Introduction: Meeting the New Economic Challenge—Forging an American Dream for the Twenty-First Century

In the first decade of the twenty-first century, America is rediscovering the need for a national competitiveness strategy. After a decade of rising prosperity in the 1990s, the United States has struggled through three years of bust beginning in 2000. The country also faces new competitors and a new form of global competition. Established competitors such as Germany and Japan have been joined by emerging economic powers such as China, India, and parts of the former Soviet empire. The determination of China to become an economic power, India's shift toward international markets, and the collapse of the Soviet Union have essentially added 2.5 billion people to the world labor supply. The Soviet Union had always emphasized the importance of preparing students for scientific and engineering careers. China and India are now investing heavily to develop a scientifically trained workforce that can compete for sophisticated manufacturing and services. The combination of digital technology and the spread of the Internet have created a whole new kind of global competition. Any task that can be digitized —from financial analysis to chip design to reading X-rays—can now be performed anywhere in the world.

Thirty years ago, the United States faced another period of economic troubles. By the late 1970s, its economy was mired in a mix of seemingly intractable inflation, declining productivity growth, and rising international competition. This economic challenge eventually brought a national response that led to a new set of public policies focused on long-term productivity growth. Clustered under the broad umbrella of a national competitiveness strategy, these new policies would eventually play a critical role in driving America's economic success in the late twentieth century. The same broad

strategy provides the outlines for long-term economic strength in the twenty-first century.

From the start, the search for a competitiveness strategy was linked to the American Dream of greater individual opportunity and a rising standard of living for all. The strategy, born at the end of the 1970s in the midst of the Cold War, was also based on the premise that economic strength supported American leadership abroad. The Cold War was, after all, not just a struggle of military might but also a contest of values and economic systems. While Germany and Japan remained key allies in containing the Soviet Union, their rise to economic prominence in the 1970s and 1980s challenged the industrial and technological foundation that had given the United States a military edge. Neither Germany nor Japan emphasized the classic American virtues of largely unfettered free markets or limited government support for industry. In a fundamental sense, they posed a challenge to vaunted American values and to the superiority of the U.S. economic system.

The national competitiveness strategy was the product of an extensive search for new ideas and new policies that would put America on the path to sustained economic growth. *Building the Next American Century* is about that search for new ideas and the policies that followed and their contribution to long-term growth. Policymakers were critical to the effort, but so were private-sector leaders, academic specialists from a variety of disciplines, and the policy community in Washington.

In public hearings and private-sector reports, the advocates of an activist national competitiveness strategy forged various policy elements into a strategic whole. They stressed the impact of monetary and fiscal policy in creating a climate favorable to public and private investment. To the existing national commitment to basic research, they added an emphasis on basic technology, technology policy, and an economic climate that fostered rapid commercialization. By the end of the 1980s, the initial emphasis on education and training had become a call for lifelong learning to keep skills fresh and opportunities alive. In addition to the long-standing U.S. commitment to international trade, the competitiveness strategy put added emphasis on export promotion and access to closed markets overseas.

As the 1980s progressed, there emerged the outlines of what I call a "New Growth Compact" that depended on growth-supporting public policies and private-sector initiative. During the same period, the country became ever more a "Partnership Nation," as colleges, businesses, labor unions, and a host of other institutions formed a web of partnerships. In the development of technology, in education and training, and in opening

markets abroad, the public and private sectors often formed partnerships with each other.

With the fall of the Berlin Wall in 1989 and the collapse of the Soviet Union in 1991, the United States entered the 1990s as the world's sole military superpower. As the U.S. economy raced forward in the 1990s, economic difficulties slowed growth in Germany and Japan. By the mid-1990s, the United States had regained its standing as the world's preeminent economy.

As the country moves through the first decade of the twenty-first century, however, it faces a new set of challenges—a global war on terrorism, the rise of new competitors, and the emergence of worldwide digital competition. The broad outlines of the competitiveness strategy pursued in the 1990s must now be adapted to new economic circumstances and shifting geopolitical realities.

