American Competitiveness: A matter of national security

August Cole

November 28, 2012



In Brief:

- Improving our country's competitiveness is an urgent national security issue
- The debate over our country's strength must include factors beyond military might in order to understand, and improve, America's true position globally
- U.S. rankings in global competitiveness surveys are falling
 World Economic Forum rank: 7th out of 144 for 2012-2013; U.S. was 1st in 2008-2009
- American competitiveness well into the 21st Century will be influenced by policy and business decisions during the next 24 months



- Six interrelated areas impact America's economic competitiveness:
 - Business climate
 - Infrastructure
 - National debt
 - Labor market and immigration
 - Defense industrial base
 - Education and healthcare
- Individuals and businesses together must take responsibility for solutions, just as government (federal, state and local) must, too

The following paper provides public sector & private sector decision makers with a new way of thinking about how they can improve America's national security -

by improving the nation's competitiveness.



This report is dedicated to the memory of Warren B. Rudman U.S. Senator (R-NH) 1980-1993

ASP Board Member 2006-2012

REDEFINING AMERICAN STRENGTH IN THE 21ST CENTURY

A mericans are always looking for an edge. Whether at work, at school or even on the road, an element of individual competition and achievement is woven throughout our society.

Yet today the country's ability to compete in a global economy, attract the world's brightest and nurture a functional political system is slipping. This weakness is now at a point where it threatens to erode the pillars upon which America's national security rests.

Evaluating America's strength is not a question of raw might. The U.S. military remains unmatched even after more than a decade of conflict in Central Asia and the Middle East. That cornerstone of American power is assured. Other crucial elements such as the national debt, an efficient and responsive political process, productive education system and viable defense industrial base are not.

Worry about each of these elements is not new. That focus, however, has not stopped decline. Yet a sense of alarm is already not enough to prompt action.

What is needed is to reconsider the interconnectedness of this deterioration in order to determine a viable path to returning America's competitive edge.

This reveals a true risk to the nation and leads to a reframing of how we evaluate America's national security. Doing so will help address what have been seen as disparate elements, that are, in practice, closely linked in both problem and solution.

COMPETITIVENESS FACTORS:

Business climate
Infrastructure
National debt
Labor market and immigration
Defense industrial base
Education and healthcare

To start, America's political and business leaders need a consensus that improving our nation's competitiveness is an urgent priority with much higher stakes than acknowledged today.



This does not mean simply seeing every problem as a security issue for easy attention. There is already enough of that.

We need to acknowledge that current policies and objectives in the public and private sector, taken together, dangerously undercut America's current and future global position through instability, inefficiency and risk.

Amid what can be seen as a period of troubling decline is opportunity.

In a simple sense, things are bad enough that there is a unique opportunity to reframe one of the fundamental questions our country faces: What makes us strong and safe?

This usually falls back on military might. That provides an incomplete picture and leads to poor policy

decisions, such as raising defense spending at a time of historic deficits. A more complete view of America's strength starts with defining national competitiveness.

A country's medium to long-term competitiveness is defined by a nation's ability to lead globally on the strength of its actions and ideas, to support a vibrant free-market system, to nurture a responsive democratic political system and to uphold a social contract that honors economic and social progress for its citizens.

This is a subjective assessment of factors, yet these elements can be reasonably agreed upon as being critical indicators of national success.

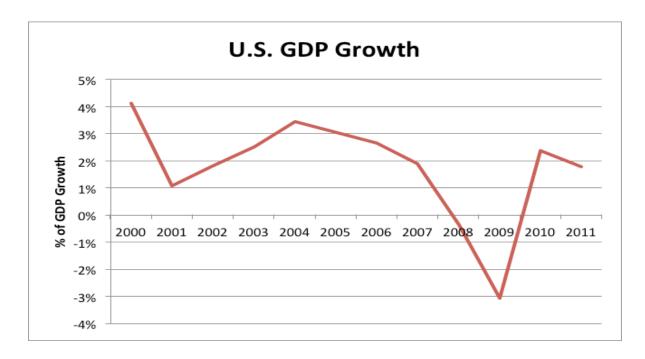
Importantly, they encompass some of the toughest challenges faced by everyone from White House policymakers to households across America.

Others may have additional elements of national competitiveness; their analysis is welcome as it will only improve the quality and depth of this needed debate.



Department of Education

This paper will show how each of these elements influences America's national security, interacts with the other elements, and identifies possible solutions that can improve America's competitiveness.



Source: Bureau of Economic Analysis

URGENCY OF ACTION

The signs of deepening trouble are impossible to miss and they come from all corners.

Among the most obvious were America's credit downgrades in 2011. In August of 2011, Standard & Poor's cut its U.S. long-term credit rating from AAA to AA+.¹ Just over a year later, Moody's Investor Services said it may downgrade its U.S. rating as well, citing stubborn debt politics.²

These were financial market evaluations based upon a cold-eyed skepticism of forces well beyond Wall Street. They underscored how America's credit-driven financing model is broken, political brinkmanship of sequestration threatens national security apparatus and makes politicians look like a problem, not a solution.

Persistent economic weakness is draining society and eroding America's economic credibility around the world. More troubling, the poisoning of political discourse makes solutions in Washington essentially unachievable for the simple reason that compromise is a political liability.

S&P Peer Ratings

Canada: AAA
France: AA+
Germany: AAA
United Kingdom: AAA
United States: AA+

Certainly, all countries have shortcomings, and many have high public debt. Yet no other nation has had the expectation, internally and externally, at the end of the 20th Century that its leadership and primacy would be a constant. After the opening decade of the 21st Century, that no longer can be said. The very notion of such uncertainty around America's future should be enough to galvanize action to address these problems, but it has not.

"At some point, financial insolvency at home will turn into strategic insolvency abroad," said former Defense Secretary Robert Gates in September at a conference in Washington.³

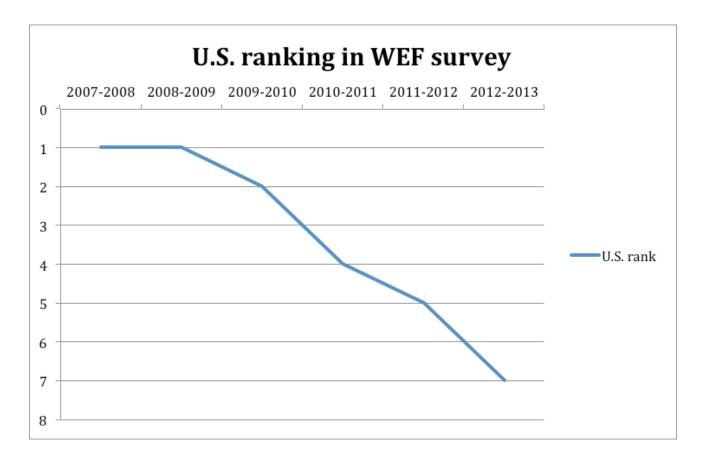
"At some point, financial insolvency at home will turn into strategic insolvency abroad" former Defense
Secretary Robert Gates

One closely watched ranking of national competitiveness and a telling indicator of a narrative of America's competitive decline comes from the World Economic Forum. Competitiveness, as defined in the group's report, is "the set of institutions, policies, and factors that determine the level of productivity of a country." ⁴

The group's 2012-2013 annual publication, The Global Competitiveness Report 2012-2013, ranked the U.S. 7th, falling from prior years. As recently as 2009, the U.S. was ranked No. 1, a position held today by Switzerland. In last year's survey, the WEF listed the U.S. 5th out of 144 countries. In the 2010-2011 report, the U.S. was 4th.

Among the factors contributing to the ranking, government budget balance as a percentage of GDP (140th) and general government debt as a percentage of GDP (136th) revealed that some of America's challenges are easily identifiable yet all the more intractable for political reasons.

The study also looked at "the most problematic factors for doing business" by surveying executives.



Source: World Economic Forum Global Competitiveness Report 2012-2013

The most commonly mentioned factor: inefficient government bureaucracy. The next two were tax rates and tax regulations.

Is a No. 1 ranking a worthy, or even achievable, goal? With a top ranking less than 5 years ago, it is. This year's report put Switzerland atop the list, the same position as last year. The next large country was Germany, ranked 6^{th} , the same as last year.

The rankings offer a meaningful yardstick, without being the goal itself. They show a relative decline, and that is worrying.

If next year's report reveals the U.S. to have fallen out of the top ten in the wake of a budget sequestration political meltdown, the blow from one report will be lost amid the certain crisis that comes with that scenario.

