



The 14<sup>th</sup> Congressional District's  
Student Advisory Board

# Innovation and Competitiveness

2007 Annual Report

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## **Introduction**

*Kevin Chung*

For the past fourteen years, Congresswoman Anna Eshoo has been giving the youth an opportunity to have a *real* voice in governmental affairs. Unlike the common gathering of mock debates and artificial legislative simulations, the Student Advisory Board promotes bills, laws, and ideas that will ultimately have an effect on both the Congresswoman and the local political climate. As members of an honorary group, we take our roles very seriously because we know that our country will continue to confront new challenges and new objectives with the passage of time. Based on this idea, the S.A.B. chooses and presents topics that pose considerable discussion and debate in the future of American society.

This year, the Board has focused on the vital subjects of innovation and competitiveness in the United States. After the turn of the century, our country is beginning to face rapidly-growing levels of competition from a whole new generation of economic powerhouses and prospective superpowers around the globe. The members of the Student Advisory Board believe that, in order to maintain an accelerated pace with the rest of the world, the federal government needs to do more to protect and secure America's leadership in the creation of new and novel ideas. As a result, for the 2007 Annual Report, S.A.B. members summarize in-depth about current obstacles that hinder the continued growth of American ingenuity. New ideas can come from a lot of different places, so students analyzed the focal topic from a variety of different perspectives. For such a broad topic, however, it is hard to come up with one sole solution; in order to work around this difficult impasse, each standpoint has its own customized recommendation of possible suggestions and solutions.

As chairman of the Student Advisory Board for the 2006-2007 academic year, I'd like to thank Congresswoman Eshoo for providing local high school students with the opportunity to voice themselves on the issues that matter most to them. I feel proud and privileged to have led such a talented and highly-motivated group, and I know that every single member has learned an invaluable experience after the eight-month long session. Since many S.A.B. members are still at an age where they are unable to vote at the polls, I hope that this report will provide older generations with a useful insight into the subject matters that greatly affect the youth; furthermore, I give my best wishes to the future of youth involvement in politics at home and abroad.

Sincerely,



Kevin Chung  
*2006-2007 Student Advisory Board Chair*

*Michael Fisher  
Brittney Laver  
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## **RESEARCH AND DEVELOPMENT**

### ***NANOTECHNOLOGY***

Aurina Malaki

The United States' GDP is at its all-time low with approximately less than 1% of the average American's income being saved and more than 100% of it consumed-in comparison to growing nations such as China, where an astounding 40% of their country's overall income is being saved and only 60% consumed; estimations according to writer and economist Robert Freeman<sup>1</sup>. Some of this may be attributable to events such as the war in Iraq-costing our nation trillions of dollars-high interest rates (as the government strives to keep the value of the dollar up and maintain its relationship with countries from which it is constantly borrowing money from, and even the automobile market, with long-time American companies such as GM and Ford approaching near bankruptcy; losing business to overseas competitors like Toyota and Honda, creating more fuel-efficient products which are in greater demand by the overall public; or even on the micro scale of the job market, with many American individuals losing their jobs to other individuals overseas, as a result of outsourcing- practiced more and more by many large companies, all leading our nation into even more debt. Furthermore, it isn't coincidental to hear Republican and Democratic economists coming together on the severe economic situation our country faces and the drastic consequences of economic collapse it must soon deal with if active measures aren't taken to resolve the problem at hand.

One of the ways our nation can gain a strong economic foothold is by enhancing our research and rebuilding our developments in the areas of Nanotechnology, Intelligence, Stem Cell Research, and Agriculture.

"According to Nasa Ames Research Center, nanotechnology is defined as the creation of functional materials, devices, and systems through control of matter in the range of from one-tenth to one hundred nanometers (0.1-100nm), and exploitation of novel phenomena and properties at this scale. This technology is shepherding a scientific and technical revolution based upon the ability to systematically organize and manipulate matter at the atomic scale. Aspects of this enabling technology are further referred to as molecular engineering or molecular manufacturing."<sup>1</sup> Ever since the popularization of the term 'nanotechnology' by K. Eric Drexler in 1986<sup>1</sup>, the field has flourished and undergone many developments to the refinement of what it is today. Drexler himself described nanotechnology as, "Flying cars, space travel for everyone, the elimination of poverty and hunger, and powerful new tools to combat disease and even fight aging-these are some of the amazing predicted developments of nanotechnology, the emerging

science of designing and building machines at the molecular and atomic levels.”<sup>1</sup> It is truly amazing how much nanotechnology can contribute to our country’s innovation and competitiveness-let alone the lives of the American people as a whole. From materials, manufacturing, computing, nanoelectronics, the environment, energy, health, and medicine, to automotive, national security, aeronautics, and space exploration, the applications of nanotech in our industries today are limitless. Therefore, it’s no surprise to hear that “the projected impact of nanotechnology has been touted as a second industrial revolution” superseding and differing from past, similar predictions for other technologies such as computers and robotics<sup>1</sup>. Nova’s research publication funded by the U.S. Department of Labor, reported, “Nanotechnology has the potential to transform materials and manufacturing, and research is driven by the need to improve functionality of materials.”<sup>1</sup> For example, in nanoelectronics and computing, if a chip is embedded in the wall of a structure that controls operational demands of a homeowner or guest, at the flip of a switch, the wall could change color to match the individual’s preference. In health and medicine, new advances have been made in optimal drug usage, improved drug delivery, less expensive healthcare, along with more durable, rejection-resistant artificial tissues and organs. In the area of environment and energy, decreasing fuel consumption for automobiles and airplanes will improve and lighting will become more efficient, (since currently, standard light bulbs yield only a 7 to 8 percent conversion rate, making 90% of the energy going into a light bulb wasted). In the automotive sector, cars can electronically avoid collisions or self-repair themselves and the body of the car (from any damage caused post-accident) via sensory, brake-by-wire, and steel-by-wire systems. In the area of national security, communications systems are on the way to being streamlined and protected along with “high-performance, high-strength, lightweight military platforms; chemical, biological, and nuclear sensors for homeland protection; nanomechanical and micromechanical devices...and increased use of robotics.”<sup>1</sup> As with any emerging technology, concerns have been raised in the community, one of which concerns research and development in the area of homeland security. The main question is, “How much privacy are we willing to give up in order to be safe?” Nova’s research paper addresses this concern, stating that “Nanotechnology is a non-visible technology that could conceivably be used by the homeland security industry to develop devices that collect, analyze, and disseminate information about an individual without that person’s knowledge. For example, nanotech-enabled computers could collect and track such data as a person’s political views or religious affiliations for ‘security purposes’ without the person ever knowing or even consenting to the release of that information. Ensuring secure protection of privacy and civil liberty will be a challenging tightrope to walk when balanced with the need to protect the United States and its populace from further terrorist attack.”<sup>1</sup> It is apparent, that the estimated returns of nanotechnology are tremendous, with the National Science Foundation estimating that by 2015, the international market for nanotech products and services could total \$1 trillion<sup>1</sup>. Existing legislation on nanotechnology includes House Resolution 766, (a.k.a. the National Nanotechnology Research and Development Act), which outlines the most recent government involved steps taken towards enhancing and improving the development of nanotech<sup>1</sup>. The sponsors of the act urge that federal support (via monetary and legislative means) is necessary if our efforts in the nanotech area are to move beyond the research stage. This

leads us to focus our attention towards the necessity of funding in the continual advancement of the nanotech industry.

On the issue of nanotechnology and necessary funding, no one could have said it better than Honorable Congresswoman Anna Eshoo herself. She phrases the current situation perfectly, stating that “Direct applications for defense, intelligence, and homeland security for nanotechnology are boundless and only limited by our imagination and... I might say...our appropriations.” The main international funding areas include: Western Europe, China, and Japan. The collaboration amongst European nations is further assisted via the European Union, which allocated \$4.1 billion for nanotech research over the next four years. The United States is expected to hit the \$1 billion mark in nanotechnology R&D spending, however, historically, the U.S. has fallen behind its two chief competitors in terms of nanotechnology funding.<sup>1</sup> Fortunately however, a few nanotechnology legislations have been passed, with new ones currently being discussed, to change this fact. California, having fostered the growth of nanotech- with many start ups and research centers in Silicon Valley- has been one of the leading states in introducing nanotech legislation. California Congressman Mike Honda, representing the 15<sup>th</sup> district, introduced a nanotech bill to the House in 2002. It entailed a democratic party commitment to, “Create an educated, skilled workforce in the vital areas of science, engineering, and information technology; Invest in a sustained federal research and development initiative that promotes public-private partnerships; Guarantee affordable access to broadband technology for all Americans; Achieve energy independence in 10 years by developing emerging technologies for clean and sustainable alternatives that will strengthen national security and protect the environment; and, Provide small businesses with the tools to encourage entrepreneurial innovation and job creation.”<sup>1</sup> Other previous state legislation includes A.B. 1800 and A.B. 1801, introduced in January and passed in May of 2006. The bill, according to the National Conference of State Legislatures “Appropriates money to provide funding for a new energy/nanotechnology research building to support the Lawrence Berkeley National Laboratory’s research on the conversion of solar energy into a carbon-neutral form of energy.”<sup>1</sup> With these bills passed and more legislation on the congressional and senate floors to increase nano funding and research, innovative proposals must consequently be made to put such measures to action.

Since Silicon Valley has been the leader in global technology and is positioned to lead our nation in the realm of nanotechnology (which grew in local Palo Alto company Nanosys), the objectives to foster nanotech’s expansion within Silicon Valley include: establishing an optimal business environment, ensuring quality of life, increasing support for start-ups, increasing access to Nanotech research centers, educating decision makers, and proactively working to ensure future success (via collaboration, communication, and commercialization). It is imperative that these goals are effectively and properly communicated to nanotech lobbyists and political decision makers, so as to efficiently create legislation and come to a balanced consensus for necessary actions. With the hopeful and realistic attainment of these goals or similar ones, our strong will to boost our nation’s economy and global competitiveness is within close reach. After all, it is just as the NOVA workforce stated; “The development of nanotechnology has the potential to reinvent Silicon Valley’s economy and workforce as well as provide support towards critical infrastructures such as Homeland Security. The possibilities of this technology are

seemingly endless, and with a concerted and collaborative effort towards its growth, Silicon Valley can leverage and develop upon its existing resources and help to reinvent our nation's economy."<sup>1</sup>

In denouement, it must be made affirmative to Congress that increased developments, funding, legislation, and action on nanotechnology is vital to the growth, success, and future of our nation as an innovative, advanced, competitor in the global economic market.

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## **STEM CELL RESEARCH**

Michael Fisher

### **Background**

Stem cells are unique cells in the body; they can divide and renew themselves and they can become specialized cell types. Stem cells are currently researched because they can be used for regenerative medicine purposes. Stem cells are very innovative and are an important part of the advancing medical field today. Scientific studies suggest that stem cell research could be used to help treat conditions such as Parkinson's Disease, Alzheimer's, spinal cord injuries, and heart disease. Since its introduction in 1998, the embryonic stem cell has been the center of stem cell research. However, embryonic stem cell research is harshly limited by the ethical concerns raised by the idea of "terminating" an embryo that once held the possibility for life.

In 2001, President George W. Bush placed specific requirements on the use of embryos for stem cell research. On August 9, 2001, at 9:00 pm EDT, President Bush announced that only embryonic stem cells whose destruction began before his announcement can be used for research purposes. His ban on stem cell research has been upheld for the past six years.

## **Current Legislation**

In 2005, Rep. Michael Castle sponsored the Stem Cell Research Enhancement Act of 2005, proposing that embryos be used in stem cell research if they were donated to an in vitro fertilization clinic, could not be used and would be discarded, and were granted for research (by written consent) for no profit. The bill was passed by the House of Representatives on May 24, 2005 and the Senate on July 18, 2006; however, it was vetoed by President Bush on July 19, 2006 and the House of Representatives failed to override the veto. On January 11, 2007, the Stem Cell Research Enhancement Act of 2007 was passed by the House of Representatives.

## **Recommendations**

In January 2007, researchers at Wake Forest University and Harvard University announced the discovery of stem cells in amniotic fluid. After a seven year study, the research team led by Dr. Anthony Atala has found a potential alternative to the use of embryonic cells in stem cell research. Amniotic fluid stem cells have been reported to grow as rapidly as embryonic stem cells, without the use of special conditions. Amniotic stem cells are also easier to obtain than embryonic stem cells, and pose no danger to the fetus during pregnancy. Atala reports that only 100,000 amniotic stem cells could supply stem cells for therapy for 99% of the U.S. population. So far, amniotic stem cells have been engineered into muscle tissue and nerves. The use of amniotic stem cells would benefit stem cell research because they are not as controversial but just as effective as embryonic stem cells.

Unfortunately, the production of amniotic stem cells for regenerative therapies based on the current resources provided is years away. This process could be expedited by increased federal funding grants for amniotic stem cell research. Congress' proposed Budget Plan for the 2007 Fiscal Year allocates a generous \$463.5 billion to the National Institute of Health. However, this grant would only provide \$40 million to the National Institutes and Centers to Launch Genes, Environment, and Healthy Initiative, of which only \$26 million would be granted to genetic analysis.

Because the Stem Cell Research Act of 2007 involving the use of embryos cannot be expected to pass under the current legislation, alternatives must be examined. Amniotic stem cell research is still in its early stages, but its production could be expedited with a larger federal funding grant to specific channels within the National Institute of Health. We would like to propose a federal funding grant of the money necessary to pursue amniotic stem cell research for the production of amniotic stem cells as regenerative therapies. This research grant could allow scientists to develop a stronger stem cell research program without the controversy and limitations witnessed today.

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<sup>3</sup> "Stem Cells Found in Amniotic Fluid." MSNBC. The Associated Press. 23 Jan 2007 <<http://www.msnbc.msn.com/id/16514457/>>.

## **AGRICULTURE**

Elise Thygesen and Dayton Pickering

Agriculture occupies a sizeable amount of the United States' economy. In fact, agriculture produce from the United States alone takes up almost 20% of the global market. Farms in the US produce excess that cannot be consumed merely within the country, so a large amount of our trade and commerce relies on it. Improving agriculture in the US is key to maintaining a competitive advantage over other nations.

One of the main concerns that faces agriculture production today is improving the quality and quantity of crops. Agricultural biotechnology is used to create cost-cutting and more efficient means of production. The United States Department of Agriculture, or USDA, "supports the safe and appropriate use of science and technology, including biotechnology, to help meet agricultural challenges and consumer needs of the 21st century."<sup>1</sup> Genetically modifying crops is one way that agricultural biotechnology has helped increase efficiency and manufacturing of crops within the last few years. However, there are many rising concerns about the safety and morality of these new methods of production.

The Genetically Engineered Food Safety Act, introduced in the 109<sup>th</sup> Congress, (H.R.5268) wished "To amend the Federal Food, Drug, and Cosmetic Act with respect to the safety of genetically engineered foods, and for other purposes."<sup>4</sup> This act called for increased research for the genetic modification process, to further increase the safety of genetic engineering. It supported researching genetically modified organisms on a case-by-case basis, rather than classifying all genetically modified foods as safe.

The Agriculture Research Service, a division of the USDA, conducts a series of National Programs to aid the research and development of quality, protection, and production of crops. One of these programs, NP #306, is in action to "Provide knowledge and innovative technologies that lead to new and expanded market opportunities for United States agriculture."<sup>1</sup>

Beginning in 1996 with the Farm Act, more and more incentives for public and private investment in agriculture have been provided. The Fund for Rural America program included development for agricultural improvements and findings. The 1998 Agricultural Research, Extension, and Education Act produced the Initiative for the Future Agriculture and Food Systems (IFAFS) Program, "which set up competitively awarded research, extension, and education grants to address critical emerging agricultural issues."<sup>1</sup>

"The Early Pest Detection and Surveillance Improvement Act (H.R.667)," introduced in the House in the 110<sup>th</sup> Congress, is a bill that proposes to work in conjunction with the secretary of agriculture "to prevent the establishment or spread of plant pests that endanger agriculture, the environment, and the economy of the United States, and for other purposes."<sup>2</sup> From a competitive standpoint, the partial or full elimination of pests would boost the agriculture industry.

The Healthy Foods for Healthy Living Act (H.R.45), introduced by the House in the 110<sup>th</sup> congress, is a bill that proposes “to authorize the Secretary of Agriculture to make grants to community-based organizations and local redevelopment agencies operating in low-income communities to promote increased access to and consumption of fresh fruits, fresh vegetables, and other healthy foods among residents of such communities, and for other purposes.”<sup>4</sup> A bill encouraging the consumption of American crops could provide a much-needed enhancement to local farms.

In the 110<sup>th</sup> congress a bill was recently introduced by the House, called the Spinach Research and Recovery Act of 2007 (H.R.912). It proposes to fund research pertaining to the safety of perishable agricultural foods. Researching and developing techniques to keep perishable agricultural items safe would be a good idea because if a crop is diseased, it means it will have to be recalled and will probably hurt the consumption of that crop in the future.

There is a current bill on the floor proposing “to provide for Federal research, development, demonstration, and commercial application activities to enable the development of farms that are net producers of both food and energy, and for other purposes (H.R.80).”<sup>4</sup> If enacted, this would create self-sufficient farms, which could run on low cost fuel and abundant raw materials, which could be used for fertilizer, herbicides, and pesticides, as well as for powering machinery.

The protection of the agriculture industry is vital to protecting the US economy. In the Emergency Farm Assistance Act of 2007 (H.R.925), farms would be able to receive financial assistance in case crops and/or livestock were affected by a natural disaster. The funds would not exceed \$125,000 for an individual operation. The hope for this bill is that it will help farms to “recover from the disaster; continue to service and support production agriculture and replant agricultural production fields and groves.”<sup>4</sup> Providing aid for unseen disasters is a good idea because it will help farms rebuild and bounce back to their original productivity.

One proposal that would help to improve crop production would be to increase research of pesticides to help reduce the amount and harmfulness of plant pests. By improving the protection of crops and limiting any losses from these pesticides, the quantity of production would increase, thus increasing the amount of crops being used as exports in the global trade market. If the US had more healthy crops being produced, they would gain the advantage over other countries when competing in the global market.

Another proposal would be to increase research for the safety of genetically modified organisms. The Genetically Engineered Food Safety Act from the 109<sup>th</sup> Congress (H.R.5268) was never made law, but it would be important to reintroduce this bill in order to ensure the safety of somewhat controversial GMOs. By increasing the safety of this produce, more people would be open to the genetic engineering process, and the US could provide more improved produce. The genetic engineering process will help the US gain an advantage over other competitive countries by allowing an improvement in the quality of US produce.

Improving the quality and quantity of production would give the US the upper edge in the competition of the global market. Increased quantity of higher-quality crops would increase the demand and desire for US crops, giving the US the advantage over other countries. Supporting agriculture is an extremely important issue, and very pertinent to maintaining a competitive edge. Increasing productivity, quality, and protection of agriculture is highly advisable in supporting agriculture. If we work on expanding and protecting our agriculture industry, the United States will reap the benefits.

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### ***INTELLIGENCE***

Brittney Laver

*"America's Intelligence Community is here to provide ... information and analysis ... to meet the national security challenges our country faces today. The growing technical sophistication of those we target-and of those who target us-requires unprecedented innovation and flexibility from US intelligence."*

George J. Tenet  
Former Director of Central Intelligence Agency

This quote covers the purpose of United States intelligence—to provide the nation with needed information and support a broad range of activities for consumers such as policymakers and military commanders. Intelligence analyzes raw information, often of which is not intended to be available for use, and produces finished intelligence that has most recently been focusing on foreign powers and their activities. The main issues that are dealt with are terrorism, proliferation, chemical warfare, biological warfare, information infrastructure attack, and narcotics trafficking. Counterintelligence is also

involved, which is the issue of identifying and counteracting foreign intelligence operations. The key role that U.S. intelligence plays is in supporting the military forces and helping to shape policies with foreign countries. National requirements are supported by the National Intelligence Program, while the Tactical Intelligence and Related Activities program supports the operation requirements. These technologies are developed by groups such as the Security Intelligence Technology Group, which works to provide government and business consumers with the devices that enable the prevention of crime and threats.

