2015 Clarion Call
The members of the Council are committed to seeing America prosper. From its founding almost 30 years ago to today, the Council’s mission remains as vital as ever—to enhance U.S. prosperity and raise the standard of living for all Americans. Its voice represents all sectors of the economy, and its impact is strongest when industry joins with the major research universities and community colleges, when labor finds common ground with management and when the national labs sit at the heart of the innovation ecosystem.

The **Clarion Call** is the Council’s urgent message to policymakers.
Where America Stands

Introduction
With the U.S. economy continuing to tread water, the Clarion Call remains a lifeboat for policymakers, if they will choose to come all the way on board. The language describing the Council’s annual assessment of the nation’s competitiveness should ring familiar to the past few years, because the post-recession economy continues to move forward—improving, but still underperforming its potential. And, while the country is headed in the right direction supported by positive trends in employment, manufacturing and trade—stagnant wages, uneven regulatory and tax structures, rising inequality and lack of critical investment in research hamper further progress.

For 2015, the Clarion Call again assesses the state of American competitiveness, calling out critical trends, opportunities and challenges. It lays out a roadmap for policymakers to follow based on three decades of research and insights from the nation’s leading corporate executives, academic and labor leaders and national lab directors. And it offers letter grades on policymakers’ progress (or lack thereof) on the Council’s core recommendations.

Recognizing that finding answers to today’s greatest competitiveness challenges requires one asking the right questions, the Clarion Call this year includes “Questions for the Candidates” intended to shine a light on critical issues in the current presidential campaigns. These questions should be central to any debate among or between the Republican and Democratic candidates.

The United States economy stands in the midst of great revolutions in science and technology. A new age of unprecedented knowledge, unparalleled technological power and inconceivable innovation is unfolding. The digital, biotechnology, nanotechnology and cognitive revolutions are rewriting the rules of production and services in digital code, genetic code, atomic code and neural code...in ways hardly imaginable only a decade ago. Ensuring policy keeps up with these foundational shifts is critical.

Through its membership and body of work, the Council has played an important role in formulating and driving a pro-growth policy agenda to support a robust American economy. That role remains as critical today as it was at the Council’s founding in 1986. Growing the economy, creating jobs and matching worker skills to current and future opportunities will take dedicated and concerted action by policymakers at the federal, state and local levels. There is no silver bullet solution. As the enclosed infographic highlights, the American economy involves a complex and interconnected set of issues that must be addressed as such.

The View from 50,000 Feet...

With a Gross Domestic Product (GDP) of $18.1 trillion, the United States remains the world’s largest economy with one of the highest levels of GDP per capita. Economic growth, however, remains well below the 4-5 percent level needed for a full recovery from the 2008-2009 recession. While projections for 2015 range from 2-3 percent GDP growth, the recent trend has been to revise estimates lower—increasing concern for the nation’s long term health. Nevertheless, any growth is better than no growth and will have positive repercussions.

For example, economic growth is clearly having an impact on employment. The unemployment rate dropped over the past year from 6.2 percent to 5.0 percent, a number

2. Real GDP Forecast. The Organisation for Economic Co-operation and Development. 2015.
widely believed to represent full-employment, though what is truly happening in the labor market remains extremely complex and uncertain. From 2014 to 2015, productivity remained at a growth rate of 0.7 percent.\(^5\) Manufacturing productivity fared slightly better, with a growth rate of about 1.0 percent year over year.\(^6\) Productivity—the amount of gross domestic product (GDP) generated per hour of labor—must grow over time to support higher wages and competitive companies in an advanced economy like the United States.

Budget deficits continue to decline, but the long-term outlook for U.S. debt remains troubling. At $435 billion for the most recent quarter, the budget deficit is 2.7 percent of GDP, compared to 3.0 percent in 2014.\(^7\) Lower deficits and modest economic growth have inched America’s debt down as a share of its economy, but a retiring baby boom generation is projected to quickly reverse this progress over the next few years without meaningful spending and revenue reforms.

Upon Closer Inspection...

“I always like to look on the optimistic side of life, but I am realistic enough to know that life is a complex matter.”

