Committee On Finance
Max Baucus, Ranking Member

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Prepared Statement of U.S. Senator Max Baucus (D-Mont.)
The Research Competitiveness Act of 2006

Mr. President, on October 4, 1957, an object the size of a basketball shot into space. And history changed.

The Soviet Union had launched Sputnik. And Americans reacted with fear. That fear quickly turned to determination to win the race to space.

Just one month later, the Russians launched Sputnik II with one precious passenger: a Russian mutt named Laika. Laika became the first living being to orbit earth. Today, a dog in space might seem like a good start for a Disney film. But in 1957, American scientists worried that these events foreshadowed Soviet military and strategic advantage.

By the following summer, Congress had created NASA. Sputnik's launch had provided the catalyst. For years before, scientific organizations and even the White House had declared the exploration of space as a priority. It took Sputnik to move us to action.

Half a century later, we find ourselves waiting for the next Sputnik. Report after report has outlined the risk that America runs by not doing more in research and education. A recent report entitled "Waiting for Sputnik" cautions that our workforce must include a greater percentage of "knowledge workers" — including scientists and engineers — if we are to maintain our technological lead in defense capabilities. And another recent report, "Rising Above the Gathering Storm," expresses fear that America's lead in science and technology can be abruptly lost and difficult or impossible to regain.

What these reports and others are telling us one thing: We cannot wait for the next Sputnik. We must recognize that our advantage is fleeting. We must begin today with more science, more education, and more commitment to research to prepare for the future.

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Asia has recognized this. Asia is plowing more funding into science and education. China, in particular, understands that technological advancement means security, independence, and economic growth. Spending on research and development has increased by 140 percent in China, Korea and Taiwan. In America, it has increased by only 34 percent.

Asia's commitment is already paying off. More than a hundred Fortune 500 companies have opened research centers in India and China. I have visited some of them. I was impressed with the level of skill of the workers I met there.

China's commitment to research, at $60 billion in expenditures, is dramatic by any measure. Over the last few years, China has doubled the share of its economy that it invests in research. China intends to double the amount committed to basic research in the next decade. Currently, only America beats out China in numbers of researchers in the workforce.

Over the last few months, I have offered a series of proposals to improve America's competitiveness. Today, I am pleased to introduce the Research Competitiveness Act of 2006. This bill would improve our research competitiveness in four major areas. All four address incentives in our tax code. Government also supports research through federal spending. But I am not addressing those areas today.

First, my bill improves and simplifies the credit for applied research in section 41 of the tax code. This credit has grown to be overly complex, both for taxpayers and the IRS. Beginning in 2008, my bill would create a simpler 20 percent credit for qualifying research expenses that exceed 50 percent of the average expenses for the prior 3 years.

And just as important: The bill makes the credit permanent. Because the credit has been temporary, it has simply not been as effective as it could be. Since its creation in 1981, it has been extended 10 times. Congress even allowed it to lapse during one period.

The credit expired again just last December. And another short-term extension is pending in both tax reconciliation bills in conference. Last year, the experts at the Joint Committee on Taxation wrote: "Perhaps the greatest criticism of the R&E credit among taxpayers regards its temporary nature." Joint Tax went on to say, "A credit of longer duration may more successfully induce additional research than would a temporary credit, even if the temporary credit is periodically renewed."

Currently, there are two different ways to claim a tax credit for qualifying research expenses. First, the "traditional" credit relies on incremental increases in expenses compared to a mid-1980s base period. Second, the "alternative incremental" credit measures the increase in research over the average of the prior four years.

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Both of these credits have base periods involving gross receipts. My bill replaces these with a new credit, known as the "Alternative Simplified Credit," based on research spending without reference to gross receipts. The current formula hurts companies that have fluctuating sales. And it hurts companies that take on a new line of business not dependent on research.

The Senate has passed this alternative formula as an optional credit several times. It is now pending in both versions of the tax reconciliation bill. It has not yet been enacted, though, even on a temporary basis.

I support the 2-year extension of the R&E credit contained in the Senate version of the tax reconciliation bill. That is why this new simpler formula in my bill would not start until 2008. That start date would give companies plenty of time to adjust their accounting.

