RUSSIA

New Tax Code Threatens Science Funds

MOSCOW—Late last month, the Russian Cabinet approved the draft of a new tax code for the country which, if approved in its current form, would deprive research institutions of almost all the tax exemptions and concessions they currently enjoy. The Cabinet will submit the 1000-page code to the Russian parliament's lower house, the Duma, some time in the next month. Once approved, it will form the basis of the tax system, overriding other laws and presidential decrees. With Russia's research institutes already teetering on the brink of extinction because of shrinking budgets, this new burden may be enough to tip many of them over the edge.

The Russian Cabinet declared reform of the tax system a top priority following last year's presidential elections. The present tax system is extremely convoluted and almost unworkable: It gives many concessions and exemptions to a wide range of organizations, and hence tax rates are very high to generate a reasonable income for the treasury. This, in turn, has made tax evasion a real problem, and numerous poster campaigns and newspaper and TV appeals reminding people of the necessity to pay taxes cut little ice.

The new code aims to put an end to this situation by removing most current exemptions. For example, it will require all research, experimental, and educational institutions to pay property taxes, which would bring in about $1 billion to the treasury. The sales tax exemption on grants from the Russian Foundation for Basic Research and other Russian private and state granting bodies would also be removed, bringing in another $88 million. The new code would also impose income tax on fellowships, postgraduate and Ph.D. stipends, and grants from foreign foundations. Deputy Prime Minister Vladimir Fortov, head of the State Committee for Science and Technologies, estimates that researchers would lose $35.2 million in tax exemptions by this route. However, many foreign foundations have stated that they only provide funding on the understanding that it is tax exempt: If they decide to pull out of Russia, researchers would be deprived of up to $150 million of foreign support each year.

In total, the new fiscal policy could deprive Russian science of $1.4 billion—more than half of the 1997 science budget ($2.7 billion). Last year, research institutes actually received only about 60% of the funding they were expecting. If a similar shortfall occurs this year, institutes will be left with little more than spare change.

Fortov reacted angrily to the proposals last week. "It seems that the authors of the tax code are not aware of the laws that are presently in force," he says. For example, the law on science and state scientific and technological policy, adopted last year, contains a definition of scientific organizations which, under the current tax laws, allows them several tax concessions, including exemption from property tax. "The tax code just ignores this definition," says Fortov. The new code does offer concessions to "budget-financed organizations"—those which get more than 70% of their funding from the state budget, exempting them from paying profits and sales taxes. But Fortov points out that if, for example, an institute was particularly successful at winning grants and grant income totaled more than 30% of its income, it would lose that status. "It would then be treated like a commercial enterprise," he says.

Fortov says that the code also "punishes industrial enterprises that fund R&D." Current laws allow companies to spend 10% of their income on R&D tax-free, and so stimulate industry-funded research. This concession will end with the new code, which will probably have a devastating effect on applied research.

Fortov and others objected strongly to the new code at last month's Cabinet meeting, but it was approved nonetheless. The next day, Prime Minister Viktor Chernomyrdin invited Fortov, Deputy Prime Minister Vladimir Potanin, Yuri Osipov, president of the Russian Academy of Sciences, and several other science officials to discuss the situation. Those who attended have declined to discuss the outcome of the meeting, but it is expected that amendments to ease the burden on science may be added to the code before it reaches the Duma.

–Andrey Allakhverdov and Vladimir Pokrovsky

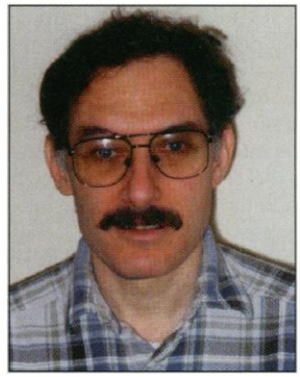
Allakhverdov and Pokrovsky are writers in Moscow.

SCIENTIFIC MISCONDUCT

Charges Fly Over Advocacy Research

Mainstream scientists often condemn public advocacy groups for pushing "junk science." Now, one major school's science faculty is going a step further, leveling what amounts to a fraud indictment against a group that provoked the wrath of a faculty member. Last week, a geologist at Brooklyn College of the City University of New York (CUNY) accused the New York Public Interest Research Group (NYPIRG) of "research misconduct." His petition, which calls on administrators to take punitive action, contains the names of 65 supporters, including most of Brooklyn College's science faculty.

The CUNY petition raises some thorny issues for science policy-makers. It suggests that reports by an advocacy group—even if they contain no original data—should be held to the same standards used to judge peer-reviewed science. And it asks that university officials find the authors guilty of misconduct because their writings are based on faulty logic, which Brooklyn College geology professor David Seidemann calls "fabricated" conclusions.



Ten-year battle. NYPIRG critic David Seidemann.

The accused, NYPIRG, is one of 23 Ralph Nader–inspired state organizations operating under the umbrella of the U.S. Public Interest Research Group. The PIRGs aim to mobilize college students to fight pollution, consumer fraud, and education funding cuts, to name a few issues. Weary NYPIRG officials say the CUNY petition is the culmination of a more than decade-long "obsession" of Seidemann's. While none of NYPIRG's disputed research was conducted with university money, facilities, or personnel, Seidemann says CUNY should investigate because NYPIRG receives $470,000 in CUNY student fees each year. And Seidemann wants this support stopped if "an independent panel of experts in research" agrees that misconduct occurred.