It also means there is that much more distance to climb back toward the top.

BUSINESS CLIMATE

Why is this a national security issue?

While America's military dwarfs its rivals in spending and technological prowess, the U.S. economy does not enjoy that same position.

During the past ten years while the U.S. focused its economic and political effort on battling economic collapse in the financial and auto sectors, China, India, Brazil and Russia grew. Economic tremors rattled the BRICs, and currently China's growth looks rockier by the month, but they have been rising all the same.

The perception of that rise is as important as the economic data that shows their growth. They also continue to draw investment. China, for example, received more foreign direct investment during the first half of 2012 than any other nation – including the U.S. which is usually atop such lists.⁵

If a thriving economy is a pillar of America's strength, the private sector's health and performance is a critical component. It is essential to the nation's overall vitality and resilience. So too is a vibrant economy central to the nation's identity and sense of purpose, which has been tested in recent years during the worst economic environment since the Great Depression.

The economy is anything but a picture of health. What's troubling is the potential for long-term unemployment and a growing pool of Americans who are no longer looking for regular work.



There is a lot for executives to worry about. Even measures that should soothe worried bosses are in fact no source of calm. Take the U.S. equity markets, which have been performing well in recent months. There is a sense that stock prices are up because money has nowhere else to go; interest rates are so low that keeping cash on the sidelines with effectively zero return is unappealing.⁶

There are other big-picture risks out of business executives' hands, such as the impact that a conflict with Iran would have on global energy prices.

How the international system, and America within it, weathers this rocky period will also depend on multilateral trade organizations as well as successful bilateral trade deals. One of the most important is the framework the U.S. uses to deal with China in such matters.

The latest U.S. suit filed against China through the World Trade Organization shows an increasingly aggressive posture when it comes to one of America's largest industries: automobiles. While many dismissed the suit as a political move by the Obama administration designed to earn support on election

day, China can interpret it as a very clear signal that the U.S. is going to take measures to protect industries from Chinese subsidies, particularly where the U.S. feels it has a competitive edge globally.⁷

Now that Russia has joined the WTO this past summer, there may be new export opportunities for U.S. firms, especially those involved in energy and heavy industry.

First, however, the U.S. must grant Russia most-favored nation status, which requires Congress repealing a Cold War-era law that was tied to Russia's restrictive emigration policies.⁸

Another domestic factor includes the regulatory environment, which business groups say hampers growth. This adds yet another front to the political fight in Washington over the role of government and what impact business should have on shaping its own fortunes, perhaps at the expense of larger society. Environmental regulations are one such example where near-term gain for business crashes into long-term liabilities for society.

Battles over financial sector reform, clearly needed after the collapse of Wall Street in 2008, showed how policymakers pursuing sensible policies that would prevent further calamity can be hounded into ineffectiveness by political foes.

Other areas offer what should be easier opportunities to help the private sector, such as lowering the corporate tax rate. If doing so would incentivize America's biggest corporations to repatriate profits and bring more capital back home, the potential loss of that revenue would be worthwhile.

America's tax rate on corporations up to 35% stands as the highest globally, yet ample loopholes allow companies to pay far less.⁹

Closing those loopholes and lowering the overall rate could defuse some of the political tension around the issue and offer business a simpler and more transparent way of paying taxes.

When discussing America's competitiveness, much of the debate is framed by how business sees its near-term future, not just the conditions of today. A Harvard Business School survey of some 70,000 alumni on U.S. competitiveness found growing pessimism among the surveyed executives that competitiveness would deteriorate during the next few years. Those surveyed also forecast "severe pressure on American living standards."

How does this interact with other elements?

- There are a lot of political points being scored saying otherwise, but the private sector depends on the public sector enormously. That is why the potential weakness in American society is underscored by the deterioration of America's education and healthcare systems.
- The fiscal burden of the country's debt, and the politics of sequestration particularly, are an overhang on almost all businesses. Further, the frustration of finding some kind of solution only ratchets up the pessimism that there are political solutions to the country's larger structural problems.

• Specifically, two areas that need to be considered in the context of the country's business climate are healthcare and education.

What are some solutions that can improve American competitiveness?

- One of the hardest things to change is expectations. But that is needed as the private sector redefines its role in 21st Century America. Business leaders need to adopt a mindset more in line with the long-term good of employees, customers and shareholders.
 - A dialogue needs to begin among the business community that examines what steps can be taken to balance the urgent needs facing the private sector with the long-term growth and stability of American society.
 - This is something that should happen wholly apart from the political process, while exploring partnerships with state and local government.
- Whether part of a larger deal over the deficit or part of a pieced together **fiscal overhaul**, settling specific fights in Congress over issues such as the corporate tax rate will be important to demonstrate that compromise, and progress, is possible.
 - Within this fiscal year, Congress should enact legislation lowering maximum corporate tax rates.
 - There also needs to be concurrent action on **closing corporate tax loopholes** over a more drawn-out time frame, such as three years.
 - A particular focus should be on **repatriating offshore income**, which some estimates put at as much as \$1.7 trillion.¹¹
- Action, particularly in Congress, speaks louder than words particularly overseas.
 - Moving forward with international agreements, such as ratifying the **Law of the Sea Treaty** this year, will go a long way toward showing the international business community that the Congress remains committed to international trade and understands its importance in positioning America for growth in the 21st Century.
 - Granting new WTO member **Russia permanent normal trade relations status** would be another similar step.

INFRASTRUCTURE

Why is this a national security issue?

The American interstate highway system is an obvious example of how infrastructure is closely intertwined with the country's national security, economic and social transformation during the latter half of the 20th Century.

The highways were originally sold as the "National Interstate and Defense Highways Act" in 1956 as a critical way for the US military to respond in case of attack. Men, materiel and heavy weapons could be shuttled quickly around the country on wide roads that would also allow peacetime motorists to move around the country like never before.

During that era, America's highways stood apart. Today, the World Economic Forum's competitiveness ranking of 2012-2013 puts the U.S. as 20th out of 144 nations for its overall infrastructure ranking.

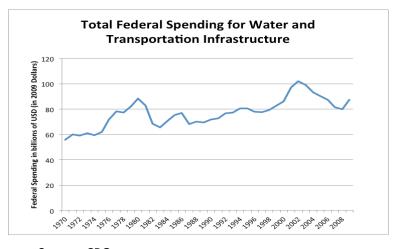
Infrastructure is often used as a catchall term for many of the government-built staples of modern American life.



Washington State Department of Transportation

Yet to appreciate the importance of infrastructure, and its role in determining America's competitive position in the world, it is important to open the aperture and see the interconnectedness that links these elements to one another and ties them to America's competitive position. Instead, infrastructure should be seen as the large network systems that enable a modern economy to function.

Infrastructure enables the movement of goods, people, energy, and information around the country. Much of it is publicly funded, but it need not be. Another common element is high upfront costs, which reflect decades of planned use.



Source: CBO

In the 21st Century, infrastructure is as closely linked to America's security and prosperity as highways were during the Cold War, but in newer, more interconnected ways.

The threat of direct attack by another sovereign nation on U.S. soil is currently remote, but today's infrastructure is just as vital to the country's ability to withstand attack, be it a cyber strike on the financial system or a biological attack on a major city. Moreover, these are intertwined elements. Just consider the Internet and network bandwidth needs of a major metropolitan hospital grappling with the aftereffects of a bioweapon in an urban area.

Casting such threats aside, under-maintained infrastructure is already a clear threat to the nation.

Seeing how electrical grids or public transportation are easily overwhelmed by extreme weather (that is made more likely by climate change) makes this clear. Flooding, storm surges and high winds regularly wreak havoc on communities.



These onslaughts are no longer once-in-a generation events. This is a concern for both the national security community and the private sector. Disruptions to leaner supply chains and fast-paced distribution networks have devastating financial implications well beyond the original disruption of a flood or hurricane.

America's competitive position globally is closely linked to its energy infrastructure.

The U.S. power grid is built for the "hub and spoke" system of energy production in the 20th century, with a big power plant in the center and customers surrounding it.

This style of grid can't handle large amounts of renewable power, which is expected to provide an increasing share of energy.

Renewable power is variable, which requires a grid to be able to flow power both ways. It is also distributed, coming from geographically different sources such as wind farms or solar power sites, which means that power does not come from one central node.

This sort of 21st Century power grid – a "smart" grid – is more resilient and flexible than the outdated grid of today.

Compounding these challenges is the political element in infrastructure investment.

