GERMAN RESEARCH BUDGET

Less Money, But Much Needed Reform

HEIDELBERG—Jürgen Rüttgers, Germany's minister for science and education, had good and bad news for the country's scientists last week. After weeks of speculation, while the federal government hammered out massive budget cuts for 1997, his ministry emerged with $10 billion—2.5% less than last year, the second straight year of cuts. But Rüttgers added a positive spin with a set of proposals to bring much-needed reform to many of Germany's nonuniversity research centers: more autonomy, less red tape, and more competition in funding.

The most conspicuous victim of the cuts appears to be the German Space Agency, DARA, which has been targeted for closure. Some of its functions will be taken over by the Aerospace Research Establishment—one of Germany's national research centers—headquartered in Cologne, and the two have been given until October to suggest how this could work. The decision—which Rüttgers claims will bring more efficiency to space science policy-making—came as a shock to space scientists and, say insiders, even to DARA itself. "I was taken completely by surprise," says Peter Mezger, director of the Max Planck Institute for Radio Astronomy in Bonn and a scientific adviser to DARA. "Whether we can really increase efficiency without DARA, I don't know."

Although less dramatic, the proposed reforms—which must still be negotiated with various scientific bodies—could have long-lasting impact. Despite the overall budget cut, Rüttgers has kept to a scheme that began shortly after reunification in 1990: 5% yearly increases for the DFG, Germany's main research grant agency. The idea was to force more competition for research money at the universities, where—amid massive cutbacks—funds are still given out with little quality control (*Science*, 12 July, p. 172).

And if Rüttgers gets his way, increased competition for research money will now extend beyond the universities. The next arena is likely to be 45 of the "Blue List" institutes, research and service centers that get most of their funds as block grants from the government. Rüttgers has proposed shifting some of this—up to 5% at first—to the DFG, so that Blue List researchers must compete for more of their money. And with its suggestions for streamlining decision-making and allowing institutes more autonomy, the package contains "very welcome ideas," says Beatrix Vierkorn-Rudolph, administrative head of the association of Blue List institutes. Less welcome, however, could be Rüttgers's statement that he will halt federal funding of Blue List institutes that get a thumbs-down review from the Science Council, Germany's main scientific advisory body. The council is 1 year into a 5-year project to evaluate all Blue List institutes, and so far has recommended complete or partial closure of five.

Also pegged for change are Germany's 16 national research centers, with 22,500 staff and over 20% of the research budget. Here, Rüttgers proposes moving some core funds to a competitive scheme within the 16 centers, and even cautiously raises the idea of shifting money directly to the DFG. But DFG President Wolfgang Frühwald is wary of this option: The national labs' budget is currently twice that of his entire agency, and handling even a small proportion of it "could overwhelm the DFG," he says.

Rüttgers's budget also protects efforts to forge links between basic researchers and industry. The government gave a modest 1.3% rise to the Fraunhofer Institutes, which carry out applied research largely under contract to industry. And the DFG will expand its pilot project for "transfer grants" to researchers who collaborate with industry. At present, only $3.3 million is budgeted for this scheme, says Frühwald. While this will grow to $10 million in the next couple of years, "to do it robustly will need much more," he says. But Harald zur Hausen, director of Heidelberg's German Cancer Research Center (one of the national labs), expressed worry over Rüttgers's call for national labs to orient their research themes and strategies more toward industry's goals. "That would really be a disaster for an institute like ours. It would substantially change our scope. We need to take a very long view," he says.

Despite their disappointment over the cuts, researchers who spoke with *Science* generally favored the spirit, if not every detail, of Rüttgers's proposals, which one called an "Americanization" of Germany's research system. Says Frühwald: "This was a strong serve from the minister. We have to wait and see whether it will be an ace."

–Patricia Kahn

XENOTRANSPLANTS

IOM Backs Cautious Experimentation

As transplant clinics have struggled to keep up with the demand for human organs and tissues in recent years, researchers have been eyeing an alternative source of biomaterials: animals. But clinical trials of this option—known as xenotransplantation—paused in 1995 when some researchers became concerned that the experiments might touch off novel epidemics by permitting pathogens to cross species barriers. The U.S. Food and Drug Administration (FDA) urged restraint while it studied the issue, and the Institute of Medicine (IOM) undertook a broad review of the risks. This week, the IOM cautiously endorsed xenotransplants. And government officials are signaling that they are also close to finalizing guidelines for clinical trials.

The IOM panel, chaired by nephrologist Norman Levinsky of the Boston University Medical Center, concludes that the benefits of xenotransplants outweigh the risks. The panel advises, however, that new trials should be delayed until the government has put some guidelines into place. The Department of Health and Human Services (HHS) is now finalizing rules that mirror those suggested by the IOM panel, and the department is moving forward with a national registry of data on xenotransplant patients, a measure recommended by the IOM.

The Levinsky panel found that "there is every reason to believe that the potential for transmission of infectious agents ... from animals to human transplant recipients is real." It cites examples of diseases that were probably transmitted from animals to humans, such as the Ebola and Marburg viruses, Creutzfeldt-Jakob disease, and HIV. "[A]lthough the degree of risk cannot be quantified, it is unequivocally greater than zero," the report* says. But the panel concluded that given the severe shortage of human donors, "the potential benefits of xenotransplants are great enough to justify this risk."

A similar panel in the United Kingdom recently took a more cautious line, however. Earlier this year, the Nuffield Council on Bioethics advised against primate-to-human transplants because of the risk of disease and ethical concerns, and advocated pig-to-human transplants only after more is known about the risks (*Science*, 8 March, p. 1357). The IOM plans to hold a workshop on 24 July at the National Academy of Sciences in Washington to discuss the two reports.

The IOM panel considered a range of options for managing the risks, Levinsky says, from leaving decisions to Institutional Review Boards (IRBs) to requiring that each protocol be reviewed by a national panel similar to the National Institutes of Health's (NIH's) Recombinant DNA Advisory Committee (RAC), which reviews gene therapies. But while the former offered too few safeguards, a RAC-like system, he says, could

* Xenotransplantation: Science, Ethics, and Public Policy, Institute of Medicine, Washington, D.C., 202-334-2000.