NSF DIRECTOR: ECONOMICS RESEARCH IMPORTANT TO ACI

Testifying before the Senate Commerce Committee’s Technology, Innovation, and Competitiveness Subcommittee, chaired by Sen. John Ensign (R-NV), National Science Foundation Director (NSF) Arden Bement noted the importance of basic research to the American Competitiveness Initiative (ACI), and similar legislation sponsored by the Chairman and Sen. Joe Lieberman (D-CT).

As his example, Bement chose to mention research in experimental economics that has produced information on how to maximize returns from auctions. He related that the research has been applied by the FCC to auction off parts of the communications spectrum. The return from the research, according to Bement, was $45 billion to the U.S. and over $200 billion worldwide. Clearly, Bement further pointed out, this is way beyond NSF’s expenditures on Social, Behavioral and Economic Science studies.

The hearing held on March 29, also featured Presidential Science Adviser John Marburger extolling the ACI and the Administration’s FY 2007 proposed budget for basic research, including the long-range plan (over ten years) to double NSF’s budget. In addition, he stressed the importance of ramping up spending for research in the physical sciences.

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HOUSE BUDGET PANEL PASSES RESOLUTION

On March 30, the House Budget Committee, on a 22-17 party line vote, passed its version of the FY 2007 budget resolution. The Senate adopted its’ version on March 16 (see UPDATE, March 20, 2006).

Unlike the Senate, the House panel stuck to the President’s $873 billion cap for discretionary spending. They also included $6.5 billion in reductions for mandatory

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Ensign noted that his colleague, Sen. Mike Enzi (R-WY), seemed intrigued by the peer review process in Ireland that includes a second-tier review by people from the business community. In response, Bement suggested that the review of some research grants might require input from the non-scientific community, but these are mostly in the mission-related agencies (in the Departments, not NSF or NIH). NSF supports work at the “frontier” of science and thus the current merit review system that uses other scientists works best, Bement declared. Although he also noted that NSF’s Small Business Innovation Research program has input from the business community with regard to feasibility.

The Chairman referenced financier Michael Milken’s work on prostate cancer prevention and his foundation’s use of a streamlined and flexible application process to generously support researchers. Bement discussed the NSF’s Small Grants for Exploratory Research (SGER) that provides program officers the flexibility to support studies that respond quickly to opportunities. Marburger noted how NSF used SGER’s to fund research related to the Katrina and the World Trade Center disasters.

Sen. Mark Pryor (D-AR) asked Bement to outline what NSF would do with the enhanced funding proposed in the ACI. The Director responded that NSF would remain committed to “advancing the frontier” by increasing support for “the core” – NSF’s regular research programs, continuing to emphasize broadening participation of underrepresented groups in science and technology, and beefing up support for research tools, particularly cyberinfrastructure, which becomes increasingly important as research questions become more complex.

Steven Knapp, Provost of Johns Hopkins University, testified on a second panel, and discussed the commitment of the nation’s research universities to basic research and innovation. He expressed concern with the stagnation of the NIH budget and suggested we cannot afford to “favor life sciences over physical sciences or vice-versa, starving one to feed the other... since “the nature of scientific innovation today means that starving one starves both.”

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spending, well below the $65 billion sought by the White House.

Rep. Rosa DeLauro (D-CT) sought to replicate the Specter-Harkin amendment passed by the Senate to add funds to allow for increased allocations for labor, health, and education programs, including NIH. (See UPDATE, March 20, 2006). Her amendment failed by a vote of 14-22.

When the resolution reaches the House floor the week of April 3, Rep. Mike Castle (R-DE) is expected to offer the full House a chance to vote to increase the cap by 2 percent in order to provide more funds for “domestic priorities.” Castle, aided by his moderate Republican colleagues, will come up against the more conservative GOP members, led by Republican Study Committee Chairman Rep. Mike Spence (R-IN), who want to maintain the President’s proposed cap.

HIGHER EDUCATION ACT RENEWAL PASSES HOUSE

On March 30, by a vote of 221-199, the House passed its version of the reauthorization of the Higher Education Act (HEA) dubbed the “College Access and Opportunity Act” (H.R. 609). The legislation provides authorization for HEA programs until 2011. (For an earlier description of the House bill see UPDATE, August 8, 2005.)

