



Committee On Finance

Max Baucus, Ranking Member

NEWS RELEASE

<http://finance.senate.gov>

For Immediate Release
Monday, June 27, 2005

Contact: Wendy Carey
202-224-4515

Floor Statement of U.S. Senator Max Baucus on the Importance of Education in Keeping America Competitive

(WASHINGTON, D.C.) U.S. Senator Max Baucus delivered the following speech during today's Senate debate regarding the United States' competitiveness in a global economy. This is the second speech in a series of floor statements by Senator Baucus on America's global competitiveness. As ranking member of the Senate Finance Committee, Baucus has been a leader on a number of issues related to keeping America at the forefront of the world's economy.

Today's speech highlighted the importance of education in keeping America's economy competitive with the rest of the world.

The floor statement follows:

Floor Statement of U.S. Senator Max Baucus Education

Mr. President, in the book of Isaiah, the prophet wrote, "[M]y people have gone into captivity, because they have no knowledge."

Francis Bacon wrote, "Knowledge itself is power."

And when H.G. Wells summed up his history of the world, he concluded: "Human history becomes more and more a race between education and catastrophe."

Mr. President, in the next two decades, America's history will become more and more a race for economic leadership. For more than a century, America's economy has set the pace. We have led all competitors. Year after year, we have become used to winning the race.

But now, over our shoulder, we can hear the footsteps of another runner. That competitor is China. And it is gaining fast.

If we wish not to go into economic subservience, if we wish to maintain our economic power, if we wish to avert economic misfortune, the answer is education.

America's economic leadership has been a remarkable achievement. We Americans are just 4.6 percent of the world's people. More than a fifth of the world's people live in China. There are nearly 4½ times as many Chinese as there are Americans.

Yet America produces 60 percent more goods and services than China.

That is how Americans can enjoy one of the world's foremost standards of living. The average American's share of our economic output is \$37,610 a year. The average Chinese's share of theirs is \$1,100 a year.

But from a slow start, China has picked up the pace. Starting with Deng Xiaoping in the late 1970s, China began to reform its economy. Deng was eminently practical, when it came to economic philosophy. He said: "It doesn't matter whether the cat is black or white, as long as it catches mice." Today, you can find those capitalist cats everywhere in China.

Over the last two decades, China's economy has been growing at an average of 9.5 percent, nearly three times as fast as America's. And some project that within 20 years, China's could become the world's largest economy, ending more than a century of American leadership.

You can see how they do it at an American or Japanese factory in Shanghai. You see rows and rows of hardworking workers, in colorful uniforms, at well-lit work stations. The company pays them about \$2,000 a year, plus food and housing benefits. But that is good money in a country with an average income of \$1,100 a year. The workers there want to keep their jobs. And 200 million other workers stand ready to take their jobs if they do not.

The challenge for America in the decades to come will be: How can America compete with that factory in Shanghai? How can we get paid \$37,000 a year or more to make goods and perform services, when there are Chinese workers willing to work hard for \$2,000 a year?

The answer is not protectionism. We cannot build a wall around America. We cannot lift the drawbridge and flood a moat around our Country.

If American companies do not employ those willing workers at the Shanghai factory, companies from Japan and Italy and China itself will. Then Japanese and Italian and Chinese companies will sell products more cheaply into America. And American consumers will gladly buy those products at lower prices. American consumers will insist on buying those products at lower prices.

If America raises tariffs on goods made in China, then American consumers will pay more for their cost of living than will people in other countries. Americans will have less money to spend on other things that they want, less money to spend on other things in America. The American economy will be smaller, if America raises tariffs.

If America raises tariffs, then American businesses will pay more for their industrial inputs than will businesses in other countries. American businesses will become less competitive, lose sales, and lose jobs. Once again, the American economy will be smaller, if America raises tariffs.

No, the answer to how America can compete with that factory in Shanghai is not protectionism.

The way that we can get paid \$37,000 for our work — when Chinese workers are willing to work for \$2,000 — is for Americans to add more value. Americans earn more because we produce better. Americans produce smarter.

And that means that for us to remain economic leaders of the world, Americans need to stay smarter. We need to educate our children and our workers so that American workers can add more value in an hour of work than workers in any other place in the world.

Knowledge will be economic power.

Ensuring that we continue to have more knowledge than the Chinese will not be easy. China has worked on its education system. 9 out of 10 Chinese can read.