The main current events that intelligence is dealing with are working with Homeland Security to intercept and deter threats concerning any threats to the United States and to use collective knowledge and capabilities to defeat the current War on Terrorism. Intelligence is involved in the controversial Patriot Act, which gives the government authority to tapping any wire communication that involves what could be a potential threat to the United States. Much more recently, the Digital and Wireless Technology Opportunity Act of 2007, H.R. 692, was introduced but not yet approved this year to increase investments in telecommunications and technology infrastructure and to provide the National Science Foundation with \$250,000,000 for FY 2008 through FY 2012. This grant will in turn provide eligible institutions with proper instruction and resources. The Department of Homeland Security, created 2002, is one of the main contributors to Federal Homeland Security R&D Funding, along with the Department of Defense. The percent change in this funding from FY2006 to FY2007 decreased by about 8 percent from the DOD and about 10 percent from the DHS, which added to the total 22% decrease from the budget of the previous FY in the DHS R&D budget and became the first budget reduction since the creation of the DHS in 2002. In all, federal funding support amounts to about only 26% of all total research and development expenses.

Any slip in the United States intelligence community could result in an undetected foreign threat to the U.S., which goes to show the importance of intelligence and its technologies. Intelligence should be thoroughly funded, as the safety of our country ultimately lies in this field's developments and technologies. The latest cutting-edge technology must be provided to the government, especially the Intelligence and Homeland Security departments, so that counterterrorism, security, and surveillance can be properly carried through. The reduction in the DHS R&D budget for FY2007 did increase support for explosives countermeasures, interoperable communications, and cyber security; however, other areas such as university centers did not receive as much funding as needed. Universities are crucial for a significant amount of research and development that contributes to the technologies mastered by companies and utilized by the federal government. Also, U.S. universities are responsible for education the subsequent generations of scientists, engineers, etc. who can in turn conduct their own research and development both nationally and internationally. Especially now, universities have played a major part in working with the government to properly implement safety measures. Unfortunately, restrictions such as boundaries on basic research due to lack of funding prevent universities and their studies from assisting the government and the nation's safety to their full potential. Therefore, universities should be given increased R&D funding because the government and country can be directly

benefited by their advances. It is strongly advised that the legislature increases the percent of R&D funding that universities receive. Also, grants should be continually given to technology-producing companies, such as the Security Intelligence Technology Group and the Information Technology Laboratory of the National Institute of Standards and Technology, so that the federal government in return will receive the highest quality technology possible to protect the nation with.

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## **STANDARD OF LIVING**

### ***SOCIAL SECURITY***

We, as teenagers, have not yet entered the full-time workforce, but we want to know that we will be able to live comfortably when we leave it. We want to know that, after a lifetime of hard work, we will have a way of putting on food on the table.

Across the globe, people share the desire to have a secure retirement. For America to be competitive, it must ensure that its workers will have retirement security. Individuals will want to work in this country if they know that there is a light at the end of the tunnel.

Currently, that light exists: its name is Social Security. Created in the 1930s, Social Security pays workers a monthly benefit once they reach retirement age. Workers pay into Social Security throughout their working life, and they then draw from it in their elderly years.

Unfortunately, Social Security faces a challenging future. Innovation will be necessary to keep Social Security afloat as waves of baby boomers retire. If Social Security fails, America's ability to stay competitive in the job market will fail with it. Other countries that provide more social welfare, in Europe for instance, will prove to be more attractive than America.

Social Security, and the funding for it, needs to be fixed. By 2030, the number of elderly Americans is expected to increase twofold<sup>3</sup>, causing Social Security to become an enormous part of the federal budget. According to Federal Reserve Chairman Ben Bernanke, Social Security could place a large burden on the budget if it goes unfixed. <sup>1</sup> By 2050, Social Security is expected to not meet its ability to pay full benefits. <sup>2</sup>

Innovative legislation can be put forward to fix it, and it must be done sooner rather than later. Here are three proposals that the new Democratic Congress can undertake to ensure Social Security solvency for the future.

### **Recommendations**

1. Tax all earnings. Currently, a cap on earnings means that the richest Americans do not pay Social Security taxes on all of their earnings. 15 percent of total earnings is untaxed. <sup>2</sup> According to USA Today, 67 percent of Americans think this is a "good idea."<sup>4</sup>

2. Limit benefits for wealthy retirees. For the wealthy, Social Security is less of a necessity. Benefits can either be cut for the wealthy, or their benefits can be more greatly taxed. 68 percent of Americans think that this is a "good idea."<sup>4</sup>

3. Raise the retirement age. When Social Security was enacted in the 1930s, life expectancy was much lower. Thus, as the health of Americans has improved, so has the cost of Social Security. Raising the retirement age to 70 will cut the Social Security shortfall by 36 percent.<sup>2</sup> Under this plan, Americans would also be able to retire early for reduced benefits.

With a robust Social Security benefit, teenagers (and all workers) will not fear being unable to leave the workforce comfortably after they enter it. This, in turn, will increase the competitiveness of the American economy and help the United States to stay dominant in the 21st century.

### ***HOUSING MARKET***

The growth and rise in prices within the U.S. housing market is one of the predominant reasons that our country has had a fairly stable economy amidst running high deficits and exporting more than we import. But, as with any boom, there must be an explosion at the end.

According to the Economist, "The latest gloomy news from America may suggest that the world is on the brink of its biggest ever house-price bust. However, our latest quarterly update suggests that, outside America, prices are perking up." In terms of global competitiveness our housing market seems to be falling behind. While it is still on the rise, the percentage of growth has dropped significantly, and "according to the Office of Federal Housing Enterprise Oversight (OFHEO), the average price of a house rose by only 1.2% in the second quarter, the smallest gain since 1999. The past year has seen the sharpest slowdown in the rate of growth since the series started in 1975. Even so, average prices are still up by 10.1% on a year ago." This housing decline is not limited to the U.S., but is not a global decline. Only Spain, Hong Kong and some countries in South America have seen as big of declines as the U.S. Australia and Britain may serve as examples for the U.S. market, both of their housing markets had record highs and are now experiencing only moderate gains.

There are many signs of a crash of the housing market, including lesser demand for houses and thus a surplus of unsold homes. This in turn makes prices drop, and may cause interest rates to go down significantly.

Unfortunately, no legislative action can completely prevent the decline of the housing market, as it is a natural occurrence for the boom to end. One course of action that can be taken is the ability for low and middle-income families to be able to take out subsidized loans on houses. This may be a stimulus to keep the housing market stronger, as right now there is no lack of supply of houses, but there is a lack of buyers. Enabling those who would not otherwise be able to afford a house could have long term positive effects in terms of keeping the housing market from collapsing. Also, there could be an incentive for first-time house buyers in order to encourage more people to enter the housing market. Again, it is important that even though the housing market may cool, that there are measures taken to ensure that it does not see a sharp decrease but rather a gradual one. Additionally, the capital gains tax for these buyers could be lessened in order to try to curb the downfall.

All of these are possibilities to prevent a severe crash of the market and at the same time provide affordable living to citizens. As the housing bubble expands, it is going to burst, and action must be taken if the U.S. standard of living is expected to be competitive and top the global competition.

### ***MINIMUM WAGE***

Teenagers across the country work hard all school- and summer earning the bare minimum. Students consider a job that pays at least \$9 a "score." While most teenagers work to save money for college or to fund their spending habits, millions of other adults slave away at minimum wage in an attempt to support their family. In both scenarios though, the minimum wage is simply not enough.

The house recently voted in favor of raising the minimum wage from \$5.15 to \$7.25. This is the first time in 10 years that the minimum wage has been raised. This will not only raise the wages for the 1.9 million workers earning minimum wage but also 14.9 million more who earn just above it. While it is a big step towards a high standard of living and more competitive workforce, it is not enough.

In a family of three, with one parent employed full-time at minimum wage, they are still living below the poverty line. There is a distinct difference between the "minimum wage" and the "living wage." The fact that these are not one and the same implicitly shows that the minimum is not enough for an average American and their family to get by. While 13 million Americans are barely scraping by, members of congress are getting paid a yearly salary of \$165,200.

Despite the increase, the minimum wage is still at a historic low. After taking inflation into consideration, Americans are earning less than those in 1979. The minimum wage has been at a standstill for a decade whereas the average American's wage has soared. The minimum wage is 31% lower than that of the average American.

The raise in minimum wage is a big step, although more needs to be done. The wage should still be raised higher. Thirty states have set their state minimum wage higher than the national minimum wage in order to provide for their residents and support their economies. In addition to this, congress cannot let it be 10 more years for an increase in minimum wage. The economy is continually changing. Congress must continually reevaluate the minimum wage so that the minimum wages stays in line with the national economy and inflation.

Even though the house has voted in favor of this legislation, it still needs to be approved by the senate and then signed into law by President Bush. However, the President has refused to sign the bill unless there are exemptions included for small businesses.

"I believe we should do it in a way that does not punish the millions of small businesses that are creating most of the new jobs in our country," Bush said during a news conference. "So I support pairing it with targeted tax and regulatory relief to help these small businesses stay competitive and to help keep our economy growing."

It is vital that this bill goes through congress with no strings attached. A raise in minimum wage is long overdue and should not be delayed under any circumstances. There is little substantive evidence that a raise in minimum wage would hurt small

businesses. The benefits gained by minimum wage increase should not be offset by tax cuts for small businesses.

### ***INCOME INEQUALITY***

One problem that the United States has struggled with over the past 20 years is income inequality. To measure income inequality, many economists use the Gini Index, which is a ratio analysis of income inequality that is calculated by the area between the  $y=x$  line and the Lorenz Curve, or the income distribution curve. An index number of 0 mean perfect equality, and most economists agree that an ideal index is between 25 and 40.

According to the US Census Bureau, in 2005 the United States had an index of 46.9, which is comparable to countries such as Costa Rica, the Dominican Republic, and Peru. Even though the United State's GDP per capita is 3rd out of all the countries in the world, its Gini Index is ranked 92nd. Canada, France, and India all have a Gini Index under 33, and Japan's is 25. America's Gini Index has been increasing more rapidly than any other developed nation's over the past 25 years, even if government transfer benefits and taxes are taken into account (U.S. Census Bureau).

Income inequality can be a big problem. Many economists believe that it leads to slow growth, as well as increased social unrest and social conflict. It also leads to relative poverty; although the per capita GDP is much higher than most other nations', the inequality of income distribution is so high that many American's feel impoverished (*Distribution of Income*). Increasing income inequality is an indication of unequal opportunity and of people falling below a minimum standard of living.

Much of the income inequality in the past quarter century can be blamed on the education imbalance, demographic shifts, and decentralized wage setting. Highly skilled and educated workers are getting real wage gains, while lower class workers are experiencing real wage losses. According to the CRS report *Inequality in the Distribution of Income*, "In 2005, the advantage of a college education was significantly higher, with college-educated men and women earning 93% and 83% more, respectively, than those with just a high school education."

Lately there has been a shift away from married-couple households and towards single parent and non-family households. This leads to lower household incomes, which is what the Lorenz curve is based on. Also, people tend to marry their peers, and with women working and earning almost as much as men, the income gap between wealthy and poor households is now twice as much as it used to be (*Concentration of Household Wealth*). Some economists believe that the greater inequality in earnings in the United States compared to other developed nations is caused by the decentralization of wage-setting trends. In the United States, unions and the public sector both play less of a force in the job-market.

Sweden, Finland, and other European countries reduce income inequality by a very progressive tax and many transfer payments (*Inequality in the Distribution of Income*).

Action needs to be taken to lower the income gap. I think the United States should consider using more transfer payments to balance out the income inequality. I also think that education is very important, and the government should encourage people to get a

college-degree, as well as provide need-based financial aid to anyone who wishes to pursue further education. At the moment there is a huge demand for technologically skilled workers, so I think the government should focus on encouraging people to get degrees in technology in particular.

### ***HOUSING INCOME***

Housing Income is defined by as income that is received on a regular basis (exclusive of certain money receipts such as capital gains) before payments for personal income taxes, social security, etc. (From the United States Census Bureau). In 2005, the states with the highest median housing income were California, Hawaii, and Massachusetts. These three states had a median housing income value of \$477,770, \$453,600, and \$361,500 respectively. These three states are exceptions, however. The average housing income of all 50 states was \$46,326 in 2005. (\$45,817 in 2004). This news is concerning because in 2000, the average housing income was \$57,000 (the median was \$41000). If this pattern of income continues becoming lower and lower, the United States may possibly find a crash or depression. The United States Census Bureau already has plans to regulate household income.

A solid trend in housing income is that as housing income increases, so does the use of natural gas in households. This trend is not surprising because when a household is generally richer, it is able to afford more resources. Along the same lines, the top 20% of households earn 50% of the national income. The top 5% earn 20% of the national income and the bottom 50% only earns 20%. This is displayed by the Lorenz Curve (described in further detail in the Income Inequality section).

Because housing income has dropped from 2000 to 2005, the United States needs to be more conscious about ways to keep this country innovative and competitive. If the United States does not find a way to maintain housing income high and competitive with that in other countries, than the United States can risk it's place as one of the most competitive nations in the world. If the trend of continually lower household income continues, people will have less money, which can then lead to depressions, recessions, One way to ensure a housing income increase is to make sure the economy is running efficiently and effectively. Businesses such as effective farming can help rural farmers in the Midwest, where the housing income is particularly low. Dot-com industries can branch out and spread to different areas to enrich where technology is less common. There is not a single way to increase housing income, however, with improved efficiency of economy and profitable trade measures, the level of housing income can increase and help maintain America's competitiveness.

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## **FISCAL POLICY**

### ***EXCHANGE RATES***

Azim Shivji

The question of exchange market improvements is inextricably linked to the financial crises of the 20<sup>th</sup> Century. Different types of financial crises, including currency collapses, have in common a few practices exercised by hegemonies and transnational organizations, like the U.S. and IMF respectively. Therefore, as we get through this subsection of the report, bear in mind that exchange rate reforms are difficult to enact because the issue isn't strictly domestic. It may affect domestic industries, but changes to the system involve multiple actors, multiple nations, multiple economies.

### **History and the Status Quo**

If anything, the most exponentially escalating crises of the globe of recent times have been financial crises. Almost every individual in the world can rightly claim they were a victim of 20<sup>th</sup> Century currency instabilities, the epicenters of which included Mexico, Thailand, and Russia. The resulting devastation proved the still primitive nature of high tech trading, today.

Though we have tools to limit the magnitude of these crises, our crude techniques are far from desirable. They lack unimpeachable structure. They rely on the intuition of those in power and the predictive abilities of traders. This is problematic.

An example comes in the form of the tool of lending. Loans have been the crutch on which U.S. administrations have fallen—in order to relieve victim nations of financial crises and their investors. Yet both the choice and timing of such loans involve difficult deliberations, in which intuition is a primary factor. Sure, economic principles might govern the discussion, but real world situations, with an abundance of factors not easily accounted for in equations, require quick judgment calls.

Here is a much abbreviated record of U.S. and IMF loans in recent history: The Mexican Peso crisis starts in 1994. In 1995 the U.S. and the IMF arrange 50 billion dollars in loan packages. A precedent is set. In the late '90s, the East Asian financial crisis begins in Thailand. The U.S. decides to wait it out. Contagion spreads all across Asia. Finally, loans are doled out. After this, the idea that the U.S. and the IMF would bail out investors in times of crisis strengthened. Essentially, traders decided risk was obsolete. So when Russia's financial troubles began, the problems of loans began to come into focus. The U.S. did not bail Russia out. Russia defaulted on its debt, and its currency fell. Investors were bewildered; Russia, an ex-superpower, a giant in the world, wasn't bailed out in this age of no risk?

## The Tobin Tax

The history illustrates the need for new techniques. And in 1998, Ignacio Ramonet of *Le Monde Diplomatique* looked back to economist James Tobin's idea of a transaction tax for international currency trade; the result revitalized the "Tobin tax" debate.

The Tobin proposal offered that a relatively low tax would be imposed on all foreign exchange transactions. Those who hold assets, like foreign currency, for short periods of time (otherwise known as speculators) would be hurt by the tax. The Organisation for Economic Co-operation and Development (OECD) estimates that "for a 0.5 per cent transaction tax and an assumed holding period of a day, [speculators] would require a 287.7 per cent return (annualised) before tax to get an after-tax return of 4 per cent" (Reisen 190). The large costs would deter speculation, while long-term investors would basically ignore the tax since its effects on them would be minimal.

Yet on a grand scale, this was problematic.

Speculation is actually beneficial to economies in the long run. A critique of the Tobin tax states that by consistently pumping funds and maintaining activity in foreign markets, speculators add liquidity. This increased liquidity decreases volatility. So if transaction taxes like a Tobin tax were implemented entirely, it is possible that volatility would actually increase—defeating the entire purpose of the tax in the first place.

Studies have been conducted to assess the validity of this theory. According to the OECD:

*Indirect evidence from other financial markets where a securities transaction tax has been in place suggests a substantial effect on trading volume but either no effect, or a small one of uncertain direction, on price volatility.* (Reisen 186)

A recent study by finance professor Harald Hau uses the microcosm of the Paris Bourse stock exchange to view the effects of transaction taxes on volatility. The conclusion on the effects was "positive and significant, both statistically and economically" (Hau 25)—the implication being that increased transaction taxes corresponds with increased volatility.

## Alternative Model

So there are certainly problems with the Tobin model. Permanent discouragement of speculation would likely increase volatility. Thus, our common goal should be adapted—or at least become more precise: *Overspeculation* should be contained.

While the costs and benefits of speculation in general can certainly be argued over, there is little doubt that overspeculation is at the heart of recent currency crises. Therefore, efficacious transaction taxes would have to limit their deterrents to affecting only excessive short term investment. There are perhaps two conceivable ways to achieve this. First, by analyzing trends of currency transactions, it would be possible to design a cap—a definition of what level of speculation could be considered excessive and potentially dangerous to the currency.

Or instead, a temporary transaction tax could be imposed when federal administrators feel levels of speculation are increasing too rapidly. This method, based on intuition, may not quite be perfect, but there is precedence in economic policy as it would

be akin to the way the United States' Federal Reserve board works in tightening the money supply and raising interest rates. It has been suggested that transaction taxes, like the Tobin tax, would yield vast sums of revenue; so in this particular modification of the Tobin tax, why wouldn't nations wish to sustain the transaction tax instead of keeping it temporary? Well, the costs of decreased liquidity and increased volatility that a permanent transaction tax poses would deter adoption of this practice.

Either method would deter overspeculation while mitigating the harms of prospective volatility increases. An injunction would essentially exist during periods in which there lie threats of overspeculation; but once those periods pass, the constraints would be lifted and the markets could normalize—allowing liquidity to once again increase.

### **Implementation**

As the preface of this subsection suggested, implementation of this, or any exchange rate policy, for that matter, is difficult. The United States would save money that would be spent on loans and the nation's investors would be more secure and able to do business if this proposal were instituted. But in order for that to happen, multiple nations would have to agree to it.

The United Nations of the International Monetary Fund could be used as a medium through which negotiations would run. However, to get to that point in the process, Congress would have to advance the issue. Hearings could be held to gain the cooperation of the Executive, which could then order its ambassador plenipotentiary to push the issue in the international community.

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### **SARBANES-OXLEY REFORM**

Ashok Krishna

The Sarbanes-Oxley Act was passed in 2002 as a reaction to corporate accounting scandals. The Act enforced stringent regulations and created The Public Company Accounting Oversight Board. Provisions of the act include additional disclosure requirements and harsher penalties for violations of securities laws.

Though the Act has restored investor confidence in U.S. capital markets, New York Mayor Michael Bloomberg and former Federal Reserve Chairman Allan Greenspan argue that The Sarbanes-Oxley Act causes more economic harm than good.<sup>1</sup> Companies spend a large amount of resources on meeting accounting standards. These resources

would be more widely used on corporate growth. The Act has caused many companies to resort to budget and staffing cuts in critical areas of their business. Many companies are finding the Act too costly and are becoming private. Some private companies have to spend sufficient resources on audits because one of the provisions of the Act states that private suppliers to publicly held companies have to show that they have adequate controls. Besides harming small businesses, the Act also harms U.S. capital markets. This has resulted in a public to private movement that causes capital to be held by few rather than by many. The hindering of small business growth combined with the diminishing competitiveness of U.S. capital markets will endanger America's position as the world's economic superpower.