Too much funding is "earmarked" by lawmakers, which takes decisions away from merit-based processes and awards it to entities that are closely tied to politics. This also creates a bias towards new projects and away from maintaining or improving existing ones.

This is one reason why the large amount budgeted in the stimulus did not do as much as it could have to actually improve U.S. infrastructure. The stimulus spending was biased towards "shovel ready" projects, not the ones most in need of improvement or overhaul.

All this is taking a heavier and heavier toll. It is something that is seen and experienced in everyday American life.

It is no surprise then that the American Society of Civil Engineers in 2009 gave the U.S. infrastructure a "D" on its report card and tabulated underinvestment at \$1.76 trillion. They estimated, during the five years from 2009-2014, there is a need for \$2.2 trillion in infrastructure investment, but only \$974 billion estimated in actual spending.¹²

The U.S. has earned a steady "D" in the ASCE's eyes, earning grades in that range since the group started putting out reports in 1998. All the while, U.S. infrastructure investment needs have grown. In 2005, the estimated need for spending over five years was \$1.6 trillion.

The 2013 report from ASCE is unlikely to show any improvement despite the federal government's stimulus providing \$71.76 billion in infrastructure investment funding.

Roads and bridges are among the most costly to bring up to a higher standard, with a more than \$500 billion shortfall in expected funding compared with the \$930 billion ASCE estimates is needed to be spent over five years.¹³

A clear case for a concerted private and public partnership effort to improve U.S. infrastructure exists with electrical grid, as well as air travel infrastructure.



Department of the Treasury

The World Economic Forum's latest competitiveness index ranked the U.S. 33^{rd} for its quality of electrical supply infrastructure and 30^{th} for the quality of air transport infrastructure. Both legacy systems have 21^{st} Century solutions that need to be adopted. "Smart grid" networks are an essential step toward smoothing the way for more renewable energy production.

Updating the air traffic management system, which struggles to cope with the heavy use of America's skies by commercial aviation, to "NextGen" standards and practices makes sense for long-term economic and environmental reasons, even if there are high up-front costs.

How does this interact with other elements?

- The business climate in the U.S. depends on reliable infrastructure, particularly energy. A faltering electrical grid gives companies a real reason to think hard about establishing or expanding manufacturing facilities.
- Regional transportation network disruptions caused by extreme weather events have immediate and
 long-term financial repercussions in the private sector. Just-in-time business methodologies depend
 upon ready access to passable and open roads year round, and decaying roads and bridges are more
 vulnerable to unexpected problems that can cause financial losses.
- A fiscal plan, or an outcome like sequestration, will set the tone in Washington for what will be manageable with big public infrastructure projects. With either outcome, continued public and private sector access to debt markets will be a crucial link toward improving infrastructure.

What are some solutions that can improve American competitiveness?

- Understanding that infrastructure's vulnerabilities are addressable is an important step. Following up that appreciation with funding is critical.
 - By some estimates, the value of spending \$1 on preparedness measures can be worth \$15 in help after a disaster. 14
 - A change in mindset is needed so that accountability is tied to infrastructure preparedness, rather than post-event aid and assistance.
 - This is true for both the private sector, which deserves to have a frontline role in determining what makes the most sense with **preventative measures**, and for politicians.
- Overhauling roads and bridges is a daunting prospect with often muddied funding streams.
 - One step toward raising revenue is to **increase the gasoline tax**, which could be applied toward improving both the interstate highway system and mass transit options in suburban areas.
 - The gasoline tax was meant to "pay for" the building and maintaining of the interstate highway system. At 18.5 cents per gallon, it has not been raised since 1993 and cars are becoming more efficient, using less fuel.
 - Raising the per-gallon tax in a graduated way over five years is a sensible, though admittedly politically challenging, measure.
- A further way to upgrade America's infrastructure is for Congress to create a "National Infrastructure Bank" that could bring private sector funding to help upgrade infrastructure.
 - It is not clear that the public sector will ever be able to raise enough capital to bring America's vast infrastructure to good repair, a National Infrastructure Bank would be able to tap the large amounts of latent private capital that is looking for long-term, guaranteed, steady returns.
 - An Infrastructure Bank would also address the problem of politicized infrastructure priorities
 by removing a significant funding stream from Congressional Appropriators and dedicating
 it to a bipartisan board.
 - The EU has a similar institution, as do many states, but there is no federal institution. Since 2007, bipartisan legislation to create an infrastructure bank has been introduced in every Congress, and the Obama Administration supports it, but appropriators have blocked consideration of it up to now.

NATIONAL DEBT

Why is this a national security issue?

Of all the drivers of change in the American political and economic system, the record level of federal debt is the most powerful. This is a point of view popular among America's military leadership, who themselves understand the systemic risk that the \$16 trillion deficit presents to the country, and to the armed forces.

The debt burden is also a political force – and an insidious one at that. An optimist might say that if any positive actions can be gained from this, it is that the debt debate is now forcing a fundamental examination of what the role of the U.S. government is at home and abroad.

The troubling reality is that while there is a consensus that America's debt is too high, nobody is able or willing to tackle the problem with the kind of bipartisan partnerships needed for challenges of this scale.

The best effort so far, the National Commission on Fiscal Responsibility and Reform, known as the Simpson-Bowles commission, offered a path toward tackling the national debt nearly two years ago.¹⁶

Yet lawmakers failed to seize the opportunity, leaving the country on the doorstep of automatic federal budget cuts of more than \$1 trillion.

"I believe the single, biggest
threat to our national
security is our debt, so I
also believe we have every
responsibility to help
eliminate that threat"
former Chairman of the
Joint Chiefs Admiral Mike
Mullen¹⁵

Federal Debt Outstanding Held by the Public as a Percentage of GDP



Sources: U.S. Treasury, Office of Management and Budget; Congressional Budget Office; Bureau of Economic Analysis.

For all the argument over what to do next, the agreed-upon status quo approach of borrowing at the same pace to sustain all of this is not going to work.

The debt is a national security issue for three reasons.

The first reason involves the nature of the political debt debate itself, which has dented America's credibility on the global stage. America's political leaders look ineffective when dealing with what is perceived as a national problem with clear global implications.

The run-up to the November election hurt the ability to take action on new

policies as the results of the various contests, including the race for the White House, will determine America's next move. Yet if there is a sense of crisis in Washington, there is similar teeth-grinding in Europe when looking at America's fiscal health.

"Ahead of the election in the United States there is great uncertainty about the course American politics will take in dealing the U.S. government's debts, which are much too high," said German Finance Minister Wolfgang Schaeuble in September. "We need to remind ourselves of that sometimes and the global economy knows that and is burdened by it." ¹⁷

Looking weak and ineffective is the same thing as being weak and ineffective, particularly in the world credit markets where national governments are key players in shoring up the global financial system.



Source: U.S. Treasury Department; figures as of December 2011

Second, bonds are, of course, an investment.

The owners of American debt, notably China as the largest holder of U.S. bonds, have an interest in helping hold up the value of their assets.



Department of the Treasury

Yet China's potential leverage in the credit markets can't be underestimated with \$1.15 trillion in U.S. bonds. Nor can that of Japan, which holds \$1.06 trillion.¹⁸

Ownership of those assets is one thing, but the U.S. requires the continued purchasing of American debt. During a turbulent economic time, U.S. bonds remain appealing but the credit ratings agencies' attention to America's cranky and increasingly ineffective politics reveals that future appetites for U.S. debt might be sated. After all in January 2001, China held only \$61.5 billion in U.S. debt.

The third reason is the direct impact on the financing of the country's national security budget. Without the ability or will to borrow through the sale of bonds, America would have to field a radically smaller military and undergo profound soul searching as to how important a big military is to the country's security.

Even with U.S. forces out of Iraq and exiting Afghanistan, America's federal government requires borrowing on a scale that is unprecedented since World War II.

While direct wartime spending may fall, the cost of publicly funded healthcare and Social Security are rising.

While American power is made up of myriad elements beyond its armed forces, the U.S. military is going to be a focal point for savings because the defense budget accounts for about half of the country's discretionary spending.²⁰

Should the debt continue to climb, just paying the interest will begin to cut into defense spending. By 2020, interest on the national debt could hit \$1 trillion.²¹

How does this interact with other elements?

- The national debt crisis impacts every aspect of American life, and every pillar of America's competitive position. Politically, it is an existential issue.
- Defense spending, the largest component of discretionary spending, is certain to be cut either through sequestration or ongoing reductions.
- For healthcare, the long-term viability of Medicare and Medicaid is at risk without further borrowing that will be politically difficult.