Seidemann, whose own research focuses on potassium and argon in terrestrial materials, first became interested in NYPIRG after the group released a survey in 1983 that found that residents around a New York City dump complained of foul odors and health effects. Because the survey lacked a control group, among other flaws, Seidemann claims that the NYPIRG authors "just made up their results—period." His critique became a crusade after he found other "fabricated conclusions" in NYPIRG studies involving the Scholastic Aptitude Test (SAT) and "sudden accel-

eration" in Audi 5000 cars. Seidemann last summer published an article in the *Buffalo Environmental Law Journal* disputing a 1986 analysis by NYPIRG that recommended that New York City abandon an incinerator plan in favor of more waste recycling. Seidemann interprets its alleged inconsistencies and arbitrary use of numbers as "falsifications." And he says NYPIRG's behavior clearly fits the National Academy of Sciences' definition of "fabrication, falsification, and plagiarism."

Steve Romalewski, a co-author of the recycling report, has written extensive technical rebuttals. But Romalewski considers the charges basically absurd because the recycling study, like the Audi and SAT reports, presents no original data. "Our approach ... is to compile existing information and documentation," he says. NYPIRG's reports "hide nothing," and "we do talk about what our methods are."

It's not clear how many of the co-signers of Seidemann's petition feel as strongly as he does. But biology professor David Nishiura explained that Seidemann convinced him during a 2-hour personal visit that a "misrepresentation" had occurred in a NYPIRG press release. "The level of proof [in a press release] probably doesn't have to be as high as if you submitted a paper, but certainly the statements shouldn't be misrepresentations of what the evidence indicates," Nishiura remarks.

Members of CUNY's humanities faculty have come to NYPIRG's defense. Political science professor Michael Kahan, for example, says Seidemann and his colleagues are turning differences in interpretation into major offenses. Usually when scientists disagree, Kahan says, they "publish a counterargument" and let the public make its own judgment. "I don't see why [the scientists] don't treat NYPIRG that way," he says. "To charge somebody with what is tantamount in the scientific community to a criminal charge is very serious."

Brooklyn College administrators have shown little interest in the case. In November, CUNY's acting vice chancellor for academic affairs, Anne Martin, declined to intervene, saying: "Science has to allow latitude for disagreement, differing interpretations of data or results, and outright error."

Lacking a legal forum, Seidemann says he intends to take his charges to the court of public opinion. But this approach has risks, too. It may appear, as NYPIRG staffer Romalewski says, that in taking this advocacy approach, Seidemann is "doing the same kind of thing that he accuses us of doing."

–Jock Friedly

Jock Friedly is a free-lance writer based in Arlington, Virginia.

HIGH-END COMPUTING

Panel Hopes to Splice Pieces Of U.S. Research Network

For computer scientist Ken Kennedy, the search for high-end performance never ends. As director of the Center for Research in Parallel Computation at Rice University, one of the National Science Foundation's (NSF's) showcase science and technology centers, he has direct access to powerful IBM, Cray, and Intel supercomputers. But he also needs high-speed connections to researchers in other institutions. So last summer, Kennedy's center joined with two local universities in a successful bid to hook up to NSF's very high speed Backbone Network Service (vBNS), a network initially created to link five NSF-supported supercomputing facilities. The center also is competing for a major role in the next iteration of NSF's supercomputing program (see sidebar).

These programs are allowing researchers like Kennedy to redefine what it means to be connected. Their scientific needs have long since exceeded the capabilities of the Internet, the once-proud federal creation that has become a victim of its own popularity, and led them to hook onto more capable networks like vBNS to share and manipulate vast amounts of data. But even these high-speed networks have their limitations: Access is costly and limited (see table), and in general, the networks don't connect with each other. Fortunately for Kennedy and other data-hungry researchers, two separate new initiatives have emerged to help lead the way toward an even more connected future.

One is a 5-year, $500 million program, called the Next Generation Internet (NGI), that President Clinton announced with great fanfare last October in the heat of the election campaign (*Science*, 18 October 1996, p. 335). The second is a loose-knit university initiative, called Internet-2, to upgrade campus networks and develop educational applications that make use of these improved links.

Although these initiatives and existing high-speed agency networks have sprung up independently, all are integral to creating the next U.S. information highway. Larry Smarr, director of the NSF-funded National Center for Supercomputing Applications, likens NGI to the top of a three-layer cake. Internet-2 provides the foundation for universities to take advantage of im-

The Next Wave of Supercomputing Centers

For academic researchers seeking access to the fastest machines, the four supercomputing centers created in 1986 by the National Science Foundation (NSF) offered entree to a new world of modeling, data crunching, and manipulating vast amounts of information. But in the decade since they were established, that capacity has become available at dozens of other university-based supercomputing centers. So last year, NSF decided to replace its existing network of centers with a smaller number of core facilities that would provide researchers not only with the fastest machines—capable of performing more than 1 trillion operations per second (teraflops)—but also would work closely with scores of other computing groups around the country.

On 27 to 28 March, the National Science Board, NSF's oversight body, is expected to announce the winners in a hot competition to participate in this new $65-million-a-year program, called Partnerships for Advanced Computational Infrastructure. Although the official results remain a closely guarded secret, knowledgeable sources say that three of NSF's existing supercomputing centers are expected to emerge victorious. These sources say that the two big winners will be the National Center for Supercomputing Applications (NCSA) at the University of Illinois, Urbana-Champaign, and the San Diego Supercomputing Center at the University of California, San Diego. The Pittsburgh Supercomputing Center is expected to be a regional partner for the NCSA-based center, with a special focus on high-end computing. The fourth of the current supercomputing centers, the Cornell Theory Center, is said to have finished out of the money in the competition among six proposals.

None of the competitors was willing to talk publicly about the proposals, which were reviewed last week by a panel of senior NSF officials. The new awards will be for 5 years, and NSF hopes to negotiate terms of the agreements, including budgets, and make the awards before funding for the existing centers runs out on 30 September. **–J.D.M.**