In the budget reconciliation bill enacted at the end of last year, Congress made changes to HEA’s student loan provisions hoping to reduce federal spending on these mandatory programs. H.R. 609 includes many other programs to help institutions of higher education and students attending them at the undergraduate, graduate, and professional level. For example, the legislation reauthorizes both the Javits Fellowship program for graduate students in the social sciences, humanities, and arts, and the Thurgood Marshall Legal Educational Opportunity programs for students from underrepresented group about to enter law school.

With regard to international education and foreign language studies programs, the bill retains the Title VI International Advisory Board to
“provide advice, counsel, and recommendations to the Secretary and the Congress on international education issues for higher education.” The Board maintains its independence from the Secretary, but the Secretary may comment on its recommendations. Its proposals “shall not be subject to review or approval by any officer of the Federal Government.”

The Board is authorized “to assess a sample of activities supported under Title VI, using materials that have been submitted to the Department of Education by grant recipients.” This provision also includes language that: “Nothing in this title shall be construed to authorize the International Advisory Board to mandate, direct, or control an institution of higher education's specific instructional content, curriculum, or program of instruction or instructor.”

The Senate version of the legislation emerged from Committee on September 6, 2005 (for a description of the Senate bill see UPDATE September 12, 2005).

**HOUSE SCIENCE COMMITTEE HEARING FOCUSES ON K-12 SCIENCE AND MATH EDUCATION**

On Thursday, March 30, the Committee on Science of the U.S. House of Representatives held a hearing to examine how federal agencies can improve their individual and collective efforts to strengthen K-12 science, technology, engineering and mathematics education or STEM Education.

Margaret Spellings, Secretary of the U.S. Department of Education (ED), was joined by Arden L. Bement, Director of the National Science Foundation (NSF), Shana Dale, Deputy Administrator of the National Aeronautics and Space Administration (NASA), General John J. Kelly, Deputy Undersecretary of Commerce for Oceans and Atmospheric Administration and James Decker, Principal Deputy Director of the Office of Science at the U.S Department of Energy (DOE) to share their coordination efforts to improve STEM education and comment on the evaluation of their programs.

Chairman Representative Sherwood Boehlert (R-NY) stressed in his opening statement, "Coordination doesn't mean that every program has to fit a single mold, and coordination doesn't mean that agencies should not have some overlapping efforts. As with research funding, a strength of our system is that more than one agency may be working in a field. But coordination does mean that any overlap should be intentional and justified and that agencies should be drawing on each other's expertise and experiences."

Rep. Boehlert further expressed that “every agency must be evaluating its programs, and must share both the evaluation methods and results, so that we can continue to improve both the way programs are evaluated and the evaluations themselves.”

Bement highlighted the Math and Science Partnership (MSP) explaining that is a “research program to develop and assess the impact of innovative partnerships between higher education departments of mathematics and science, schools of education, and local school districts on improving K-12 student achievement in mathematics and science.” The Department of Education also runs an MSP program.

Decker, explained that the role of DOE and particularly the Office of Science in STEM education is complementary to the efforts of other federal agencies. “Our collaboration with NSF in various programs is especially productive and effective in bringing students from NSF funded programs to our National Laboratories; strengthening transfer of teacher research experiences to classrooms; curriculum development that strengthens our mission; and increasing science literacy.”

Ranking Member Rep. Bart Gordon (D-TN) insisted that the only way to gain advantage from the relatively small federal investment in K-12 STEM education is to “identify and concentrate on replicating programs that work.” “This is only possible if effective mechanisms are in place for program coordination, planning, and assessment across the government.”

Congress recently created the Academic Competitiveness Council (ACC) to strengthen and coordinate federal math and science education efforts. Secretary Spellings, who chairs the ACC, explained that the program's mission is to "identify all federal education programs with a math or science focus, determine the effectiveness of each program, identify areas of overlap, and recommend ways to efficiently integrate and coordinate in the future." The ACC comprises all federal agencies with education programs in the fields of STEM.