What are some solutions that can improve American competitiveness?

- One of the most important steps toward solving the national debt is one of the cheapest, but the most difficult: **compromise**.
 - A **long-term agreement to balance the federal budge**t in a series of graduated steps by a tobe determined target date is necessary.
 - It will require a 1960s "Moon Shot" type approach to building up **national will** to accomplish it, particularly getting an agreement on target figures and dates.
 - At the same time, it is imperative to be **mindful of the economy's near-term needs** in order not to choke off any hope of a recovery.
- A **commitment to U.S. economic growth**, and the tax revenue that goes with it, is crucial to borrowing less over the long-term and moving closer toward balancing the federal budget.
 - One of the perils of an austerity-led response to the debt situation is that such approaches will likely to crimp economic growth, and therefore hurt tax revenue.
 - Europe's economy offers such examples with Spain and Greece. Policymakers and Congress need to be mindful that they are after a long-term goal of debt reduction that will only be reached if they make a series of sensible and balanced near-term fiscal policy decisions that foster economic growth, and improve government tax revenue.
- Demonstrate to allies and investors, including debt owners China, Japan and Persian Gulf states, that
 America can rehabilitate the political process without causing further damage to international
 confidence in the U.S. political system.
 - America's creditors need assurance through visible signs of political compromise that their investments in U.S. debt are viable over the long term.
 - The returns China or Japan get from their holdings are measured by more than interest payments, such as keeping the Pacific stable, but ultimately the U.S. cannot forget that the more than \$2 trillion in debt held in the Pacific region is at its core a financial investment.



LABOR MARKET AND IMMIGRATION

Why is this a national security issue?

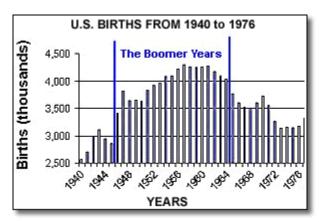
America is a country of immigrants. We are taught this syllogism as early as pre-school; however, it is slowly losing its root in reality. Immigrants to America are faced with navigating a complicated bureaucratic process that is slow and ineffective.

While approximately 13% of the population is foreign born, the barriers they face are getting higher.²²

Some foreign workers are forced to wait as long as 10 years to obtain their green cards.²³

As a result of U.S. immigration policies, immigrants and foreign students are increasingly deciding to seek out residency in other countries or to bring their skills back home.

Currently, the United States faces a projected shortfall of around 230,000 qualified, advanced-degree science, technology, engineering, and math (STEM) Alongside this, the U.S. ranks 27th among developed nations in the proportion of college students receiving undergraduate degrees science and engineering.24 in



American students are not going to make up for the projected STEM shortfall.

This shortfall will hurt nearly every industry in America, with the most at risk groups being manufacturers, defense contractors, health care and pharmaceutical groups, and tech companies.

With this in mind, these groups are seeking solutions to boost STEM growth in America. As an example, General Electric, Alcoa, Boeing, and Lockheed Martin are providing \$6 million to help veterans learn high-tech manufacturing skills.²⁵

However, these efforts won't nearly be enough. This fact, when viewed alongside the potential effects of the Baby Boomer retirement, paints a grave American future: the American labor force is falling behind when it comes to science and technology.

Without a qualified labor force, American STEM industries could stagnate; which threatens the United States' military strength, the competitiveness of its economy, and even its infrastructure. While deeper solutions must be sought, an immediate fix would be to re-evaluate the American immigration system.

Immigration policy in the United States has largely remained static since 1990, despite the fact that the world has drastically changed. In regards to permanent employment immigration, the U.S. gives out 140,000 visas

per year. These visas are split into five preference categories, or EB categories, that determine who receives the visas.

The U.S. also has a country quota that limits visa recipients from a single country to 7% of a yearly immigrant group.²⁶

The 140,000 visas per year limit includes the family members of workers, which means that the true number of qualified workers receiving visas is even smaller.

With so few visas available, it is no wonder that many potential immigrants choose to either return home or go to other countries with more accessible immigration systems.

As examples, Canada grants 3-year work visas to foreign graduates of Canadian colleges regardless of whether or not they have secured a job offer, and Singapore and the United Kingdom offer start up visas for investors.²⁷

Immigrants are crucial to future American competitiveness and they have been integral to our past successes.

More than 40% of the 2010 Fortune 500 companies were founded by immigrants or their children and, in that same year, immigrants were twice more likely to start a business than native-born Americans.^{28,29}

There is also a direct correlation between economic growth and immigration (between .1% and .3% of GDP).

Immigrants will also play a role when it comes to dealing with two serious labor issues facing America: the retirement of the Baby Boomer generation and the rise of the hourly wage class.

The Baby Boomer generation is made up of those born from 1946 to 1964 and currently accounts for 28% of the U.S. population.³¹

In 2006, the earliest Baby Boomers were turning 60 and by now the youngest Boomers are nearing 50 years old.

Most of the advanced STEM jobs are held by Baby Boomers and there is a great fear that when the Boomers retire, the economy will suffer from a shortage of qualified workers and the stock market will be devastated.

As the Baby Boomer generation retires, investors are concerned that the Boomers will seek to shift their assets away from stocks and towards less risky investments like bonds, CDs, and annuities. Potentially, as a result of the Boomers' selling activity, stock prices will be pushed downwards leading to a major selloff.

However, there are several factors that may help mitigate this theoretical selloff. To start, Boomers are more investment savvy than their predecessors and are less likely to act without consultation.

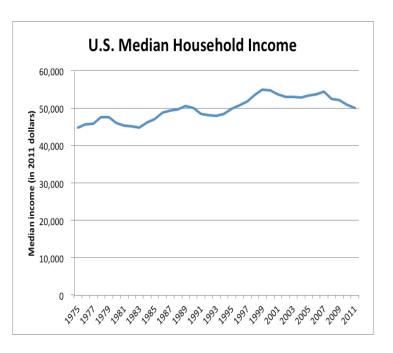
Current evidence from the earlier Boomer retirees also fails to support the fear that they will immediately cash in their stocks upon retirement. Surprisingly, a final saving factor could be the economic turmoil that resulted from the Great Recession (2008 Q1 to 2010 Q1): Boomers are widely expected to delay their retirements due

to their economic losses.

Besides these economic strains, the Baby Boomers also herald a changing American demographic: by 2030 one in five Americans will be a senior.³²

The effects of this change are already being felt.

Social security and health care systems will be further strained and consumer spending may decrease as retirement forces budgetary scrutiny.



America's changing age demographic will require shrewd government planning and foresight, but it could also be aided by immigrants. Qualified immigrants could replace retiring STEM employees and their income and investments could counteract the adverse market impact of the aging U.S. population.

Another labor factor that threatens American competitiveness is the rise of the hourly wage class. While this may seem an innocuous event, it correlates with a decline in mid-wage jobs.

The Great Recession hit the mid-wage occupations the hardest, with mid-wage jobs constituting 60% of recession losses. ³³ In contrast, lower wage occupations constituted 21% of the losses and higher wage occupations 19%. In the recovery phase, mid-wage occupations have only seen 22% recovery growth, but lower-wage occupations have seen a 58% recovery growth.

In short, hourly wage jobs paying close to minimum wage have superseded mid-wage jobs.

This fact could have a devastating impact on future American competitiveness as the inequality in the U.S. grows and the U.S. consumer market suffers as a result.

The inequality in America is already straining the limited economic capabilities of the government, and this current trend promises little relief.

How does this interact with other elements?

• A shortfall of STEM trained U.S. workers puts pressure on the defense industrial base, and in a larger sense, on the Defense Department.

- The growing hourly wage class creates a large population increasingly dependent on government programs for primary healthcare access.
- Retiring Baby Boomer cadre in the U.S. workforce could create skills gap that may not be able to be filled given current education trends.

What are some solutions that can improve American competitiveness?