Walt Disney

... And so is economics, starting with the current unemployment number. Despite this positive trend, job growth has slowed since last year, averaging 198,000 new jobs per month compared to 260,000 in 2014.\(^8\) Perhaps most concerning is the workforce participation rate, which continues to decline and now stands at 62.4 percent, the lowest since the late 1970s.\(^8\) This trend, coupled with stagnant wages, calls into question just how “full” employment truly is, and highlights how critical it is for policymakers to maintain a laser-like focus on job creation, education and skills training.

Employment and immigration remain inextricably linked and among the more controversial topics during the current presidential campaign season. Yet, study after study has shown the positive impact of highly skilled immigrants who benefit from the U.S. education system and are able to remain in the United States.\(^10,11,12,13\) However, policymakers are no closer to “stamping a green card” to diplomats than they were a year ago.

The symbiotic link between growth and investment is similarly well demonstrated, so one might expect the rising GDP to bring with it critical new investment in the seed corn of economic growth—basic scientific research. Yet, that is not the case. America’s budget constraints have created an “innovation deficit”—whereby investment in basic research is almost flat in nominal terms, not keeping pace with inflation, and declining as a share of GDP. Federal R&D as a percentage of GDP is expected to dip even lower by the end of 2015 to 0.76 percent (0.79 percent in 2014).\(^14\)

Similarly, long recognized tax disincentives to investment saw much talk and no action over the past year. The corporate tax rate remains the highest in the developed world and repatriation rules lock away $2.1 trillion in overseas revenue. These obstacles serve as examples of the laissez-faire attitude by policymakers to the nascent strength of the U.S. economy as it climbs slowly back from recession. The window of opportunity is closing.

Knock, Knock...

Natural gas prices are 5 times higher in Japan, 3 times higher in the EU and 2 times higher in China than in the United States!\(^15\)

For U.S. consumers, the price of a gallon of gas at the pump has dropped a dollar since last year.\(^16\)

The U.S. finalized the Trans-Pacific Partnership—an 11 nation compact designed to eliminate thousands of tariffs and open new markets.
530,000 new businesses were started each month in 2015!17

Since 2009, 9.6 million people have backed a Kickstarter project, $2 billion has been pledged and more than 93,000 projects have been funded.18

Opportunity—a situation or condition favorable for attainment of a goal. If the goals are economic growth, job creation and a rising standard of living, then the opportunity is now.

By itself, the shift in America from energy scarcity to abundance conveys significant competitive advantage in terms of output, jobs, trade and manufacturing. Since November 2012, the United States has been the world’s largest petroleum producer, overtaking Saudi Arabia,19 and it has been the world’s largest natural gas producer since 2011, far outstripping the former leading producer, Russia.20 This surge in supply has lowered domestic energy costs and started to attract manufacturing investment. Consistent with Council recommendations, positive steps have been taken to create manufacturing hubs and increase alignment of federal investments and infrastructure with private sector priorities. These efforts must be accelerated to take advantage of this competitive edge, enabling the creation and scaling of new businesses and industries before other countries catch up.

Results are already apparent. After a decade-long skid, the manufacturing sector has added more than 869,000 jobs since 2010, outperforming job growth in other sectors of the U.S. economy.21 This manufacturing resurgence is just one indicator of the dawning of an industrial transformation in the United States, driven by an abundance of domestic energy, increased energy productivity and a new generation of advanced manufacturing and energy technologies.

America’s ability to innovate—to introduce new high margin products and services and be adaptive, flexible and resilient—remains the envy of the world. Despite the stagnant federal investment in basic research, the United States still accounts for one-third of all global research and development (R&D). This lead, however, continues to shrink as competitors around the world increase national investments in R&D, both nominally and as a share of their economies.22

Start-ups, often the beneficiaries of these long-term investments, act as agents of innovation and productivity for the wider economy, accounting for the majority of net new jobs created. After declining for several years, a start-up resurgence may be underway. Over 530,000 people started a business each month this year, compared to a rate of 478,000 per month last year.23 Perhaps most exciting is a transformation that is rooted in the democratization and self-organization of innovation—and articulated in the Council’s Exploring Innovation Frontiers Initiative with the National Science Foundation. Researchers and scientists, enabled by the development of relatively inexpensive tools such as centrifuges, 3D printers and reactors, are dropping out of big-budget academic institutions and corporate R&D departments to build their own labs in urban centers across the country. And, as demonstrated by the Council’s National Digital Engineering & Manufacturing Consortium (NDEMC), it is now even possible to push down through the supply chain access to powerful supercomputers, enabling cutting-edge modeling and simulation for competitive advantage.