The Outlines of a National Competitiveness Strategy

The broad elements of the competitiveness strategy will be familiar to students of economic growth or growth accounting. But it took the courage and imagination of leaders in the public and private spheres to forge a set of ideas that ultimately achieved legislative success, secured private-sector involvement, and gained broad public support.

The Great Depression had ended with World War II, and civilian prosperity returned in the two decades after the end of the war. But the searing memory of unemployment and widespread economic failure was still very much a part of the national memory. The Employment Act of 1946 established the president's Council of Economic Advisers and the congressional Joint Economic Committee to focus on the policies that would lead to full employment. Well into the 1970s, much of the public policy debate focused on stimulating and eventually fine tuning the national demand for goods and services to ensure that the economy was operating at its full potential.

When demand management failed to restore productivity and income growth in the 1970s, political leaders looked for a new set of policies. The group that developed the competitiveness strategy shifted from an exclusive focus on demand management to an emphasis on fiscal and monetary policies that also created an economic environment fostering public and private investments. As it developed in the 1980s, the specific emphasis was on a mix of tighter fiscal policy and more expansive monetary policy to create lower, investment-supporting, long-term interest rates.

The shift to encouraging long-term productivity growth threw an added spotlight on the importance of public investments in research and development, education, training, and infrastructure. The composition of public spending or fiscal policy had an importance separate from how much stimulus it might provide to the economy.

The rapid economic growth of Germany and Japan had a powerful impact on both public- and private-sector thinking. By succeeding in the American market with different public policies and private practices, Germany and Japan forced America to rethink its own public policies, corporate strategies, and educational philosophy. Although the United States, Germany, and Japan devoted similar shares of their total economic output (i.e., gross domestic product) to research and development, much of the U.S. total was dedicated to military-related research. Not only did Germany and Japan focus most of their research dollars on the civilian economy, but they often seemed to bring new products to market more rapidly than their U.S. counterparts. The response of the competitiveness advocates was to call for a public commitment to basic technologies as well as basic science and to emphasize the importance of policies that created a climate that allowed companies to bring products to market rapidly.

At different points in the post–World War II period, America had focused its attention and concern on its education system. Parents in the 1950s were already asking *Why Johnny Can't Read,* when, in 1957, the Soviet Union's Sputnik became the first artificial satellite to enter space.[1] There was a national reaction that emphasized science, mathematics, and foreign languages at virtually all levels of formal education. In 1983, the Reagan administration's *A Nation at Risk* report shocked the nation by claiming that if a foreign power had created our then-current elementary and secondary school system we would have viewed it as an act of war.[2]

In terms of mathematics and science, the number of engineering graduates, and performance on international tests, in the 1980s the United States was lagging behind its major international competitors. In *The Japanese Educational Challenge,* Mary White suggested that the average Japanese high school graduate had the equivalent of an American bachelor's degree.[3] Students of the Japanese economy also noted that they spent more on training and included front-line workers rather than concentrating on upper management and technical specialists, the more common American practice.

The developers of the competitiveness strategy included an early emphasis on education, including computer literacy, and training. The spread of

Toyota's idea of lean production depended on the improving skills of front-line workers as well as management. The pace of innovation and the adoption of new technologies were eliminating the idea of resting on a college degree or the mastery of a particular skill.

Instead of turning away from global competition, the competitiveness strategy focused on the need for public policies and private practices that would make American institutions, companies, and workers competitive on the world stage. Instead of turning toward protecting domestic markets, the competitiveness strategy emphasized opening markets overseas, effective export promotion, and streamlining Cold War policies that restricted the export of many high-technology products.

The competitiveness strategy was not simply a set of isolated policies. The policies were mutually reinforcing and created a competitive whole much greater than the sum of its individual parts. Today's innovation was tomorrow's export, and added sales abroad helped generate the profits that fueled the next generation of research spending. Education, training, and lifelong learning created the scientists and engineers that performed the research and produced a more highly educated workforce that would speed the introduction of new products and processes. Public funding for research, national laboratories, and early purchases by federal agencies all supported private-sector innovation. A low-interest-rate macroeconomic policy made public and private investments more attractive, including investments in research facilities and in the capital equipment that embodied a host of innovations.