**Earlier Education Looks At Undergraduate Education**

On March 15, the Basic Research Subcommittee of the House Science Committee, chaired by Rep. Bob Inglis (R-SC), examined how undergraduate science, math and engineering education is working. The hearing featured testimony from sociologist Elaine Seymour,
author of Talking About Leaving: Why Undergraduates Leave the Sciences. Seymour is the former director of Ethnography and Evaluation Research at the University of Colorado.

In her book and in testimony to the Committee, Seymour reported that “poor learning experiences were by far the most common complaint both of those who switched out of science, mathematics, and engineering major and graduating seniors in those majors.” Poor teaching was the biggest complaint, but others included:

- Courses (and the curriculum overall) were over-stuffed with material and delivered at too fast a pace for comprehension, reflection, application, or retention;
- Insufficient attention was paid to class preparation, appropriate level and depth in the selection of class content and materials, or logical sequencing in its presentation;
- Lack of “fit” between class and lab objectives and content and lack of explanation to students of the conceptual connections between them;
- Little application, illustration, or discussion of conceptual material;
- Curve grading systems that disengaged grades from learning and from students’ perceptions of mastery; that created artificial and demoralizing forms of competition; and made collaborative peer learning difficult;
- Faculty showed or expressed dislike or disinterest in teaching;
- Faculty appeared to distance themselves from under-classmen, and seemed insufficiently available for help and advice;
- Faculty modes of teaching suggested that they took little responsibility for student learning, such as checking to see if students were understanding class material;
- Faculty showed little knowledge of the use of learning objectives or pedagogy other than lecturing;
- Able students became bored by their introductory science courses despite their strong incoming interest in science; and
- Many students developed instrumental attitudes to learning focused on grades rather than mastery, cheated to beat the curve, and did not retain content knowledge that they memorized mainly for tests.

Furthermore, poor K-12 student preparation exacerbated by a decline in science and mathematics teaching in these grades compounds the problem. Even those students who had taken Advanced Placement course in science and math, still had difficulty with the introductory college courses.

She concluded that any attempt at improvements must focus on renewed emphasis on the perceived value of teaching with yet another call for colleges and universities to alter their reward structures for faculty away from grant writing and obtaining grants and towards instruction.

**HOUSE AGRICULTURE PANEL AGAIN SKEPTICAL OF CHANGING FORMULA FUNDING PROGRAMS**

On March 30th, the key administrators of the research, education, and economics programs at the U.S. Department of Agriculture (USDA) made the case for their proposed FY 2007 budget to the House Agriculture, Rural Development and the FDA appropriations subcommittee, chaired by Rep. Henry Bonilla (R-TX).

A key proposal in the budget submission is to distribute a portion of the Hatch Act and the McIntire-Stennis formula-funding programs to nationally, competitively awarded multi-state/multi-institutional projects based on high priority national topics decided in consultation with land-grant colleges and universities. Despite the explanation by Cooperative State Research, Education and Extension Services (CSREES) Administrator Colien Hefferan that this proposal was different from a similar one in the FY 2006 budget submission, the Subcommittee members did not appear convinced.

Rep. Tom Latham (R-IA) suggested this was “déjà vu all over again” and that like last year the proposal was a “non-starter.” Ranking subcommittee member Democrat Rosa DeLauro (D-CT) also indicated her concern with the proposal, noting the importance of “predictable formula funds” to ensure the stability of agricultural research endeavors and the land-grant system. Hefferan suggested that CSREES is working with its partners in the land-grant system on a
Joint Task Force to examine the relationship of formula-funded and competitively funded programs.

As he has in previous years, Chairman Bonilla also made it clear that the Administration’s attempt to eliminate what it calls “earmarks” and the panel calls “congressional initiatives” would also not go very far. Bonilla and the subcommittee also expressed deep concerns over proposed cuts to core programs at the Agricultural Research Service (ARS) and the CSREES, as USDA is one of the Departments bearing the brunt of the limitations on domestic discretionary spending in the President’s budget proposal. The Chairman did say that “most of these cuts will be taken care of,” the Chairman noted.

The written testimony of Merle Pierson, the Deputy Under Secretary for Research, Education and Economics, highlights one of the major concerns reflected in the budget proposal; the “epidemic of obesity in the Nation.” He pointed out that there are increases in the ARS, CSREES, and Economic Research Service (ERS) budgets to address obesity through “gaining a better understanding of food consumption patterns and the factors influencing them, and on developing effective interventions to promote healthy dietary choices.”

