February 2009 Brookings Competitiveness Initiative

STRENGTHENING AMERICAN COMPETITIVENESS: REGAINING OUR COMPETITIVE EDGE

FOUR PRIORITIES AND 20 NEW IDEAS

Jason Bordoff, Lael Brainard, Carola McGiffert and Isaac Sorkin

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Introduction

The United States is in the midst of the most serious economic downturn since the Great Depression. Policymakers are understandably preoccupied with applying the right mix of fiscal and monetary policy responses to stanch and eventually reverse the decline. At the same time, policymakers need to build a foundation for sustainable, long-term prosperity that can drive our economy once we move beyond the present crisis. Going forward, the economy will no longer have the technology boom of the 1990s or the housing bubble of the 2000s to sustain its growth. And it is unlikely that debt-driven consumer spending or Wall Street will provide the same boost as in the past. If we are going to provide opportunities for all Americans going forward, we need to make the right investments today to rebuild American competitiveness by investing in our people, infrastructure, ideas, and green transformation.

This paper addresses this central challenge for the United States. We begin by discussing the economic downturn and financial turmoil facing the country and how policymakers should respond to both boost our economy in the short-run and also build the foundations for long-term competitiveness. Second, the competitiveness agenda is motivated by, and must therefore be responsive to, at least three changes in the fabric of the global economy: the increase in global integration; the attendant shift in economic power to rising powers such as Brazil, China and India; and the realization of the existential threat that climate change poses. Finally, we lay out the fundamentals of a competitiveness agenda through descriptions of specific policy proposals by leading experts on how to invest more robustly in infrastructure, people, ideas and green transformation.

Taking Stock: The Central Challenge in Context of the Financial Crisis

Currently, President Barack Obama and congressional leaders from both parties are rightly focusing their attention on the financial crisis and recession at hand—and the tens of millions of Americans struggling to keep their jobs and their homes. As the new administration and Congress continue to work through the specifics of a fiscal stimulus that will truly jumpstart the U.S. economy, they should use this opportunity to tackle the longer-term challenges to American competitiveness by focusing on programs that could enhance the nation's competitiveness in the long-run and also provide effective stimulus in the short-run by boosting aggregate demand quickly. Two kinds of spending have the potential to be effective if well-designed and well-implemented: spending for infrastructure and spending for economic security.

Federally funded infrastructure development, particularly for "shovel-ready" projects, has the potential to be smart policy in the face of what is expected to be a long and deep recession: it not only creates jobs, but also builds the highways and ports of tomorrow. Without federal support, states and localities (which generally may not run deficits) are likely to cut spending on infrastructure projects, at precisely the moment government spending needs to stimulate the economy by boosting demand. Investing in infrastructure can promote U.S. competitiveness. Our bridges and railways are crumbling, our ports are overwhelmed, and our communities are not fully wired for advanced communications. In fact, the American Society of Civil Engineers gives the current U.S. infrastructure an overall grade of D.

Another central component of a successful economic recovery plan is enhancing economic security. Working Americans have inadequate safety nets during today's economic downturn or periods of transition —only 40 percent of eligible citizens use unemployment insurance and it only replaces about a third of their pay. Fifteen percent of Americans—46 million people—have no health insurance, and millions more are underinsured. And for those Americans with employer-sponsored health coverage, losing a job too often means losing health care. Indeed, the social safety net erodes during economic downturns, precisely at the time it is most needed.

Washington must provide safety nets for workers hurt by the economic downturn while preparing them for new jobs in an increasingly competitive global economy. Doing so is not only good for workers, but also good for the economy. Expanding the safety net, such as by extending unemployment insurance benefits or increasing food stamps, would provide money to those who need it most and are most likely to spend it quickly. Boosting funding for Medicaid and providing aid to states in other ways would prevent cut-backs in state programs that both the economy and struggling families can ill afford.

More broadly, although we urgently need to focus on stimulating the economy, we should not lose sight of the broader challenges to American competitiveness and respond with policies for future growth.

For example, education and skills training must factor into any longer-term effort to rebuild the American economy. Almost a quarter of American youth drop out of high school; and more than a third of

minorities do not receive a high school diploma. And we are also failing in higher education. For example, only a third of American 24-year olds hold a bachelor's degree; while worldwide at least 13 other countries have a higher share of 24-year olds with bachelor's degrees than in the U.S.