Although the London and Hong Kong stock exchanges have replaced New York as the global leaders in IPOs, repealing Sarbanes-Oxley would lead to decreased investor confidence. Therefore, certain provisions of the Act should be repealed instead of the Act as a whole. SEC Chairman Christopher Cox stated that the problem with Sarbanes-Oxley is Provision 404, whose "implementation was too expensive."<sup>2</sup> This provision has resulted in costly implementation processes for small businesses. SOX 404 should be modified not repealed. The Provision should only cover Wilshire 5000 companies—the 5000 largest companies by market capitalization in the U.S.—for the following reasons:

1. Small companies have fewer shareholders who are able to oversee management closely and prevent fraud. An example of this would be venture capitalists overseeing management at a start-up.
2. Only requiring compliance among Wilshire 5000 companies protects smaller businesses from the regulatory and accounting burdens that Sarbanes-Oxley requires.
3. Only regulating Wilshire 5000 companies will allow for entrepreneurship in smaller firms.
4. Retaining Sarbanes Oxley for Wilshire 5000 Companies will ensure that investor confidence in U.S. capital markets will remain high and panic buying/selling of stocks due to rumors of fraud will remain at its current low rate because huge companies have large numbers of small shareholders who do not have all the reliable information they need.
5. U.S. capital markets will have the benefit of being secure and being business friendly. This is an edge that the London and Hong Kong capital markets—New York's main competitors—do not have.

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## ***TAX REFORM AND FISCAL POLICY IN A CONSERVATIVE ECONOMY***

Calvin Parshad

As citizens of the United States and individuals of segregated tax classes, we experience many discrepancies in class cultures and economic values. As much as a flat marginal and graduated tax rates are important for equal and healthy competition among small and large companies, it is ideal and a hardly achievable goal in an unbalanced minority over majority. Among Congress there has been much debate over a consistent legislation in tax reform and whether a Progressive and graduated tax rate was more sustainable over a regressive and lower tax rate. There are many arguments that support both rates. For example, a graduated tax rate would increase the amount of support needed for many students who cannot attend colleges or universities based on their low financial income. On the other hand, low rates increase the national debt overall and therefore increase the number of start-up companies and decrease the national debt. In my opinion, judging from America's low minimum wage, poverty rate, and the large proportion of the minority, a progressive tax rate would settle much easier with those who are less financially stable.

Generally, higher rates target a smaller percentage of the income of poorer people, and require less record-keeping and complexity by people with simpler affairs. These rates reduce the tax burden of people with smaller incomes. This not only institutes an increase in employment in less desirable jobs, which creates innovative competition among new consumer-product companies, but also gives an advantage to those families that want their kids to have an education and become established citizens in society. In addition, we do not want taxpayers to avoid paying taxes because of tax benefits. In the Tax Increase Prevention and Reconciliation Act of 2005, an extension of the AMT (alternative minimum tax reduction) was instituted. In essence, the AMT sets a minimum tax rate of about 27 percent on taxpayers so that they cannot use tax benefits to entirely avoid paying any substantial amount of income tax.

Direct, Indirect, and increased income taxes would "suppress" larger companies from becoming monopolies and bring up the smaller companies in the competition ring. Equilibrium helps establish more competition among companies instead of directorates and corruption. In stabilizing the economy, new social plans can arise next to small company entrepreneurship together. Educational programs and medical insurance will insure the poorer majority, diverting attention from the conservative "rich" capital.

In conclusion, a Progressive tax rate is more beneficial in our growing community, especially among the poorer class, because it allows the federal government and state governments to spend more money and capital on more important programs for the poorer majority in education and financial stability, instead of increasing the national income. Also, smaller companies may have a chance of entering the competitive world on a global scale increasing and advocating entrepreneurship.

### **History of Tax Reform and Alternatives for Real Estate Tax Reform**

In 1986 Congress passed a law lowering the top tax rate from 50% to 28%. This broadened tax base eliminated many tax shelters. The incentive of this bill was to favor investment in owner-occupied housing relative to rental housing, as well as eliminating the reduced tax on individuals with slightly higher income and salaries. Capital gains faced the same tax rate of ordinary income.

This Act significantly reduced the value of real estate investments so that it became advantageous to the tax status and not inherent profitability. At the time this legislation was desirable to the US economy because it redirected investments to programs more profitable. However, currently the investment of real estate has overshot and more of the US profit should be focused towards reformed estate tax, knowing the tax structure of the economy is growing progressively. The proposal is to sustain an estate tax that will improve the Social Security system and assume fiscal responsibility in eliminating the large budget deficits to increase the rate of average competition and innovation. Decreasing tax cuts on the wealthy and not supporting programs for military relief for families is irresponsible. We must preserve the revenue by taxing wealthier states and businesses.

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## ENERGY

### **ALTERNATIVE ENERGY SOURCES**

Paulina Chognard

A multitude of renewable and nonrenewable sources offer America a promising future in the field of energy development.

Wind power generates clean energy when a turbine's blades collect the wind's kinetic energy. One wind machine can produce one and a half to four million kilowatt hours of electricity annually, enough to power one hundred and fifty to four hundred homes. The United States' long-term technical potential for wind power is believed to be nine to twelve times the current electricity demand. Generation of such electricity, however, would require placement of six large wind turbines per square kilometer in addition to offshore wind turbines. Ergo, wind power could potentially provide high levels of electricity at the expense of much land and the coastlines.<sup>1</sup>

Accounting for seven percent of total American electricity generation today, Hydroelectric power obtains clean electricity from the potential energy of dammed water. Much debate boils over the environmental ramifications of future energy development because large dams upset natural habitats. Recently, interest has grown in mini-hydro projects, which could provide nine to twelve times the current production levels without detrimental effects on the environment.<sup>2</sup>

Produced from biological matter, biomass generates energy in the forms of bioethanol, biobutanol, biodiesel, and biogas. Generating over sixteen billion liters annually, America leads the world in biomass production. Although the United States primarily uses biomass to fuel automobiles, this renewable source is also manufactured into building material and biodegradable plastics and paper. One billion tons of biomass could displace thirty percent of America's petroleum consumption for transportation, but

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cynics criticize the biomass industry, citing the need to preserve crops for food production.<sup>3</sup>

Solar power involves the conversion of sunlight into clean energy via photovoltaic cells, solar chimneys, solar-thermal panels, and solar updraft panels. Current installations around the world produce five thousand megawatts annually, with ninety percent of such production drawn from a plant in the Mojave Desert. Critics of solar power cite the inefficiency of high grade radiation conversion and frequent malfunction of solar cells.<sup>1</sup> The technical potential of solar power remains unknown, and research is needed to address many of its current drawbacks.

Yielding about eight thousand megawatts of electricity globally each year, geothermal energy uses the Earth's heat to produce clean electricity. Limited to specific geothermal sites such as Northern California's Geysers, most of the United States is unable to produce geothermal energy.<sup>4</sup>

Undoubtedly the most controversial of alternative sources, nuclear power harnesses energy as heat given off during fission. Currently accounting for twenty percent of the United States' total electricity generation, nuclear power could satiate America's energy needs. Nuclear power does not emit carbon into the atmosphere, but nuclear power plants thermally pollute water in surrounding lakes and streams and can potentially cause radioactive contamination.<sup>5</sup> The multitude of potentially negative consequences to the environment and national security retards its popularity among the American public.

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## **ALTERNATIVE ENERGY: A LOOK AT GERMANY**

Helen Shang

Until the United States commits itself to using alternative energy sources on a national level, Americans will forever remain dependent on foreign oil. If we are to remain a competitive nation in the ever-changing modern world, we must release ourselves of our oil addiction as many other countries have done so already.

In the early 1990s, utility monopolies, entrenched nuclear and coal industries and a general conservatism made Germany appear as a barren ground for an alternative energy industry. Now, through a combination of consistent, ambitious federal policies designed to address barriers in establishing alternative energy sources, Germany has become a world leader in solar photovoltaics and wind power as well. Among many other benefits, the country's renewable-energy program has also resulted in dramatic energy cost reductions and new multibillion-dollar industries that have produced thousands of new jobs for its citizens.

Market creation must be prioritized. Germany began funding research and development of renewable energy in the 1970s but saw little commercial development until market incentives were enacted two decades later. To address the start-up costs barrier, the German government offered long-term, low-interest loans and income tax credits to alternative energy industries. These initiatives drew billions of dollars to the renewable energy market, money that ultimately led to an increase in efficiency and a reduction in the costs and risks associated with alternative energy production. Between 1990 and 2000 the average cost of manufacturing wind turbines in Germany fell by 43 percent and German PV manufacturers plan to expand their facilities significantly over the coming years to meet rapidly rising demand, a step that will greatly reduce energy costs for consumers. An equally as impressive accomplishment, the German government has recently pledged to reduce national carbon dioxide emissions to 40 percent below 1990 levels by the year 2020.

On April 1, 1999, Germany implemented the nation's first step in "environmental tax reform," by which it increased the taxes on oil, gas and electricity. Further increases occurred each year through 2003. The estimate is that these taxes, which have yielded tens of billions of euros, produced 100,000 new jobs in new energy-efficiency related industries, while contributing to Germany's commitment to reducing greenhouse gases. By the end of 2003, Germany had an estimated 45,400 permanent jobs resulting from the wind industry alone, a figure expected to increase to 103,000 jobs by 2010. In fact, about one new job is created in the German wind industry for every 300 kW capacity installed.

Starting from almost no renewable energy applications, Germany has moved to the forefront of global renewable energy in *just 10 years*. Governments need no longer doubt if it is possible. Germany has demonstrated not only that it is possible for renewable energy increasingly to meet the energy needs of industrialized society but also that the transition to a more sustainable energy future can happen efficiently with political will and the right policies as the first step. The United State must recast our national energy policies to

capitalize on nature's renewable bounty before we fall too far behind our foreign nations and our responsibilities to planet earth.

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#### ***WHY WE NEED TO MOVE AWAY FROM FOSSIL FUEL DEPENDENCY***

Roman Gorpenko

The primary reasons associated with changing our nation's current habit of consuming fossil fuel energy sources stem from three different parts. Burning fossil fuels has detrimental costs to the environment, to the worker's safety and to the national economy. Petroleum, coal, natural gas and even tar sands have been part of an ongoing battle against many environmentalists, scientists, politicians, and economists; these leaders feel that switching to alternative and renewable resources will not only help conserve our planet but create a stronger economy that depends less on imports and foreign engagements and more on those resources available here in at home.

Because of heavy mining and drilling of fossil fuels, many serious problems have arisen; problems that could be avoided by switching over to other forms of energy. Current access to petroleum and natural gas has caused the disruption of land and sea ecosystems due to pads used for wells and storage tanks and the construction of roads. In some of these regions, there has been damage to endangered habitats and to the species that live in them. Leaking pipes and even oil spills in the oceans have caused the killing of many marine animals (Botkin). In the Alaskan Prudhoe Bay oils fields, BP has recently experienced a major spill that caused 267,000 gallons of Petrol to pollute the surface. In addition BP was forced to shut down 12 oil wells (Foroohar). These incidents happen often (although not always on such a large scale) and due to aesthetic and moral values create a loss of tourist revenue and cost millions in clean up efforts. Alternatives such as oil shale and tar sands would create the same type of problems and would cost extra to find proper ways of disposing the waste (Botkin).

While currently cheap and abundant, Coal creates even more problems. Strip mining destroys valuable soil, which could be used for agriculture practices or grazing (if the land is of lower quality) for a good profit. Drainage of acid water from mining sites, due to rainfall, pollutes groundwater and local streams that sometimes lead into farm land, again causing a loss in agricultural profits. Subsidence, the collapse of land near underground coal mines, has frequently destroyed public and private property, creating the financial need to reconstruct those areas. When coal is burned, large amounts of sulfur oxide are released, causing acid rain and the degradation of natural habitats. Burning fossil fuels also releases smog and has contributed to health problems, including

asthma, in large metropolitan areas (Botkin).

Perhaps the biggest problem associated with fossil fuel consumption stems from the emission of the greenhouse gases, methane and carbon dioxide. The climate change that is occurring due to a large built up of these gasses in the atmosphere has been in the news more and more since the late 90's when the Kyoto Protocol was first being proposed. Now with the 2007 Intergovernmental Panel on Climate Change report, the effects of global warming seem increasingly dreadful. The international science community agrees that a rise in global temperatures, rise in sea levels, shrinking of snow cover, increase in the strength of hurricanes, and weather extremes such as heat waves, droughts and floods will continue to cause problems similar to last year's Hurricane Katrina, and European heat waves (Oreskes). Cleanup of these environmental problems will cost millions. Profits lost from the agriculture industry will likely cause for more malnutrition, and for more imports of food to feed our population of 300 million citizens. The worst part is that western US will be hit hardest, according to the Intergovernmental Panel on Climate Change report. If the United States chooses to cut down on fossil fuel consumption, then it will mitigate the damage caused by global warming, save on cleanup and rebuilding costs, ensure a stronger economy and a better future for America.

Switching from current fossil fuel dependency will also create additional security benefits, both to the workers and to the nation as a whole. Coal mining has numerous health and safety issues and underground mines have experienced explosions and fires, injuring and killing workers. Black Lung disease has been diagnosed in many miners, who continue to have health problems to this day and require costly government medical benefits (Botkin). Accidents in oil plants and refineries have also caused damage and death to workers. Oil giant BP had a refinery explosion in Texas City last year that killed 15 people and injured others (Foroohar). Alternative energy sources that include solar, wind, hydrological, geothermal and biomass are safer for humans.

The economic costs of continued consumption of fossil fuel energy sources will be seen more in the coming years as problems over the depleting supply of oil increase. Drilling costs of oil fields have increased in the last few years. If new fields are found, they will most likely be deep beneath water in places that are hard to reach without proper funds. Raw-steel and other equipment costs have also grown. America is now spending more money on importing oil as the prices continue to rise (Foroohar). At current levels of consumption, world natural gas resources are expected to last about 70 years and petroleum is only expected to last 40 years. Staying dependent on these sources will cost our nation deeply as the amount of available fossil fuel resources depletes and our demand for them grows; the price of importing oil will rise. During the 1973 Organization of Petroleum Exporting Countries (OPEC) oil embargo, America experienced high gas prices and long lines at fill up stations (Botkin). This was the first incident of foreign nations acting against America's economic interests and may not be the last. In February 2007, Venezuelan President Hugo Chavez ordered the takeover of oil projects run by foreign oil companies in the Orinoco River region. Because this OPEC member has a large reservoir of oil, nationalization by Chavez is particularly detrimental to the U.S. economy. Russia is now also experiencing nationalism of its Natural gas

resources with the Kremlin backed Gasprom giant. If these nationalizing trends continue then the U.S. will be forced to buy fossil fuels at higher prices from countries that are not direct allies.

If America hopes to stay competitive then it must enact policies to fund alternative energy sources. While the Bush Administration believes that switching over to alternatives will cause economic collapse the reality is that there is great profit to be made in the industry. Companies such as Airtricity have invested in wind turbines and are prospering. Airtricity is planning to install a European suppergrid of 2,000 offshore turbines to supply power to 8 million homes. Environmentally friendly and clean, turbines along with photovoltaic solar panels and other technologies can operate in America. These renewable energy sources can be domestically operated and thus are independent of foreign entanglements (Kaihla).

### **Recommendations**

America should act now, not only to avoid future environmental and economic problems caused by climate change and nationalization of fossil fuel resources, but also to promote conservation of land, and water resources. While local and state governments can promote carbon dioxide emissions reduction, the federal government must implement its own policies and use its power to enforce them. Federal regulations must be strict on private industries that consume large quantities of fossil fuel energy sources, particularly the automobile market. Also, Europe and America have to agree on a stabilization target of carbon dioxide levels in the atmosphere. A current cap on carbon levels that sounds reasonable to many scientists is around 550 parts per million (Schneider). If a stabilization goal is established, then governments must fine companies that go over their specified maximum emissions and must reward those companies that emit a significantly lower amount of pollutants. An emission trading program similar to the one now used in Europe could push companies to limit their energy consumption levels. In this program, a company that goes over a set emissions level can trade with a company that decreased its emissions in a certain time frame. It is essential for the federal government to work with private companies and to regulate their progress towards being more energy efficient.

Just as government policy must improve, so must alternative energy technology make strides to become more efficient. The most important action that governments can take is to increase research and development for new and existing energy technologies. American spending on research and development of alternative energy dropped sixty percent between 1980 and 1995 (Schneider). If companies are subsidized for investing in alternative energy, they will have the necessary funds to carry out research that can replace older, more polluting technology. Funds must also be provided to train workers and engineers to operate alternative energy equipment (Mastrandrea). As we improve technology, use of energy will be more efficient. With improved efficiency, there will be less need to import additional oil and mine more coal. Green energy sources must eventually replace fossil fuels in order for there to be a significant decrease in atmospheric carbon dioxide levels.

## ***THE AUTO INDUSTRY***

Brendon Verissimo

In order to reduce U.S. emissions and keep America competitive, the American automobile industry must be reformed. According to the Annual Energy Review, over 63% of America's oil consumption came from the transportation sector, of which nearly 33% came from automobiles. This number is quite staggering, and to lower our need for foreign oil while continuing to have viable and plentiful energy sources is key. Although little has been done presently, America has both the economic means, the resources and the technology to reform.

American automobile manufacturers in Detroit have never fully committed to alternative energy in cars. Most of the "Big Three" have always viewed energy efficiency and alternatives in a supply and demand effect. After the 1973 oil crisis, American auto makers looked to renewable energy and increased mileage efficiency for their cars. The national maximum speed limit was lowered, and daylight savings time was introduced. Auto makers for the first time were creating small, compact cars which had very good gas mileage. Then, with the oil bust of the 1980s and the renewed flood of cheap oil, American auto makers reverted to their old style of cars; big, gas-guzzling monsters.

Some of the American auto makers have tried to go "green." In the mid 1990s, General Motors rolled out the now infamous EV-1. Received with great success, these fully electric cars were a signal of a new future, one with clean, green fuels. Unfortunately, GM recalled all their EV-1 cars from the market, and the young electric era of cars was over. Recently, with the huge success of the Toyota Prius, American car companies have finally realized Americans want cool, small, fuel efficient cars. The Big Three of Detroit have so far been unable to capitalize on the hybrid market like Toyota or Honda, but are in turn making important strides like Chevy's concept car, the Chevy Volt. Among other woes, bad marketing, terrible strategic decisions, and poor manufacturing and design of US cars have hurt the industry. For American auto companies to get back into the black and help reduce global warming, serious reform must happen.

One of the most viable and relatively inexpensive fuels for cars available today are electric cars. These cars can be fueled infinitely, with no pollution, from the sun. Tesla Motors, a startup company from the Bay Area, has capitalized on the growing market for luxury electric cars. Creating a high-end luxury car, Tesla's business plan is to drive down the market and some day roll out a cheaper electric car, in the price range of the large middle class. So far, Tesla has sold over three hundred of their maiden cars to buyers across the U.S. This shows the potentially huge market for electric cars, and to be successful the Big Three American auto makers must also go into the electric market quickly, for the sake of economics and the environment.

Another great energy source is biofuel. This versatile energy source can be produced from everything from corn to algae to vegetable oil. Because the fuel is generally made from organic biomass, biofuels are a great option, utilizing green, living plants to create a less toxic fuel. Another attractive reason to go biofuel is that the technology is already available, and can even work in most diesel cars presently on the road, and on gasoline engines with minor adjustments. An example of biofuel success is Chevron's FlexFuel system. With the ability to run on conventional diesel, or with a combination of diesel

and ethanol, these cars are a solution to the climate crisis and are available now.

