ICL to a GT, because they feature less insurance, allow more flexibility in repayment, and can be better tailored to avoid moral hazard. This is especially the case if repayment parameters are not very differentiated by size of loans, type of study or student performance. In that case, the GT causes a potentially large moral hazard problem as the link between funds received and repayments is weakened a lot.

Insurance of default risks may also give adverse selection. Rich students may avoid ICL or a GT to avoid risk pooling, except if the government finances the cost of bad debtors out of general funds rather than a surcharge on interest. These transfers benefit only students with very low lifetime incomes. An alternative is to make participation in ICL or a GT obligatory. Adverse selection also arises if talented but “poor” youngsters do not participate due to loan aversion and work rather than study. Good information may convince them that it pays to study and that they do not run large income risks if they finance their studies with ICL.

Summing -up


Private returns to higher education rise. The gap between social and private returns is not large enough to warrant more public investment in higher education. In spite of the expected rise in demand for higher education, governments in Europe do not allow supply to expand to meet demand through a battery of central planning and steering instruments.

Politicians from the left and the right also form a “cordon sanitaire” against structural reforms by misguided equity and accessibility arguments. Due to “glass” ceilings on academic excellence many top academics flee to the U.S.A. Students are not challenged enough and drop out massively. European governments produce “one size fits all” higher education systems that fail to adapt to an increasingly international and competitive market for higher education. Lack of transparency implies lack of competition between universities. In Europe, cartels



are now firmly embedded through non-level playing fields between private and public institutions. Inappropriate methods of funding give rise to ever-rising overhead costs and status-seeking university bureaucrats wasting scarce resources on nonsense projects. We therefore propose the following reforms:

1. Allow universities to charge substantially higher tuition fees and also allow them to differentiate them by type of course depending on demand and costs. Allow universities to give discounts or scholarships to the smartest students, especially if they are from poorer backgrounds. Uniform fees reward bad students and harm good students. Smart rich students will be happy to pay for quality in view of

- high expected returns. The objective is to increase university budgets, attract the best students and improve the quality of teaching. If fees function as signals of scarcity, there will be less mismatch of supply and demand of graduates.
2. Provide students with income-contingent loans where graduates repay their according to a percentage of future earnings. The objective is to provide insurance and guarantee universal access at low public costs and to avoid, but also stop students taking disruptive, part-time jobs. The government may wish to fund default out general funds or make participation obligatory.
 3. Only subsidise studies whose social benefits exceed private benefits. Think of pure science which is needed to maintain fundamental research, *art history* or *archaeology*. Do not subsidise market-oriented, “status” or “signalling” studies like *business economics* or *law* as they are popular and graduates will earn a lot. Uniform subsidies induce excessive enrollment in fields with little social value and not enough in fields that have large private value. Universities that attract lots of smart students need less government subsidy.
 4. Improve incentives for students and professors. Allow universities to select only the smartest and most motivated applicants irrespective of their social-economic background. Only give access to student loans and scholarships if students perform well. Introduce strong incentives for teachers and make sure that the best academics teach. Encourage universities to introduce tenure-track appointments where regular assessment of both teaching and research performance play a role in salary, tenure and promotion decisions. Base research budgets on academic performance and potential and allocate them by independent academics of a high reputation.
 5. Foster competition among universities at home and abroad and accredit foreign institutions. Abolish historical funding and cross-subsidies that hinder fair competition. Both private and public institutions should compete on the same terms by allocating subsidies directly to students through vouchers. Intervene if scale and funding on basis of student numbers induces monopolistic behaviour, bureaucratic waste and grade inflation. Universities should publish students’ dropout rates, enrolment durations, exam marks, student evaluations, scientific publications, evaluations of scientific visitation committees and so on. 

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