Increasing innovation will also be central to longer-term efforts. One of the many areas that we have neglected for too long is energy. After a boom in spending following the 1973 oil crisis, energy R&D has declined over the past 25 years—indirectly worsening global climate change when we need to tackle it with full force.

In addition, despite a sea change in environmental awareness, emissions have continued to grow in the U.S. Across the economy and through every facet of life, individuals, firms and governments have not begun to make the changes that will be necessary to reduce greenhouse gas emissions. If we do not act now, not only will we face potentially grave environmental consequences, but the subsequent economic adjustment will be even more costly to our workers.

In short, the American people, the bedrock of the U.S. economy, must be empowered to fully participate in a globalized economy and to nimbly respond to dynamic changes that we cannot predict but know will come. How could we do anything less? Yet, the temptation to do less is what we face today. We must support the productive capacity of our people by providing them with a 21st century infrastructure, and investing in innovation, research, green transformation and advanced information and communications technologies.

A New Course for the U.S. Economy

In his inaugural address, President Obama was clear and forceful in calling for renewed focus on the competitiveness of the U.S. economy: "The state of the economy calls for action, bold and swift, and we will act—not only to create new jobs, but to lay a new foundation for growth." To achieve this goal, President Obama must lay the foundations to ensure that America does not lose its historical competitive edge. In recent years, Washington's attitude toward the American worker has too often been one of neglect—and without the cutting-edge tools required to compete in a dynamic global marketplace, our workers have been falling behind. In one of the most troubling economic signs, workers with professional degrees were the only group to see income increases between 2000 and 2007, according to the Census Bureau. Workers with other educational backgrounds—from high school drop-outs to those with PhDs—saw their salaries *decrease* in real terms during this period of economic expansion.

Any competitiveness agenda, of course, will be offered in the context of a broader set of issues any president must address, and *this* president inherits no shortage of even more urgent crises: two wars, a depleted and demoralized military, a yawning budget deficit, and the most challenging economic environment in decades. Priorities that have been ignored for too long demand attention and dollars. In short, the new administration is expected to fix what has been broken and to meet the real needs of Americans who have been struggling in the face of declining house prices, plummeting retirement portfolios, lost jobs, and a global financial crisis.

For years, record current account surpluses in Asia, notably China, and among oil exporting nations financed unsustainable spending in the United States and around the world. The widespread availability of cheap credit, combined with weak financial oversight, enabled households to take on large amounts of debt, contributing to a housing bubble. Inadequate U.S. banking standards led to the collapse of the global credit system, with calamitous effects that some economists consider the worst since the Great Depression.

In these perilous economic times, the federal government must help those struggling to make ends meet. Americans are anxious and scared: Will they be able to keep their jobs or find new ones? Will they be able to keep their houses? Will their children have access to a good education? Can they afford health care? Can they retire? These urgent questions call for immediate answers.

A new agenda for action begins with a presidential vision for how the United States can regain its competitiveness by making a major investment in the American people, the tools they need to succeed and the safety nets that will help them manage transitions. Health care reform, education, job training, innovation, infrastructure, and economic security are all critical components of a forward-looking, integrated competitiveness agenda. Addressing our climate change challenge is also critical to long-term competitiveness, and indeed our efforts in every other policy area need to be consistent with meeting our climate objectives.

Competitiveness in a New World Order

To craft a new course for American competitiveness, we must first recognize how the world has changed, and what this means for the United States and our global role. The first decade of the 21st century has been one of global economic transformation to a degree that Washington has not yet grasped.

The world has fundamentally changed, but U.S. policies have not. We now need to catch up and begin adapting to three fundamental global changes.

First, we live in a global economy and it is here to stay. The global economy is significantly larger, more dynamic and more integrated than ever before. Since 1992, for example, global output has more than doubled, to $48 trillion. From 2000 to 2007 alone, the volume of world trade increased by 80 percent.

Globalization is fundamentally altering labor markets around the world. Today, 80 percent of American workers are in services, up from 65 percent in 1960. And the cheap and easy flow of information enabled by the Internet means that many service jobs can be performed from almost anywhere, raising domestic fears of offshoring millions of service jobs.

The unequal distribution of the benefits of globalization makes many Americans anxious about their futures. The integration of the combined low-wage labor forces of India and China into global labor markets has likely exacerbated income inequality in many of the world's richer economies. Ensuring that American workers have both the skills needed to compete for the best, highest-paying jobs and the economic security to weather tough times is the cornerstone for rebuilding American competitiveness.