The main complaint about the existing credits is that they are very complex, particularly the reference to the 20-year-old base period. This base period creates problems for the taxpayer in trying to calculate the credit. And it creates problems for the IRS in trying to administer and audit those claims.

The new credit focuses only on expenses, not gross receipts. And is still an incremental credit, so that companies must continue to increase research spending over time.

A tax credit is a cost-effective way to promote R&E. A report by the Congressional Research Service finds that without government support, investment in R&E would fall short of the socially optimal amount. Thus CRS endorses Government policies to boost private sector R&E.

Also, American workers who are engaged in R&E activities benefit from some of the most intellectually stimulating, high-paying, high-skilled jobs in the economy.

My own State of Montana has excellent examples of this economic activity. During the 1990s, about 400 establishments in Montana provided high-technology services, at an average wage of about $35,000 per year. These jobs paid nearly 80 percent more than the average private sector wage, which was less than $20,000 a year during the same period. Many of these jobs would never have been created without the assistance of the R&E credit.

My research bill would also establish a uniform reimbursement rate for all contract and consortia R&E. It would provide that 80 percent of expenses for research performed for the taxpayer by other parties count as qualifying research expenses under the regular credit.

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Currently, when a taxpayer pays someone else to perform research for the taxpayer, the taxpayer can claim one of three rates in order to determine how much the taxpayer can include for the research credit. The lower amount is meant to assure overhead expenses that normally do not qualify for the R&E credit are not counted. Different rates, however, create unnecessary complexity. Therefore, my bill creates a uniform rate of 80 percent.

The second major research area that this bill addresses is the need to enhance and simplify the credit for basic research. This credit benefits universities and other entities committed to basic research. And it benefits the companies or individuals who donate to them. My bill provides that payments under the university basic research credit would count as contractor expenses at the rate of 100 percent.

The current formula for calculating the university basic research credit — defined as research "for the advancement of science with no specific commercial objective"— is even more complex that the regular traditional R&E credit. Because of this complexity, this credit costs less than one-half of one percent of the cost of the regular R&E credit. It is completely under-utilized. It needs to be simplified to encourage businesses to give more for basic research.

American universities have been powerful engines of scientific discovery. To maintain our premier global position in basic research, America relies on sustained high levels of basic research funding and the ability to recruit the most talented students in the world. The gestation of scientific discovery is long. At least at first, we cannot know the commercial applications of a discovery. But America leads the world in biotechnology today because of support for basic research in chemistry and physics in the 1960s. Maintaining a commitment to scientific inquiry, therefore, must be part of our vision for sustained competitiveness.

Translating university discoveries into commercial products also takes innovation, capital, and risk. The Center for Strategic and International Studies asked what kind of government intervention can maintain technological leadership. One source of technological innovation that provides America with comparative advantage is the combination of university research programs, entrepreneurs, and risk capital from venture capital, corporations, or governments. Research clusters around Silicon Valley and North Carolina's Research Triangle exemplify this sort of combination.

The National Academies reached a similar conclusion in a 2002 review of the National Nanotechnology Initiatives. In a report, they wrote: "To enhance the transition from basic to applied research, the committee recommends that industrial partnerships be stimulated and nurtured to help accelerate the commercialization of national nanotechnology developments."

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To further that goal, the third major area this bill addresses is fostering the creation of research parks. This part of the bill would benefit state and local governments and universities that want to create research centers for businesses incubating scientific discoveries with promise for commercial development.

Stanford created the nation's first high-tech research park in 1951, in response to the demand for industrial land near the university and an emerging electronics industry tied closely to the School of Engineering. The Stanford Research Park traces its origins to a business started with $538 in a Palo Alto garage by two men named Bill Hewlett and Dave Packard. The Park is now home to 140 companies in electronics, software, biotechnology, and other high tech fields.