- One of the most important solutions to America's STEM shortfall is **re-evaluating current immigration policies**.
 - Although revisions have been suggested, such as the Senate Startup Act 2.0, very few have been implemented.³⁴
 - A key starting step would be providing **long term visas to STEM graduates educated in American universities.** Too many foreign scholars come to America for education but then leave to start up business in more accessible markets.
- Two other ways to make the American immigration system more flexible are eliminating country
 quotas and creating a unique visa program for foreign entrepreneurs seeking to build firms in the
 U.S.
 - An improved immigration system would not only help fill STEM jobs, but it could also dampen the effects, if any, of a mass Baby Boomer retirement.
 - Change the visa quota formula for permanent employment immigration so family members are still included, but not counted toward the annual cap.
- To deal with the **labor issues threatening America**, politicians, investors, and economists need to better focus upon long-term recovery and the reduction of inequality.
 - While short-term measures are necessary to help alleviate Americans in economic turmoil, these measures, if done improperly, could lead to crippling systemic issues in America's recovery.
- Improve formal coordination between private and public entities to better match demand of visarequiring workers with private-sector needs. Formalize a system for regularly monitoring demand, and updating visa quotas and requirements, accordingly.
 - This alliance would help give an inherently inefficient process more direction related to beneficial private-sector outcomes.
 - Include small- and medium-sized businesses that may not have the experience or expertise
 with the visa system so they can employ STEM-skilled workers who may otherwise not be
 able to be easily hired.

DEFENSE INDUSTRIAL BASE

Why is this a national security issue?

Since 2001, the U.S. defense industry's biggest corporations have experienced a period of historic profit and share prices that coincided with the surge in demand brought on by Operation Iraqi Freedom and Operation Enduring Freedom. Moreover, the political climate helped buoy the Pentagon's overall budget to new heights.

More than a decade after the onset of hostilities, the defense industry finds itself in a very different position. The threat of automatic cuts to the American defense budget next year signal that this downturn may be much more than an "ordinary" post-conflict drop in spending.

The political climate has shifted so that serious conversations about cutting the deficit lead to plans that will certainly reduce military spending, particularly on costly hardware that the industry historically has churned out.

This will impact the fortunes of the biggest government contractors, and will ripple out throughout the country as the thousands of suppliers who work as subcontractors and suppliers feel the impact.

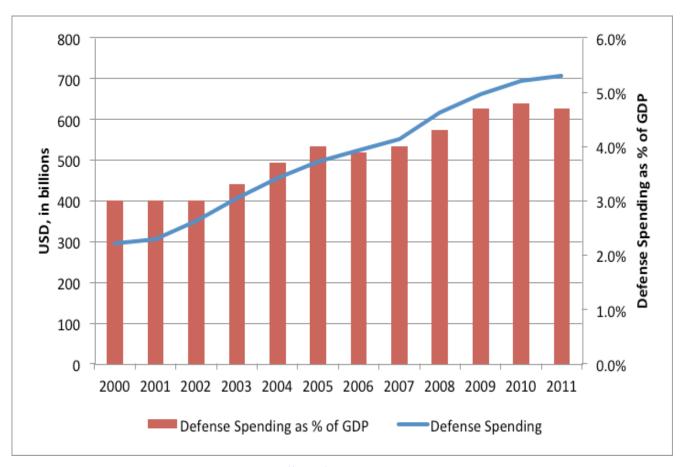


The sector's downturn comes as the Pentagon is as reliant as ever on the private sector for everything from research and development to supplying cyberwarriors.

Policymakers are in a bind. They need a financially healthy and responsive defense industry, yet do not want to be held captive to the costs of propping it up when demand for the most expensive and sophisticated weapons systems is so low.

The Department needs to "provide the proper incentives for industry so that doing what we needed was also profitable and beneficial -- we understand our companies," said Deputy Secretary of Defense Ash Carter at a Politico event in Washington in September. "All of our stuff is made by industry. And our industry has to exist in the economy and in capital markets. And so our industry has to be technologically vibrant and also financially successful."

So far, thousands of jobs have been shed already and the lights turned out in facilities once thought to be crucial to firms' growth. With billions of dollars in cash on hand, the major prime-contractors such as Lockheed Martin or Northrop Grumman are positioning themselves for a downturn in demand that may be cyclical, or much longer.



Source: Office of Management and Budget

Sequestration or not, the defense industry is in a difficult position. Shareholders, and the government, want companies to cut costs such as overhead in order to get a better return and better value for taxpayers.

The Defense Department is mindful of these long-term risks and is closely monitoring the health of the defense industrial base.

Pentagon officials are looking much more broadly than at just military contractors to include commercial market suppliers and subcontractors that are often overlooked: "The defense industrial base includes companies of all shapes and sizes resourced from around the globe, from some of the world's largest public companies to sole proprietorships to garage start-ups." ³⁶

The Defense Department also recently formalized the importance of the defense industrial base's health in its planning processes. In January, the White House and the Pentagon presented high-level guidance laying out the Pentagon's strategic priorities that "... in adjusting our strategy and attendant force size, the Department will make every effort to maintain an adequate industrial base and our investment in science and technology."³⁷

The 2010 Quadrennial Defense Review also highlighted the importance of the defense industrial base, a first.³⁸

One of the most powerful and longest-lasting impacts on American power is not, however, the reduction in the size of its manned fighter fleet or the end-strength of its land forces.

It is the potential damage to the defense industrial base through the loss of skilled workers, such as systems engineers and facilities, with decades of experience producing military platforms such as tactical fighters.

The military adage that people are an army's most important asset rings true in the defense industry where the public focus is often on a sleek fighter, not the engineering team responsible for its development.

That is a liability. The rapid pace of technological advancement almost ensures that today's cutting-edge weapons will be outdated or at risk much sooner than predecessor systems. Stealth technology is one such example where emerging radar and sensor technology, combined with advanced networking systems, outpaces the jet designer's ability to help aircraft avoid detection.



Maintaining ranks of engineers within the industry and government who are able to keep ahead of such advances is a crucial component of American national security.

The overall aerospace industry employs about 625,000 people. This is down, however, from 661,000 in 2001 and 936,000 in 1992.8

While the largest contractors are adept at insulating themselves and their investors during tough times, smaller companies are vulnerable. Small aerospace and defense firms such as boutique suppliers may lack the cash or ability to get credit to endure periods of budget uncertainty.

There are other factors at play too. For one, there are no new major tactical aircraft contracts on the near-term horizon.

The F-35 Lightning II, known as the Joint Strike Fighter, may be the last manned production fighter.

Currently, orders continue for older-model jets such as the F-16 Falcon, F-18 Hornet and F-15 Eagle, but those largely rely on international customers. Should the Joint Strike Fighter fall further afoul of the Defense Department's leadership there is a chance that those older aircraft could get a boost in orders. But this dynamic is also playing out in other sectors of the American arsenal.

There are no new battle tanks on the books.

The Navy presses on with increasingly costly ships, even amid attempts to grow its fleet through less-expensive options such as the Littoral Combat Ship.

Demand for military hardware, however, is not going away.

While it is difficult to foretell exactly what kinds of weapons systems future military operations will require, characteristics such as increased connectivity, affordability and interoperability will be hallmarks of successful future programs.

To that end the Defense Department could establish a longer-term acquisition strategy than currently exists to break with current force planning and procurement practices that are falling short.

Setting a 20-year horizon, for example, would allow the Defense Department to make investments in people and technology today to follow that kind of road map toward equipping the force of the future.

This approach would also be able to fold in emerging technologies that are most relevant as they emerge and are proven; weapons program design and development is too often measured in decades. To gain the kind of credibility needed to invest for the long term, however, the Pentagon will have to become much better, and more transparent, about its own finances and accounting.

A deeper commitment to civilian and military acquisitions management reform will also be necessary.

This could help combat resistance from Congress, whose appropriations are currently out of step with such long-term planning.

How does this interact with other elements?

- The vitality of the workforce needed to help the defense industrial base grow depends on the strength of the U.S. education system. Funding for post-graduate science and engineering studies is crucial.
- In fiscal year 2011, the interest on all outstanding public debt, which includes some non-federal borrowing, tallied up to \$454.4 billion, up from \$359.5 billion in 2001.⁴⁰
- Bringing U.S. infrastructure up to 21st Century standards will require the involvement of large government contractors, particularly those with aerospace engineering expertise.

What are some solutions that can improve American competitiveness?

- Support science, technology, engineering and math programs at all education levels, with a focus on preparing students in high school to catch up on gaps that may have developed during prior years.
 - This will provide a **better foundation for further studies** or in the workforce. This has the benefit of being applied inside the defense sector, or elsewhere.
 - Another option is to establish a **STEM curriculum for active-duty service members** that will allow them to continue their studies after their service commitment.