Second, the global balance of economic influence has shifted dramatically. America's traditional place as the world's economic leader, which grew out of Bretton Woods, is being challenged. The Group of Seven economies once dominated the global economy, producing 65 percent of world output just five years ago. By 2030, the G-7's share of world output is expected to fall to 37 percent. Perhaps even more striking, the major emerging economies will almost match that share, with an expected 32 percent of global output by 2030 (up from seven percent in the early 2000s). The United States, Europe and Japan increasingly are sharing the stage with powers such as Brazil, China and India.

The Asia-Pacific region accounts for nearly 60 percent of world economic output and about half of global trade. China alone accounts for more than one-tenth of global output. If per capita income in China continues to grow by 7 percent a year, China's average living standard will rise a hundred fold over a lifetime of 70 years—which will have a vast impact on the United States and other economies. A striking example of this major shift in the balance of power is provided by the World Trade Organization's Doha Round of negotiations to liberalize international trade: For the first time in history, a round of these negotiations cannot succeed without the agreement of the largest emerging markets.

This dispersion of economic power means that nations that once watched from the sidelines are now production and distribution hubs, service centers and financial headquarters. They are accumulating

wealth, moving capital and investing at home and abroad. Take ports, for example. Other countries are leapfrogging past us by investing in world-class ports. China is investing $6.9 billion in ports; the port of Shanghai now has almost as much container capacity as all U.S. ports *combined.* Singapore, too, with a population of less than five million people, is spending well over $7 billion to increase its container capacity, and as a result, its port will have 30 percent more container capacity than all U.S. ports combined. In many other ways, too, these governments are investing in their people, ideas, and infrastructure, reflecting a deep commitment to the long-term prosperity of their people. The U.S. government should be similarly committed, or else we will place our workers at a disadvantage.

Third, climate change is a central global challenge of our time. Climate change has entered the global consciousness as a serious challenge that needs an urgent response. The Intergovernmental Panel on Climate Change estimates that global temperatures have risen by 1.3 degrees Fahrenheit over the past century, and it predicts an increase of 3.2-7.2 degrees by the late 21st century, with potentially dire ramifications—like flooding of coastal population centers.

Climate change is the quintessential unintended negative consequence of globalization and rising economic prosperity. Pollution, along with goods and services, crosses borders—and China reportedly opens two new coal-fired power plants each week. Amazonian rain forests, one of the major carbon sinks in the world, are being depleted to make way for soybean fields, in response to booming global demand. The destructive effects of this degradation are real and far-reaching: rising sea levels, threats to coastal areas, displacement of people, erosion of natural habitats, extreme weather patterns, and scarcity of resources, like food and water, that can lead to famine or, increasingly, to armed conflict. Dramatically reducing our greenhouse gas emissions will require new technologies and new policies. Though doing so will impose a cost on the economy, we can minimize the adverse effects on our competitiveness by making the right policy choices.

Within this broader political context, President Obama needs to initiate a major strategic response to the new global economy and its challenges to U.S. competitiveness. To do so effectively, he must invest anew in the tools that undergird U.S. competitiveness for the long-term: people, ideas, infrastructure, and green transformation.

The measure of our competitiveness is not solely productivity growth, but importantly the extent to which all Americans are able to share in the benefits of that growth. It is about providing opportunities for Americans from across socio-economic, racial and ethnic lines to thrive.

Increased competitiveness need not come at the expense of others at home or overseas. An expanding global economy means that more nations and people can achieve higher standards of living. Indeed, the global economy has contributed to lifting hundreds of millions out of poverty around the world.

The threat to U.S. competitiveness is not that emerging economies are becoming too strong, but that polarization and paralysis in Washington have allowed the U.S. economy to become too weak. While other

nations have been investing heavily in their people, ideas and infrastructure (and some in their own green transformations), the United States has been spending down the public goods that are crucial for our children's prosperity. It is past time to invest in America's society and economy.

A Four-part Competitiveness Agenda: Investing in America's Future

What follows are some innovative ideas of leading experts affiliated with the Brookings Institution on the fundamentals of a forward-looking competitiveness agenda. These proposals are pragmatic approaches to addressing key challenges of the agenda's four basic dimensions—infrastructure, people, ideas and green transformation. Together they suggest ways to grow the U.S. economy in order to create opportunities widely accessible to all Americans.