Opportunity is global, and the completion of the Trans Pacific Partnership (TPP) trade agreement stands as an important step towards opening new markets for U.S. goods and services. While the final outcome remains in question, the export potential of the eleven nation market is unquestionably tremendous. Failure to ratify the TPP would leave a crack in the economy’s strengthening foundation.

Watch Where You Step...

With the U.S. leading the world in oil and natural gas production, one would rightly expect the U.S. trade deficit to benefit from less reliance on foreign energy and, in fact, oil imports are down over 35 percent since 2006, and the total trade deficit is down 33 percent from its 2006 peak. Yet, in the past 18 months the trade deficit has begun to increase, rising 6 percent year over year.24 If not for increasing services exports, the news would be worse.

17. The Kauffman Index, Ewing Marion Kauffman Foundation.
23. The Kauffman Index, Ewing Marion Kauffman Foundation.
These numbers are dwarfed, though, by the infrastructure challenges facing the nation. While once America stood as the shining leader in modern infrastructure, the country now faces $3 trillion in desperately needed investments to maintain, upgrade and modernize American roads, ports, levees, bridges, inland waterways, dams, airports and waste facilities.\(^{26}\) Political paralysis has thus far slammed the brakes on any common sense policy solution, but this is hardly the only self-inflicted wound to America's potential.

Government regulation and paperwork impose costs and uncertainties that have slowed investment, curbed research, limited expansion and curtailed hiring. In 2014, Congress enacted 224 laws, which resulted in agencies issuing 3,554 rules.\(^{26}\) The annual regulatory compliance and economic cost of these rules is estimated at $1.88 trillion, which equates to roughly 11 percent of the total U.S. GDP.\(^{27}\) In addition, small firms shoulder a greater proportion of the regulatory burden. Small manufacturing and energy businesses (those having fewer than 50 employees) face an annual regulatory cost of nearly $12,000 per employee—29 percent higher than the regulatory cost facing large firms.\(^{28}\)

While increased attention to the problem has shined a light on the crushing student debt so many young people face, little has been done to effect change. Between 2004 and 2014, there was an 89 percent increase in the number of borrowers for student loans and a 77 percent increase in the average size of the loans.\(^{29}\) The class of 2015 will graduate with an average of $35,051 in student debt—up from just over $27,000 in 2014.\(^{30}\) Tuition and fees at four-year colleges have increased an average of 34.5 percent in the last decade (26 percent for private universities and 40 percent for public).\(^{31}\) Just 20 years ago, fewer than half of college students graduated with debt, and the amount was less than $10,000 on average.\(^{32}\)

Ensuring access to and affordability of higher education remains a critical competitiveness issue, especially as education and skills disparities continue to be a core driver of the growing income divide among Americans. In 2014, the median wage for a U.S. job requiring a post-secondary education was almost 60 percent more ($57,252) than those jobs requiring a high school diploma ($34,736) and over twice as much as those jobs attainable with less than a high school diploma ($25,376).\(^{33}\)

Not all wounds are self-inflicted, however, with one of the greatest challenges to America's economic and national security coming from malicious bits and bytes—cyber-attacks. Since 2005, the United States has experienced over 6,000 reported data breaches with 855 million records exposed. In 2014, the number of data breaches tracked hit a record high of 783, a 27.5 percent increase over the number of breaches reported in 2013 and an 18.3 percent increase over the previous high of 662 breaches tracked in 2010.\(^{34}\) Cyber-attacks are costing businesses $400-$500 billion a year, and that number does not even include a large number of cyber-attacks which go unreported. The cyber insurance market—mainly a U.S. market—has grown from $1 billion to $2.5 billion over the past two years, and it is expected to grow dramatically and expand globally over the next five years. Despite the urgent need, there is a dearth of cybersecurity talent, with more than 200,000 U.S. cybersecurity jobs going unfilled.\(^{35}\)

It's All Connected

Low-cost energy enabling a manufacturing renaissance. The best and brightest gaining access to research funding and infrastructure. Regulation and tax policy incentivizing investment and risk taking. Aligning educational priorities with future jobs to protect America's intellectual and physical capital. These are the interconnected policy priorities that should be debated, discussed and acted upon. In the next two sections, the Council will grade policymakers on their work to date on these key competitiveness issues and put forth to the presidential campaigns a set of questions that should be addressed over the next year.

