

Economist promises aid to Italian research

Rome. "You can't remain both wealthy and stupid for more than one generation", says Romano Prodi, professor of economics at the University of Bologna — and a leading contender as Italy's next prime minister.

This is why Prodi puts education and science at the top of his political agenda. Most economic indicators, he says, show that Italy, particularly the north, is very wealthy, but urgent steps are needed to protect the next generation from the country's chaotic state.

Among other things, he says, this means considerably increased investment in science, and greater independence of universities from the state in order to bring together basic science and industrial needs.

Prodi, who is himself not attached to any

political party, leads the centre-left coalition which is currently fighting the conservative forces led by the former prime minister, Silvio Berlusconi, for power in Italy. Elections could be as early as the autumn.

Before his appointment at Bologna, Prodi headed the Istituto per la Ricostruzione Industriale (IRI), the major Italian public holding company, throughout the 1980s, and took up the position again in 1993 to oversee Italy's privatization programme. (He resigned when Berlusconi came to power last year.)

Prodi's background has given him strong views on the importance of science and research for industrial success. He points out that Italy is capable of world-class

science — as shown by the quality of its physicists — but says that the general quality of science is patchy.

He also points out that, although Italy is Europe's fourth biggest economy, its total investment in research — only 1.3 per cent of its gross national product — is not much more than half that of other major European countries. Increasing this figure is one of Prodi's priorities. "But there is no point in throwing money at the problem if you don't also change the quality of the organization," he says.

He is, for example, highly critical of the Italian habit, widely followed within the National Research Council (CNR), of distributing funds according to the "rain principle". Under this, everyone receives a small amount of funding, but there is no concentration of resources on outstanding projects. "The CNR is a place where small powers are balanced against each other," says Prodi. "It is not an agency where strong scientific choices are being made."

But he concedes that any change in attitude will be achieved only if it is accompanied by budget increases; the capping of CNR funds in recent years has left the organization with little room for manoeuvre, as most of its money goes on salaries rather than research programmes.

Prodi is critical of Italy's over-centralization of public structures, including both the CNR and universities. "Centralization in Italy happens in a bureaucratic way, without the intrinsic strengths that it could confer", he says, pointing out, for example, the ineffective way in which resources are distributed to the country's poorer regions.

One of his priorities is therefore to extend the degree of independence given to universities by a former research minister, Antonio Ruberti, in the late 1980s. But he also acknowledges that this has political implications.

He believes that he has a recipe for forcing change without provoking further ideological and economic objections. Prodi says he would encourage all universities to form agreements with industry — but would create special funds to support those in the south "to make up for their smaller opportunities to benefit from industrial support".

Prodi is aware of Italy's poor reputation as a partner in international projects. Whereas other countries tend to have agreed financing for the duration of the collaboration, Italian scientists are all too often embarrassed by having their own funding approved only one year at a time, usually two years in arrears. "Our French and German partners get tired and send the Italians to hell", he says. It would be both possible and imperative to create more continuity in international funding, he argues.

By profession, Prodi is an industrial

UK projects vie for millenium money

London. **Projects designed to popularize science and protect the natural environment figure prominently on the short-list for a slice of £1.6 billion from National Lottery funds that the British government has reserved for "original and innovative schemes" to celebrate the beginning of the next century.**

Proposals short-listed as potential recipients of Millennium funds — one

fifth of the lottery proceeds are being devoted to social projects — include a £110.8-million scheme for a high-technology campus in Birmingham, an £88-million plan to build a national science centre in a derelict quay area of Glasgow, and a £14-million exhibition centre, also in Scotland, on the work of Alfred Nobel and the winners of the prizes that he endowed.

There is also a £20-million proposal to rebuild the Jodrell Bank telescope (above) and construct a new visitors' centre. Sir Francis Graham-Smith, emeritus professor at Manchester University and former astronomer royal, says that the extra funds will enable Jodrell Bank to boost its twin role as an international centre for radioastronomy and promoter of public understanding of science.

The telescope is already due to be given a new surface to enhance its resolution, while a Cassegrain feed system will increase efficiency and allow interchangeability between frequencies. If Millennium funding is approved, says Graham-Smith, Jodrell Bank, which already caters for

Jodrell Bank: hoping to popularize radioastronomy.

150,000 visitors every year, will also get a new control building where the public will be able to observe astronomers at work.

Other science-based projects to have reached the short-list of 83 proposals, each of which will now receive closer scrutiny from the nine Millennium Commissioners, include an electronic zoo in Bristol and £350,000 towards a centre in the Orkney islands dedicated to "a new approach to studying scientific concepts".

There were several ambitious science projects among the 467 projects not short-listed. One of those sent back for 'refining' was a £100-million plan for an art, science and technology centre around the national museums in South Kensington in London, known as 'Albertopolis'.

The eventual winners will be announced in September and will comprise 12 'flagship' projects and a number of smaller schemes. Each large project will receive between £10 million and £50 million, and will be expected to raise further funds from private sponsors.

E.M.

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