1. Investing in Infrastructure

Investing in infrastructure should be a central focus of any stimulus package; it will be a critical part of the effort to not only climb out of today's deep economic downturn but also boost U.S. competitiveness over the long term. Infrastructure is a visible, tangible representation of how well government works; most Americans interact with some form of government-funded infrastructure on a daily basis. Poor infrastructure undermines popular confidence in government. It also distorts economic activity and slows down productivity. In this sense, weak infrastructure can be seen as a tax on every good produced in the United States. Roads, bridges, railroads, airports, information technology and ports form the connective tissue of our economy. They allow goods to move rapidly from one part of the country to another—and from the U.S. to the rest of the world.

For too long, the U.S. has badly neglected investments in infrastructure. The American Society of Civil Engineers has given our rail systems a C-, our energy infrastructure a D+, our air traffic infrastructure a D, and our roads and inland waterways a D-. The Congressional Budget Office estimates that infrastructure spending is 20 percent below what would be required to avoid further deterioration, let alone to begin to repair the damage of years of neglect and move forward. When time is money, delays associated with weak infrastructure reduce our competitiveness. Substandard port infrastructure, for example, means that by some estimates the U.S. forgoes $10 billion in exports every year.

In addition, infrastructure development will be fundamental in the shift toward the new green economy. The transportation sector is responsible for one-third of all greenhouse gas emissions in the U.S. and 70 percent of the nation's oil consumption. Any effort to improve infrastructure should internalize the associated emissions costs.

Of course, the federal government can't go it alone on infrastructure. Around 80 percent of infrastructure spending is controlled by state and local governments, and the federal role is as much about coordinating and setting priorities as it is about actually funding projects. So what can be done?

- **Triage the challenge.** All too frequently, the U.S. government addresses infrastructure deficiencies with a Band-Aid, when what is needed is a comprehensive medical plan, one with an effective triage system in place. Rob Puentes recommends establishing a strategic transportation investments commission to prioritize federal transportation infrastructure investments. This commission would focus on three specific program areas of national importance: the preservation and maintenance of the Interstate Highway

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System, the development of a true national intermodal freight agenda, and a comprehensive national plan for passenger travel between metropolitan areas. Investments would be selected based on a cost-benefit analysis and extensive outcome measures.

- **Reduce traffic.** More cars on the road mean more congestion, accidents, greenhouse gas emissions, local pollution and dependence on oil—not to mention time that could have been spent on more productive pursuits. In 2005, drivers lost an estimated 4.2 billion hours in delays on congested roads. More efficient use of existing resources could have significant benefits. The government should send price signals to users that more realistically reflect the cost of infrastructure, and it should use some of the revenue to offset adverse distributional effects. David Lewis proposes charging drivers who use congested roads during peak hours. A portion of toll revenues would fund a locally-designed, progressive, refundable mobility tax credit to compensate low- and middle-income drivers most burdened by congestion pricing. The rest of the revenue would be invested in improving the transportation system (both roads and public modes). Anthony Downs suggests that "high occupancy toll" lanes be added to major commuter routes, offering drivers the option to pay a toll if they want to avoid congestion. He also calls for constructing new roads in growing areas and investing in programs to encourage carpooling and public transportation. Jason Bordoff and Pascal Noel suggest pay-as-you-drive auto insurance, based on miles driven, rather than a lump sum, which would provide drivers with an incentive to reduce mileage: they estimate that driving would decline nationwide by 8 percent, netting society the equivalent of $50 billion to $60 billion a year through the reduction of driving-related harms, such as congestion, pollution and accidents, all while saving two-thirds of households money.

- **Upgrade freight efficiency.** Tens of millions of tons of goods, valued at tens of billions of dollars move billions of miles on America's interconnected transportation network each day, about 40 percent by rail. Faster-growing volumes of goods, physical capacity limitations, missing links, equipment shortages and labor shortages are undermining the efficiency of the overall freight network—slowing international com-

merce to a crawl when it comes inland. Martin Robins and Anne Strauss-Wieder call for a multimodal, systems-based approach to the nation's freight needs, involving regional coordination, public-private partnerships and federal funding. Dorothy Robyn proposes improving the air traffic control system by shifting to a cost-based user fee that would reduce congestion caused by smaller planes, improving the performance of the system as a whole. She also suggests shifting the regulatory structure of air traffic control to reduce conflicts of interest and improve governance. Without this strategic investment, congestion and inefficiencies will continue to worsen, adversely affecting the nation's economy and global competitiveness.