The final solution to the current crisis is the hydrogen powered car. Although still 15-25 years from the mass production scale, these cars burn hydrogen with no pollution and have little excess in the form of water. Recently, many prototypes of this classification of vehicle have reached trade shows across the world, and BMW recently announced the production of a high end luxury sedan powered by hydrogen. Still very expensive and unavailable to most of the world, hydrogen cars need more time to develop.

In conclusion, it is extremely vital that America acts quickly and decisively to fight global warming while still staying competitive in the global and domestic market places. There are three basic legislative steps that are needed. First, immediately set emission standards, gas mileage requirements and set up federal support and incentives for those switching to cleaner cars like hybrids and biofuels. Second, federal mandates requiring goals for all cars to be fully electric, hybrid, hydrogen or hydrogen powered to be set in the near future. And finally, laws must be passed requiring all cars to be zero emission, or nearly there, by the second half of the century. This plan will curb America's need for foreign oil while limiting environmental hazards from global warming, all creating a more economically and politically stable country.

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## **TELECOMMUNICATIONS AND THE INTERNET**

### ***SOFTWARE TECHNOLOGY AND ENTREPRENEURSHIP***

There are countless new developments in the software industry that can streamline communication for American citizens and the government that serves them. If the general population and public officials can embrace and understand this technology beyond Myspace, we will have an exponentially more efficient government and way of life. A simple, standardized format for accessing information is readily attainable thanks to burgeoning technology, but needs to be endorsed by the government.

In order to ensure that citizens are current with technology and have the tools to adapt to technological advances, school children should be taught how to use the Internet proactively. For instance, children need to understand the importance of Internet pitfalls, including the dangers of online predators, posting incriminating or provocative things on personal blogs, online bullying, and plagiarism.

Because this technology is perpetually evolving, students should not only be provided with basic computer knowledge, they should also be taught how to browse and design websites, learn about security, and research effectively. Furthermore, advanced classes should be readily available, so that students are not only versed in basic computer technology, but can easily opt to move past the basics.

Children need to be encouraged to pursue technological proficiency, and need to be shown that it is not just the realm of highly dedicated experts and professionals. By increasing exposure, more people will be attracted to and prepared for work in the software industry, hopefully promoting further entrepreneurship in this area. In addition to education focused on the Internet and software, schools can benefit from adopting more online courses. Many colleges and alternative schools have begun to utilize online classes, but they should be made more readily available to students in public schools. This can be done as a federally sponsored project, to ensure a standardized system.

In conjunction with the implementation of online classes, the educational system should adopt paperless records to reduce red tape and related causes of inefficiency. Similar systems would obviously also benefit, including hospitals and the government.

While it is frankly intuitive that the education and health sectors can benefit from increased government endorsement and adoption, the business sector is a more complicated area to regulate and sponsor.

One of the more innovative and consequential movements in the Internet community is that of Open Source software. Open Source puts the programming code for a software program in the public domain, so that volunteering and freelance programmers can change and improve it. This promotes dynamic, evolving software, without a ceiling

imposed by programming costs or undisclosed code. This, in turn, bolsters the economy by providing companies with free software foundations, minimizing start-up costs. Open source lowers costs, and the programs can be altered for necessary security. Because the majority of programs have a less-expensive, dynamic counterpart, government-funded Internet projects should be required to consider an open source option.

Furthermore, Web 2.0, an enriched web platform, has more interactive interfaces that would encourage citizens to go to government websites for important information (emergency/disaster preparedness, social security, etc). Better designed web pages can streamline the system.

Regarding the business sector in general, the government should lower restrictions on businesses that inhibit entrepreneurialism and prevent businesses from joining the public market.

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#### ***INTERNET AND COMMUNICATIONS***

With the growing net economy and increased use of the Internet for communications, the US is at a critical point where Internet access and speeds must grow in order to meet these increasing needs. According to the Organization for Economic Cooperation and Development (OCED), Broadband subscribers have increased 33%, from 136 million in June 2005 to 181 million in June 2006 in the global market.<sup>1</sup> Of those 181 million broadband subscribers, over 56 million are in the United States. As a result of increased subscribers, bandwidth usage has increased significantly<sup>1</sup> and more capacity is needed to sustain this growth in order to prevent net congestion and to promote the net economy. Businesses are increasingly relying on the Internet to connect their geographically diverse offices via Virtual Private Networking (VPN) and increasingly need more capacity to share information among their offices. Similarly, home users are not just sending emails or viewing web sites with mostly text anymore; they are watching multimedia content on sites like YouTube and viewing web sites that have more graphics and content. The average size of a web page has grown and as a result, it takes more time for a web page to load on a user's home computer, thus making it more time consuming and less convenient.

Often, network providers slow down certain network traffic in order to curb network traffic and usage. However, degradation of services such as Voice-Over-Internet Protocol (VOIP) and legal video streaming harms businesses and does not promote new Internet startups in those sectors. VOIP is an important step forward because it directly competes with telcos and has helped to reduce long distance rates. Many businesses that deal internationally also rely on VOIP to efficiently communicate with their worldwide partners and their overseas business offices. This network neutrality issue is critical, and

has been described as “decide[ing] whether the Internet remains a free and open technology fostering innovation, economic growth and democratic communication, or instead becomes the property of cable and phone companies that can put toll booths at every on-ramp and exit on the information superhighway.”<sup>1</sup> Businesses that will lose from an Internet with toll lanes are small businesses that provide services or products via the Internet. Well-known sites like Yahoo or Google started off very small and often times in someone’s garage, with only a great idea, but very little capital. These startups will effectively be put on the slow lane unless they pay the Internet Service Providers the “toll” and a slower web site is unattractive to users who want information instantly.

In order to support the next generation of services such as TV service over the Internet (IPTV) and Internet movie rentals, faster Internet is needed. Furthermore, the United States is lagging behind other countries not only in terms of broadband penetration, but also broadband connection speeds and the infrastructure used to connect users. In the US, the FCC defines broadband as 200 kilobits per second or faster<sup>1</sup> while many European countries define it at much higher speeds and the OCED defines broadband as 256 kilobits per second or faster. Current broadband speeds in the US need to be raised to at least 2 megabits per second in order to support IPTV and other high quality video services. Staying ahead of other countries will enable the US to develop the technologies needed for these high-tech services and stay ahead in this sector. With the expansion of the Internet, the web is being used for a wide variety of purposes. The U.S. Department of Agriculture reports that 51% of US farms have Internet access, though more than 2/3 of them connect via dial-up.<sup>1</sup> Farmers now rely on the Internet (via Web Forums and Web Sites) to give and receive advice from fellow farmers about farming. One farmer reports “advice from fellow farmers around the country has enabled him to increase his corn and soybean production, better market his crops, learn how to rebuild engines and get good tires for his tractor.”<sup>1</sup> For farmers, Internet access allows them to access information that can save them time, money, and increase the productivity of their farms. Clearly, building out the Internet to more people has some profoundly positive effects and more importantly, allows people to access information that they might really benefit from.

Last but not least, the Internet is running out of IP addresses and this issue has to be solved before the limit is reached. IP addresses are addresses given to a computer connected to the Internet so they can be located on the Internet. In order to get on the web, an Internet Service Provider (ISP) will give a subscriber an IP address in order to allow that computer to connect to the web. The solution to the problem has been around since was finalized in 1996 and is known as Internet Protocol version 6 (IPv6). Currently, the Internet runs on Internet Protocol Version 4 (IPv4), which only provides for roughly 4.3 billion IP addresses, and with every passing day, there are less and less IP addresses available. IPv6 brings about a better Internet network as well as increasing the IP addresses available for use to  $2^{128}$  addresses, a very large number. Cisco Systems, a major vendor of networking equipment reported in September 2005 that the pool of available addresses would be exhausted in as little as 4–5 years (in 2009-2010).<sup>1</sup> Once this limit is reached, it will become harder to obtain IP addresses and limit the abilities of Internet services and companies. In addition, some new networking equipment is needed for the conversion to IPv6 and American companies can stay ahead of foreign

competition by developing and producing the equipment technologies well in advance of their rivals.

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#### **COMMUNICATION SECURITY**

The advent of the technology boom in the past decades has had tremendous benefits to our homeland security, innovation, and competitiveness in the global arena. But along with these truly revolutionary and wonderful strides we have collectively taken, today's fast-pace technological world has drawbacks that endanger the security and privacy of Americans. If not addressed adequately, these problems may compromise the full potential of technology to do good for the people. For instance, while modern surveillance capabilities can save lives as an important tool in the War on Terror, when inappropriately used they call into question the merits of technology itself.

#### **NSA Eavesdropping Program**

##### Background:

After the events of September 11, 2001, President Bush, under a secret executive order, instructed intelligence officers at the National Security Agency (NSA) to conduct warrantless wiretaps on *suspected* terrorist communications, even when American citizens are involved. On May 10, 2006, USA Today reported that the NSA has had a, previously undisclosed program in place since 9/11 to build a database of information about calls placed within the United States, including phone numbers, and the date and duration of the calls. According to the article, AT&T, Verizon, and Bell South disclosed the records to the NSA. The exact extent of the program's intrusion into privacy isn't known. But the program is said to be a filtering net that searches through the phone conversations, emails, and other modes of communication of calls foreign and domestic; certain "alert words" are searched for and the location and duration of the calls are also taken into account. The Bush administration has indicated that the wiretapping program targets communications where at least one party is outside the United States, and surveillance is only conducted when there are reasonable grounds to believe that one or more parties involved in the communication have ties to al-Qaeda.

This is in clear violation of not only the Fourth Amendment of the Constitution and our system of checks-and-balances, but also the procedures set forth in the Foreign Intelligence Surveillance Act of 1978 (FISA).

#### Details of FISA and the FISA Court:

FISA governs electronic surveillance by explicitly prohibiting warrantless wiretapping. The court comprises 11 sitting judges, who are chosen by the Chief Justice of the U.S. Supreme Court. The specially appointed FISA Court judges take turns reviewing surveillance applications. Although rejections are rare, the FISA court has asked for numerous modifications of applications over the past few years in the interest of privacy.

#### Defense of the NSA Program:

The NSA wiretapping program is said to be an indispensable tool in the war against terrorism; according to the Bush Administration, the program has saved lives by disrupting and detecting plots on the homeland. The Administration also cites the fact that every wartime president since the birth of the Republic has utilized technological advances to intercept enemy communications in the interest of national security.

After its domestic wiretapping program was revealed, the Bush Administration offered a series of legal justifications for not complying with FISA. It is worthy to note that many of these justifications have changed and evolved over time, because they falter in the face of the law.

First, the Administration asserted a broad doctrine of the inherent authority under the Constitution's Article II, where it is claimed that the power to wage wars is a sacred and exclusive right of the President that cannot be infringed on by Congress. Furthermore, there was the initial argument, later retracted, that Congress had unconsciously permitted the use of wiretaps when it authorized the use of force in Afghanistan. Nothing is further from the truth. We are a nation of laws, not kings. The President is not above the law in wartime. The matter at hand is not an issue solely concerning national security and war; the NSA program has far-reaching and dire consequences for the civil liberties of millions of Americans. Congress has a duty to protect the American people when activities such as spying on innocent Americans clearly step outside any reasonable boundaries of war making.

Second, the Administration asserted that FISA is out-of-date. But since when, in this nation of laws, was the age of a statute a free pass for the deliberate, secret, and systematic disregarding of laws? The Constitution is more than two centuries old, and it is still the supreme law of the land. FISA sets up a special, secret court that can issue retroactive warrants for legitimate wiretaps even after the wiretaps have been made. If anything, the flexible system of judicial checks is inadequate.

#### Dangers:

Although the Administration maintains that the government gets nothing more than your "phone bill" (namely the location of both ends of the call and the duration of the call, not the content of the conversation), the very fact that the President can have *limitless* executive power gratuitously taken under supposedly constitutionally-granted authorities "in the interest of national security" is a cause for concern and alarm.

While it is true that civil liberties have been curtailed in past wars, there is one crucial difference. Past wars, from WWII to the Civil War, were defined wars with a clearly defined start and end. Our present War on Terror, however, is undefined and may last an indefinite amount of time. There is no guarantee of the return of civil liberties

after the war. The War on Terrorism may never see an end, making the power to wiretap essentially a permanent violation of individual liberties.

Furthermore, in this day and age, the potential of government surveillance prying into the private lives of innocent Americans is unprecedented. This President, and certainly future presidents of both parties, can claim executive authority to abuse wiretapping power, for the purpose of spying on political opponents. In fact, Richard Nixon resigned as a result of this very same crime, committed under the assumption that "When the President does it, that means that it's not illegal." To many, it is sad in an Orwellian sense that we are confronted with this renewed assault on civil liberties, but we are also in the face of great challenges. We must use every tool available to fight and win in the War on Terror, but we must do so in a manner that is consistent with our Constitution and established laws, in full accordance with judicial review.

### **Recommendations:**

The NSA program, which collects the phone numbers and records dialed in millions of calls made by Americans, is troubling and raises much concern about the boundaries of executive power. It is time for Congress to fulfill its constitutional duty by acting as an independent branch that exerts real check on the president. Fortunately, under pressure from civil libertarians and members of Congress, the program has been placed back under FISA jurisdiction.

Even though the Bush Administration has backtracked and agreed to submit to program to court oversight, the clear violations of FISA in the past require full and secure oversight by a special Congressional committee (i.e. the Judiciary committee or Intelligence Committee) to ensure the proper execution of the program in the future and the protection of the privacy of innocent Americans. We call on the Bush Administration and the Justice Department to go to Congress and fully explain the surveillance programs, known and unknown, so that we can continue this vital program in a manner consistent with the Constitution and the FISA courts. The Bush Administration must conduct any future surveillance with full compliance to the rules and regulations governed by FISA.

We are fighting a war of values, of ideals and ideologies. We cannot forsake our founding ideals of liberty in exchange for security, much less security that can be easily achieved in a lawful manner.

### **Treasury Department Financial Tracking**

Similarly, the Treasury Department's monitoring of international banking transactions must have sufficient privacy protections and Congress has a duty to clear or change the program's dubious legality. The Bush Administration has claimed executive privilege in the name of combating terrorism to justify collecting private information regarding money transactions of Americans.

Measures, including but not limited to Congressional investigations and ongoing, nonpartisan or bipartisan oversight, need to be taken to determine whether the Bush Administration's financial tracking violates our citizens' civil liberties. If the program is to be continued, aggressive and comprehensive review from both the legislative and

judicial branch must be implemented to ensure proper use of the data for counter-terrorism purposes only.

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## **IMMIGRATION POLICY**

### ***BACKGROUND***

Illegal immigration and border security raise concerns regarding national security, economic development, and America's collective identity.

After terrorist attacks and scares, immigration laws and policies became more stringent and strict in their admittance of immigrants. Undocumented immigrants raise warning flags in response to terrorism. No one knows who the undocumented immigrants are, what they do, what they are trying to accomplish, and what threat they pose. This fact alone scares many Americans and hits home, bringing back situations regarding the attack on the World Trade Center, which many connect with the inadequate immigrant screening to get into this country. Illegal immigration continues to raise problems concerning national security and the safety of our nation.

Poor economic development and unemployment rates are sometimes attributed to illegal immigration. The fear that American jobs are being taken away by cheaper immigrant labor has long been a theme in American history. Americans feel that because they are citizens, they deserve the job more than immigrants coming into this country. Even in prestigious jobs, immigrants with worker visas have been taking away certain occupations. Immigrants work for what they can get, and most employers prefer the cheap labor rather than the legal citizens.

Higher-skilled Americans also feel threatened by immigrants. Competition arises with the H-1B Worker Visas issued to immigrants that are highly skilled and educated in their specified professions. Immigrants are required to have the equivalent of a bachelor's degree in their field of study in order to be considered for the different visa. The job must be considered a "specialty occupation" in order for the immigrant to receive the H-1B visa. The worker visa provides companies with a steady stream of highly skilled workers. This visa also provides incentive for many companies and operations to stay located in the U.S., rather than moving abroad to supply their worker demands. By encouraging companies to stay in America and allowing them to employ whomever they wish, through worker visas, the economy rises and becomes more valuable.

### ***NATURALIZATION REFORM***

To become a citizen, one must obtain an immigrant visa. The amount of immigrant visa numbers supplied is limited, and there is often a long waiting list. After becoming a green card holder and a resident of the United States, one can apply to become a United States citizen.

In order to get permanent residence, there are a number of things one can do. First is to

obtain permanent residence through a family member. Your family member must be a citizen or lawful permanent resident of the U.S. and be able to provide documentation providing that status. Your family member must prove that they can support you at 125% above the mandated poverty line, by filling out an Affidavit of Support. There is a preference system that the United States implements when deciding which family members are chosen for permanent residence. If a person falls into one of these categories, the USCIS must approve an immigrant visa petition, I-130 Petition for Alien Relative, for you. This petition is filed by one's relative (sponsor) and must be accompanied by proof of one's relationship to the requesting relative.

Another way to gain permanent residence in the United States is through their employer. The sponsoring employer in the U.S. must file a petition. The petitioner must demonstrate that there are no workers in the U.S. to perform the work and that the applicant has the necessary training and experience to perform.

Another visa one can obtain is the diversity visa. The congressionally mandated Diversity Immigrant Visa Program is administered on an annual basis by the Department of State to provide for a new class of immigrants known as diversity immigrants (DV immigrants). Up to 50,000 permanent resident visas are given out annually to persons from countries with low immigration rates to the United States.

An applicant for U.S. citizenship must fulfill a number of requirements. A person must be a permanent resident. An applicant must also demonstrate an ability to read, write, and speak English and pass a test demonstrating a knowledge and understanding of U.S. history and government. An example of a question on this test is: "What do the stars on the flag mean?" A person must also take an oath to show their loyalty to the United States, and demonstrate "good moral character".

A new format for the test is currently being examined. The new format would place less stress on memorization and more stress on knowing democracy. The new test is said to be easier than the old, which has an 85% pass rate. However, the oral part of the exam has been criticized because of the ambiguity of the difficulties of the ten questions asked. Another problem is the price of the test, which is now \$400.

The period of time between filling out the application for U.S. citizenship and the interview to become a U.S. citizen can vary from 5 months to more than 2 years.

### **H-1B VISAS**

H-1B visas, temporary visas for high-skilled foreign workers, have been the subject of much debate. Because it is one of the few visas recognized as *dual intent*, an H-1B visa holder may both pursue a green card and work in the United States. H-1B visas are in high demand: for FY 2007, the quota was filled by May 26, 2006.<sup>1</sup> An attempt was made to change the cap of H-1B visas in 2006 as part of the Immigration Reform Act that would have provided for dramatically raising the number of visas available. H-1B visas are a vital part of the immigration debate, invoking both the fears and hopes of immigration policy. Though H-1B visas assure Americans that not all immigrants are undereducated, they also spark fears that American skilled jobs are going to foreigners. Yet H-1B visas are an important factor in the technology debate, and supporters believe that they are vital to competitiveness.

These visas are an unmistakable benefit for foreign workers. According to Ruth Wasen, most of these visas are issued to workers in the computer sciences, engineering, and education fields. About 40% have a master's degree, and another 40% a bachelor's degree. Nearly half the workers come from India, and a tenth come from China. In Fiscal Year 2005, H-1B visa recipients typically earned between \$41,000 and \$60,000.<sup>2</sup> Proponents of H-1B visas, among them many high-tech corporations, say that they are critical for technological competitiveness, address a severe shortage of skilled workers, reduce outsourcing, and attract entrepreneurs. Critics argue that the "shortage" of skilled workers does not exist and that H-1B visas simply steal jobs from Americans. H-1B visas are very much under the public eye: news regarding changes in the H-1B visa caps is regularly featured in the news.

