

## Italy fails to nurture knowledge

**Silvio Berlusconi's government seems set on its course to reform Italy's troubled education system through heavy cuts in funding to schools, universities and scientific research, prompting a belated flurry of protests.**

At a time when Italy's chronically struggling economy is further threatened by the global recession, the government has earmarked the education system for indiscriminate cost-cutting measures, ostensibly to improve its efficiency. But should education and research be the targets of such cuts? How will the underperforming university system benefit, and how will these measures sustain the path to a knowledge-based economy? At present the government directives do not provide compelling arguments to address these questions.

Soon after Berlusconi's re-election in April this year, a decree outlining cuts to universities and research was published by the minister of finance Giulio Tremonti. Despite recent widespread protests and the failure of Maria Stella Gelmini, the education minister charged with its implementation, to consult with either the political opposition or with representatives of the affected institutions, the decree was made legally binding in October. Over the next five years, 1.5 billion euros are to be trimmed from university budgets, with a concomitant reduction in staff recruitment and turnover (only one in five academic vacancies will be filled). Furthermore, thousands of temporary researchers in universities and other public research centres face redundancy, despite the fact that many have been promised permanent positions. The law also aims to wean public universities off state support by allowing them to convert to private institutions with alternative funding.

Italian universities and research are unlikely to benefit from such indiscriminate measures. Already the top Italian university in the current Times Higher Education World University Rankings, Bologna, is at position 192 after universities in Bombay and Moscow (the 'Academic Ranking of World Universities', Jiao Tong University ranks La Sapienza, Rome, highest at number 100). Researchers, suffering from a chronic lack of funds and the nepotism that can undermine assignment of the rare permanent positions, are increasingly moving abroad. "Cuts could offer the chance of reducing the misuse of money that afflicts our university system", comments Paolo Di Fiore, scientific director of IFOM (FIRC Institute of Molecular Oncology, Milan), which is privately funded and one of the few centres of excellence in the country. "However," he continues, "the problem is that cuts were simply announced without a plan to introduce higher moral- and merit-oriented standards into the system, and the likely outcome is that they will be indiscriminate."

To make a more compelling case for the benefits of these cuts, the government owes the academic community a detailed plan that takes into account the situation at individual universities. It will be imperative to ensure that distribution of the remaining resources is conducted through a more transparent evaluation system that rewards competence and productivity. For example, in France the government not only increased university funding, but recently revised the distribution and management of the public research resources to give universities more autonomy,

while monitoring their efficiency more closely (see August Editorial). In contrast, the drive to privatize Italian universities seems to underscore an unwillingness to adequately invest in the public academic system. "Support from private resources can be a benefit, but it should never be intended to replace public funding, whose aim is to guarantee intellectual freedom and unconditional support to even the most basic branches of science", says Di Fiore.

Already Italy is far from following the Lisbon strategy to invest 3% of the gross domestic product (GDP) in research and development. With less than 1.5%, Italy is well behind Sweden's 3.9% (in fact their 2009 Budget contains the largest investment in research yet), Germany's 2.7%, France's 2.1% and the United Kingdom's 1.8%. Spain, once comparable to Italy in terms of public investment in scientific research, during the last few years has undertaken effective initiatives that now place it among the most successful research locations in Europe. Spain's National 'Plan for Scientific Research and Technological Innovation and Design' projects a rise from 1.1 to 2.2% of the GDP in investments in research and development between 2008 and 2011. Furthermore, ten years ago, the Spanish government set up and funded the CNIO (Centro Nacional de Investigaciones Oncológicas) in Madrid, where scientists are not civil servants but are employed on the basis of merit and competence, and where productivity is closely monitored. Other successful institutes with comparable funding schemes are the CNIC (Centro Nacional de Investigaciones Cardiovasculares) also in Madrid, the CRG (Center for Genomic Regulation) and the IRB (Institute for Research in Biomedicine) in Barcelona.

A country's research success relies on a reasonable balance of permanent and temporary personnel, who are encouraged to broaden their training. In Italy, this balance has been suffering from a chronic misuse of the too few permanent positions, leading to significant brain drain. Those who stay have to struggle, as indicated by this year's round of the new European Research Council (ERC) starting grants. Although Italy was awarded 26 grants, (UK had 58, Germany 33, France 39 and Spain 24) it was the country with lowest success rate when taking into account the fact that it had the highest number of applicants (around 17% of the total). The ERC application volume has reasonably been referred to as 'desperation factor', indicative of the lack of support from the researchers' own countries.

Students and researchers in Italy mobilized a massive campaign against funding cuts, and many universities were paralysed by student strikes, despite the government's threat to send in the police. Their efforts seem to have had some effect: at the beginning of November, Gelmini announced that the measures involving university funding and staff turnover may be mitigated by delaying implementation of cuts to 2010, and by revision of the law after consultation with the parliamentary opposition, academics and students. At the time of going to press, it remained unclear to what extent the law will be modified. Still, the fact remains that, contrary to the trend of most other industrialized nations, the Italian government has failed to appreciate that without significant investments in a knowledge-based society, scientific innovation will stagnate and the country will inevitably face social and economical challenges in the long term.

#### Open-access editorials

Editorials in this journal will henceforth be freely accessible to anyone who has registered on the site.