- **Expand access to broadband.** Broadband access could contribute greatly to economic growth and competitiveness. A one-percentage-point increase in broadband penetration increases employment by 0.2 to 0.3 percent — about 300,000 jobs. We are moving in the right direction: over the past eight years, the broadband market has grown dramatically. The number of subscribers has increased nearly 300 percent since 2000, prices have declined and service is getting faster and faster. Robert Crandall, Robert Hahn, Robert Litan and Scott Wallsten advocate federal policies focusing on incentives for broadband suppliers to invest in network upgrades that extend service and continue to improve quality and speed. Regulations that deter new market entry should be eliminated. Jon Peha suggests that subsidies may have a role in expanding broadband access to underserved rural America. He argues that in communities without broadband, firms should bid in a reverse auction for the lowest government subsidy necessary to complete a particular broadband project, defined by tradable milestones.

- **Sell the wireless spectrum.** Demand for the wireless spectrum is soaring, as evidenced by the $19 billion payment for a prime chunk of the spectrum that was auctioned by the Federal Communications Commission in early 2008. Philip Weiser proposes a series of policies that would reform the spectrums' regulation to better capture its potential—including the establishment of an FCC database of spectrum licenses and a program for identifying unused spectrum; auctions of the highly valuable spectrum currently occupied by broadcast television; and a re-chartering of the FCC to create a regulatory system that better manages potential technical interference between adjacent spectrum licensees. These reforms would make more effective use of the wireless spectrum, removing a barrier to economic growth.

2. Investing in People

The United States has long underinvested in its people. Its workers—of today and tomorrow—are the bedrock of its economy and the best tool to rebuild its competitiveness. America must reinvest in its workers, at every phase of their lives, in three basic ways: by providing affordable health care, lifelong learning opportunities, and economic security.

The first basic way to invest in people is to build an affordable, flexible health care system. The facts are shocking: 46 million Americans are uninsured, and about 9 million of these are children. Tens of millions

The first basic way to invest in people is to build an affordable, flexible health care system. The facts are shocking: 46 million Americans are uninsured, and about 9 million of these are children.

more are underinsured. The lack of good, affordable and portable health care has serious costs for the productivity and competitiveness of the American worker and economy at large. Healthy workers are productive workers. Healthy children miss fewer days of school, meaning fewer days of missed work for parents. Workers with portable insurance can choose jobs that are good for them—and hence the economy—rather than jobs that have good benefits. They can also start businesses without worrying about imperiling their health care coverage.

Without bold action, the health care system is headed for a collapse, because its costs are rising at an unsustainable rate. Over the past 30 years, total national spending on health care has more than doubled as a share of gross domestic product. According to the Congressional Budget Office, that share will double again by 2035, claiming more than 30 percent of the economy.

In addition to lowering costs, we also must expand coverage. Providing health care is a moral responsibility for any society. It is fundamentally a question of human decency, and it has the benefit of making good economic sense over the long term. Health care is about treating our people with fairness and dignity; all Americans deserve access to quality health care. Lamentably, the fragmented U.S. health care system does not reflect this principle. President Obama and his administration need to implement a comprehensive reform of health care that ensures high-quality, cost-effective and portable care for all Americans at all stages of their lives.

Comprehensive health care reform must start with the reality that there is no cost-free panacea, and Washington will almost certainly have to spend money in the short-term to achieve long-term goals. But to fail to do so would be worse for American families, workers and economic competitiveness. As Joseph Antos and Alice Rivlin have observed, making health care more affordable while maintaining the highest quality of care will require multiple policy interventions and persistent effort. Only a combination of market and regulatory strategies will move the current system toward both greater efficiency and equity. Here are highlights of some of the issues that must be addressed and some proposed solutions:

- **Spend smartly**. Getting the most bang-for-the-buck in our health care spending is a crucial part of reforming the health care system. As

part of a broader reform package, Jason Furman has recommended a system of progressive cost-sharing in health insurance that would encourage individuals to choose their health care more wisely. All families would have affordable caps on their out-of-pocket health expenses, protecting them from major risks. This approach could make health insurance more affordable, reducing premiums by 22 to 34 percent and total health spending by 13 to 30 percent. Jeanne Lambrew has proposed creating a wellness trust to focus attention on the chronic and preventable diseases that account for most of the costs in the system. The trust would take preventive services out of disparate parts of the health care system and assemble them under a single agency, which would prioritize, fund and deliver preventive services. Because prevention is cheaper than the cure, this could deliver major savings in the long-run.