ARS will support a longitudinal study to assess the long-term benefits and approaches to controlling weight and studies of dietary patterns that contribute to obesity in low socioeconomic and minority populations. The ERS will use part of its increase to obtain food-away-from-home data as part of this focus on healthy eating.

BRIEFING: SOCIAL SCIENCE RESEARCH BENEFITS POLICY MAKERS

On Friday March 31st, social science researchers, policy makers, social workers and funding organizations gathered on Capitol Hill to hear the results of three diverse systematic reviews involving counter terrorism strategies, the impact of parent involvement in a child’s learning, and juvenile delinquency prevention, and how research can benefit policy makers.

Moderated by Robert Boruch, University Trustee Chair Professor at the University of Pennsylvania, the panel included Cynthia Lum, Assistant Professor at George Mason University, Department of Public and International Affairs, Administration of Justice Program; and Herbert Turner, Scientific Research Project Director for The Campbell Collaboration (C2).

The briefing began with Lum who asked the question “Are Counter-Terrorism Programs Effective?” Lum found that there is almost a complete absence of high quality scientific evaluation evidence on counter-terrorism strategies and evidence that was collected does not indicate consistently positive results. Lum admitted however, that the available scientific evidence was drawn from only a handful of studies, which use moderately rigorous research designs, limiting the strength of evidence and the conclusions that can be drawn from them.

She concluded that the implication is decision makers is that the evidence base for policy making, strategic thinking and planning against terrorism is very weak and there is an urgent need to commission research and evaluation on counter-terrorism measures to determine whether or not these strategies work. Lum also insisted that scientists should be consulted more often in the policy making process.

Turner presented the overall effects of parent involvement in a child’s learning and found that parent involvement outside the regular school day improved the academic performance in children, particularly in the areas of reading and math. Turner answered the question “Does parental involvement impact student achievement?” by synthesizing findings from studies that used appropriate controls and focused on the parent’s active engagement with their child in an activity designed to enhance academic performance in reading, math and science.

Wilson studied whether mainstream programs for juvenile delinquency programs are less effective with minority youth than majority youth. Overall Wilson established that there were positive intervention effects with ethnic minority subjects on delinquent behavior, school participation, peer relations, academic achievement, behavior problems, psychological adjustment, and attitudes.

Wilson established that service programs were equally effective for minority and white delinquents, while there were slight differences in effectiveness for different service types between minority and majority youth.

The Measuring Success: What Social Science Research Can Tell Policy Makers briefing was presented in collaboration by the International Campbell
ROGER I GLASS, NAMED NEW FIC DIRECTOR

On March 31st, National Institutes of Health (NIH) Director Elias Zerhouni announced Roger I. Glass, M.D., Ph.D., as the new director of the Fogarty International Center (FIC) and Associate Director for International programs. Glass is currently the chief of the Viral Gastroenteritis Section at the Centers for Disease Control and Prevention (CDC). He will join the NIH in May.

Glass is a 1967 graduate of Harvard and received a Fulbright Fellowship to study at the University of Buenos Aires. He received his M.D. from Harvard Medical School and a M.P.H. from the Harvard School of Public Health in 1972. He joined the CDC in 1977 as a medical officer assigned to the Environmental Hazards Branch.

Glass received his Ph.D. from the University of Goteborg, Sweden in 1983, and joined the NIH Laboratory of Infectious Diseases, where he worked on the molecular biology of rotavirus. He returned to CDC to his current position in 1986.

He has received numerous awards, including the Secretary's Award for Distinguished Service (DHHS), the Outstanding Unit Citation from the National Center for Infectious Diseases, the Outstanding Service Medal from the U.S. Public Health Service, and a Commendation Medal from the U.S. Public Health Service. He is a member of the U.S. National Academy of Science's Institute of Medicine, the American Academy of Microbiology, the American Society of Microbiology, the American Association for the Advancement of Science, the American Society of Virology, and the American Epidemiological Society.

GROUP ACCREDITS RESEARCH PROGRAMS AT STANFORD AND TEXAS

On March 23rd, the Association for the Accreditation of Human Research Protection Programs (AAHRPP) announced the full accreditation of research programs at the University of Texas, Austin and Stanford University. Each university conducts research across the full spectrum of the sciences, including the social and behavioral sciences.