Arguments for increasing the H-1B Visa cap typically center around competitiveness. The visas provide an alternative to home-grown talent for United States companies, making them more competitive against foreign companies. Studies have shown that immigrants, as a group, are more entrepreneurial than natives. This suggests that the increased immigration stemming from H-1B visas may lead to more new, cutting-edge businesses, keeping America competitive in the long run. As Bill Gates has said, "[H-1B visas] are wounding us in the global competition."<sup>3</sup> Furthermore, many leaders have argued that H-1B visas are necessary to attract top talent, without which American firms would be doomed to technical mediocrity.<sup>4</sup> Critics of H-1B visas typically make arguments that are, at the core, protectionist. Their biggest complaint is that while companies claim that a critical shortage of high-skilled American workers exists, wages for their workers have not grown. This indicates that companies simply want to substitute cheap foreign workers for Americans. Though the H-1B visa provides that foreign workers must be paid the prevailing wage, these critics allege that there is little or no oversight, allowing companies to pay H-1B workers less than Americans with similar skills. As the IEEE-USA states, "We also believe that administrative and procedural reforms in the H-1B visa program are required to achieve the needed balance between the interests of employers, including businesses and educational institutions, and those of professional employees, including engineers and computer scientists."

On balance, the evidence in favor of raising the visa cap outweighs the arguments of critics of H-1B visas. While H-1B workers may compete with American workers to the detriment of the latter in the short term, in the long term a steady supply of talent is crucial to the competitiveness and success of American industry. While reforming immigration law in a fundamental way might be the best way to achieve this, raising the cap on H-1B visas is a viable, desirable way of attracting more foreign talent to America. However, critics of the H-1B Visa program have valid points that should be addressed by congress, notably the lack of enforcement of H-1B visa laws.

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<sup>4</sup> CRS report to Congress

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## ***ILLEGAL IMMIGRATION***

Illegal immigration into the United States has become an increasingly large problem.

The question is what actions are being taken to help stop this overflow of people. Since 1994 the United States has seen an influx of illegal aliens entering the country. Different ideas have been discussed about how to keep illegal aliens out. Two ideas that have been brought up are the National Identification Policy and the infamous fence. While these are only a couple of ideas being put out, a strong opposition has already risen.

One idea to help keep illegal immigrants out is the fence. Proposed by President Bush, the Fence will be seven hundred miles long, and stretching across the United States and Mexican border. The fence is supposed to keep about 50,000 illegal immigrants from entering. This is only a fraction of the 500,000 who enter every year. "The fence bill is a far cry from the comprehensive measure that cleared the Senate, which would have paired tough border security provisions with new paths to lawful work and citizenship for foreign workers and the nation's illegal immigrants."(Mike A. Fletcher)

This fence does not cover the distance of the border not the mention the people who will climb over, dig under, or cut through the fence.

Another proposed idea is the National Identification Card policy. This policy will require everyone to have special cards that will serve as a license. States will require all workers to carry these cards. Cards will not be given to illegal immigrants, this will make it harder for them to find work in the United States. This program is also supposed to help protect our nation from terrorism.

Even though both of these ideas were just proposed, they have met strong opposition. Some believe that the National I.D. cards will be too much of a hassle and end up being ineffective. Those who disagree with the Fence believe that it will be futile to build something that will cost so much and do so little. Mexico has also said that the fence may cause a rift in relations between the two countries. These are only a few of the ideas that have been thrown out to help keep illegal immigrants from coming in.

I think that the best idea would be to start over from scratch. The proposed idea of a national identification card system might prove hard to enforce. The same for the fence, in theory it sounds good, but both ideas seem hard to take all the way through. These bills need to be more tangible. If it is not well thought out and organized, then in the long run it will most likely fail.

## ***POLICY RECOMMENDATIONS***

### **Naturalization Reform**

In the naturalization process, it is important to standardize oral exam so each applicant is asked questions of equal difficulty. There can be questions assigned to three levels: easy, medium, and difficult, and each applicant can be asked an equal number of questions from each group. It is important to lower the cost of the test to ensure that even impoverished people are able to apply for citizenship. Another faulty aspect of the process is the fact that a person has to demonstrate "good moral character". The term "good" is objective, so that part should be removed from the process.

H.R. 1176: To provide discretionary authority to an immigration judge to determine that an alien parent of a United States citizen child should not be ordered removed, deported,

or excluded from the United States.

H.R. 147: To amend the Immigration and Nationality Act to exempt elementary and secondary schools from the fee imposed on employers filing petitions with respect to non-immigrant workers under the H-1B program.

Additionally, if these bills pass the Senate and come before the House, we recommend the Congresswoman support them:

S.9 'A bill to recognize the heritage of the United States as a nation of immigrants and to amend the Immigration and Nationality Act to provide for more effective border and employment enforcement, to prevent illegal immigration, and to reform and rationalize avenues for legal immigration, and for other purposes.'

S.342 'A bill to expand visa waiver program to countries on a probationary basis and for other purposes.'

### **H-1B Visas**

On the H-1B visa issue, the immigration subcommittee recommends that Congresswoman Eshoo support the following action:

- Increasing the number of H-1B visas issued to keep up with demand
- Directing the departments of Homeland Security and Labor to cooperate to aid H-1B visa enforcement.
- Creating legislation aimed at better enforcement of H-1B visa laws.

To accomplish these aims, we recommend that the Congresswoman support H.R. 147, a bill to let secondary schools hire foreign teachers, and H.R. 1748, which would essentially double the number of visas issued.

### **Illegal Immigration**

For illegal immigration, we support bill H.R. 688 which calls for immigration reform.

This bill presents a more plausible idea to help solve the immigration problem. It talks about giving more resources to the borders, increase in screening aliens, and helps to keep illegal aliens from entering. Stricter border control needs to be implemented. If there is a specific code that must be followed for screening aliens than the process would work much better. We need to have more organization. There needs to be good cooperation on both sides of the border. This bill will allow for a more organized and efficient border security.

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## **OUTSOURCING**

### ***CAUSES OF OUTSOURCING***

Rachel Lew

Throughout the last century, America has prided itself on being the hub for technological innovation in the age of the information revolution. Silicon Valley, especially, is the hub of this technological innovation with companies such as Apple, Google, and Yahoo! competing globally to create the newest and most advanced technology. However, as America has led the information revolution, other countries have begun to develop their programs to compete with the U.S. Over the last decade, there has been a new trend on outsourcing jobs to these developing countries. Outsourcing has emerged in the form of foreign recruitment of workers to be employed in the U.S., hiring offshore workers to supplement workers in the U.S., and moving entire businesses overseas.

This new found interest in outsourcing is the confluence of many factors, including the development of enabling technologies that facilitate offshore work, the short-term profit gains for companies employing foreign workers and moving businesses overseas, and the United States' apathy towards education in the fields of math and science. In an effort to maintain America's global competitiveness, the government must eliminate the disparities between the salaries of the foreign and native employee as well as encourage education in the fields required for a successful career in technology.

The rise of outsourcing can be linked to the financial benefits it provides for the companies utilizing this employment system. The salary scale in developing countries for technology workers is much lower, thus saving companies tremendous amounts of money. According to an article in *Newsire Today*, the cost of the average software engineer in the United States is roughly \$70,000 per year, whereas the cost of a software engineer in China is approximately \$13,400 and \$10,300 in India (John 1). If a company replaces even a few of its American employees with these outsourced workers, it can hire six or seven employees, theoretically increasing its productivity and inevitably increasing revenue and profits. A company can hire the same number of workers at a lower price through outsourcing, allowing them to maximize their profits and increase the value of their stock. To keep their stockholders happy, businesses are forced consider revenue and profits instead of what may be benefit the native U.S. or the country in which workers are being outsourced. However, if efforts were made to raise the salaries of outsourced employees through some kind of international minimum wage system, the economy would benefit in the long run. While businesses may suffer some losses for the time being, raising salaries will ultimately allow workers to invest more into their own economy, something beneficial for all.

Companies also benefit from the loopholes in the international tax laws that allow tax breaks on corporations working overseas. The United States has the second highest tax rate in the world (for business), which means that more and more corporations are looking outside the U.S. to increase profits by reducing taxes (Atkins 2). Loopholes that allow companies to defer their corporate tax on foreign income are another factor in encouraging corporations to move overseas. Offshore companies do not have to pay taxes to the American government as long as the earnings stay within the foreign country. By paying the lower corporate tax in the foreign country, companies can save millions of dollars annually through outsourcing (Leisman 1,2). A solution to this tax loophole has been suggested by Senator John Kerry in S.96. This bill would reprimand companies evading paying higher taxes through outsourcing by increasing corporate taxes for those offshore corporations, encouraging them to remain in the U.S. (Atkins 1). This bill, however, would be less successful than the solution that other European countries have adopted as a reaction to outsourcing. If the United States were to lower its own corporate taxes rather than raising them for U.S. companies' foreign subsidiaries, they would encourage U.S. corporations to stay within the borders as well as possibly encourage companies from other countries to spread to the U.S. In today's competitive global economy, the United States must adapt to the changing economic climate in order to reap the most benefits and maintain our position as a leader in the economic and technological world.

Other than financial motivations, availability of employees has also become a key factor in the utilization of outsourcing. While countries with overwhelming populations such as China and Japan offer an untapped resource of individuals trained in the fields of math and science, the same cannot be said of the U.S. The popularity of fields useful for the technological industry has declined in the U.S. over the last decade. During and just before the dotcom boom of the nineties, enrollment in the math and science programs at universities reached its peak because engineering and other technology related careers were extremely lucrative businesses. However, as interest in these fields waned and Americans were forced to compete with outsourced employees, fewer students chose majors and studies solely applicable to technology. At the University of California Los Angeles, interest in majoring in computer science for incoming freshmen has dropped 70% from 2000 to 2005, showing that the desire for outsourced employees is not merely the fault of the individual corporations (Vegso 1). And even though there are still a significant number of computer science and engineering majors, 43% of these graduates from schools in the U.S. and Canada are non-resident aliens, demonstrating the growing lack of interest in these fields among U.S. citizens (Kessler 1). If fewer American college graduates are available for jobs in computer sciences and engineering, more emphasis should be placed on encouraging students to enter these fields of study even at a young age. By improving the math and science education of children, we can increase the enrollment in these fields and increase the number of available and trained American employees.

The discouragement of a math and science education is not the only cause for lack of available domestic employees. As outsourcing becomes more and more popular among various corporations, employees appear to be discouraged from continuing down this career path. Although the employment in computer-related jobs has been steadily decreasing over the past several years, reaching an all-time low in 2003, the

unemployment rate seems to be decreasing as well. According to IEEE-USA or Institute for Electrical and Electronics Engineers spokesperson Chris McManes, ““We think a lot of that would be...people being discouraged and leaving the field,”” (Gross 2). Another study by the IEEE-USA revealed that from 2003 to 2004 the unemployment rate of Electrical Engineers increased from 4.5% to 5.3%. Only seven years ago in 2000, the typical unemployment rate for electrical engineers was approximately 1.3%; whereas in 2003, the average unemployment was roughly 6.2 percent. The president of the IEEE-USA sees this loss of interest in the computer engineering field as an indication that, ““...the United States may be losing ground in its technological competitiveness”” (McManes 1). Because companies have begun to move highly skilled and high paying jobs out of the country, Americans are becoming less interested in spurring America’s own innovation and technological advances.

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#### **ECONOMIC EFFECTS OF OUTSOURCING**

Katya Belykh

My research and the application of my knowledge of economics have led me to the following conclusions about the economic effects of outsourcing on the US economy. First of all, the unemployment rate increases due to the relocation of some jobs to other countries, therefore causing fewer Americans to be employed. And since workers hired by American companies in other countries earn significantly lower wages, Americans’ wages do not have as much incentive to rise and therefore do not keep up with inflation. This leads to less saving and therefore a lower standard of living. The amount of imports increases. On the other hand, however, we receive cheaper goods. Thus, it may seem that we are doing well, since our GDP is growing, but the underlying problem is not so apparent. For the business owners in United States, who now have

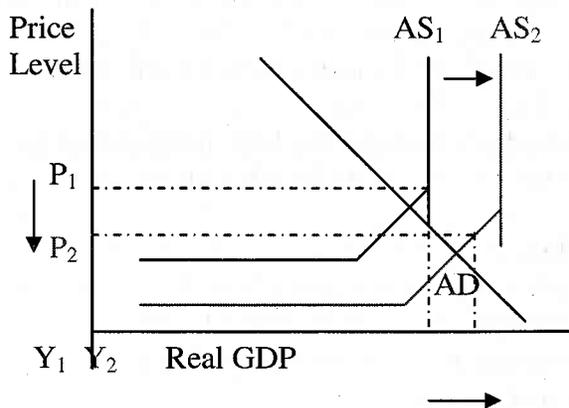
some jobs outsourced to other countries, the cost of per unit production decreases, therefore leading to higher profits. As a result, these people become richer. However, the US labor force becomes a smaller proportion of the population because some jobs are outsourced, causing increased unemployment and leading many to be demoted to the ranks of “discouraged workers.” After just two weeks of unemployment, a fired worker is transferred from the labor force to the “discouraged” segment. So, even though our unemployment seems to decrease, the numbers of discouraged workers are rising. This increasing unemployed segment of the population becomes poorer. Thus, as a result of outsourcing, the gap between the rich and the poor increases.

In addition, since less Americans work, our government takes in a smaller tax revenue, which, in addition to increasing spending, causes US to borrow money from other countries and our debt to continue increasing.

The increased borrowing causes a dependency on other countries. American economic, social, and largely political decisions become largely dependent on the decisions of our partner countries, in which we outsource and produce the products, which we then import.

This leads me to conclude that we should invest more money into American education, promoting many jobs in industries that we outsource today. Once these students finish their studies and come out into the American industry, they can work in US companies, and due to business competition, the prices of manufacturing products in United States will decrease. That way, we will be able to decrease imports and our economy will become more self-sustaining. It will also expand more, taking care of the unemployment, and thus decreasing the gap between the rich and the poor and increasing GDP.

Here is a graph that depicts in general terms the economic impact of outsourcing with the implemented changes in red. The term “AS” stands for “Aggregate Supply” and shows our production at the moment. The “AD” term stands for “Aggregate Demand” and shows the total level of consumption in the United States. The intersection of the two curves in black ink shows where the US is right now. After the proposed changes take place, the result is shown in red ink. The AS curve will shift right, forming AS<sub>2</sub>, as US will be producing more. Technically, the AD curve should shift right also, but since the amount of imports, compared to other spending in the US is relatively small, we can ignore this change for the purpose of simplifying the graph. From the changes in the graph, we can see that the prices will decrease, and the Real GDP will increase.



## ***HARMS OF OUTSOURCING***

Ben Chapman

There are many harms of outsourcing including, but not limited to, harm to the economy. The first way the economy is hurt is by draining funds from the local economic circulation. When performing traditional outsourcing in which the company sends positions overseas and new employees live in foreign nations, the wages those workers received are spent in their respective country, allowing that country instead of the US to tax it.

A risk for the company itself is that the quality of the new worker is not known. It is a well-known fact the United States hosts the majority of the world's top universities. What is rarely known is how foreign colleges rank on the ladder. This mix of uncertainty begs the question: Just how qualified are these "qualified" applicants?

But the greatest harm of outsourcing is that toward the American workers themselves. Every year less and less students graduate with degrees not because there is a flaw in our education system, but because there are fewer and fewer American jobs to speak of. Despite what the big business companies say, their reasons for outsourcing are not that there are no American workers available. In reality, they're just looking for some short-term profit. Work visas including but not limited to the H1B visa allow foreign workers to enter the United States, but those workers are either willing or forced into sub-par wages. This may appear to be a good idea at first, saving a few bucks, but taking into consideration the previously listed problems with outsourcing, in reality the harms far outweigh the benefits.

Focusing specifically on the aspect of quality, while these companies may be able to hire for half price, they may also be getting less than one fourth of the worth. Some have even speculated that this pattern of less than qualified workers sparked the continuing cycle of the 2000-01 recession. The less qualified technicians prevented products from being produced as fast, leading a number of companies into bankruptcy. The fear of bankruptcy would scare other companies into saving money with outsourcing.

Many proponents of outsourcing will site facts and statistics that have been known to conflict with other facts and statistics. But the true proof lies in the stories of qualified individuals who were laid off, only to see their job replaced by a less qualified applicant for a fraction of the price. The same stories that inspired the modern-day version of Dick and Jane and numerous television shows including but not limited to The Simpsons's. And while statistics may be bigger, anecdotes are usually where the truth lies. "Natasha, 31, was earning \$90,000 a year with handheld computer maker Palm. After being flown to India to train people whom she later realized were her replacements, and despite promises made by Palm, Natasha was laid off. Natasha has been unemployed for six months, splitting her time between raising her six-year-old son, who suffers from sickle-cell anemia, and tech labor activism."

"Myra, 40, was working an IT job at WatchMark Corp. for two years. One day, her entire department was informed they would be laid off in one month and would train their Indian replacements in the meantime. If they failed to do so, they would lose their severance package. For the last 10 months, Myra has been actively searching for employment, and her unemployment benefits just ran out."

“LONGWOOD, FLA. – Michael Emmons had logged almost six years as a software developer when he and more than a dozen colleagues received bad news: Their employer was replacing them with workers from India. And instead of outsourcing the jobs to India, Siemens ICN had a plan that was every bit as controversial - importing Indians to do the work here. The Americans even had to train their Indian replacements in order to receive severance pay. "They told us this is the wave of the future, and we just have to go with the flow," Mr. Emmons says. The experience radicalized him. Once casual about politics, he is planning to run for Congress from Florida's Seventh District to fight anti-outsourcing.”

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### ***CORRECT APPROACH TO OUTSOURCING***

Yifan Li

As thousands and thousands of jobs, ranging from production of cars to computer programming, move offshore to foreign nations, many Americans are increasingly alarmed and outraged by what seems to be a phenomenon that takes away their jobs and hurts the US economy. Many politicians began calling for measures with a clear protectionist leaning in order to curb the outflow of jobs. However, Alan Greenspan, the revered former Chairman of the US Federal Reserve, warns such irrational and unreasonable measures, "In response to these strains and the dislocations [outsourcing could] cause, a new round of protectionist steps is being proposed... These alleged cures would make matters worse rather than better. They would do little to create jobs; and if foreigners were to retaliate, we would surely lose jobs." According to Greenspan and other top economists, many fail to see some benefits that outsource brings as well as the possible harms and unquestionable failure from using protectionism to cure the problem. It is also clear that in today's globalized economy, protectionist policies would fail because of the tight business connections among countries. Thus, the US should not deal with this issue by using methods to ban outsourcing of jobs, but help US companies focus on other new fields and ways that can improve profits and raise employment, so that we can keep benefits from outsourcing and at the same time continue to make our nation competitive.

As the main reason for US companies to move production abroad, outsourcing of basic production jobs saves the cost of production of goods. With a lower input, a company is able to pump up supplies and gain more profits. The McKinsey Global Institute, a study group focusing on international economic issues, estimates that for every dollar spent on outsourcing production of goods and services to India or China, US companies are reaping around \$1.14 in benefits. The companies, by hiring cheaper labor and utilizing the tax incentives given by developing countries willing to attract foreign investments, are on average saving 36% of cost of production compared to that in the United States.

Savings from these benefits for transferring production offshore has been projected to grow from \$6.7 billion in 2003 to \$20.9 billion in 2008, as outsourcing of production is projected to immensely increase in the future. Cheaper goods then in turn, benefit the vast number of American consumers by raising their purchasing power.

To a certain extent, efficiency and productivity is generally increased in outsourcing. Populous developing nations like China, India, and Brazil have large workforces; However, because the relative high demand for jobs, skilled workers in these nations have to fiercely compete for spots in the job market. American companies in these nations usually give higher paying jobs than local ones. Thus, those who work for foreign companies are the most skilled and advanced workers available and will produce goods and services with a better quality and efficiency.

Another great benefit for stationing parts of US companies abroad is that it helps to create a larger global demand for US products and services, both for now and for the future. Because more and more companies in China and India are producing services and goods to be exported to the United States, they need to use supplies and computer appliances from the United States during the production phase in order to make their products suitable for the US market. In addition to the benefits reaped from the lowering in cost of production, it is estimated that for every dollar spent abroad by US companies, companies there, in the host country for US investments, will buy an additional 5 cents worth of product from the United States. Also, because the focus of the world economy is now in developing nations in Asia, US companies are able to gain an advantage in marketing and distributing their products there in the future because of their current presence. US companies are also able to establish a reputation and name recognition early on, enabling them to make more profits later as the incomes in these Asian nations rise to higher level in the future.