Nor was the spotlight only on public policies. A national competitiveness strategy needed a national effort—innovative companies committed to research and training and an education system that encompassed elementary and secondary schools, community colleges, and advanced research universities. The 1980s brought sharpened awareness that national economic growth and strength depended on both public and private sectors, on the government and the market. It was this shift in thinking that created the outlines of a New Growth Compact, whereby (in summary terms) the federal government helped set the stage and the private sector, local schools, and other institutions put on the play.

As it developed in the 1980s, the competitiveness strategy put more emphasis on partnerships, many of them between the public and private sectors. Companies might shy away from investing in a basic technology for fear that they might not be able to adequately capture the benefits—in

effect, that their investment would subsidize domestic or international competitors. In other cases, technologies and great innovative capacity had been isolated in national laboratories or research universities. Over the course of the 1980s, the federal government took a series of steps that encouraged public–private cooperation in pursuit of more rapid innovation. Companies, recognizing their need for an educated workforce, often became effective partners in seeking to improve the elementary and secondary education system. The spread of partnerships started the country on the path to becoming a Partnership Nation, in which national prosperity drew on an often intricate web of partnerships involving a mix of government, universities, schools, unions, and private businesses.

A Short History of the Competitiveness Movement

The story starts with the expectations bred by the economic success of the 1950s and 1960s. After a decade of economic depression and the rationing of the war years, the rapid economic growth of the early post–World War II years was an almost intoxicating change. Americans came home from World War II, trained under the GI Bill, and started moving to the suburbs. America fulfilled a campaign pledge from an earlier era—there was not only a car in every garage but a good deal more than a chicken in every pot. In the 1950s, the General Electric Company caught the ethos of the times with its slogan "Progress Is Our Most Important Product."[4] By the end of the 1960s, Americans had lived through a quarter-century of largely uninterrupted growth and higher incomes. For Americans and most business leaders, the quarter-century of growth took place in a world in which the United States was the leading industrial power. The era bred an assumption of endless American economic dominance and ever rising prosperity.

The economic turmoil of the 1970s changed that reality and even challenged America's confidence about the future. Persistent inflation, periodic recessions, and stagnating incomes eroded American confidence in the ability of the government to provide economic leadership and prosperity. National anger and national concern set policymakers, business leaders, and prominent academics looking for answers to the challenges posed by the 1970s. They were not alone. Americans responded much as they had in the 1950s, when the Soviet Union beat America into space with its Sputnik satellite. All across the country, engineers, schoolteachers, leading academics, presidents of community colleges, labor unions, think tanks in Wash-

ington and around the country, professional societies, thousands of businesses, and local elected officials took individual steps that helped define a new strategy and lay the basis for long-term economic growth.

In Washington, there was a search for new ideas and policies that met the new economic reality and also promised electoral success. By the late 1970s, several ideas were contending for national prominence. As the international economy grew in importance, some focused on boosting exports, and others sought to restrict imports.

In the late 1970s and early 1980s, a number of academics, some prominent business leaders, and many Democrats in Congress developed proposals for an active industrial policy. Initially, the focus was on improving the standing of established, traditional industries. Later, the emphasis shifted to so-called sunrise industries that were based in Silicon Valley and other emerging high-technology centers around the country.

At much the same time, a small group of journalists, congressional staff, and one future Nobel Prize winner built a strategy on the idea that reducing marginal tax rates (the tax one pays on the last dollar of earnings), would induce Americans to save more, invest more, and work harder. Representative Jack Kemp (R-N.Y.) and Senator William Roth (R-Del.) turned this idea into legislation and, by 1980, it had become a key element in Ronald Reagan's successful bid for the presidency.

Building the Next American Century traces the development of a third set of ideas that emphasized national competitiveness and long-term productivity growth. The economic challenge posed by Germany and Japan forced policymakers and private-sector leaders to reconsider their respective roles. Closer ties between the public and private sectors in Germany and Japan prompted a new appreciation of how public policy and private initiative were both necessary for long-term productivity growth. Without any formal agreement, many policymakers and private-sector leaders began to think of a New Growth Compact. In other words, government investments in basic science and technology complemented private research and innovation, and public and private spending on aspects of innovation became part of the same value chain. The same was true of government spending on education and training.

