the university and a half-time commitment as a venture capitalist may be found in the Haas Business School, University of California, Berkeley, as head of an Entrepreneurship Center. The PoP manages a "stable of adjuncts," full-time business people who teach individual specialized courses in the Haas entrepreneurship specialty within the MBA program.

PoP is used to cover various formats, but the basic usage in the United States denotes that category of nontenure faculty whose primary duty is to teach. This role is similar to that of the adjunct professorship and the research professor, who also have limited and specific duties. At MIT, the term is reserved for distinguished practitioners who have had a world-class impact on fields important to MIT's academic programs and are committed to enhancing those programs.

Expanding the PoP Model

In principle, the PoP model can be used to combine internal and external roles in any of the three main missions of the university.

The northeast United Kingdom, a source of the original industrial revolution, is determined to reverse its fate as a declining industrial region. Facing a situation similar to MIT and New England in the early 20th century, Newcastle University has initiated a "science city" project to renew its region through knowledge-based economic development, focusing on four themes: aging and health, energy and environment, molecular engineering, and stem-cell and regenerative medicine. The implementation plan seeks to redevelop a former industrial site with laboratories for firms and university research groups.

To jump-start attraction of high-tech firms to the region, Newcastle University has turned the PoP concept on its head, from a teaching to a research model. An initial set of four chairs—half supported by the university and half by One Northeast, the regional development agency—has been created. The chairs are designed to attract PhD high-tech firm founders, in the science city theme areas. They are expected to have developed ideas for research that are too advanced to be pursued in their firm but that could be the basis for a university research group, to attract external funds. The optimum expectation is that all or part of a PoP's firm might follow them to Newcastle.

Within the university, the PoP is expected to serve as a role model for faculty members contemplating initiating a start-up and as a link between the university's business school and science departments. These faculty are expected to work closely with the science city theme leaders, making significant contributions in developing translational activities and associated education programs.

Conclusion

In principle, the PoP model can be used to combine internal and external roles in any of the three main missions of the university. PoPs may be extended across the university and from senior to junior positions. For example, the English Department could draw in a PhD from the publishing industry to help start a university press. The concept can also be applied to faculty members engaging in start-up activity in a serious but not full-time capacity, obviating the choice of leaving the university completely.

As some faculty members move from a regular full-time professorship to a half-time PoP, they will complement those coming in to the university, creating a two-way flow between university and industry. In practice, any university has the potential to assist economic and social development, irrespective of level and previous mission. However, only an entrepreneurial university, with professors recruited from academic and nonacademic venues, has the capacity to complete a virtuous circulation of academic development and societal engagement. ■

Europe's Agenda on Global Competition

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Globalization and growing worldwide competitiveness are increasingly shaping policies and setting the agenda for the future of European higher education. These responses are formulated and implemented at European, national, regional, and institutional levels. Examining policies and efforts undertaken at the European level reveals the need for a greater political commitment to achieve the intended 3 percent gross domestic product (GDP) target for R&D expenditure and the 2 percent GDP target for higher education expenditure, mainly by stimulating private investments in these areas.

Complementary Engines for Action

In the late 1990s, awareness of global competition rose, leading to various initiatives. In 1998, the ministers of 4 countries (the United Kingdom, Germany, France, and Italy) called for the harmonization of degree structures, triggering the Bologna

process, eventually joined by more than 45 countries. This important bottom-up and voluntary initiative engaged in system convergence with a view to enhancing employability in Europe and the international competitiveness and attractiveness of European higher education. While the European Commission (EC) served as a partner in the Bologna process, its role became more prominent after 2000 when the heads of state and government declared in Lisbon that by 2010 the European Union (EU) should become the most competitive and dynamic knowledge economy in the world. Shortly thereafter education was defined as one of the key sectors for achieving this goal, providing the EC with an important political mandate in education policy (though this mandate was not supported by any extended legal power). The EC quickly developed a wide range of initiatives known as the Lisbon strategy.

The Bologna process and the Lisbon strategy are the main frameworks guiding the European response to globalization in higher education.

The Bologna process and the Lisbon strategy are the main frameworks guiding the European response to globalization in higher education. While the two initiatives hold some different patterns and could be characterized as *intergovernmental* (Bologna) versus *supranational* (Lisbon), they seem to be gradually forming one umbrella approach.

Convergence and Divergence

The first phase of the Bologna process focused strongly on convergence and transparency agenda among European countries (i.e., reform of curriculum and degree structures). The second phase has centered more on the "external dimension" in terms of enhancing international competitiveness and attractiveness and connections to other regions. This was paralleled by the development of the European higher education area (EHEA) and the European research area (ERA), as part of the wider Lisbon strategy, and by the creation of ERASMUS MUNDUS program.

The Bologna process is implemented quite differently *across* countries, weakening its harmonizing or convergence effects. Divergent trends can also be observed, especially *within* countries. This indicates that the current dynamics in European higher education are at times characterized by harmonization and transparency as well as searching for greater diversity. Both trends are considered important to enhance competitiveness in the global context. Increased participation rates among domestic students, fostered by diversified provision, are seen as enhancing each country's potential as a knowledge economy. Rising cross-border mobility within Europe and attracting more students from other regions, objectives fostered by harmonization and convergence, are seen to enhance the performance of the European knowledge economy as a whole.

Mixed Performance

The progress in the Lisbon strategy has led to optimism with respect to the objectives of economic growth, employment, and productivity. The proportion of employees with tertiary education is steadily rising. In 2006, 29 percent of the workforce in the EU-15 countries had tertiary education, up from 25 percent in 2000. As for research, however, progress is still unsatisfactory; throughout the EU-15 the share of GDP spent on R&D remains firmly stuck at 1.9 percent, far below the prominent Lisbon target of 3 percent of GDP by 2010. Considerable differences between countries can be observed: Italy and Spain demonstrating very low scores, while in contrast Sweden is way out front. Also for the share of private investment in R&D, the Lisbon objectives have not yet been met.

Ranking and Classification

Policy initiatives at European and national levels often relate to the position of universities in the worldwide rankings. Politicians set targets as to how many institutions should rank among the top 20 or 50 institutions as symbols of achievement and prestige and as engines of economic growth in a global knowledge economy. This approach illustrates the role that international rankings of universities play regarding global competitiveness.

Conclusion

Europe demonstrates impressive progress, but it also faces the complexity of policies and strategies at national and/or European levels. Deeply rooted differences in performance exist between countries and systems. The EU includes some of the top higher education systems in the world, performing on par or even higher than the United States and Japan, as well as a range of new member states at a different overall level than that of the EU-15 group. Accommodating this diversity and the lack of cohesive supranational decision making will require major institutional reforms at the EU level, which have yet to be established.

Policy initiatives at European and national levels often relate to the position of universities in the worldwide rankings.

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