It is very Chinese to take the long view. More than 2600 years ago, the master Kuan Chung said, “If you plan for a year, plant a seed. If for 10 years, plant a tree. If for a hundred years, teach the people. When you sow a seed once, you will reap a single harvest. When you teach the people, you will reap a hundred harvests.”

We need to plant those seeds of education and tend those young saplings, in our public schools. In 1835, the Supreme Court Justice Joseph Story wrote: “Every successive generation becomes a living memorial of our public schools, and a living example of their excellence.”

Ensuring that our schools are a living example of excellence will take more than just money. But ensuring that our schools are a living example of excellence will take money, as well.

We need to ensure that children can come to school ready to learn. We need to ensure that children have modern and well-equipped schools. We need to ensure that children have small classes. And most importantly, we need to ensure that children have good teachers.

In the next decade, America will need to hire 2 million new teachers. 1 in 5 new teachers leave teaching within 3 years. In urban schools, half of teachers leave the profession within 5 years.

Nearly 2 out of 5 low-income children are taught by teachers without a college degree in their primary instructional field. Low-income students are taught by more teacher’s aides than credentialed classroom teachers. 4 out of 5 aides do not have a 4-year college degree.

Columnist Tom Friedman wrote recently:

“We are heading into an age in which jobs are likely to be invented and made obsolete faster and faster. The chances of today’s college kids working in the same jobs for the same companies for their whole careers are about zero. In such an age, the greatest survival skill you can have is the ability to learn how to learn. The best way to learn how to learn is to love to learn, and the best way to love to learn is to have great teachers who inspire. And the best way to ensure that we have teachers who inspire their students is if we recognize and reward those who clearly have done so.”

We need to give good teachers the recognition that they deserve. Friedman told how every year, Williams College honors four high school teachers who made a difference. Every year, members of its senior class nominate their best high school teachers. A committee at Williams then goes through the nominations, does its own research, and chooses the four most inspiring teachers.

Williams gives each of the teachers \$2,000, plus a \$1,000 donation to the teacher’s high school. And Williams flies the winners and their families to the college to honor them at graduation.

Williams’s president, Morton Schapiro, told Friedman: “We take these teachers, who are not well compensated and often underappreciated, and give them a great weekend.”

Said Shapiro: “Every time we do this, one of the teachers says to me, ‘This is one of the great weekends of my life.’”

It’s a great idea.

Each of us can do our part. I have started a program that will recognize Montana teachers acknowledged for excellence. This is something that all Senators can do in their home states. A little recognition can go a long way.

But if knowledge is power, then we must also devote the resources necessary to maintain that power.

Columnist Matt Miller argues: “The answer is to think bigger.” He suggests that we make the best teachers millionaires by the time that they retire.

Miller proposes a “grand bargain” where we raise salaries for teachers in poor schools by 50 percent. And in return, teachers would agree to change their pay scale so that we could raise the top performers and those in math and science another 50 percent.

Miller, who used to work at the Office of Management and Budget, calculates that his plan would cost about \$30 billion a year. That would provide a 7 percent increase in the nation’s K-through-12 spending.

I ask my Colleagues: Why don’t we invest \$30 billion for top teachers, and pay for it by closing abusive tax shelters?

And we need to help students to learn math and science. Companies are moving jobs offshore to China, India, and Eastern Europe not only because workers there work for less, but also because they are well educated in math and science.

Sadly, American high school students now perform below most of the world on international math and science tests. Most have little interest in pursuing scientific fields. Only 5½ percent of the high school seniors who took the college entrance exam in 2002 planned to pursue an engineering degree. We have to do more to encourage students to love to learn math and science.

And we need to help students to learn geography and languages. Visit a primary school in a middle-sized Chinese city. Bright, enthusiastic children will greet you in English. Chinese schools are preparing students to compete in a multinational, multilingual world economy. The coming generation of Chinese businesspeople will do business around the world. Americans need to broaden our linguistic and geographic abilities, or Chinese businesspeople will cut the deals before us. As our former Colleague Bill Bradley said in 1988, “If we are going to lead the world, we have to know where it is.”

And after school, almost 6 million latch-key children go without access to after-school learning opportunities. More than 7 in 10 mothers of children under 18 are in the workforce. America can no longer afford a school day based on 1950s family structures. Quality after-school programs can both keep children safe and improve academic achievement. We need to ensure that children have quality after-school programs.

Similarly, we continue to have a school year that reflects the harvest schedule of an agrarian economy that America long ago left behind. Long summer vacations mean reading levels drop and other learning is lost.