Any protectionist policies to curb outsourcing will take away these benefits it is producing on our economy and go against a basic principle of economics, that companies move to wherever cost of production is the lowest. Policies should instead be focused at expanding sectors in high end technology where the United States has an advantage in. To a certain extent, outsourcing of certain jobs is an opportunity for US companies to restructure their role in the global economic web. The outsourcing of low-end, low technology content jobs allow US companies to focus on the innovation and design, intellectual assets that Americans have an absolute advantage on. Thus, outsourcing allows companies to utilize the limited resources they have at an optimal condition. In doing so, they will be able to hire more high-tech workers and engineers at home to support the growing need in the innovation and design sectors. This will result in a huge demand for innovative and able engineers that only American Universities are able to educate. More Americans will then be interested in the subject, and the cycle itself will ensure that we have future generations of Americans who can compete with their foreign counterparts in the high end technologies. In fact, the United States is going through this change at the very moment, Large IT companies are outsourcing jobs that do not require the absolute advantage of US workers abroad to create room and resources for the developments of new products and projects on which US advantage and power in innovation is a must. IBM has, in recent years, outsourced 3, 000 IT jobs abroad, but at the same time, it also has hired 4, 500 new positions at home. Other large IT corporations, like Microsoft and Oracle, are also following the same suit. It is estimated

that between 1999 and 2003, although 70,000 computer programmers lost their jobs, more than 115,000 engineers found higher-paying jobs. This phenomenon proves true the transition among US high-tech companies. As the IT industry matures and develops rapidly, programming has become a task in which US does not have an absolute advantage anymore, nor does it require the innovation unique to US engineers anymore, as foreign programmers are able to perform similar tasks much more cheaply and efficiently. Thus, hiring a huge number of programmers now sometimes lags expansion and growth of the US IT sector. By eliminating this costly baggage and devoting more to the high end developments, US IT industry will have another period in which new products and services will drive the IT industry to a new high, as they are worth immensely more than writing programs or producing computer chips in market value.

Any solutions to resolve the harms that outsourcing may have created must not overlook its benefits to US and world economies. The outsourcing phenomenon cannot be judged as a whole but rather must be evaluated sector by different kinds of jobs. An effective and reasonable policy should be one that does not focus on regulating low end and low technology content jobs abroad but should rather focus on protecting and promoting the US advantage in high-end technology and innovation, which truly determines the domination of tomorrow's globalized world economy. With the future battlefield in the global business world in high tech sectors, the United States should, in its policies toward solving the loss of many American jobs, focus on boosting the innovativeness of our economy even more, through a system which rewards innovation and inventions and protect the benefits from these for American businesses. The government should on one hand, invest heavily in developing a better system of primary education and provide more aid for students to receive post secondary education, especially in the fields of science and math. The government should provide aids to high schools around the nation to offer advanced placement courses in math, science, and computer science, as well as to students to take the AP exams in these areas. This will not only raise students' opportunities to be exposed to basic high tech knowledge and their interest in the subject, but will also prepare them better for science and engineering majors in college. Also, the government should pressure countries that neglect violation of property rights to protect the interest of US innovation around the world. With all these measures, the United States would truly transform itself into the innovation center of the world, leading the global economy with new ideas and products, which in turn, secure jobs for future Americans.

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## **RECOMMENDATIONS**

Bryant Cobb

Outsourcing is the transfer or sharing of manufacturing and decision making processes to an outside supplier. Outsourcing is a relatively new political issue that gained dominance in the 2004 Presidential Election when Democratic nominee Sen. John Kerry brought the issue to the forefront. John Kerry called the practice of outsourcing "treasonous." However, many economists at the Council of Foreign Relations and other entities have argued that outsourcing will actually help American companies to remain competitive in a new global marketplace. However, opponents such as Kerry say that outsourcing has contributed to job losses in the U.S. and have sought to legislate against the practice.

One of the main impetuses behind the recent trend towards outsourcing is the fact that many corporations are able to avoid many U.S. taxes by outsourcing. The countries that American corporations chose to outsource to have lower corporate tax rates than the 35% rate found in the United States. Due to the U.S. tax code, many companies have also been able to dodge U.S. programs that require U.S. companies that outsource to continue to pay taxes to the U.S. government. Under the current system, U.S. companies are able to keep their profits from the IRS by declaring that these revenues are to be reinvested overseas. The U.S. tax code allows many companies that place their profits under this distinction to either delay or forgo U.S. taxation on revenues overseas as a result of outsourcing. According to the nonpartisan Congressional Research Service, unremitted (or not taxed) foreign earnings reached 639 billion in 2002. Clearly, the incentive to outsource is not only to gain access to cheap labor but to also escape having to pay U.S. taxes. It has been said that by outsourcing to countries with cheap labor and low corporate tax rates such as India or Pakistan (tax rates in these countries can be as low as 20%) that American companies can save 30-70% in costs.

According to the Boston based consulting group Forrester, by 2015 outsourcing will have resulted in the loss of about 3.3 million jobs. Many economists believe that the practice of outsourcing has so far had a small impact on the U.S. job market and that it is not a cause of the recent dip in the U.S. economy in 2001.

In the context of the entire U.S. workforce of 130 million non-farm workers, the loss of jobs due to outsourcing has been relatively small. However, the affect of outsourcing on those in the manufacturing and information technology sectors that are most affected has been great. According to the Bureau of Labor Statistics, 31% of those who lost their jobs due to trade were not fully reemployed. In addition, only 36% of workers found jobs whose pay matched or exceeded their old wages. Instead of working to stop outsourcing, Dianne Farrell of the McKinsey Global Institute argues that, "leaders should focus on its distribution and help workers who are disproportionately hit." The U.S. currently has Trade Adjustment Programs to help those hurt by outsourcing. This program is federally funded and was established in 1974 to aid workers who lose their jobs or whose wages were reduced due to imports. The current program offers a variety of benefits including job retraining and stipends to cover costs while transitioning to new jobs. However, many have added that this program is not strong enough. The U.S. Congress should work to expand the reach of the program and to increase benefits to cover the clear deficiencies in the program. In the 110<sup>th</sup> Congress,

Members of Congress have already begun to deal with this issue. On March 28, 2007, the North Carolina delegation to the House presented the Trade Adjustment Assistance Reform Act (H.R. 1729) which expands eligibility and increased funding for trade adjustment retraining. We hope that Congresswoman Eshoo will sponsor this bill and others like it.

The other preeminent issue concerning outsourcing is what should be done to stop the proactive. We encourage the Congresswoman to realize that outsourcing is beneficial to companies and helps American companies to remain competitive in an economy that is continuing to bow to the pressures of globalization. However, we also hope that she will work to keep jobs in the United States. We propose that the Congresswoman not work to outlaw the practice but rather to provide tax breaks to companies that keep jobs in America. We also hope that she will work to increase taxes on companies that continue to outsource jobs and to close the tax loophole that has allowed American businesses to escape paying taxes on over 630 billion dollars.

It has been stated that 70% of workers in America will not be affected by the current boom in outsourcing. However, in order to make the affects of outsourcing in material, the Congress should work to fund emerging industries that will provide many new jobs to the American economy. For example, the Congress should provide funds to companies that are working on such endeavors as stem cell research or working to find alternative energy sources.

Outsourcing is a problem that needs to be dealt with in an appropriate manner, and the new Congress must be careful to balance the interests of corporations with those of labor and consumers. Congress should not go overboard to curb the practice. This could be devastating to American businesses. However, Congress cannot avoid the problem of outsourcing and must work to provide benefits to those who have been displaced due to the results of outsourcing.

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## **SECURITY**

### ***INTRODUCTION***

When examining security as a function of the innovation and competitiveness of any nation, it is necessary to view security as the base requirement for any country's ability to improve. Without security, no country can begin to innovate because there is no way to maintain the progress of that innovation, no means by which the discoveries and research of a country can be protected, and no protection for the population or the country. Security is a necessity because it produces the environment required for a country to evolve and grow and acts as a catalyst for new ideas and innovations. When delving into the topic of security, especially in the context of properly preparing a country for competitiveness in the world, some of the most important topics to examine are information security, the protection of data and information, human security, the security of individuals, airport security, the protection of the populace from threats perpetrated by means of airports or aircraft, and physical security, the protection of individual facilities from unwanted contact or infiltration. In making recommendations to solve our nation's problems with security, we attempted to specifically examine problem areas, rather than trying to improve on already cutting edge technology and systems. Many of our recommendations stem from making the public secure but also comfortable, and protecting the areas, such as ports, where very little attention has been given to vulnerability. A country must be protected; its citizens safe and comfortable and its vulnerabilities looked after in order to promote an environment of innovation and competitiveness.

### ***INFORMATION SECURITY***

Information security, the process that protects data from unauthorized access, is a critical issue in America today. It is concerned with the confidentiality and availability of various types of information, such as electronic or print. Since Representative Eshoo currently serves on the House Intelligence Committee, this report will focus on the availability of data in relation to intelligence. Recently, the United States has had major difficulties in two key areas: implementation of the Intelligence Reform Act and quality of analysis. Fixing these problems will not only keep the United States safe, but will also allow our country to remain competitive in the world.

Due to a lack of a single authority figure that could provide able leadership, there has been much confusion in recent years between the various government agencies regarding their jurisdiction in matters concerning intelligence. Following the September 11 attacks, the roles of the different members of the Intelligence Community in relation to data collection- the Central Intelligence Agency (CIA), the Federal Bureau of

Investigation (FBI), and the National Security Agency (NSA), to name a few - were not clearly defined. Therefore, in December 2004 Congress passed the Intelligence Reform and Terrorism Prevention Act. The main provision of the bill created a new position, Director of National Intelligence (DNI), as well as establishing a separate director of the CIA. On April 21, 2005, John Negroponte was sworn in as the first DNI. He was expected to oversee all the activities of the Intelligence Community and serve as the chief intelligence advisor to the President. Several of the DNI's powers include making the budget, commanding agents, and preparing analytical products. However, because the DNI is an unprecedented position, many questions remain on how to implement the Intelligence Reform Act. Legislators are unsure of how much power should be given to the DNI and how much should still be retained by the different intelligence agencies. One such example is budgeting for technical collection systems controlled by the Defense Department. Congress has stressed that it wants to act "in a manner that respects and does not abrogate" the Intelligence Community (Best Jr. 1). In addition, now that the DNI and CIA director are two completely distinct positions, issues regarding which of the two have more authority within the Intelligence Community have come to the forefront. A new DNI, Mike McConnell, was nominated on January 9, 2007. His arrival is sure to generate more questions about the Intelligence Reform Act instead of solving them (Best Jr. 1).

The second pressing problem with intelligence is the quality of the analysis that is being collected - especially in relation to international terrorism. While the United States has done a solid job in supporting military operations with substantial information, it has not been able to clearly analyze data from foreign terrorist groups. Over the past decade, the Intelligence Community has come under fire for critical mistakes in this area - most notably, the inability to warn the country of the impending attacks on September 11 and the false conclusion that weapons of mass destruction (WMDs) existed in Iraq. After months of extensive research, Congressional committees concluded these problems with intelligence mostly stem from a lack of language skills. Currently, there is a dearth of trained linguists in languages of interest such as Arabic, which frequently prevents data from other countries from being interpreted accurately. The quality of analysis is also hurt by "stovepipes." Oftentimes, government agencies are unwilling to share intelligence with one another because they want to keep their sources secret. This reluctance to cooperate leads to valuable information being wasted. Currently, America is investigating Iran and North Korea and their respective nuclear programs. If the government is to decide on a suitable course of action soon, then efforts must be made immediately to improve analytical quality (Best Jr. 11).

Clearly, the United States has a lot of work to do in intelligence reform. First and foremost, the issue with the implementation of the Intelligence Reform Act and the authority of the DNI has to be resolved. Power should be equally distributed between the DNI and the Intelligence Community with a system of checks and balances. Budgetary and acquisition powers should be split between the two parties, and though the DNI can make the critical decisions, his actions can be overturned by a majority veto among the highest-ranking members of the individual government agencies. As for the issue with analytical quality, legislation that would allocate more funds to the Intelligence

Community for the purpose of hiring a greater number of agents and training them more extensively in target languages like Arabic should be introduced. The amount of funds that should be allocated and the time when these funds will be allocated can be determined later. In addition, some type of protection should be set up so government agencies can share information without fear of revealing their sources to the public. For example, a secret court should be established through new legislation that will allow information to be exchanged in private. Doing so will hopefully eliminate many of the previous problems with quality of analysis. Information security should not be taken lightly, for it will be critical to helping the United States become a more innovative nation.

### ***AIRPORT SECURITY***

Securing our airports and borders is one of the most important aspects of maintaining our country's security. However, it is important to consider how far the government should go in terms of regulating security. The terrorist attacks of September 11, 2001 led us to believe that we did not have the appropriate and necessary measures for airport security. Airport security is a requirement in order to protect our airport system and aircraft from attack. It is disappointing that after six years, we still have major problems in protecting our airports in an innovative method without finding a way to keep from violating civil and privacy rights.

Following the attacks of 9/11 the 107<sup>th</sup> Congress quickly passed the Aviation and Transportation Security Act (ATSA; P.L. 107-71) "creating the TSA and mandating a federalized workforce of security screeners to inspect airline passengers and their baggage"<sup>1</sup>. Although the TSA has done a tremendous job to ensure the security of the passengers and the airports, many problems still prevail in our airports. The problem with the TSA is that it has too much access to personal data and private information of passengers and has a risky potential to violate the civil rights of the passengers. The TSA's new system of *Secure Flight* is a prescreening system that gives the TSA access to a lot of passenger data and even sometimes falsely identifies passengers. In addition, the Automated Targeting System (ATS), "a data-mining program assessing the risk of all international travelers"<sup>1</sup>, gives the TSA an exceeded amount of information that violates the privacy rights of its passengers. Finally, the most controversial decision of the TSA is the testing of the X-Ray Backscatter Technology (XBT) in several airports. The XBT, also "labeled "a virtual strip search" by the American Civil Liberties Union",<sup>1</sup> is a machine which can see through clothes and undergarments of screened passengers to detect explosives and other metallic substances. The XBT is a violation of civil rights since it displays the nude picture of a passenger and invades his/her privacy.

Using systems such as the *Secure Flight*, ATS, and XBT does not keep our country competitive and innovative and does not solve our country's security problems. It violates the democratic values of our country and does not meet our country's moral standards. The current TSA's accomplishment is merely a stepping stone towards achieving full security in the future. To solve these issues, first and foremost legislation should be passed to train and hire more translators in each airport where international

travelers will have an easier time communicating with the screeners. Legislation should also be passed regarding the usage of the ATS since it puts too much power in the hands of screeners. Finally, to keep our country not only innovative but also safe, the TSA needs a better Explosive Detection System (EDS) that would detect bombs or other explosive materials from the moment a passenger walks in an airport. More funding should be available in this research to create these explosion detectors that would create a safer airport and show our democratic country's innovative methods to the world.

To secure our airports is the best way to secure our country if we do them through reasonable means. Our country has achieved a lot in proving itself competitive and innovative among the nations of the world, but it still has a long way to achieve that goal. The fair treatment of passengers should be among the primary goals of legislators who pass acts involving the TSA. Discriminating people coming from "high-terror-risk" countries violates our democratic values and does not keep our country safe. To be innovative we need to show the world that we can do so with protecting ourselves and the rights of the travelers at the same time.

### ***HUMAN SECURITY***

Human Security refers to the security of individuals, as opposed to national security. It includes such topics as but is not limited to development studies, economic inequality, food security, health security, and human rights. The concept of human security emerged from the post-Cold War approach to strategic studies and globalization issues. This new concept is also widely used to describe interrelated threats associated with civil war, genocide, and population displacement. Human security is about the protection of individuals and communities from any form of political violence, as opposed to the broader topic of national security, which deals with the defense of the state from external attack.

There are several major problems which need reexamination by the US in order to attain effective dealing with human security. The issue of preparedness brought to light by Hurricane Katrina deals with policies that ineffectively warn and prepare the general public for disasters and policies that deal with the aftermath of disasters. Current gun control laws ask the question of the degree to which firearms should be regulated in relation to the causation or prevention of crime. The increasingly important issues of homeland security and immigration have been brought to the government's attention by issues including the treatment of non-citizens, deportation, and basic immigration policies that are causing chaos and controversy. Preparedness for natural disasters should not take attention away from the fact that our nation needs to also be prepared for health issues and economic issues, like infrastructure and public health. According to Human Security Online, "Four of the world's six regions have experienced increased numbers of conflicts since 2002, the last five years have seen a huge spike in the estimated death toll from terrorism, while negotiated settlements, which are responsible for an increasing proportion of conflict terminations, have worryingly high failure rates."

Three of the most important topics to focus on regarding human security include infrastructure, public health, and surveillance. All three will be getting attention in the

upcoming congress. Because Representative Eshoo serves on the House Energy and Commerce Committee, including the Subcommittee on Health, public health will be a pressing issue. Beginning with infrastructure, there are many solutions to better our nation's human security. To start, infrastructure: "consists of an array of assets necessary for the economic and social activity of the city and region, and the public health and welfare of its citizens" (CRS-6). Losing these assets would have unfortunate results; economic, financial, environmental, public health/safety, technological, and time would all suffer. To limit such consequences, the National Infrastructure Protective Plan (NIPP) has been put together. This plan calls for "...the setting of specific goals in terms of the security and recovery posture that the sectors wish to attain. It calls for the identification of assets that constitute each infrastructure and to screen these for criticality based on potential consequences" (CRS-18). This would be especially beneficial if it came through, especially during such times as now. It would better organize the goals of infrastructure. Also beneficial to current times would be some reform on public health and better preparedness. Better alertness by news personnel and emergency broadcasts would help in times of disaster. Also, quicker help for victims of such horrors as Katrina would make for a smoother recovery. Problems concerning public health/safety preparedness and response for bioterrorism give the Centers for Disease Control and Prevention reason to give grants to health departments to upgrade "...state and local preparedness for responding to bioterrorism attacks and other public health threats and emergencies" (CRS-10). Funding is extremely necessary to use for planning (preparedness), expanding surveillance for possible disease outbreaks, making labs more equipped and competitive, making better/safer communications between state and local public health agencies, and training in the education field. Stronger/stricter gun suppressing laws might make violence less prevalent on our streets, and tighter enforcement of such laws would be essential. Reforms on something like the Electronic Surveillance Modernization Act would prove beneficial to human security in our nation, and might provide for less crime. This act states that a corporation or an association which is a foreign power is not considered to be a citizen of the U.S. Therefore, surveillance is necessary. This brings up the issue of human rights/privacy issues versus human security. A reform on the Surveillance Act is essential to better human rights and human security.

### ***PHYSICAL SECURITY***

In order for America to maintain an atmosphere of innovation and competitiveness, the United States homeland must be physically secure. U.S. ports and international borders are two areas in particular that are directly involved in the country's safety. Ports and borders see astonishing amounts of commercial, private, and human traffic on a daily basis. The sheer volume of human and good exchange provides opportunities for breaching security, potentially bringing harm to the U.S. homeland. Since September 11, 2001, efforts have been made at all levels to prevent terrorists from entering the country and jeopardizing America's safety. This report evaluates the current status of U.S. port and border security and comments on current efforts.

## **Ports**

The U.S. maritime system consists of more than 300 sea and river ports with more than 3.700 cargos and passenger terminals.<sup>1</sup> With this number of access points, government leaders and security experts are concerned that terrorists could use the maritime transportation system to smuggle personnel, weapons of mass destruction, or other dangerous materials into the United States. Of the more than 9 million cargo containers that enter U.S. sea ports each year, only a small fraction have their cargo containers physically inspected by Customs and Border Protection (CBP). Physical inspection could include scanning the entire container with a sophisticated x-ray or gamma ray machine, unloading the contents of a container, or both.<sup>2</sup> In February 2007, the Port of Oakland in California, the fourth busiest port in the United States, implemented an RFID (radio frequency identification) system in order to track and monitor cargo trucks as they near the port and throughout the time they are within the confines of the port.<sup>3</sup> This increase in security is in response to recent U.S. Coast Guard security measures. This RFID tracking system provides the port information regarding any cargo the trucks may be carrying, according to the requirements of the Department of Homeland Security. The efficacy of this security procedure should be closely followed and encouraged if the data indicates stronger security at the port as a direct result.

