

Budget Testimony
Rep. Holt
New Jersey
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Thank you Chairman Spratt, Ranking Member Ryan, and distinguished Members of the Committee on the Budget. I appreciate the opportunity to provide testimony on the proposed Fiscal Year 2010 Function 250 investment in science and science education.

I had the honor this Monday to attend the signing ceremony held by President Obama for the Executive Order rescinding the ban on funding for embryonic stem cell research and the Presidential Memorandum restoring scientific integrity to governmental decision-making. This validates the President's Inaugural declaration that we will 'restore science to its rightful place.' I am excited about the President's restoring science to its rightful place in our policy process and now we must turn to restoring science to its rightful place in terms of our national investment.

We know that science and technology have the potential for transforming and accelerating our economy. One particularly illuminating example occurred from a National Science Foundation (NSF) project examining the potential of digital libraries. Two graduate students working on that project two decades ago, one an NSF graduate fellow, developed an innovative method to search for web pages. These two students, Sergey Brin and Larry Page, eventually turned their innovative research into Google, one of the world's largest companies, whose service is used more than 200 million times per day.

Statistics confirm that science and engineering research hold the key to our future economic growth. Innovation and technology lead to two-thirds of our productivity growth according to a Federal Research Board study, while a National Bureau of Economic Research study similarly estimates that almost 60 percent of our economic growth is attributable to technical progress.

In these troubled economic times, it is also important to remember that while research lays the foundation for our long-term prosperity, research also creates jobs now. According to Families USA, grants from the National Institutes of Health (NIH) supported more than 350,000 jobs in 2007. A report by the Information Technology and Innovation Foundation estimated that each additional \$1 billion investment in research would create approximately 20,000 American jobs a year. This investment would provide jobs not just to scientists but even more to research students, electricians who wire the labs, lab technicians who run the instrumentation, construction workers who will renovate the buildings, and many more. The job creation is comparable to or better than job creation for other spending, even in the short term.

EFFECT OF RESEARCH UNDERINVESTMENT ON NATIONAL COMPETITIVENESS

As a result of flat investment in physical science and engineering research for the past 15 years, the National Academies released its ground-breaking report "Rising Above the

Gathering Storm.” In response, this body passed the America COMPETES Act in August 2007 to stem this decline and double our investment in the Department of Energy’s (DoE) Office of Science and the National Science Foundation (NSF) by 2016. Unfortunately, the Fiscal Year 2008 appropriations fell far short of this goal. The Fiscal Year 2009 appropriations bill passed by the House and Senate contains a 7% increase in research funding at NSF and NIST as well as a 16% increase at the Department of Energy’s Office of Science, which is a stronger scientific investment than in years past.

Federal research support is all the more crucial because other nations are vigorously expanding their innovation investment and research infrastructure. The Information Technology and Innovation Foundation recently released a report entitled *The Atlantic Century: Benchmarking EU and U.S. Innovation and Competitiveness*, which ranked 40 countries and regions based on 16 metrics of innovation and competitiveness including educational attainment, scientific workforce, and research investment. This report found that the United States no longer ranks first in terms of innovation, but continues to have a moderate competitive position, ranking 6th out of the countries studied, behind countries such as Singapore and South Korea. What is most disturbing however is the rate of change. While other countries, such as China, India, and European Union countries, have been pursuing policies that are explicitly designed to spur innovation, the United States placed last in terms of progress made over the last decade. This means that America’s lead in science and technology is eroding at the same time that other nations are gathering strength in science and innovation.

IMPORTANT INCREASES IN PRESIDENT’S REQUEST

I am pleased the President Obama’s budget request recognizes the centrality of science and innovation for our future economic and social prosperity. The budget invests in science by requesting \$7 billion for NSF, \$18.7 billion for NASA, and supports increases for the DOE Office of Science and National Institute of Standards and Technology (NIST) laboratories. President Obama’s budget would reverse years of neglect for science and, combined with the science funding in the economic recovery package, it would make a significant down-payment on the President’s plan to double research funding over the next 10 years. I urge you to meet President Obama’s request and make the necessary investment in innovation.

I also am pleased that the budget request pledges to make permanent the research and experimentation tax credit, otherwise called the R&D tax credit. This tax credit is crucial in spurring private research and driving technological innovation. As important as the R&D tax credit has been, it has never been a permanent part of the tax code and has been allowed to expire several times, most notably in 2007. While Congress has extended the credit, making the R&D tax credit permanent will strengthen the incentive for businesses to invest in long-term research, because corporate leaders will know their research investments will be rewarded year after year.

EDUCATION AND TRAINING

I appreciate that the budget commits to tripling graduate fellowships in science and supports increases in NSF Graduate Research Fellowships. By reducing the financial

barriers to a graduate education, this provision should increase the number of Americans that enter into science and engineering fields. This is necessary to ensure America continues to have a large science and engineering workforce and remains competitive with emerging powers, who are producing vastly more graduates in the science and engineering fields.

I also am encouraged that the budget expands the Faculty Early Career Development program. This expands our support for early-career researchers, who face substantial challenges obtaining funding and establishing themselves. With wildly fluctuating federal support of competitive grants, this phase of an academic scientific career is unstable and therefore much less appealing than needs to be the case. It is important that we support our researchers at each stage of their career so that we can maintain a strong workforce.

Prospective undergraduates need better access to the promise of a technical college education. I appreciate that the budget request commits to improving the education of technicians in high-technology fields by increasing support for the Advanced Technological Education program. This program focuses on two-year colleges and supports partnerships between academic institutions and employers to enhance the education of future science and engineering technicians.

CONGRESSIONAL ACTION ON PRESIDENT'S REQUEST

From Fiscal Year 2005 through 2008, federal research obligations decreased 7.8 percent in constant dollars. Between Fiscal Year 2007 and 2008 alone, total federal research spending dropped by 4.8 percent in constant dollars. The Congress must take some responsibility for this funding situation. In Fiscal Year 2008, Congress slightly increased the investment in NSF by 2.5 percent, far short of the 8 to 10 percent increase that was provided in earlier versions of the appropriations bills and less than the 3.8 percent inflation that year. At the same time, DoE's Office of Science received 5.8 percent increase, far less than the 15 to 18 percent increase in earlier versions of these bills. I urge the Budget Committee and the Congress to take a different approach this appropriations cycle.

Recognizing the centrality of innovation to our national prosperity, I hosted a roundtable in December with Speaker of the House Nancy Pelosi and Princeton University President Shirley Tilghman. That roundtable included senior members of Congress, university presidents, industry leaders, and research scientists, who were all brought together to look at the state of basic research. What we concluded was that our innovation infrastructure, which has served our nation so well for 50 years, is showing signs of age and disrepair. In fact, the American share of world research investment has been falling since 1998 and our R&D intensity, as measured by the percentage of our GDP invested in research, trails many other nations.

I am pleased that the economic recovery package made a necessary down payment toward repairing our nation's innovation infrastructure, but those investments would be wasted unless we sustain our science funding in the coming years. In these troubled economic times, science is the ideal investment because it provides jobs now while laying

the foundation for our future economic growth. As Speaker Pelosi said best, the way to move forward as a nation is “through science, science, science, and science.” I look forward to working with the Congress to make this necessary investment and meeting the President’s call to restore science to its rightful place in our national investment portfolio.