Schools like Des Moines’s Downtown School point to another way. They have a 6-week summer break. And that means less time to forget. Besides 6 weeks in the summer, students also have week-long breaks in October, February, and May.

Jan Drees, the principal of the Downtown School, says: “The research is becoming more and more clear that students retain more learning and need less review with shorter summer breaks.”

The Downtown school is popular, too. More than 800 children are on a waiting list to get into the school.

Iowa law requires schools to provide a minimum of 180 instructional days a year. But the Downtown School teaches students for 192 days a year. They are getting more learning in, every year. For Americans to stay smarter, students should spend more of the school year in school.

China's increasing competitive strength is also fueled by its growing population of college graduates. Last year, nearly 3 million Chinese entered the workforce from 3- and 4-year colleges and graduate programs. This is one-third more than the year before, and double the year before that.

America's college system is the finest in the world. And the work of the 21st Century increasing demands good college education. But rising college costs increasingly bar Americans from getting the college education for which they are qualified.

We must make college affordable for all. We need to ensure that young Americans are not discouraged from obtaining post-secondary education because of costs. Tuition costs have risen considerably in recent years. And federal assistance programs have not kept pace.

Pell Grants help to make college education affordable for 5 million students, a third of American undergraduates. But students receive grants averaging just \$2,500 a year, while the average annual cost of tuition at a public college in-state averages more than \$9,000 a year, and private college averages more than \$23,000 a year. The most that a student can get in Pell Grants is \$4,050 a year. Expanding Pell Grants would increase the ability of low-income young Americans to prepare for the 21st Century.

As well, we should improve, consolidate, and expand the government's education tax incentives to make them more effective. We could expand and extend the deduction for tuition expenses. We could expand the Hope and Lifetime Learning credits. We could craft targeted incentives for students pursuing science and engineering careers. We could do more to make it possible for non-traditional students to obtain an education. There are many good options.

As with elementary school students, we need to help encourage college students to learn the subjects needed in the 21st Century.

In 1975, America ranked third in the world in the share of 24-year olds who held a science or engineering degree. By 2000, we had slipped to 15th. By 2004, we were 17th. And in the future, the Department of Labor projects that new jobs requiring science, engineering, and technical training will increase four times faster than the average national job growth rate.

Last year, China produced 220,000 new engineers, while America educated just 60,000. And America trains only half as many engineers as Japan and Europe.

In a recent report, McKinsey Global Institute found that there are already twice as many young university-trained professionals in low-wage countries as in high-wage countries. China has twice as many young engineers as America.

Engineers play a critical role in the development of new jobs and new industries. We should increase scholarships and loan forgiveness for engineering students to entice more people to love to learn engineering.

At that Shanghai factory, American and Japanese research and development stand behind many of the products being built. But ask the American or Japanese company their plans, and they will tell you that they plan to move R&D work closer to the plant, there in China. And

Shanghai's government hopes to lure more R&D to town. Chinese business understands that innovation is the source of American value-added. And they want part of that action, too.

Clive Cookson reported in the *Financial Times* about a bioscience park outside Beijing. A firm there called CapitalBio is emerging as a world leader in the new technology of biochips. Biochips are cutting-edge devices that combine biotechnology and electronics for biological testing and medical diagnostics. The 4-year-old company is already selling instruments to American drug companies.

Last month, CapitalBio entered into a partnership with Affymetrix in California, the world's largest biochip producer. CapitalBio's chief executive said: "Affymetrix had never imagined that there was such a big research effort in biochips in China, working to such a high standard."

Dozens of similar examples exist. Already, several Asian countries boast of such science and technology centers. They are following in Japan's wake as world-class centers for research and development.

Asia's R&D investment and scientific output have both surged rapidly. Between 1998 and 2003, China's research and development spending roughly tripled.

You can judge a scientific paper's effect by how often other researchers cite it. The number of frequently-cited Chinese research papers has risen from just 21 in 1994 to 223 in 2003. And China's contribution to the world's scientific journals has increased from less than half a percent in 1981 to more than 5 percent in 2003.

And Chinese researchers will do research for less cost. Newly-graduated researchers in China generally earn about a quarter of what Americans do. For more senior staff, salaries are usually at least half American salaries. And in exceptional cases, they can sometimes exceed ours.

Chinese scientists who have returned after studying and working in the west are playing an important role. In Beijing, CapitalBio's CEO said that he [quote] "made a special effort at the beginning to attract [Chinese expatriates] from abroad, with salary and stock options. We offered at least to match the salaries that senior scientists were receiving; the highest we offered was \$120,000 a year," he said.

So far, Asia has been able to make a global mark only in a few new areas of the life sciences where western expertise is not entrenched. Stem cell technology is an example. South Korea, China, Singapore, and India are racing ahead on stem cell research. Those countries accept human embryo research in a way that the American government has not.

But America still has an advantage in innovation. And America also benefits from a risk-taking entrepreneurial culture. You can see it in the venture capital that funds companies spun out of American research laboratories or universities. America's capital markets remain the envy of the world.

We can help to maintain that edge in innovation by supporting research. American universities and research institutes do much of the most innovative research in the world.

But over the last 20 years, federal research funding in the physical sciences and engineering has declined by nearly a third as a share of the economy.

We should reverse this trend and increase federal spending on basic research. The money we spend will come back to us many times over in the creation of new jobs in new industries making products yet to be invented.

We should support the National Science Foundation. The NSF funds research and education in science and engineering through a variety of successful programs. It accounts for a fifth of all federal support to academic institutions for basic research, a crucial engine of innovation.

NSF funds have helped discover new technologies that have led to multi-billion dollar industries and millions of new jobs. NSF-funded work in the basic sciences and engineering made possible fiber optics, radar, wireless communication, nanotechnology, plant genomics, magnetic resonance imaging, ultrasound, and the Internet.

Each year, the NSF helps fund over 200,000 students, teachers, and researchers. Many of them take their NSF-supported work into industry. They found start-up companies selling new products and new technologies.

In addition, we should make it easier — consistent with the requirements of national security — for foreign students to study in America. America has traditionally poached many of the best and brightest students from around the globe. Well over a third of American science and engineering doctorate holders were born abroad.

Since 9/11, however, many students are having a difficult time getting visas to study in America. In 2004, foreign applications to American graduate schools declined by 28 percent. Enrollments of foreign students at all levels of college declined for the first time in 30 years.

Foreign students are increasingly studying in Europe and elsewhere. That is a terrible loss. It will affect our economic health in the long-term. We need to do a better job balancing security and economic health.

America must not compromise on its security needs in hosting foreign businesspeople or foreign students. But there must be ways to streamline visa procedures and otherwise lighten the burden. We need to make it easier for foreigners to study and conduct business in America.

We should support community colleges, and strengthen the link between them and the workforce. That will allow schools to develop training programs relevant to jobs in the real world. That is a primary goal of the Enzi-Baucus Higher Education Access, Affordability and Opportunity Act.

And when American jobs are lost to trade, we need to retrain people and help them to get back into the workforce. The philosopher and educator John Dewey said, “Education is not preparation for life; education is life itself.” We can no longer afford to think of education as something just for the young.

We need to help displaced workers to receive the retraining that they need to succeed in a changing economy. Jobs will change. We should help workers to get the educational tools to change with those jobs.

That is why I joined with Senators Wyden and Coleman to introduce legislation to expand Trade Adjustment Assistance to service workers who lose their jobs because of trade. TAA is a vital means of helping displaced workers get the education to change careers and stay productive.

When Plato envisioned the ideal society in his work *The Laws*, he wrote of the importance of education, through the course of life. He wrote: “[N]owhere should education be dishonored, as it is first among the noblest things for the best men. If it ever goes astray, and if it is possible to set it right, everyone ought always to do so as much as he can, throughout the whole of life.”

And so, through advancing education, America can compete with that factory in Shanghai. Through advancing education, America can respond to competition, without erecting harmful barriers to trade. And through advancing education, America can respond to a growing China, without forcing confrontation with China.

University of California economist Brad DeLong wrote of the choice that we face in how we address the challenge of China. He wrote: “A world 60 years from now in which Chinese schoolchildren are taught that the U.S. did what it could to speed their economic growth is a much safer world for my great-grandchildren than a world in which Chinese schoolchildren are taught that the U.S. did all it could to keep China poor.”

Through advancing education, America can seek that safer world.

But perhaps most importantly, America should seek to advance education not just to preserve our economy, but also to preserve our freedom.

As Senator Daniel Webster said in a speech in 1837, “On the diffusion of education among the people rest the preservation and perpetuation of our free institutions.”

As Thomas Jefferson wrote in 1816, “If a nation expects to be ignorant and free, in a state of civilization, it expects what never was and never will be.”

And as the Phrygian philosopher Epictetus said, “Only the educated are free.”

And so, Mr. President, let us advance education to preserve our economic power.

Let us advance education to win the race for economic leadership.

And most importantly, let us advance education to help preserve our American democracy.

###