- **Expand access.** Every American deserves access to a comprehensive package of health benefits. Ezekiel Emanuel and Victor Fuchs have proposed a universal health care voucher system that would seek to correct the incentives facing private insurers to exclude some individuals and harness the efficiency of the market while advancing fairness and choice. They recommend funding the system with a value-added tax to replace the premiums currently paid by employers and families. Gerard Anderson and Hugh Waters argue that universal care can be achieved by allowing everyone to buy access to Medicare. Jonathan Gruber draws on the Massachusetts model to suggest a combination of vouchers and mandates and the creation of new insurance pools to provide affordable access to health care for all.

- **Ensure portability and expand coverage.** Traditional employer-sponsored health care plans do not fully take into account that today's workers are more mobile, part-time, self-employed or employed by smaller firms; health care coverage for this growing part of the American workforce is unpredictable and often expensive. To address this gap, Stuart Butler has proposed establishing a health exchange plan, which would complement (not replace) the traditional employer-sponsored system by offering portable, universally available coverage options through state-chartered "insurance exchanges," convert non-sponsoring employers into facilitators of employee coverage and reform the tax treatment of health care to promote efficiency and fairness. A system like this could enhance the health and economic security of all working families.

The second basic way to invest in people is to encourage lifelong learning. Our schools are graduating too many children and youth who are unprepared for the global job market, and they are failing to provide both teachers and workers with lifelong learning. Demographic trends suggest that by 2020, roughly 30 percent of the working-age population will be Latino and African American. We cannot afford a system that risks allowing these groups, along with low-income students, to fall behind academically.

Education is critical in generating opportunity for Americans of all ages and backgrounds; it is also a major contributor to long-term economic growth.

At every stage of life—from early childhood to continuing education and job training—Americans deserve access to the best education and the best teachers. Like health care, failure to provide good-quality education not only puts the individual student or worker at a major disadvantage but also impairs the long-term competitiveness of the U.S. economy. Specific ideas for improving education include:

- **Start early**. Investing in early childhood learning is, like preventive health care, perhaps one of the most important actions that Americans can take, as parents, as educators and as a government. Cost-benefit analyses show that early childhood education has proven, measurable pay-offs over the long-term for children themselves as well as their communities and the society where they will work. Children participating in early childhood education have a higher rate of high school graduation, are less likely to commit crime, and are more likely to get good jobs. Julia Isaacs proposes providing federal funding for high-quality, half-day, center-based preschool programs for both three- and four-year old children, with subsidies based on a sliding scale and curricula in the hands of the center directors. Such a program would include "wrap around" care for the rest of the working day and the summer and would contribute over time to the national bottom line: according to William Dickens, Isabel Sawhill and Jeffrey Tebbs, a federal policy that mandates high-quality universal preschool could annually add $2 trillion in today's dollars to the nation's GDP by 2080.

- **Close the gap.** There is broad agreement that, as a whole, U.S. public schools are not educating our children effectively. More than a fourth of fourth graders cannot read at a basic level and an estimated 30 percent of ninth graders fail to graduate. The lowest-performing schools are heavily concentrated in minority and low-income communities. To address this negative trend, Isaacs recommends focusing federal funding on the early years of elementary schools in low-income neighborhoods. Robert Gordon, Thomas Kane and Douglas Staiger argue that public education ultimately succeeds or fails based on the abilities of America's 3.1 million public school teachers; they propose reducing barriers to entry for teachers and making job tenure more difficult to attain. Hugh Price similarly advocates a system of carrots and sticks to improve the educational outcomes at schools where a substantial portion of the students score below the basic level on standardized tests. Research suggests that some students from poorer families do not attend college because of insufficient funds. Hugh Price, Amy Liu and Rebecca Sohmer propose expanding access to college by increasing the value of Pell grants, which has not kept pace with inflation; they also argue for more financial aid for part-time and nontraditional students. Under any proposal, the financial aid system must be made transparent so students can easily find out how much financial aid they are eligible for before deciding to apply to college. Susan Dynarski and Judith Scott-Clayton propose radically simplifying financial aid so that a student's eligibility and level of financial aid can be calculated on a postcard.