Similarly, the North Carolina Research Triangle was founded in 1959 by university, government, and business leaders with money from private contributions. It now has 112 research and development organizations, 37,600 employees, and capital investment of more than $2.7 billion. More recently, Virginia has fostered a research park now housing 53 private-sector companies, nonprofits, VCU research institutes, and state laboratories. The Virginia park employs more than 1,300 people.

The creation of these parks would seem to be an obvious choice. But it takes a significant commitment from a range of sources to bring them into being. To foster the creation and expansion of these successful parks, my bill will encourage their creation through the use of tax-exempt bond financing. Allowing tax-exempt bond authority would bring down the cost to establish such parks.

Foreign countries are emulating this successful formula. They are establishing high-tech clusters through government and university partnerships with private industry.

Back in 2000, a partnership was formed to foster TechRanch to assist Montana State University and other Montana-based research institutions in their efforts to commercialize research. But TechRanch is desperately in need of some new high-tech facilities. It could surely benefit from a provision such as this. I encourage my Colleagues to visit research parks in their states to see how my bill could be helpful in fostering more successful ventures.

A related item is a small fix to help universities that use tax-exempt bonds to build research facilities primarily for federal research in the basic or fundamental research area. Some of these facilities housing federal research — mostly NIH and NSF funded projects — are in danger of losing their tax-exempt bond status. Counsel have notified some state officials that they may be running afoul of a prohibition on "private use" in the tax code, because one private party has a superior claim to others in the use of inventions that result from research.

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The complication comes from a 1980 law. In 1980, Congress enacted the Patent and Trademark Law Amendments Act, also known as the Bayh-Dole Act. The Bayh-Dole Act requires the Federal Government to retain a non-exclusive, royalty-free right on any discovery. In order to foster more basic research through Federal-state-university partnerships, we need to clarify that this provision of the Bayh-Dole act does not cause these bonds to lose their tax-exempt status. And my bill directs the Treasury Department to do so. I understand that the Treasury Department is aware of this significant concern. Whether or not Congress enacts my legislation, I hope that the Treasury Department will clarify the situation later this year.

The fourth major area that my bill addresses is innovation at the small business level. Recently, representatives of a number of small nanotechnology companies came to visit me. They told me that their greatest problem was surviving what they called the "valley of death." That's what they called the first few years of business, when an entrepreneur has a promising technology but little money to test or develop it. Many businesses simply do not survive the "valley of death." I believe that Congress should find a way to assist these businesses with promising technology.

Nanotechnology, for instance, shows much promise. According to one recent report, over the next decade, nanotechnology will affect most manufactured goods. As stated in Senate testimony by one National Science Foundation official earlier this year, "Nanotechnology is truly our next great frontier in science and engineering." It took me a while to understand just what nanotechnology is. But it is basically the control of things at very, very small dimensions. By understanding and controlling at that dimension, people can find new and unique applications. These applications range from common consumer products — such as making our sunblocks better — to improving disease-fighting medicines — to designing more fuel-efficient cars.

So, to help these small businesses convert their promising science into successful businesses, my bill would establish tax credits for investments in qualifying small technology innovation companies. These struggling start-up ventures often cannot utilize existing incentives in the tax code — like the R&E tax credit — because they have no tax liability and may have little income for the first few years. They need access to cheap capital to get through those first few research-intensive years.

The credit in my bill would be similar to the existing and successful New Markets Tax Credit. The New Markets Credit has provided billions of dollars of investment to low-income communities across the country. In my bill, entities with some expertise and knowledge of research would receive an allocation from Treasury to analyze and select qualifying research investments. These investment entities would then target small business with promising technologies that focus the majority of their expenditures on activity qualifying as research expenses under the R&E credit.

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In sum, my bill would boost both applied and basic research. It would boost research by businesses big and small. And it would foster research by for-profit and non-profits alike.

There is no clear answer to how to address the concerns raised in the "Waiting for Sputnik" report. But the answer is clear that we must try — and soon.

A noted environmentalist once said: "Every major advance in the technological competence of man has forced revolutionary changes in the economic and political structure of society." From telephones to rockets to computers, I believe that this is true.

Let us work to see that the next big technological advance is discovered here in America. Only through continued commitment to research can we ensure that it is.

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