Important parts of the American business community turned to Washington for policies that would support American business in its effort to match international competition. Some companies sought traditional protection through tariffs, quotas, or negotiated limits on foreign exports (generally known as voluntary export restraints or market-sharing agreements).

But a growing number of firms pushed for government policies that complemented their own efforts to become more productive and innovative. Where there was a shared interest in innovation or training, the government and the private sector often found themselves forming a variety of public–private partnerships. Federal laboratories formed cooperative research and development agreements with private companies to foster the development of new technologies. Companies turned to community colleges to help provide specialized education that would strengthen their workforce.

Cooperation with the private sector was not new. Many of the business leaders had lived through World War II, the national reaction to Sputnik, and the continuing challenge of the Cold War—all national challenges that called forth an effort from all Americans. These challenges had all forged close ties between the federal government and a variety of industries. What was new was the widespread use of partnerships in areas outside the confines of traditional national security. The federal approach was part of a broader trend of partnerships formed at the state and local levels, between universities and the private sector, and among private firms themselves. It was this move to broad-based cooperation that marked the emergence of a Partnership Nation that will influence the pace of innovation, investment, and economic growth well into the twenty-first century.

The 1990s: Competitiveness Strategy Becomes National Policy

As the country entered the 1990s, President George H. W. Bush and his administration took some steps in the direction of a national competitiveness strategy. His decision to deal with failed savings and loans institutions, coupled with an increase in taxes, helped lay the basis for fiscal policy under President Bill Clinton. Bush's White House Office of Science and Technology Policy issued its first-ever white paper on technology policy and, despite some initial reluctance, the administration did seek funds for the technology programs created by Congress in 1988. Bush also renewed the push for improved education by holding only the third-ever summit with the nation's governors. The result was a call for national standards and new initiatives that would draw on collaboration with the private sector.

But with the election of President Clinton in 1992, competitiveness came center stage as national policy. Clinton had run on a broad competitiveness platform that emphasized public and private investment. He was the first modern president to make technology policy a plank in his presidential plat-

form. His principal campaign document, *Putting People First,* emphasized education, training, and research, and he endorsed international trade, adding the slogan "Compete Not Retreat" to his campaign vocabulary.

Clinton entered office with an economy that was recovering from a recession and still burdened with slow employment growth. Fiscal deficits were already large and expected to grow in the future. The Federal Reserve had lowered short-term interest rates, but long-term rates had remained stubbornly high. In a meeting with Federal Reserve Chairman Alan Greenspan, Clinton became convinced that by attacking the federal deficit he would reduce fears of future inflation, lower long-term interest rates, boost business confidence, and trigger added investment. Deficit reduction in the face of a slow economy ran against standard advice and past experience, but it worked in the circumstances of the early 1990s.

Throughout his presidency, Clinton worked to implement a technology policy designed to increase innovation and growth in the civilian economy. He continued President Bush's work in pushing for national educational standards and successfully proposed a number of programs and tax incentives to support higher education and to upgrade the skills of workers already on the job. To programs and policies, he added his frequent use of the bully pulpit to stress the reality of a changing world that would force all U.S. workers to improve their skills.

The Clinton administration was also active in the arena of international trade. The administration finished the Uruguay Round of multilateral trade negotiations that had started under President Reagan and largely been completed by President Bush's chief trade negotiator, Carla Hills. President Bush had also initiated and signed the North American Free Trade Agreement, encompassing Canada, Mexico, and the United States. At some considerable political cost, President Clinton successfully steered approval of the Uruguay Round and the North American Free Trade Agreement through Congress. Later in his term, Congress granted permanent normal trade relations status to China, a major step that paved the way for China to join the World Trade Organization in December 2001. To trade agreements, Clinton added an aggressive approach to opening foreign markets and promoting U.S. exports. In a post–Cold War era, the Clinton administration felt much freer in following the European and Japanese practice of using top officials to advocate major trade deals.

Like its early creators, the Clinton administration saw the competitiveness strategy as a reinforcing whole. The administration did not pursue international trade in isolation but saw it as part of a process of creating better paying export-related jobs, opening new markets to American innova-

tions, and stimulating innovation at the same time. