hatched in 1981 by OMB Deputy Director Joseph Wright when he was at Commerce, the privatization idea has been batted down four times. The plan, moreover, failed to pass OMB's own litmus test—to demonstrate that industry can perform the function at less cost (*Science*, 10 April 1987, p. 140).

The Administration now says that NTIS is a model candidate for its never-tried "Fed Co-Op" plan. The Federal Employee Direct Corporate Ownership Opportunity Plan, as it is officially called, would give NTIS employees a stake in the company that took over operation of the agency through a stock ownership plan. But it is not clear what would happen to NTIS if the contractor defaulted sometime in the future.

"If you're losing the game, change the rules. . . .," comments Representative Sherwood Boehlert (R–NY), ranking Republican on the House subcommittee on science research and technology. In a 24 February hearing, he and other members of the subcommittee expressed dismay at the Administration's latest actions. House and Senate committees last year passed bills (H.R. 3 and S. 907) to keep NTIS at Commerce. The legislation is attached to the massive trade bill that Congress is expected to take up this month.

Meanwhile, it appears that OMB and Commerce may try to award a contract before Congress can act. Noting that the legislation is not yet law, Welch told attendees at a 29 January briefing that "this procurement is on a fast track. We intend to proceed with all diligence." But that may be hard, say aides to the subcommittee on science research and technology, since the legislative history shows that Congress wanted NTIS kept in Commerce.

Administration witnesses are expected to appear before the subcommittee to explain their actions on 15 March. But some members have already sized up the situation. Says Boehlert, "The moral of this tale is that ideology can make people blind to the facts." ■ **MARK CRAWFORD**

U.S. Science Students Near Foot of Class

U.S. students made a poor showing in a new study comparing science achievement in schools in 17 countries. In testing done at three age levels, American 10-year-olds placed in the middle of the pack, and their compatriots finished further back in the 14 and 17 age categories.

Not only were American students' average scores far from impressive, but results from different U.S. schools within the sample tested ranged widely, suggesting inequality in the education provided. The report* noted that the U.S. pattern conformed to that of developing countries where sharp contrasts between elite schools and others are common.

In the report's summary observations on each country's results, the authors included the restrained comment on the U.S. performance that, "For a technologically advanced country, it would appear that a re-examination of how science is represented and studied is required."

The survey was conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA), an association of research centers. The group has been conducting multinational educational surveys for a quarter century. The school science achievement study was internationally sponsored, with the National Science Foundation (NSF) as U.S. backer. In a comment accompanying release of the report here, NSF director Erich Bloch said, "These findings emphasize again the troubled state of science education in the United States."

Results for the age 14 group were tagged in the report as particularly revealing since 14 is the school-leaving age in many countries. Achievement levels then are thought to be an indicator of the scientific literacy of the general public and the work force. A U.S. coordinator for the study, Richard N. Wolf of Teachers College, Columbia University, called the drop in U.S. students' relative scores from the 5th to the 9th grades, "one of the more disturbing things in the survey."

Wolf warned that results for 12th grade students have to be interpreted with care because of differences in student retention rates among countries in the study and because in countries like England some students concentrate almost exclusively on science subjects in the later years of secondary school. Wolf noted, however, that the U.S. 12th graders tested were all enrolled in second-year biology, chemistry, or physics classes. Since these students are regarded "as the cream of the crop," said Wolf, "our kids don't look so good."

In general, the survey showed boys scored higher than girls. In U.S. results, the discrepancy increased with grade level.

Japanese students scored first in the 5th-grade and second in the 9th-grade tests, but at the 12th-grade level slipped to fourth place in chemistry and physics and tenth place in biology. Results for students in grades 5 and 9 showed little variation among schools in Japan, but results for the 12th grade showed a very high spread. The report suggests that the explanation may be that substantial numbers of students in the final years of secondary education enroll in private schools where standards are assumed to be higher.

Of the two Eastern European countries that participated in the study, Hungary ranked with the top performers and Poland improved its position at the 9th- and 12th-grade levels to place in the top half. Both countries, however, showed wide differences in scores among schools tested, whereas a small difference is thought to be an indicator of equal opportunity.

The tests were prepared in an arduous international effort aimed at identifying elements that representatives of all countries participating would accept as fair. The result, according to Wolf, were tests regarded as "equally unfair for everyone."

The report is described as preliminary and will be followed by two other volumes. One will provide a detailed comparison of an earlier IEA test of science achievement reported in 1970. The other, expected next, will offer a full analysis of data for a total of 24 countries and information on school organization, curriculum, and teacher qualifications and an attempt to assess home and society influences on results, all in the hope of providing clues on how to improve science education. ■ **JOHN WALSH**

Rank Order of Countries for Achievement at Each Level

	10 yr olds Grade 4/5	14 yr. olds Grade 8/9	Grade 12/13 Science Students		
			Biology	Chemistry	Physics
Australia	9	10	9	6	8
Canada (Eng)	6	4	11	12	11
England	12	11	2	2	2
Finland	3	5	7	13	12
Hong Kong	13	16	5	1	1
Hungary	5	1	3	5	3
Italy	7	11	12	10	13
Japan	1	2	10	4	4
Korea	1	7	–	–	–
Netherlands	–	3	–	–	–
Norway	10	9	6	8	6
Philippines	15	17	–	–	–
Poland	11	7	4	7	7
Singapore	13	14	1	3	5
Sweden	4	6	8	9	10
Thailand	–	14	–	–	–
U.S.A.	8	14	13	11	9
Total no. of countries	15	17	13	13	13

**Science Achievement in Seventeen Countries: A preliminary Report*, Pergamon, New York, 1988.