Container security is an important aspect of port security. Inspecting containers once they have arrived at a U.S. port does not provide sufficient protection to the homeland. Additional lines of security in the supply chain of international commerce need to be established by moving part of the security efforts overseas.<sup>4</sup> An increase in interagency collaboration is needed to fully reevaluate maritime security. Focus needs to be placed on clear procedures for scanning a shipment based on its information as well as physically; an effort to establish international standards for ports, carriers, and maritime workers; reducing security vulnerabilities in transit; and the use of new technology to monitor the contents and movement of containers, such as the RFID system, from their point of origin.

Concerns regarding an increase in security requirements include but are not limited to the funding and the economic impact of any potential delays.

## **Borders**

Border security is difficult to sufficiently control due to the two overarching and sometimes conflicting goals it must accomplish: increasing security while facilitating legitimate trade and travel.<sup>5</sup> Many of the agencies involved in border activities are now located in the Directorate of Border and Transportation Security (BTS). This directorate has facilitated an increase in collaboration and information between the Bureau of Customs and Border Protection, the Bureau of Immigrations and Customs, the United States Coast Guard, the Transportation Security Administration, and similar agencies. This interagency collaboration is necessary for any strong border security program to succeed. Once this cross-department coordination has been established, an honest reevaluation of border requirements needs to occur. A blanket program will not meet the requirements of all of America's international borders. Clear requirements and agency

roles need to be established prior to an increase in security. Recent work has indicated that such collaboration has benefited and will benefit efforts at U.S. borders.

The physical security of the United States is an important aspect of America's future competitiveness. The country must be adequately secured to continue to fuel the innovative and competitive society that America knows so well. An increase in interagency collaboration and information-sharing as well as a reevaluation of security requirements is necessary for future American security.

### **CONCLUSION**

A complete and thorough examination of the United States' security problems and their possible solutions is the only means by which any country could possibly begin the process of becoming an even more competitive member of the world community because the environment necessary for innovation and competitiveness is one which requires the safety of a country and its people. Without security, our information, people, facilities and government are vulnerable to risk and the research produced not of the highest possible quality because it will have been found on a compromised basis. Compromised innovations are not competitive and, as such, a nation requires security, health and protection for its people and stability of its economy and government in order to properly bring new ideas to the world.

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Nikita Dodani  
Amy Saper

## HEALTH CARE

### ***ELECTRONIC HEALTH RECORDS***

Amy Saper

Electronic Health Records are defined as (according to the NIH):

*“a longitudinal electronic record of patient’s health information...including patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, radiology reports. EHR automates and streamlines the clinician’s workflow, generates a complete record of a clinical-patient encounter”.*

Currently, only 24% of providers use electronic records. The Center for IT Leadership estimates saving \$78 billion a year due to better information exchange through electronic health records. Computerized health systems store patients’ entire medical records, allowing doctors to more easily prescribe medication. This saves time for doctors, allowing them more face-to-face time with the patients. EHRs streamline healthcare by eliminating the chaos of handwritten doctor notes and they save time by largely reducing administrative work, as well as cutting costs. An estimate of about 25 cents per dollar spent on healthcare goes towards record-keeping and other administrative work. This would be prevented by using EHRs.

We need to standardize all of our healthcare systems in the US (there are currently over 100 organizations creating standards, as well as standardizing policies across state lines. Standards are particularly needed for clinical vocabularies, healthcare message exchanges, and the actual content and structure of the EHRs. In the US, Health Level Seven (HL7) creates standards about EHRs, particularly with data exchange. The American Society for Testing and Materials (ASTM) is used to create standards mainly for commercial laboratory vendors. There are privacy concerns associated with creating a large network that consolidates such enormous masses of information, but the makers of EHRs are working with HIPAA standards (Federal Health Insurance Portability and Accountability Act of 1996) to ensure that EHRs are safe.

I recommend introducing legislation to create a safe, standardized federal system of electronic health records.

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## ***COSTS OF HEALTH CARE***

Nikita Dodani

Compared to other developing countries, the United States spends more money on its health care than any other area. As the current situation continues, the rising issue of cost will continue to sky rocket. Due to the high cost of health care, according to research, the nation's uninsured has grown by 11.2% since 2000. Due to this quickly increasing number, the amount of health bills are increasing tremendously. In order to cure any further problems, with health care spending, that are plausible to occur, the government must act wisely.

Currently there are three policies being discussed: changing health care, changing the Federal Program and lastly changing the tax policy. The first policy would be a start: it is comprised of improving the quality and the delivery of health care services. With in this they may implement home visits and test programs to ensure the best efficiency. The second policy would be to implement a larger focus on federal spending for benefits. And the last would be to change the tax policy to make health care more affordable for individuals and families. It would also be implemented to assist in influencing consumer choices as they decide what plan they select for health care and insurance. The policies occur to be efficient but are still not in action. If the government were to take action and implement these three policies it will open up doors to further and much needed improvement. It will also drop the number of uninsured and the number of health bills.

### **Medicare**

Along with ameliorating programs currently in action, Medicare seems to be a common threshold needing further investigation. Medicare prescription drug coverage provides protection for people who have very high drug costs or for unexpected prescription drug bills in the future. Costs for Medicare and Medicaid are expected to grow significantly as the population increases. Medicare spending is projected to be \$372 billion in 2006, and the federal shares of spending for Medicaid and the State Children's Health Insurance Program are expected to be \$181 billion and \$6 billion, respectively. If the federal government were to implement the same actions as they are towards health care there would not be a shortage of Americans with the benefits of Medicare.

## **Medical Malpractice**

However, patients are not the only ones suffering under the costs of health care, so are the actual caretakers themselves- the doctors. In order for physicians to practice, most States require physicians to be covered by Medical Malpractice Insurance. This is in case the physician gets sued due to any negligence or if he or she commits an intentional tort. Negligence occurs when the physicians conduct falls below the standard set by law for the protection of the patients.

However, in the past few years, Medical Malpractice Insurance has become more and more expensive forcing physicians to limit the services that they provide and move their practice to a State where the insurance premiums are lower, or stop practicing medicine. Some specialists such as Obstetricians and gynecologist have experienced the largest premium increase e.g. according to the Medical Liability Monitor, from 1999 to 2004, an OB/GYN in Philadelphia might have seen rates go from \$32,236 to \$ 161,211 and a General Surgeon in Florida, from \$99,652 to \$277,241.

Insurance Providers claim that this "crisis" that is caused by high insurance premiums is because of excessive malpractice lawsuits, large jury awards as well as bad investment choices. All this creates a tragic impact on the consumer. They may no longer have access to their doctor because the doctor had to move to a different. Sometimes doctors may resort to defensive medicine in order to protect themselves from lawsuits, such as ordering additional tests or procedures, which in turn increases the cost to the insurance company which then increases the insurance premiums, which increases the health care costs. Another factor that influences premium rates is Investment choice. Premiums are collected today to cover losses that may occur in the future. In the meantime this money is invested. The return on this investment may increase or decrease, which may cause the premium to increase or decrease as well.

## **Recommendations**

The consumers, physicians and the insurance providers have been asking the government to help them out. To resolve this problem, Congress should pass certain bills that will establish a federal statute of limitation, restrict attorney fees, place a cap on the amount juries may award in damages, make investments more secure, and set up an account for doctors entering the field to assure some government assistance.

If congress were to ameliorate the current problems with healthcare, America will continue to advance and find innovative ways to become stronger and more efficient with cost. Once such problems are solved, America can climb to its utmost potential and competitiveness.

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*Executive Board:*  
*Kevin Chung, Chair*  
*Arjun Shenoy, Vice Chair*  
*Eric Heimark, Secretary*  
*Noah Azarin, Tech Officer*

## **INTELLECTUAL PROPERTY RIGHTS**

### ***PIRACY AND COPYRIGHT INFRINGEMENT***

*Kevin Chung, Chair*

#### **Background**

The term “piracy” represents the unauthorized reproduction or use of a copyrighted product. In the modern world, there are many pleasurable goods that are pirated for personal or commercial use – pirated items include unlawful copies of recent movie releases and illegal copies of the latest computer software. Piracy can also mean copyright infringement as well; pirates violate license and copyright restrictions when they illegally distribute goods. Although piracy covers all kinds of manufactured items, most people think of music and compact-disc media when they think of pirated goods – copyright infringement in the music and software industry has harmed the American economy on a very large scale.

Many Americans do not consider piracy to be a major economic burden on the United States of America. From a domestic point of view, Americans are somewhat in the right frame of mind: as of 2003, the U.S. maintains the lowest piracy rate in the world,<sup>1</sup> and pirated goods only belong to a very small portion of the American economy. Additionally, the United States maintains one of the lowest levels of piracy rates in the world. However, it’s hard for Americans to ignore the damages caused by pirated goods at home and abroad: in 2004, software companies such as Apple and Microsoft lost \$33 billion to illegitimate sales of their software throughout the globe.<sup>1</sup> Apple and Microsoft are obviously major movers and shakers in the American economy; as a result, piracy is a major hurdle in the economic growth of our nation.

Outside of the United States and other western countries, the problem of copyright infringement is much greater. Piracy dominates the sale of movies, computer software, and other commonly-copied documents in many places outside our borders. Oftentimes, many of these illegally-manufactured goods contain items that are copyrighted and patented by American businesses, such as Windows computer programs and various forms of American media. As a result, American companies suffer when it comes to the global battle against piracy and copyright infringement. One unfortunate example is seen our nation’s record companies: according to the Recording Industry Association of America, approximately eighty-five percent of recordings released don’t accumulate enough revenue to cover their costs, and the music industry loses about \$4.2 billion to piracy worldwide.<sup>1</sup> In order for American businesses on the international market to earn their full profit potential and benefit the economy, the United States needs to participate more actively in the war against global piracy. Fortunately, there are many

ways that the U.S. government can further enforce copyright infringement in both the domestic and global markets.

### **Problems/Issues**

So far, Congress has begun some attempts to quell the popularity of illegal file-sharing, one of the most common forms of copyright infringement in the United States. Congress has introduced and passed a variety of useful bills, but none have proven an iron grip against the illegal activities of pirates. The No Electronic Theft Act (H.R. 2265), passed by both houses in 1997, enables federal prosecutors to file criminal charges against peer-to-peer users who make a large number of songs available for download. Disappointingly, however, not one peer-to-peer prosecution has taken place in the United States,<sup>1</sup> which, so far, has made the law completely useless. Additionally, the U.S. government has attempted to attack the source of piracy by securing and regulating software and media used for illegal distribution. In March 2002, Senator Ernest Hollings, a Democrat from South Carolina, introduced the Consumer Broadband and Digital Television Promotion Act (S. 2048) in March 2002. The CBDTPA, which was supported by California Senator Diane Feinstein,<sup>1</sup> required all new digital-media devices to be encoded with security technology to prevent unauthorized copying of copyrighted works. However, the controversial act failed to win approval on the floor because many critics claimed that the bill violated individual rights.<sup>1</sup> As a result, the government has tried to suppress the growth of pirated digital goods in the country, but it needs to do more than simply create laws in order to stop the popularity of this illegal trend.

### **Suggestions/Solutions**

In order to reduce the harmful acts of copyright infringement at home and abroad, Congress needs to take matters more seriously and place piracy in the forefront of further legislation. Unsurprisingly, pirates are usually one step ahead of the government - some of the most basic rules against copyright infringement have only been passed in recent years, including H.R. 3632 (Intellectual Property Protection and Courts Amendments Act of 2004), and S. 167 (Family Entertainment and Copyright Act of 2005). Additionally, many important laws have not yet been passed in Congress, such as S. 2560 (Inducing Infringement of Copyrights Act of 2004), which allows copyright holders to sue a manufacturer based on its technology, as long as the product is being used for copyright infringement. Furthermore, many loopholes and gaps in the rules and guidelines of digital distribution need to be closed in order to prevent future pirates from working their way around punishment using minor ambiguities in the law. Mass-distributed P2P software such as Limewire and KaZaA, which contribute a major source of lost revenues in the music industry, continue to thrive because the law does not specifically prohibit their prolonged existence.<sup>1</sup>

In addition to the introduction of improved regulations, the House and Senate need also to focus on the ENFORCEMENT of new laws, because many Americans are simply not realizing the severe concern that the music industry has over the illegal distribution of movies, music, and software. More pirates need to be notified about their illegal activities, and more dubious software companies need to be targeted for possible violations of copyright law. Although Congress should enforce strict legislation on copyright infringement, it needs to be careful so as to prevent the frustration of American

consumers and companies by pointless burdens and useless costs. Too many rules and restrictions might end up maintaining or increasing the current levels of piracy in the United States, so the House and the Senate should carefully balance new regulation and stronger enforcement in its efforts to reduce copyright infringement.

Since our country is home to most of the new and innovative ideas that are generated in the world of pop culture and computer software, many forms of pirated goods originate in the United States. As a result, by further defining and enforcing copyright infringement laws in the United States, and by punishing those who dangerously harm the nation's economy, it will also be tougher for the rest of the world to copy America's ideas and innovations. This would result in exponential benefits for both the U.S. and the global economy, and a better recognition for the individuals and companies that transform the world through novelties and innovative inventions.

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### **DOMESTIC PATENT LAW**

Eric Heimark, *Secretary*

#### **Background**

Recent disputes regarding patent violations and intellectual property rights have risen into multi-million dollar lawsuits and massive settlements, gaining the attention of the national media. The number of patents filed domestically has risen sharply in the past few years: 409,532 patent applications were filed in 2005 according to the United States Trademark and Patent Office, an 8.1% annual increase. Yet, an increasingly globalized economy and accelerated technological advances will even further catalyze demand for intellectual property reform. Revolutionary innovations and emerging technologies in the 21<sup>st</sup> century will require novel approaches to patent protection, requiring the United States to work multilaterally with other countries in order to prevent patent abuse.

#### **Suggestions**

First, patent law needs to be modified to deal with an influx of patent trolls and lawsuits. Justice Kennedy in *eBay Inc v. MercExchange, L.L.C.* noted that "an industry has developed in which firms use patents not as a basis for producing and selling goods

but, instead, primarily for obtaining licensing fees.” As Justice Kennedy wrote, patents have become “a bargaining tool to charge exorbitant [settling or licensing] fees” to avoid injunctions. Since patents are transferable, certain law firms and small companies have been able to focus business on the enforcement of intellectual property rights instead of on products or services. And, it is important to note that patents have a myriad of advantages. Patents may increase market liquidity, facilitate legal access to intellectual property, and most importantly, promote innovation by providing incentives. However, the drawbacks of patent trollism, namely increased costs for companies to pay royalties and to monitor issued patents, may outweigh the costs. Patent trolls typically enforce patents only when large companies have exploited new products, e.g. BlackBerry Manufacturer Research in Motion in *NTP v RIM*, and threaten such companies with large injunctions. Even though these companies have not necessarily violated the patents, they are so threatened by injunctions that they are forced into high settlements. Patent law must be reworked in order to protect companies from forced settlements. Hence we suggest that Congresswoman Eshoo support the Patent Reform Act of 2005 (H.R. 2795), which seeks to limit access to injunctions, protect large companies, and reform US patent law to correspond with that of other countries.

Secondly, the United States government needs to work multilaterally with other countries to establish uniform patent standards and promote patent cooperation. Currently, companies seeking patent protection must file independently in each country that they wish to receive intellectual property protection. However, this causes considerable problems for company efficiency, since companies must search all countries in which they wish to receive a patent for patents that have already been filled before beginning to develop their products. Moreover, the United States depends on a “first to invent” patent system unlike other countries in the world. We believe that switching to a “first to file” system, as proposed in H.R. 2795, would avoid a lengthy and overcomplicated process to find who first invented something and bridge the gap between the United States and other countries. Furthermore, we believe that an international patent database should be established in order to ease the examination of international patents and prevent patent violations.

Finally, we suggest that patent terms be extended for medical advancements. Patent terms have fluctuated significantly throughout United States history, from as little as fourteen years, established by the *1790 Patent Act*, to the current twenty years from filing date or seventeen years from issue date, as outlined by the *1994 Uruguay Round Agreements Act*. However, even though both technology firms and pharmaceuticals receive twenty-year patent protection, pharmaceuticals have to invest substantially more funds to bring their products to market and also comply with strict Food and Drug Administration standards. Consequently, pharmaceuticals are forced to cover greater costs in the same amount of time as technology firms, leading to extremely inflated prices for drugs during the first two decades after they have been brought to market. The *Hatch-Waxman Act* attempted to compensate for the delay in bringing drugs to market due to FDA approval but failed to address the fact that pharmaceuticals and technology companies receive equal patent lengths even though pharmaceuticals invest far more in their products. We therefore propose that new legislation is drafted that offers the incentive of extended patent lengths to pharmaceuticals in return for price controls during that time so that new medicines are affordable and able to be utilized. Legislation of this

type would be beneficial to both the consumer and manufacturer, lessening the burden upon pharmaceutical companies.

The twenty-first century will be filled with new technologies and revolutionary products that will ease life. Globalization will expand access to the world market. However, it will be increasingly important that the United States government continue to promote development by protecting innovation in the ever-evolving world.

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#### **CONFORMITY TO INTERNATIONAL PATENT STANDARDS**

Arjun Shenoy, *Vice Chair*

As the ever changing world continues down the path of economic globalization, the subject of international patents and the US adherence to the patent laws of the rest of the world has come under scrutiny. Within the next few years, as businesses carry on towards expanding beyond just the simple borders of any country, intellectual property rights will become of paramount importance. The United States patent code was established with the idealism that intellectual property rights would allow for maximum inventiveness and progression of fruitful as well as necessary steps in the evolution of American society.

Intellectual property laws vary from jurisdiction to jurisdiction, such that the acquisition, registration or enforcement of IP rights must be pursued or obtained separately in each territory of interest. However, these laws are becoming increasingly harmonized through the effects of international treaties such as the 1994 World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). Nevertheless, the United States maintains several key differences in its procedure used to grant patents to individuals or corporations that must be fixed immediately if our nation is committed to adapting to the globalized society.

Primarily, it is essential the United States pursue global patent accords with nations such as China, India, Japan, the EU, and Canada in an attempt to lower the costs of an international patent regime. Increased mutual coordination among relative countries would mean that a patent application considered in one major Intellectual Property Rights office would be thoroughly evaluated in accordance with the stipulations outlined in international agreements and would therefore be valid in all participating countries. Harmonization would also increase the profits of US biotech, software and agribusiness companies by making the competitive differences between the US patent market and the international market less glaring.

The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs) established by the WTO created a comprehensive minimum standard for granting patent status yet the agreement still left much to be desired. Countries could

define their own standards for nonobviousness and novelty; aside from a few nations (Brazil and China), the relative standards set by members of the international community did not come up to par with US standards. In response, the United States launched a TRIPS-plus initiative to advocate global acceptance of a policy more fit for American standards. The policy has been widely scrutinized considering that, as an unintended consequence of tightening patent standards, developing countries that had been provided with leniency in regulating intellectual property for the sole cause of providing affordable medication and health services would suffer greatly. Since then, no major progress has been established other than a series of bilateral agreements between the US and other TRIPS countries. If the United States wants to see more conformity in international standards for intellectual property, it must abandon its calls for strict concessions regarding the enforcement of terms including compulsory licensing, experimental use, and second-use patents.

Another aspect of divergence from global conformity has been the United States' ineffective "first to invent" basis for granting patents. This system was created with the purpose of awarding the true "first" inventor rather than the one who filed for the patent the earliest. However, "the first-to-invent system requires the United States Patent and Trademark Office (USPTO) to undertake lengthy and complicated "interference" proceedings to try to determine who invented something first when claims conflict." Consequently, virtually every other nation in the world is on a "first to file" system. "A first-to-file priority rule does not permit one individual to copy another's invention and then, by virtue of being the first to file a patent application, be entitled to a patent. All patent applicants must have originated the invention themselves, rather than derived it from another." By moving to the "first to file" system, the US Government can eliminate troublesome lawsuits regarding the validity of already filed patents and amalgamation as well as uniformity in enforcing international patent law will become all the more simplified.