- **Retrain workers.** The dynamic nature of the global economy means that American work-

ers must be ready for natural structural shifts in job markets. Jobs are lost in one sector or one geographical region, while jobs are created in others. Workers move from job to job, seeking better opportunities. In 2007, for example, 54.6 million workers (39.6 percent of the labor force) left their jobs. More than half voluntarily quit their jobs, while slightly more than a third were laid off or discharged. At the same time, there were 57.7 million new hires, absorbing 42 percent of the labor force. The good news is that opportunities abound in the still-dynamic U.S. economy. The bad news is that transitions can be difficult; but the federal government can—and should—help. Americans willing to work hard and take on new challenges will be rewarded throughout their careers, but need opportunities to gain new skills and learn new technologies. Bob Giloth and Bruce Katz call for the expansion of private workforce intermediary organizations, which help connect employees and potential employers. Harry Holzer proposes a new federal funding stream to identify, expand and replicate the most successful state and local worker advancement initiatives, under which the federal government would offer up to $5 billion annually for state, local and private worker advancement programs, job placement assistance and other support, such as wage supplements. This program would target at-risk youth, hard-to-employ individuals, and low-earning adults.

The third basic way to invest in people is to provide economic security. This can be done in several innovative ways:

- **Strengthen insurance for jobless workers.** Part of economic security is about ensuring that workers have the means to weather difficult financial situations and acquire the skills to get back into the job market. Yet the U.S. job-sector safety net remains one of the weakest among advanced economies. Today, only about 40 percent of jobless workers receive benefits under federally mandated unemployment insurance. Benefits vary from state to state and are often not available under the same roof, despite "one-stop-shopping" principles. Even if eligible, a displaced worker receives an average of only $260 in unemployment insurance a week, well below the poverty line for a family of three. Permanently displaced workers face earnings declines of between 14 and 20 percent. Jeffrey Kling has proposed overhauling the unemployment insurance system to better protect workers against the long-term effects of involuntary unemployment, more progressively allocate benefits, reduce incentives for firms to lay off workers, and encourage reemployment. Lael Brainard has emphasized the importance of more flexible, longer duration and more accessible training opportunities and increased unemployment and earnings insurance for those permanently displaced from their jobs—along with rapid assistance for communities suffering major employment losses.

- **Reward work.** Providing greater incentives for people to work makes better use of our people and strengthens incentives for people to acquire the skills they need to find work. Increasing household income also complements early childhood education as it increases the resources available to children growing up. Alan Berube, David Park and Elizabeth Kneebone propose expanding and revising the Earned Income Tax Credit by increasing its size for childless work-

ers, working families with three or more children and married couples. They also propose changing the way it is administered so that eligible tax filers receive the benefit throughout the year, rather than all at once.

3. Investing in Ideas

America has been losing its historical dominance in science and technology because Washington has failed to invest in R&D, while other nations have been doing just that. Because growth is largely the product of innovation, the U.S. must stay on the cutting edge of innovation to ensure that its people can find opportunities and achieve prosperity. Failing to do so puts at risk the flow of new ideas and technologies, and undermines U.S. competitiveness. President Obama must put in a place a system that protects and encourages innovation by enabling the U.S. to:

- **Provide incentives for innovation.** For centuries, governments and individuals have offered financial prizes to encourage innovation; under the right conditions, this is money well spent. Thomas Kalil suggests that the U.S. government make greater use of inducement prizes to spur more innovative solutions to a range of scientific challenges. He cites five areas—space exploration, African agriculture, vaccinations, energy and climate change, and learning technologies—where prizes could help generate effective new ideas and technologies.

- **Patent only the best.** The U.S. patent system is broken; it hinders innovation not because it provides too few patents but because it issues too many. This patent thicket means that in many areas the costs of patent litigation exceed the value of the patents themselves. Doug Lichtman argues for extending a strong presumption of validity only to patents that have been adequately reviewed, and making applicants pay the cost of the review. This will enable only worthy innovations to receive patents, thus leaving open the possibility of greater innovation in those areas where patents have not yet been granted.

- **Invest in blue-sky R&D**. Almost two-thirds of total spending on research and development comes from the private sector. Though the private sector should continue to take the lead in funding R&D, the U.S. government has a critical role to play; because businesses do not capture all the benefits of their research, they tend to underinvest in R&D, especially the basic research that might have the biggest long term pay-offs to society. And firms capture less than one-quarter of the value of their innovations, reducing their incentives to invest in any R&D that is not immediately commercially marketable. Bordoff, Michael Deich, Rebecca Kahane, and Peter Orszag argue for refocusing federal investments in R&D on blue-sky basic research. Litan, Lesa Mitchell and E.J. Reedy recommend reforming the system of technology transfer from research universities to the marketplace so that universities focus on the volume of transfer rather than profitability, to support the commercialization and diffusion of as much basic research as possible.