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32. College Board, Institute for College Access and Success.
The Competitiveness Report Card

The Council on Competitiveness grades policymakers on their progress, or lack thereof, toward addressing several key competitiveness policy recommendations developed from over a decade of research and the insights of the nation’s leading corporate executives, academic and labor leaders and national lab directors. The 2015 grade assesses policymakers’ actions over the course of the past year. For comparison, the 2014 grade is shown in parentheses.
# The Competitiveness Report Card

## Call to Action

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<th>TALENT</th>
<th>Grade (2014)</th>
<th>Justification</th>
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<td>Reform immigration rules to ensure that the world’s best talent innovates and creates opportunities in the United States. Staple a green card to the diplomas of high skilled immigrants who acquire an advanced degree in the United States.</td>
<td>D (C)</td>
<td>Despite continued broad support for high-skilled immigration reform, the polarized rhetoric surrounding immigration issues makes it difficult to imagine that any action will be taken in the foreseeable future.</td>
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<tr>
<td>Expand science, technology, engineering and math (STEM) education linked to projected job opportunities of the future.</td>
<td>B (B)</td>
<td>The number of STEM degrees awarded each year continues to rise, putting the U.S. on pace to meet the president’s goal of one million additional college graduates with bachelor’s and associate degrees in STEM fields over the next decade. Overall, 40 percent of bachelor’s degrees earned by men and 29 percent earned by women are now in STEM fields. At the doctoral level, more than half of the degrees earned by men (58 percent) and one-third earned by women (33 percent) are in STEM fields.</td>
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<tr>
<td>Strengthen career and technical education (CTE) and training programs through partnerships with business or labor that prepare students and workers for good jobs that fill labor market needs.</td>
<td>B (B)</td>
<td>The Workforce Investment Act that was last year re-authorized and amended through the Workforce Innovation and Opportunity Act went into effect on July 1, 2015. It streamlines the coordination of major programs; establishes common performance measures across core programs; strengthens the alignment between adult education, postsecondary education and employers; and supports innovative models to enhance education and professional development for adults and incarcerated individuals.</td>
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## Technology

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<td>Implement a national network of advanced manufacturing clusters and smart factory ecosystems.</td>
<td>A (A)</td>
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<tr>
<td>Lead in High Performance Computing by committing to Exascale computing, and expanding pilots that give U.S. small and medium sized businesses access to modeling and simulation tools.</td>
<td>A (B)</td>
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<tr>
<td>Promote best practices in the protection of intellectual property rights around the world and secure critical infrastructure against cyber-attacks.</td>
<td>C (B)</td>
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### CALL TO ACTION

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| Double the investment in federal research and development, encouraging cross-disciplinary partnerships to commercialize results. | F (D) | Despite increasingly urgent calls to increase federal R&D investment, basic research was only 0.79 percent of GDP in 2014—a 25 percent decline since 2003. And, that percentage is expected to shrink to 0.76 percent by the end of 2015.  
| Exhort the administration and Congress to work together, across party lines, to compromise on spending and revenue measures that will bring the Nation’s deficit and debt down to historical norms. | C (C) | While the modest economic recovery has reduced the ratio of debt to GDP, starting next year, the deficit is expected to grow substantially over the next decade due to an aging population, rising health care cost, expansion of health care subsidies and growing debt interest payments. Congress recently crossed party lines to pass a two year budget removing some short term uncertainty, but did not address the longer term structural issues. |
| Lower the corporate tax rate to 23 percent, in line with the upper quartile of OECD economies. | D (D) | The United States has the third highest general top marginal corporate income tax rate in the world at 39 percent, compared to the previous year’s 39.1 percent. This is the same as Puerto Rico and is exceeded only by Chad and the United Arab Emirates.  
| Reduce taxes on repatriated earnings to less than 5 percent, in line with other OECD economies. | D (D) | Corporate tax reform remains elusive, while $2.1 trillion remains locked up overseas due to tax rules that encourage companies to invest earnings outside of the United States.  