25

- The Defense Department should continue to be **watchful for critical elements of the defense in- dustrial base** whose viability may be jeopardized as military hardware spending tapers off.
 - At the same time, "on ramps" to doing business with the Pentagon need to be established
 that empower smaller firms or new market entrants from other more dynamic sectors of
 the economy to compete for work that would otherwise be off limits because of red-tape or
 sometimes unappealing teaming agreements with larger, established firms.
- Keep foreign firms investing in the U.S. commercial aerospace market to expand manufacturing and production footprint that serves not only domestic customers but global ones as well.⁴¹
 - Local- and state-level incentives are effective at attracting new manufacturing entrants,
 particularly in right-to-work states, and this should continue to develop the aerospace sector's
 roots.
 - The Defense Department needs to recommit to making sure international defense firms can be competitive in bidding for U.S. contracts, particularly in transport aircraft and helicopters.⁴²
- Give priority to development of weapons and research programs that offer an enduring and significant technological edge (10+ years) over current U.S., as well as potential adversary systems.
 - At the same time, care must be taken with developing technologies so they are sufficiently tested before they are approved for production.
 - This should be guided by a **long-term planning framework that fosters generation-skipping battlefield technologies** and invites input from a broader selection of private sector entities that may not ordinarily contract with the Defense Department.
 - It should be a "living framework" that is not beholden to a fiscal-year or quadrennial update, but is **improved upon as technologies evolve**.
- Conduct a **formal reexamination of existing Defense Department acquisition management practices** to make sure that ongoing program management and source selection efforts are actually going to provide significant, and worthwhile, leaps in capability.
 - This is crucial given the decades of expected service life that U.S. military platforms, particularly aircraft and ships, see. **Investing in platforms that will be outdated or vulnerable to emerging threats by the time they are in production is wasteful.**
 - Find new ways to offer legitimate shortcuts around current Defense Department procurement practices so time, and money, is not wasted during drawn out program development cycles that are out of step with technological advances, while keeping strong Congressional oversight,

HEALTHCARE AND EDUCATION

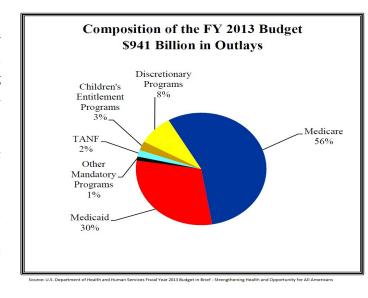
Why is this a national security issue?

In the context of American competitiveness and national security, it is important to shift perspectives when looking at the role healthcare and education play in the safety and security of the country. Given how much the federal government allocates to these areas, it is easy to focus on the jaw-dropping budget figures that eclipse some important dynamics.

It is therefore necessary to step back and reframe these two issues in a national security context. This is particularly important because just mentioning healthcare policy can bring about a partisan fit, while the importance of buttressing the American education system is accepted but can elicit a similar reaction.

Any country's healthcare system is an important component of its national security.

The risk of non-state actors employing biological and chemical weapons endures, while the jarring impact of recent region-wide natural disasters reveals the importance of a society's fundamental services. Healthcare, whether private or public, is one of them.

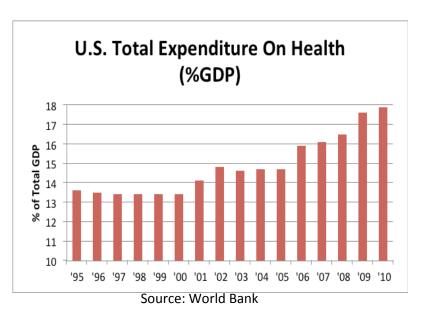


From a household perspective, access to affordable healthcare is crucial for economic and social stability at the kitchen-table level. The role healthcare costs play in household bankruptcy filing is well studied, demonstrating the kind of risks many families face.⁴³

A strong and competitive society is one that mitigates, or eliminates, this kind of risk in order to free up energy and resources for investment or economic growth.

The notion of "cost" in this equation is a complicated one, particularly when the political questions about the role the federal government should play in reducing such risk remain are still unanswered.

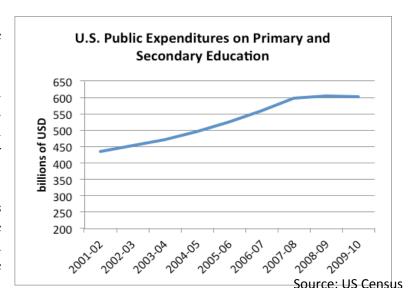
In 2011, the average household, with \$63,685 in income, spent \$3,313 on healthcare, up 4.9% from the prior year. Healthcare and health insurance



spending have risen every year since the late 1990s.⁴⁴

In one sense, looking at a family's financial and health stability is not much different than how a good junior or senior officer enlisted in the military looks out for the welfare of their soldiers and particularly their families.

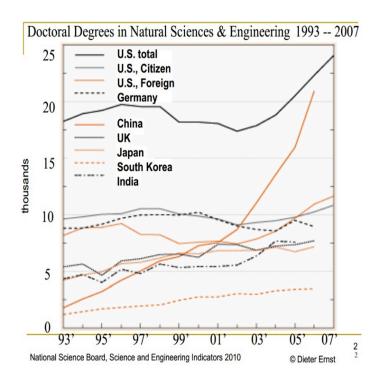
Families worried about fundamentals such as spiraling medical bills are going to struggle in all aspects of their lives, professional and otherwise. That is especially true for service members and their families.



The impact of civilian society's healthcare reform should be considered along with reform of military healthcare at the same time in order to avoid overlap or duplication, while avoiding gaps in coverage for veterans and active duty personnel and their families.

Education is also tied to a nation's competitive position, be it the availability of engineers in technology or the number of university-level students receiving job-relevant training alongside classroom time.

Many national security programs have particular requirements for citizenship, which only U.S.-citizens can work on.



Education is also closely linked to the military's ability to field a viable force.

The importance of high-school diplomas to incoming service members is proven in ensuring a new recruit is ready for the kind of commitment to serve out their time in uniform or that they are up to the task of learning to become a soldier, sailor, airman or Marine without requiring remedial training upon accession. ⁴⁵

As it stands, approximately 25% of high school students do not graduate in four years, while only three-quarters of all high school students complete their studies.⁴⁶

The private sector faces similar problems with new employees who lack the foundational skills to thrive individually and deliver the kind of benefit to their employer that makes taking them onboard worthwhile. More broadly, a well-educated population is one that is more resilient economically and socially, and better able to adapt in an economy that is pushing well past its industrial paradigm into services and technology. Productivity is intimately linked with a country's competitiveness.

With technology enabling improved productivity, it is essential that workers are able to drive that change rather than be left behind by it. This is as true when someone gets a first job as it is for a midcareer employee who is forced to retrain for a new career in a new industry.

How the U.S. spends its resources on education is as important as how much. Approximately 7.3% of GDP was spent on education in 2009, among the highest globally, yet there remains room for improvement in outcomes.⁴⁷

Overall, the U.S. fares strongly in global rankings of overall educational attainment but other countries are increasingly beating the U.S. in rankings of how many young adults as a percentage of the population have tertiary education.

Moreover, an American whose parents are not well educated face a longer shot of attaining higher education studies.

How does this interact with other elements?

- Healthcare and education are tied to the thorny politics of the moment. Of the two, healthcare requires the most political bridge building and the greatest compromise in the national debt fight.
- Military healthcare is going to be an increasingly controversial issue, and its future should be considered in concert with civilian healthcare options.
- Demand for well-educated Americans is only going to rise within the private sector and the military. Education's importance, particularly STEM curriculum, will only rise.

What are some solutions that can improve American competitiveness?

- Continue to press for improvement in high-school graduation rates.
 - Wisconsin is the only state that graduates 90% of its high school seniors. 48 The target nationwide should be 100%.
 - Myriad factors contribute to, or detract from, a student's ability to graduate from high school with a diploma in hand. 49 For this reason it is important to attack the problem from as many fronts as possible.
 - Between lost wages and likely higher social costs in the future, a clear economic case can be made to invest even more in such preventative programs up front.

- Ensure worker-retraining initiatives are synchronized with private sector needs in manufacturing and service sectors.
 - Identifying cross-industry relevant skills and opportunities through a national private-public
 partnership would help ensure that new skills are indeed actually in-demand from current
 employers.
 - This could help target needed skill sets relevant to one region's growing job market that may not be otherwise evident in another part of the country.
- Protect households against financially catastrophic medical expenses, particularly in cases when medical coverage is lost during periods of prolonged unemployment or underemployment.
 - Offering COBRA healthcare continuing coverage to smaller-sized businesses than currently planned (at 20 employees or more today) could help many households and communities, as could extending the window to keep coverage (usually 18 months today with a 36-month maximum) to protect against drawn out job searches or intermittent work.
- Invest more funds into ensuring the academic success of American children all the way from kindergarten through high school.
 - This investment should be done smartly and with an appropriate plan that touches the lowest-performing counties and schools.
- Work to examine and better understand this country's **rising university tuition costs**. As it stands right now, tuition costs are increasing at a rate around twice that of inflation.
 - The budget crisis lowered state and federal funding for universities, which has negatively impacted efforts to **contain the rising costs of secondary education**. Further complicating the matter, increasing the availability of loans is tantamount to treating the symptom and not the cause.
 - If students are able to continue to afford the high tuition costs, regardless of the debt these students may face later, schools will continue to raise their prices. At some point this will lead to academic disaster and it is crucial that we spend more time seeking a solution to curb rising tuition costs.