- **Promote innovation clusters.** Regional industry clusters, through their agglomeration effects,

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have long represented a valuable source of innovation, productivity and job creation. The federal government can help boost competitiveness by catalyzing increased cluster activity in U.S. regions. According to Karen Mills, Elisabeth Reynolds and Andrew Reamer, Washington should establish a cluster information center to map the geography of clusters; maintain a register of cluster initiatives and programs; and conduct research on cluster dynamics, effects and best practices. In addition, a grant program to support regional and state cluster initiatives nationwide would direct financial and other assistance to cluster initiatives. The preferred home for this two-part program would be a national innovation foundation—which Robert Atkinson and Howard Wial propose creating—a nimble, lean and collaborative entity devoted to enabling firms and other organizations to maximize their innovation activities.

4. Investing in Green Transformation

An essential component of an effective long-run competitiveness agenda is combating climate change. The question is whether Washington will chart a strategic approach now, or a reactive one later. As the world's most energy-intensive nation and a major emitter of greenhouse gases, the U.S. has a responsibility to lead the fight against climate change. Although taking aggressive action on climate change now will have some economic cost, it is less expensive over time than doing nothing or delaying. Moreover, *how* we address climate change can have large implications for American competitiveness. Poorly designed policies will be much more costly—thus hurting our economy and disadvantaging our workers.

Serious action to address climate change can not only improve the environment and avoid more costly consequences in the future, but can also lead to investments in green technology research that help build a stronger, more dynamic U.S. economy. The United States can remain the world's innovation leader; taking the lead in developing ways to make reducing emissions cheaper can inspire innovation clusters around energy technology. Such clusters can be a source of job growth, while also addressing climate change and increasing American predominance in innovation.

In short, addressing climate change need not come at the expense of American competitiveness. With

the appropriate policies, we can reduce emissions at low economic cost and make America the center of green innovation. But if the greening of the American economy is not a central part of the competitiveness agenda, we will reduce future prosperity with one hand even as we try to build it with the other. Here is how we can do it correctly:

- **Get prices right.** Moving toward a green economy will require large long-term investments by all sectors of the economy. To encourage these investments, the government should provide payoffs for them by placing a price on emitting greenhouse gases. The price signal can efficiently shift the economy to a low-greenhouse gas future by providing incentives for demand reductions and fuel substitution, which the development of new technologies can help realize. Gilbert Metcalf proposes placing a tax on greenhouse gas emissions. Robert Stavins proposes placing a cap on the amount of greenhouse gas emissions and then introducing tradable permits so that emitting carries a cost. Warwick McKibbin, Adele Morris and Peter Wilcoxen propose a hybrid system that combines features of both proposals to ensure a modest but credibly increasing price for greenhouse gas emissions. All three proposals provide mechanisms for mitigating the adverse distributional impacts of these pricing schemes.

- **Invest in green R&D.** Moving toward a green economy requires increasing our investment in new energy ideas. New technologies will lower the cost of shifting to new kinds of energy or reducing demand. Yet just as the private sector under-invests in innovation in general, it also under-invests in energy innovation. Richard Newell proposes doubling federal funding for basic climate change mitigation R&D and using some of the additional money for prizes targeting specific technological breakthroughs to draw ideas from a broader set of innovators.

- **Green government decisions.** Federal policy decisions affect the ability of individuals and firms to reduce emissions cheaply. If development is less dense or rail transit is not available, then it is more expensive to choose to drive less, or to transport goods with fewer emissions. Federal housing policy, too, has large impacts as it affects where people locate relative to public transit. Federal policy currently favors highway over rail spending, and public housing decisions do not take into account their emissions impact. Marilyn Brown, Frank Southworth, and Andrea Sarzynski lay out the myriad ways in which federal policy choices in seemingly unrelated areas exacerbate climate change. They propose a new federal agenda to reduce emissions by promoting more transportation choices, introducing more energy-efficient freight operations, and using federal housing to promote energy-efficient location decisions. They also propose simple regulatory changes to make the energy efficiency of residential housing more transparent so that individuals can take this into account when making housing decisions.

Conclusion: Getting the Job Done

Our nation's policies have failed to keep pace with the rapidly changing global economy, and today American workers and students are inadequately prepared to compete effectively. We can take back the competitive edge by investing in America's ideas, infrastructure, people and green transformation.

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