There is and already has been legislation brought forth to the floor of Congress to help eliminate many of the large differences in patent law within the United States. In 2005, Texas Congressman Lamar Smith introduced the Patent Reform Act of 2005 (H.R. 2795) which called for a movement to the first to file system and provided adequate protection and insurance for small business and individuals that their inventions would not be compromised by the extensive and rapid filing systems of more powerful corporations. It also advocated the limitations of court injunctions used by the government to take action against perpetrators of patent law in an attempt to allow parties to come to more mutually accepted agreements on patent licensing and royalties.

The world is changing and the United States must adapt to keep up in all aspects of technology, innovation, and competitiveness. Reforming a patent system that, by some calculations, has run its course is the first step.

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## **PHARMACEUTICAL AND BIOTECHNOLOGY PATENTS**

Noah Azarin, *Tech Officer*

### **Background**

Scientific patents act as a means of reassurance for innovators. By releasing their inventions to the public, the innovators gain a temporary monopoly on their work. This exclusivity ends with the content of the patent becoming public domain, usable by anybody. The system is beneficial to all, encouraging progress and allowing security to innovators. U.S. Code Title 35 § 102 ensures the validity of patents, and Title 35 § 103 ensures that further innovation is non-obvious and does not deliberately take away from earlier patents. Also worth mentioning are Code Titles 35 § 112, specification requirements, which ensures that the licensor validly understands the patent; and 35 § 271, infringement, the vital part of patent law that delineates what constitutes an infringement of a patent.

The three major cases presented in this report are *Merck KgaA v. Integra Lifesciences*, *Labcorp v. Metabolite*, and *Bayer AG v. Housey*. *Merck v. Integra* sets the precedent that any patentable material is usable without paying licensing fees, so long as the research leads to, or expects to lead to, an FDA-approved substance. *Labcorp v. Metabolite* sets the precedent that *Metabolite* can hold a patent on a process or deduction similar to scientific fact. *Bayer AG v. Housey* stipulates that as US patent law is not applicable overseas, any research or use that violates US patents overseas cannot be punished under US patent law, so long as no use or research violates US patent law on US soil.

### **Problems/Issues**

The field of Biotechnology and Pharmaceutical research is inherently challenging. Biological sciences are non-mathematics-based, which means that research is non-cumulative; being able to produce one drug grants no advantage in the production of other drugs. Research is roughly guessing and checking to achieve a compound, which has nothing to do with other compounds. Because further technology is in compounds and not processes, patents are non-cumulative, and a relatively small number of patents cover a great deal of earning potential. This makes patents more valuable. Research and development cost much more than actual production, making intellectual property protection important due to the ease of manufacture. Tools and resources are expensive and extensive initial capital is required to get a return on investment. All these factors contribute to an inherently unstable and difficult market to work in.

The institution within the industry itself also poses numerous challenges. As a pharmaceutical company gets returns and turns profit, it expands considerably, making taking on new challenges difficult; larger companies are less capable of taking on risks. Additionally, all companies involved in pharmaceutical industries have to take many factors into account when choosing to research a drug, including efficacy and safety. However, also considered must be marketability and comparisons with similar drugs. Such comparisons can discourage new growth in certain drugs that would not be lucrative. Our industry at home must also compete with companies overseas, despite non-integrated patent laws and lack of US patent capabilities outside our borders.

Patent law itself, in its interpretations, has caused problems in the biotechnology and pharmaceutical industry. Three court decisions have had a large impact on the industry. *Merck v. Integra* uses an idea that was originally meant to help the proliferation of generic drugs post-patent expiration and applies it to patented research tools. This discourages the development of research tools, as the only protection they are afforded are through the patent office. *Labcorp v. Metabolite*, not settled by the supreme court, nonetheless sets a disturbing example: that scientific fact can be patented. Although this case has not had wide-reaching ramifications, patenting fact is dangerous to the scientific community, and poses problems for developing companies trying to create new products. *Bayer AG v. Housey* demonstrates that US patent law has no jurisdiction overseas whatsoever. This means that patents on research tools and other substances can be overridden overseas so long as the manufacture inside US borders does not violate patent laws. This precedent is bad because it damages US patent interests.

### **Suggestions/Solutions**

Inherent and institutional problems in the biotechnology and pharmaceutical industry are difficult to solve. Within the scope of pragmatic solutions, however, lies patent law. To support the biotechnology and pharmaceutical industry, a few changes can be made that will produce improved results. First, the precedent almost established by *Labcorp v. Metabolite* must be suppressed. The ability to patent a scientific fact is dangerous and could stifle innovation for years to come. It will weaken the research community, hobble our medical facilities, and deaden forward movement in the biotechnology and pharmaceutical industries. Secondly, patents on drugs and research tools need to be more strongly upheld. The *Merck v. Integra* case shows us that patent holder rights are limited in their scope, and that control of a discovered substance is often insubstantial, at best. A loss of faith in the patent system's ability to protect innovation could and/or does result in less research in the pharmaceutical industry. Although some power companies may disagree with strengthening patents, patent strength ultimately is beneficial to the American economy. Finally, there must be international collusion with regard to patents. That American patents can be used outside our borders without punishment due to jurisdiction limits is preposterous. If international collusion cannot be sought, at the very least, the patent system can be strengthened to punish those who go overseas specifically to avoid it when within American jurisdiction. Overall, the patent holder's rights need to be strengthened in order to promote a healthy economy and foster research and development in the uniquely risky field of biotechnology and pharmaceuticals.

*Bonnie Lau  
Naomi Shachter  
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Siming Zhang*

## **EDUCATION**

The first step toward creating an innovative and competitive America is to improve the education system. The education subcommittee will address the issues of early education, higher education, the achievement gap, school food, and alternative teaching methods.

### ***EARLY EDUCATION***

Bonnie Lau

In the 1960s, the Head Start program was established to help the children of underprivileged children prepare for elementary school. Through this program, young children would learn social and cognitive skills that are very important to their development. Children in the program received health, nutritional, social, and educational services that contributed to their success in elementary, middle, and high school later on. The Head Start program stressed the importance of the parents' role in child development and education. In 1995, Head Start expanded to serve children from birth to age three, due to reports that show the importance of education in a child's earliest years of life. In fiscal year 2006, the Head Start program spent about \$6.5 billion on state, territory, migrant, and American Indian education projects (1). Head Start, a program of the United States Department of Health and Human Services, is federally funded. Today, the Head Start program has been extended from only underprivileged children to American Indian, migrant, and disabled children, as well as children in United States territories (5). Currently, the Senate is debating over the Head Start for School Readiness Bill, which will continue to provide underprivileged children with early education and social services.

In today's global economy, it is crucial for American children to begin their education before elementary school. Last year, a University of California study showed that children who attended preschool were ahead of students who did not in language and literacy skills (6). Preschool increases academic interest in children, which is motivation to do well in school and in college. In the preschool years, simple math and science concepts should be introduced to children to stir interest in passion in the math and science. Instead of learning from textbooks, preschool-age children need hands-on experience, so that they will find science and math fun and engaging. This produces more local American mathematicians and scientists, helping to solve the problem of outsourcing. Most importantly, a strong team of American scientists improves the United States' global competitiveness.

Public preschools ought to be included in school districts nationwide for all children of the preschool age. Currently, preschool money is given to children of low-income families and children with disabilities under programs such as Head Start and Preschool Grants for Children with Disabilities. Funding needs to be extended to all school districts because preschool is as beneficial to any child's development as elementary school, middle school, and high school. Congress should propose legislation mandating federal and state funding of preschools in all school districts. Most school districts offer kindergarten education through grade twelve education, but not preschool education. By making preschool public, all young children can access and receive an early education. Implementing this policy would be expensive, as new schools have to be built and new teachers hired. However, twenty-five years after such a preschool bill becomes a law, when the first children who attended public preschool established by the law begin working as engineers and physicists, one can clearly see the benefits of funding for preschool.

Legislation should be passed to require children beginning at age three to attend preschool. A new preschool attendance requirement forces families to seize the educational opportunities of the first years of life, a small but crucial time period in which humans develop their personalities. Children learn to speak, pick up habits, and form opinions before they reach their fifth birthday. A lifelong desire to acquire knowledge can be gently woven into young minds at the same time. Highly qualified and caring teachers are especially important to the success of such a preschool requirement law. If teachers and schools are able to ignite a passion for learning in young children inside – or, even better, outside – the preschool classroom, those children will grow into students who are interested in learning and motivated to do well in school – in elementary school, middle school, high school, and college. Passed alongside the aforementioned bill, young children can benefit from a head start in the development of their knowledge and love of learning, and families can afford to give their children the gift of early education.

Lastly, I recommend supporting H.R. 38 – the Math and Science School Readiness Act of 2007. If passed, this bill will improve the Head Start program by focusing on math and science. The passage of the Math and Science School Readiness Act will greatly benefit the fourteenth congressional district, which includes Silicon Valley. Young children will be taught skills such as “observing with senses, predicting, inferring, defining and controlling variables, working in teams, and communicating discoveries” (7). The bill will produce bright, innovative, and competitive scientists so that Silicon Valley will continue to thrive for years to come. I also recommend supporting the Senate Head Start for School Readiness Bill, which will continue to provide underprivileged children with early education and social services (8).

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## **HIGHER EDUCATION**

Siming Zhang

The quality of the American higher education system is innately linked to building a competitive workforce in the 21st century and strengthening the national economy. Our current higher education system consists of a diverse system of colleges, universities, vocational schools, community colleges, and other educational institutions. This system has for many years enjoyed global prestige and a rare degree of autonomy from the federal government. However, in the recent decades, our improvement in education has stagnated in comparison to the rapid educational gains of other nations. If current trends continue, the proportion of high school students who attain college degrees will decrease, and many highly-skilled jobs and industries vital to our economy will relocate to other countries. It is therefore imperative that we adapt our legislative policies to improve both the quality and accessibility of our colleges if we are to regain our role as the leader in educational innovation.

Higher education is becoming unattainable for an increasing number of students. One major barrier to entering college are tuition costs, which have risen faster than inflation and average incomes. As a direct result of mounting college costs, the average student graduated in 2004 with \$19,200 in debt, marking a 58% debt increase between then and the decade prior, even after accounting for inflation. To lower public tuitions and encourage private universities to do the same, current federal and state funding must be maintained and expanded. If we sacrifice education to provide a temporary expedient for the deficit problem, we will jeopardize our long-term economic health and undermine our leadership in the international community. Another way to broaden access to higher education is by providing more funding for need-based scholarships such as Pell grants, whose value quickly declines due to the rising college costs. For these reasons, I urge Congress to support H.R. 5, the College Student Relief Act, which will reduce interest rates on loans to lower-income students and alleviate student debts, and H.R. 990, the Pell Grant Equity Act, which will eliminate the aid bias against students attending low-cost colleges.

In addition to fiscal change, we must better prepare students academically for entering college. The high percentage of students taking remedial classes or dropping out is a clear indication that high school preparation is lacking. To help more students pursue and succeed in a postsecondary education, we should align high school curriculums with college expectations and admission standards, implement early assessment tests to inform students of their college preparedness, and combine K-12 and college databases to evaluate student transitions. By coordinating K-12 and college reforms, more students will advance to and complete a college education.

As the higher education system accommodates more students, the general quality of colleges must also improve. Over the past decade, literacy among college graduates has actually gone down, and college graduates seeking jobs are often ill-prepared and lack essential critical thinking and problem-solving skills. To improve the quality of colleges, it is first necessary for comprehensive data about colleges and universities to be made available to the public. Current monitoring of K-12 performance, such as through the NCLB Act, can be extended to colleges. Although each campus has its own assessment methods, state and national standards are needed so that policymakers can compare college performances, track progress, and identify successful teaching practices. The university accreditation community, which evaluates universities, can then modify their standards of recognition to better parallel college performance. By creating more complete information on college performance, state and campus officials will be held more accountable to reform, and students and parents will be able to make more informed choices in their selection of colleges.

The competitiveness of the American workforce depends on the investment we put in higher education. Despite the costs of supporting our education system, we must give a stronger commitment to educational reform if we hope to improve our standard of the living and keep our economic future secure.

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#### ***CLOSING THE ACHIEVEMENT GAP***

Naomi Shachter

The United States has seen itself fall behind globally in recent years, and much of this is due to education. We must educate children to create a globally competitive workforce. The most important step in assuring such a capable population is following through on the promise of equal education. For many years in the United States, one of the largest issues in education has been the achievement gap between students, both the one between black and white students, and the one between poor and middle-class students. A child at a public school with mostly minority or poor students has a one in

300 chance of earning high test scores, while a student at a majority white school has a 1 in 4 chance<sup>1</sup>. The American Dream promises that if a child works hard and makes good decisions, he or she can achieve, but this is not yet true. We do not have a level playing field. For many years the Federal Government has tried to address the problem, in different ways. Most recently, in 2002 President Bush introduced the No Child Left Behind Act (NCLBA), in part to solve this problem. The Act made a pledge to eliminate the gaps in a mere 12 years. This is a feasible goal, but not in the current situation. The problem has remained consistent since the introduction of the NCLBA. In order to close this gap, several things need to happen. Changes must be made to the well intentioned, but often-shortsighted NCLBA. More and better teachers must be available, especially in the lowest achieving areas. Additional steps must be taken to be able to promise every child in America a fair chance.

In order to close the gap, poorer students need to not only receive as good an education as the middle-class children, but an even better one. Currently, most of the schools that serve the poorest students are the worst and the best teachers go where they are needed least<sup>2</sup>. These teachers are allowed to choose where they teach, and most states offer no incentives to teach at the schools with the highest populations of needy children. We need to give such incentives to encourage teachers to come to these low achieving and needy schools. Additionally, teachers at these schools should have many, often training opportunities in order to stay current in the technological world, and to continue to become better teachers. Only with the best teachers can American students achieve their best.

Unfortunately, the No Child Left Behind Act has not delivered what it promised. In fact, when the bill was enacted 17 percent of eighth-grade students eligible for free or reduced-price school lunches were proficient in reading; the latest numbers fell to 15 percent.<sup>3</sup> Often, statistics show otherwise because NCLBA leaves huge gaps for misleading numbers. Under the Act each state can set its own standards of achievement, and increasingly states are lowering their standards instead of improving their levels of achievement. Mississippi has said that 89 percent of its fourth-grade students are proficient readers, which is the highest percentage in the nation<sup>4</sup>. In reality Mississippi has the second lowest score of any state -- only 18 percent of the fourth graders are proficient<sup>3</sup>. The Federal government needs to take tighter control of its laws and make sure that they are being used correctly. In addition, these levels are easy loopholes because they are so arbitrary and uninformed. More realistic goals based on actual achievement must be adopted. Finally, the No Child Left Behind Act has been tragically under-funded, by about 40 billion dollars<sup>5</sup>. Because of this, its proposals cannot take effect. NCLBA cannot deliver on its promise to its children without proper funding.

To implement these suggestions, several actions can be taken. Two bills proposed in the House, and currently in committee are H.R. 54: Teacher Recruitment Act of 2007 and H.R. 280: National Board-Certified Teachers in Low-Performing Schools Act of 2007. These allow for incentives for teachers to come to the neediest areas. We recommend that Congresswoman Eshoo co-sponsor both of these bills. When No Child Left Behind comes up for reauthorization, more realistic goals based on actual achievement by well

performing schools should be adopted. We emphasize the importance of fully funding the No Child Left Behind Act. Congresswoman Eshoo has already acted on this suggestion by cosponsoring H.R. 363, the Keep Our Promises to Americas Children and Teachers Act. We strongly support this bill and encourage the Congresswoman to continue these efforts.

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#### **ALTERNATIVE TEACHING METHODS**

Amy Zhang

There are many disadvantages to the traditional classroom, which become more noticeable as the student ages. This is because age correlates with independent learning according to Steve R. Terrell's research [2], which concluded that graduate students are more independently motivated than undergraduates. And according to a study [1] done on Cuesta Community College comparing online classes with on-campus classes, independent learners performed significantly better in online courses and significantly worse in on-campus courses. Thus, the traditional classroom, which is instructor-focused, inevitably involves lectures in which verbal and dependent learners participate, while the rest of the class passively learns, or may not learn at all. Granted, the study also shows that the traditional classroom involved more class participation, but it also acknowledges that participation increased to a significantly higher level in online classes with a small, teacher prompt to use the forums. Therefore, online classes promote just as much learning and participation (if not more to certain independent students) as the traditional classroom.

In addition, another problem with the traditional classroom is that classes have set times and places in which they are in session, which become a hassle to those who are not full-time students, but working and supporting the economy. Furthermore, the classroom teaching style is limited, and may not use multiple forms of media and reach a wider variety of learning styles. The strict structure incorporated into the traditional classroom allows less people access to education, especially those who are economically disadvantaged and unable to take time off from work for full-time schooling. Many of

these people have the resources to learn (at home, in the public library, etc.) at their fingertips, but just need something like an online class for direction and motivation.

A solution would be to incorporate more use of the current technology, especially the internet, in schools, perhaps in a mix with traditional classes. This is because online education has many advantages over the traditional classroom. It involves more active learning and less lectures, more active participation in discussions due to forums, and also gives better access to resources found worldwide. For example, according to a study [3] done by Canada's Athabasca University on two colleges in the US, students relying on online classes reported that they had experienced greater cognitive and explanatory learning. In addition, more courses would be possible without as much as a significant increase in funding for new rooms and class supplies. Furthermore, a greater percent of the nation would be able to receive the education they want that they could not before due to conflicting work hours or commute time. Lastly, teachers would also have these same advantages [4], as well have the ability to network with other instructors and overcome challenges together.

Congress has already lifted the rule that requires colleges to deliver at least half their courses on a campus instead of online to qualify for federal student aid, which is a start. However, Congress should encourage the growth of online-learning programs, especially in the fields of higher education, by offering to provide further financial aid for those who are mainly distance learners, who must supply themselves with any resources needed for their online classes. Additionally, it should promote a connection between public services such as libraries, computer labs, non-profit organizations that promote public internet (ie. The Public Internet Project [7]) etc., and schools that offer online classes. Lastly, in order to create a better organized school system so that educational progress can be better tracked, a structured, national internet database should be created on administration and testing results in various schools.

Overall, information and communication technologies are agents of institutional change that will increase competitiveness in the long run. It can be used to create spaces for questioning existing policies structures and for introducing new ideas, which would not be as possible with just textbook applications [6]. Therefore, not only does incorporating the internet into schools expand educational opportunities, it will also create a more forward-looking, active community. In conclusion, online classes will allow more people access to education, which will lead to a more highly skilled work force in a shorter amount of time, and higher wages for those workers. These people will better be able to meet the demands of the industry, which will result in greater innovation and competitiveness on part of the US in the global economy.

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## **Conclusion**

*Arjun Shenoy, Vice Chair*

When the members of the 14<sup>th</sup> Congressional District's Student Advisory Board decided to take on the challenge of exploring American "Innovation and Competitiveness" it was a direct allusion to each and every individual's curiosity and concern regarding the future of US economics and our places within the new, more globalized world. Though vast, expansive and at times incredibly speculative, the topic we chose opened our eyes to the environment of tomorrow; an atmosphere that will be dictated by our commitment and drive to succeed and reform as to better prepare ourselves for things to come. Perhaps the most genuine quality the Board has possessed over the last 7 months is our undying passion to learn; we may not all be of voting age but has not been a deterrent in the least for yearning to stay informed on the issues that will one day affect us. From modifying the education system to harmonizing our patent laws to international standards, every board member has researched to the point of expertise and come up with original, well versed suggestions to allow the leaders of today to understand the opinions of the leaders of tomorrow.

Finally, we would like to thank Congresswoman Anna Eshoo for providing us with the opportunity to share our thoughts and ideas about government and legislative policy; without her perceptive consideration for the needs of the next generation of Americans, none of this would ever be possible. We are reminded of simple yet powerful words of revolutionary Mahatma Gandhi when he tells us, "Be the change that you want to see in the world."

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