CONCLUSION

Improving America's competitiveness is a matter of national security. Improving the country's competitive position will require much more than assembling disparate policy initiatives and expecting them to deliver success.

A coherent approach will require a lot of coordinated work. It will require joint leadership from the private and the public sector that sets a goal and then maps out a path to it.

In the simplest sense, that goal may be retaking the top ranking, or at least a podium place, in surveys such as the World Economic Forum annual report. That kind of target can help unify efforts and help everyone who has a stake in improving American competitiveness to act, and act urgently.

Such a ranking is not an end in itself, however. Lasting improvements will take time and the first signs will be felt far from board rooms or the Capitol's hallways. Success will manifest itself in homes and be evident in improving high school graduation rates, less anxiety around healthcare costs and rising worker pay along with productivity.

Getting to that point begins with building a consensus around the idea that American competitiveness is a national security priority for the country. Doing so requires reframing what we consider to be essential to the country's safety and security.

If action is not taken, the country will become demonstrably weaker at a time when it will be easy to ignore the signs and continue to lean on the might of the American military to back up our standing in the world.

Part of that consensus involves acknowledging the unhealthy economic and political tension eroding many of our society's most important systems that create America's competitive position. Moreover, it involves taking responsibility for that tension and then shifting the debate and the dialogue to one that will benefit the entire nation.

This is a dialogue that need not provide answers all at once, but be carried out in a steady and civil discussion.

Within government, a few near-term steps can help.

A partisan cease-fire around issues directly related to the country's competitiveness is needed. So are simpler rules and regulations that balance the long-term interests of the nation's citizens with the near-term exigencies of the current economic crisis.

This is about establishing viable and enduring rules that support, rather than hinder, America's competitive position.

Assigning that leadership position to an individual may be needed, a sort of competitiveness czar who can work within the context of Washington's federal politics but can also reach out to the private sector and state and local government.

As for the private sector, one of its most important steps will be a self-examination of what the role of business in 21st Century America should be. By extension, one measure will be how a business leader's actions might help or hurt America's competitive position, or national security itself.

This will require balancing some of the toughest and most contentious issues at hand today in a way that is faithful to the needs of shareholders and business owners while also bringing empathy and understanding to the needs of employees and their communities.

None of this will be possible without acknowledging the seriousness of the current situation and the clear pathways available to improve America's competitiveness and by extension, our national security.

August Cole is a writer and analyst specializing in national security issues. He is an Adjunct Fellow at the American Security Project, a non-partisan think tank, where he focuses on defense industry issues. August is also a member of the International Institute for Strategic Studies.

From 2007 to 2010, August reported on the defense industry for the Wall Street Journal. From 1998 to 2006, he worked as an editor and a reporter for Market-Watch.com, a financial news Web site.

He received a Bachelor of Arts degree from the University of Pennsylvania and a Mid-Career Master in Public Administration degree from the John F. Kennedy School of Government at Harvard University. More: www.augustcole.com

Acknowledgments:

Thank you to ASP intern Martin Bee for invaluable and honest feedback, research assistance as well as contributing the entire section on immigration and the labor market. ASP Senior Fellow Andrew Holland gave immensely helpful guidance with the report, and lent his expertise by mapping out the section on infrastructure.

The excellent work of Xander Vagg, Yong Wang and Galen Petruso on the report's essential finishing touches must also be recognized in making this a success.

ENDNOTES

- Standard & Poor's, "United States Of America Long-Term Rating Lowered To 'AA+' Due To Political Risks, Rising Debt Burden; Outlook Negative," August 5, 2011. http://www.standardandpoors.com/ratings/articles/en/us/?assetID=1245316529563 (accessed October 26)
- 2. Weisman, Jonathan, "Moody's Warns That U.S. May Face Debt Downgrade" New York Times, September 11, 2012. http://www.nytimes.com/2012/09/12/business/moodys-issues-warning-on-us-debt.html?_r=0 (accessed September 20, 2012)
- Adler, Loren and Collins, Brian, "Gates, Mullen Echo Leaders of Debt Commissions: America's Fiscal Challenge Is A Matter Of Arithmetic," September 19, 2012. http://bipartisanpolicy.org/blog/2012/09/gates-mullen-see-eye-eye-leaders-debt-commissions-americas-challenge-matter-arithmetic (accessed September 29, 2012
- World Economic Forum (WEF), The Global Competitiveness Report 2012-2013. Report available at http://www.scribd.com/doc/104988302/The-Global-Competitiveness-Report-2012-2013
- 5. "Foreign Direct Investment," The Economist, October 27, 2012. http://www.economist.com/news/economic-and-financial-indicators/21565226-foreign-direct-investment (accessed November 3, 2012)
- 6. Buttonwood, "The Real Deal: Low Real Interest Rates Are Usually Bad News For Equity Markets," The Economist, October 20, 2012. http://www.economist.com/news/finance-and-economics/21564845-low-real-interest-rates-are-usually-bad-news-equity-markets (accessed November 3, 2012)
- 7. Bradsher, Keith, "Trade Case May Provide Few Results," The New York Times, September 17, 2012. http://www.nytimes.com/2012/09/18/business/global/us-files-wto-case-against-china-over-cars.html?pagewanted=all (accessed October 1, 2012)
- 8. U.S. Chamber of Commerce, "Why Approving Permanent Normal Trade Relations With Russia Is In The U.S. National Interest," Russia PNTR Primer. http://www.uschamber.com/international/europe/us-chambers-pntr-primer (accessed Nov. 3, 2012)
- 9. United States Senate, Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, "Offshore Profit Shifting and the U.S. Tax Code" Hearing Exhibit, September 20, 2012. http://www.hsgac.senate.gov/download/?id=7B9717AF-592F-48BE-815B-FD8D38A71663 (accessed November 4, 2012)
- 10. Porter, Michael and Rivkin, Jan, "Prosperity At Risk: Findings Of Harvard Business School's Survey on U.S. Competitiveness," Harvard Business School, January 2012. http://www.hbs.edu/competitiveness/survey/ (accessed September 15, 2012)
- 11. Engler, John, "Corporate Taxes, The Myths and Facts," The Wall Street Journal, October 12, 2012. http://businessroundtable.org/news-center/the-wall-street-journal-op-ed-engler-corporate-taxes-the-myths-and/ (accessed November 3, 2012)
- 12. American Society of Civil Engineers, "Report Card For America's Infrastructure," 2009. http://www.infrastructurereportcard.org/ (accessed November 4, 2012)
- 13. American Society of Civil Engineers, "Report Card For America's Infrastructure," 2009. http://www.infrastructurereportcard.org/report-cards (accessed November 4, 2012)
- 14. Malhotra, Neil, "Disaster Relief Helps The Incumbent," Stanford University Graduate School of Business Web Site, October 30, 2012. http://www.gsb.stanford.edu/news/research/disaster-relief-helps-incumbent.html (accessed November 13, 2012)
- 15. Army Sgt. 1st Class Tyrone Marshall Jr., "Debt Is Biggest Threat To National Security, Chairman Says," American Forces Press Service, Department of Defense, September 22, 2011. http://www.defense.gov/news/newsarticle.aspx?id=65432 (accessed October 19, 2012)
- 16. National Commission on Fiscal Responsibility and Reform, Commission Report, December 1, 2010. http://www.fiscalcommission.gov/news/moment-truth-report-national-commission-fiscal-responsibility-and-reform (accessed October 17, 2012)