The AAHRPP accreditation process asks organizations to demonstrate that extensive safeguards are built into every level of their research operations. The standards AAHRPP uses exceed the requirements of federal regulations. The rigorous process results in system-wide improvements that provide greater protection for research participants and ensures the integrity of their research. Accreditation is valid for three years.

In reacting to Stanford’s accreditation, Arthur Bienenstock, Vice Provost and Dean of Research and Graduate Policy told the Stanford Report, that: “if the accrediting process is subscribed to by all the relevant institutions then we will gain assurance that human research participants in this country are appropriately protected.”

AAHRPP has now accredited 35 organizations with 102 entities. Thirteen of these are universities. COSSA is a founding member of AAHRPP along with the Association of American Medical Colleges, the Association of American Universities, the Federation of American Societies for Experimental Biology, the National Association of State Universities and Land Grant Colleges, the National Health Council, and Public Responsibility in Medicine and Research.

RESEARCH ON THE ECONOMICS OF DIET, ACTIVITY, AND ENERGY BALANCE

The National Institutes of Health (NIH) is seeking research applications (PA-06-292) that enhance the state-of-the-science on the causes of obesity and to inform Federal decision making on effective public health interventions for reducing the rate of obesity in the U.S. The agency especially encourages applications that address research strategies that nest economic analysis within a broader interdisciplinary context of other social and behavioral sciences as well as the epidemiological, bio-statistical, medical, and biological disciplines relevant to public health policy.

Research to date on economic factors related to diet, activity, and energy balance has been mainly limited to how individuals respond to broad changes in technology, price, and income conditions.
There has been, however, limited consideration of broader policy and social-structural factors.

Examples of the types of research topics and approaches that would be relevant areas of investigation include studies of:

- How innovative methods, such as conjoint analysis, experimental economics, behavior economics, disequilibrium analysis, multi-level analysis, and innovative consumer and producer survey design and administration can be applied to better understand the underlying factors that mediate the process of economic choice related to diet and physical activity.

- How family structure, labor market participation, and role functions affect economic choices about diet and physical activity.

- How occupational structure, workplace constraints, time, activities, and workplace programs and policies affect opportunities and choices.

- How policies and economic factors related to public finance, transportation, land-use, zoning, and education may influence the distribution and structure of goods and resources related to choices and opportunities about diet and physical activity between and within communities.

- Policy changes in the provision of information (e.g., regulation of advertising, label requirements) to determine the impact of Federal, State, or local policies on individual economic choices.

- Determining factors related to the effective communication of publicly provided or mandated information related to individual economic choices.

- Feasibility, effectiveness, cost-effectiveness, or cost-benefit of interventions as well as programs and policies designed to improve behavior and health outcomes related to diet and physical activity, including programs of administered pricing or health promotion in school, workplace, healthcare delivery, or other community organizational setting.

The National Cancer Institute, the National Institute on Diabetes and Digestive and Kidney Diseases, the National Institute on Biomedical Imaging and Bioengineering, the National Institute on Aging, and the Office of Behavioral and Social Sciences Research are participating in the solicitation. For more information see: http://grants.nih.gov/grants/guide/announcements/PA-06-292.html.

**OBSSR REACHES 10 YEAR ANNIVERSARY**

On June 21 – 22, 2006, the National Institutes of Health’s (NIH) Office of Behavioral and Social Sciences Research (OBSSR) will hold a conference on the NIH campus to kick off a year long celebration of its 10th anniversary.

Nobel laureates Daniel Kahneman and Eric Kandel are scheduled to present, with welcoming remarks from NIH Director, Elias Zerhouni. For more information and/or to register see: http://obssr.od.nih.gov/OBSSR10th/intro.htm.

**CONSORTIUM OF SOCIAL SCIENCE ASSOCIATIONS (COSSA)**

Executive Director: Howard J. Silver  
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The Consortium of Social Science Associations (COSSA), an advocacy organization for Federal support for the social and behavioral sciences, was founded in 1981 and stands alone in Washington in representing the full range of social and behavioral sciences.

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