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<th>INFRASTRUCTURE</th>
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| Deploy modern and resilient energy, transportation and cyber infrastructure to encourage investment and production in the United States, and to take full advantage of domestic energy supplies sustainably. | C (C) | The U.S. continues to lag behind many overseas competitors in its transportation infrastructure, falling from 7th to 18th globally in less than a decade. In fact, 65 percent of America’s major roads are rated in “less than good” condition and nearly one in four bridges require significant repair. U.S. Information and Communications infrastructure is even worse, ranking 19th in the world.  
| Re-assert leadership in global trade, expanding market liberalization and forging strategic agreements with Brazil, China, India, Japan, the EU and the Trans Pacific Partnership Countries. | B (C) | Congress passed Trade Promotion Authority and Trade Adjustment Assistance bills in June 2015, allowing President Obama to finish negotiating the Trans-Pacific Partnership, which is now pending before Congress. |
| Re-authorize the Export-Import Bank and expand its mission to fund domestic infrastructure projects. | C (D) | The Export-Import Bank charter expired in July 2015, but recent congressional efforts to try to re-authorize it are pending and the measure appears to have the necessary votes to pass. |
Questions for the Candidates

Every four years, American citizens have the opportunity to elect a president based upon his or her vision for the country's future. Thus far the Republican and Democratic debates and the myriad of stump speeches have barely scratched the surface of critical competitiveness issues as outlined in the *Clarion Call*. The Council is, therefore, pleased to suggest the following questions for consideration by the presidential candidates and will be seeking their responses in the months ahead.

1. With the national debt totaling over $18 trillion and the Congressional Budget Office projecting that, despite lower deficits over the past two years, America is on a path where our debt will soon grow larger than the entire economy, how will you, as President, put the country back on a sustainable fiscal path?

2. While over the last five years, the unemployment rate has fallen from 9.6 to 5.0 percent, wage growth has averaged only about 2 percent and workforce participation rates continue to fall. What steps would you take to generate sufficient economic activity and job creation to truly fully employ Americans with better paying jobs?

3. Federal funding for scientific research, particularly for the physical sciences, continues to slide relative to GDP growth. How would you prioritize sustained increases in federal research in a time of constrained budgets?

4. United States infrastructure—including energy, water, transportation and cyber networks—is in desperate need of repair and modernization. How will America fund the approximately $3 trillion necessary to address this need?

5. The recent boom in shale gas and oil has lowered consumer energy bills and enabled energy-intensive manufacturers to invest and expand operations in the United States. What policies should be put into place to capitalize on this opportunity and further grow America’s manufacturing capacity?

6. Is a 4 percent annual economic growth rate achievable? If so, how would you get the economy to grow more rapidly?

7. Despite the contentiousness of the current immigration debate, a broad consensus exists regarding the benefits to the U.S. economy of attracting the best and brightest to study and work in the United States. Would you support a policy granting a green card to any foreign graduate of a U.S. university?

8. New business start-ups and those businesses seeking to scale up their operations are responsible for the majority of job creation in the United States, yet often suffer the greatest burdens from regulations and tax policy. What specific policies would you support to unleash these engines of economic growth?

9. Given the link between average income and educational attainment, how can America ensure the greatest possible access to affordable higher education?
The Path Forward

The Council’s CEOs, academic and labor leaders and national lab directors remain committed to both putting forward a pro-growth agenda to enhance American competitiveness and to promoting that agenda with policymakers at all levels. The Clarion Call stands as a guidepost for those looking for the path forward.
About the Council on Competitiveness

WHO WE ARE
Founded in 1986, the Council on Competitiveness is a non-partisan leadership organization of corporate CEOs, university presidents, labor leaders and national laboratory directors committed to advancing U.S. competitiveness in the global economy and a rising standard of living for all Americans.

Dedicated to building U.S. prosperity, the Council plays a powerful role in shaping America’s future by setting an action agenda to assess U.S. competitiveness, identify emerging forces transforming the economy, catalyze thought leaders who drive change and galvanize stakeholders to act.

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HOW WE OPERATE
The key to U.S. prosperity in a global economy is to develop the most innovative workforce, educational system and businesses that will maintain the United States’ position as the global economic leader.

The Council achieves its mission by:

• Identifying and understanding emerging challenges to competitiveness
• Generating new policy ideas and concepts to shape the competitiveness debate
• Forging public and private partnerships to drive consensus
• Galvanizing stakeholders to translate policy into action and change

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