- 17. Barkin, Noah, "Germany Says U.S. Debt Levels Much Too High," Reuters, September 11, 2012. http://www.reuters.com/article/2012/09/11/us-germany-usa-debt-idUSBRE88A0F020120911 (accessed November 16, 2012)
- 18. Department of the Treasury, "Major Foreign Holders of Treasury Securities," August 2012. http://www.treasury.gov/resource-center/data-chart-center/tic/Documents/mfh.txt (accessed October 17, 2012)
- 19. Department of the Treasury, "Major Foreign Holders of Treasury Securities," Total Holdings http://www.treasury.gov/resource-center/data-chart-center/tic/Documents/mfhhis01.txt (accessed October 17, 2012)
- 20. Congressional Budget Office, "Testimony Before The Joint Select Committee On Deficit Reduction, U.S. Congress," October 26, 2011. http://www.cbo.gov/publication/42728 (accessed November 10, 2012)
- 21. National Commission on Fiscal Responsibility and Reform, Commission Report, December 1, 2010. http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf (accessed October 17, 2012)
- 22. U.S. Census Bureau, "Historical Census Statistics On The Foreign-born Population Of The United States: 1850-1990," February 1999. http://www.census.gov/population/www/documentation/twps0029/twps0029.html#intro (accessed November 13, 2012)
- 23. Immigration Policy Center, "Rebooting The American Dream: The Role of Immigration In A 21st Century Economy," November 2011. http://www.immigrationpolicy.org/sites/default/files/docs/IPC_-_Rebooting_the_American_Dream_110811.pdf (accessed October 18, 2012)
- 24. Washington State Academy of Sciences, "Rising Above the Gathering Storm, STEM Education in Washington State: The Facts of the Matter," 2011.
- 25. Freking, Kevin, "Manufacturers Launch Program To Hire More Veterans," Associated Press, October 15, 2012. http://finance.yahoo.com/news/manufacturers-launch-program-hire-more-veterans-151049248--finance.html (accessed October 15, 2012)
- 26. Immigration Policy Center, "How The United States Immigration System Works: A Fact Sheet," November 4, 2010. http://www.immigrationpolicy.org/just-facts/how-united-states-immigration-system-works-fact-sheet (accessed November 16, 2012)
- 27. Pasell, Shelby, "America Losing High-Skilled Workers To Australia, Canada And China, Report Says," Immigration Impact, June 4, 2012. http://immigrationimpact.com/2012/06/04/america-losing-high-skilled-workers-to-australia-canada-and-china-report-says/ (accessed November 16, 2012)
- 28. The Partnership For A New American Economy, "The 'New American' Fortune 500," June 2011. http://www.renewoureconomy.org/sites/all/themes/pnae/img/new-american-fortune-500-june-2011.pdf (accessed November 16)
- 29. Kauffman Foundation, "Kauffman Index Of Entrepreneurial Activity 1996-2010," March 2011. http://www.kauffman.org/uploadedfiles/kiea_2011_report.pdf
- 30. Immigration Policy Center, "Rebooting The American Dream: The Role of Immigration In A 21st Century Economy," November 2011. http://www.immigrationpolicy.org/sites/default/files/docs/IPC_-_Rebooting_the_American_Dream_110811.pdf (accessed November 16, 2012)
- 31. Halbert, Gary, "Will Baby Boomers Wreck The Market? (The Sequel)," InvestorInsight.com, April 10, 2012. http://www.investorsinsight.com/blogs/forecasts_trends/archive/2012/04/10/will-baby-boomers-wreck-the-market-the-sequel.aspx (accessed November 16, 2012)
- 32. Bernard, Dave, "The Ripple Effect Of Baby Boomer Retirement," U.S. News & World Report, August 3, 2012. http://money.usnews.com/money/blogs/On-Retirement/2012/08/03/the-ripple-effect-of-baby-boomer-retirement (accessed November 16, 2012)

- 33. National Employment Law Project, "The Low-Wage Recovery and Growing Inequality," August 2012. http://www.nelp.org/index.php/content/content_about_us/tracking_the_recovery_after_the_great_recession (accessed November 16, 2012)
- 34. Press Release From The Office of Senator Marco Rubio, "Sens. Rubio, Coons, Moran and Warner, offer Bipartisan Jobs Creation Plan," May 22, 2010. http://www.rubio.senate.gov/public/index.cfm/press-releases?ID=d8319a4a-b008-4b7e-98f4-1c0339c78bd5 (accessed November 16, 2012)
- 35. Deputy Defense Secretary Ash Carter, Politico Pro Defense Forum, September 20, 2012, Washington, D.C. Transcript: http://www.defense.gov/transcripts/transcripti.aspx?transcriptid=5121 (accessed Oct 30, 2012)
- 36. Department of Defense, "Annual Industrial Capabilities Report To Congress," 2012. http://www.acq.osd.mil/mibp/docs/annual_ind_cap_rpt_to_congress-2012.pdf (accessed October 29, 2012)
- 37. Department of Defense, "Sustaining US Global Leadership: Priorities for 21st Century Defense," January 2012. http://www.defense.gov/news/Defense_Strategic_Guidance.pdf (accessed October 25, 2012)
- 38. Department of Defense, "2010 Quadrennial Defense Review," 2010. http://www.defense.gov/qdr/ (accessed September 12, 2012
- 39. Aerospace Industries Association, "Total And Production Worker Employment In The Aerospace Industry," Aerospace Industry Report 2011. http://www.aia-aerospace.org/assets/stat12.pdf (accessed October 25, 2012)
- 40. Department of the Treasury, "Interest Expense On The Debt Outstanding," Fiscal-Year Summaries. http://www.treasurydirect.gov/govt/reports/ir/ir_expense.htm (accessed November 4, 2012)
- 41. Garvey, William, "Made in the U.S.A.: Foreign bizjet makers move closer to their customers," Aviation Week and Space Technology, Oct. 29, 2012.
- 42. Garvey, William, "Made in the U.S.A.: Foreign bizjet makers move closer to their customers," Aviation Week and Space Technology, Oct. 29, 2012.
- 43. Himmelstein, David; Thorne, Deborah; Warren, Elizabeth; Woolhandler, Steffie, "Medical Bankruptcy In The United States, 2007: Results Of A National Study," The American Journal Of Medicine, June 5, 2009. http://www.amjmed.com/article/S0002-9343%2809%2900404-5/fulltext (accessed November 2, 2012)
- 44. Bureau of Labor Statistics, "Consumer Expenditures 2011," September 25, 2012. http://www.bls.gov/news.release/cesan.nr0.htm (accessed November 5, 2012)
- 45. Mission: Readiness, "Ready, Willing, And Unable To Serve," 2009. http://www.missionreadiness.org/2009/ready_willing/ (accessed November 4, 2012)
- 46. Paulson, Amanda, "US High School Graduation Rate Inches Past 75 Percent," The Christian Science Monitor, March 19, 2012. http://www.csmonitor.com/USA/Education/2012/0319/US-high-school-graduation-rate-inches-past-75-percent (accessed November 2, 2012)
- 47. Organization for Economic Co-operation And Development, "Education At A Glance 2012: OECD Indicators." http://www.oecd. org/edu/educationataglance2012oecdindicators-chapterbfinancialandhumanresourcesinvestedineducation-indicators.htm (accessed November 5, 2012)
- 48. UnitedHealth Foundation, "America's Health Rankings, High School Graduation Rate: 2011." http://www.americashealthrankings.org/all/graduation (accessed November 5, 2012)
- 49. Smith, Morgan, "Texas High School Graduation Rates Improve, But Why?", The Texas Tribune, July 22, 2012. http://www.texastribune.org/texas-education/public-education/texas-high-school-graduation-rates-improve-why/ (accessed November 1, 2012)

Building a New American Arsenal

The American Security Project (ASP) is a nonpartisan initiative to educate the American public about the changing nature of national security in the 21st century.

Gone are the days when a nation's strength could be measured by bombers and battleships. Security in this new era requires a New American Arsenal harnessing all of America's strengths: the force of our diplomacy; the might of our military; the vigor of our economy; and the power of our ideals.

We believe that America must lead other nations in the pursuit of our common goals and shared security. We must confront international challenges with all the tools at our disposal. We must address emerging problems before they become security crises. And to do this, we must forge a new bipartisan consensus at home.

ASP brings together prominent American leaders, current and former members of Congress, retired military officers, and former government officials. Staff direct research on a broad range of issues and engages and empowers the American public by taking its findings directly to them.

We live in a time when the threats to our security are as complex and diverse as terrorism, the spread of weapons of mass destruction, climate change, failed and failing states, disease, and pandemics. The same-old solutions and partisan bickering won't do. America needs an honest dialogue about security that is as robust as it is realistic.

ASP exists to promote that dialogue, to forge consensus, and to spur constructive action so that America meets the challenges to its security while seizing the opportunities the new century offers.



www.americansecurityproject.org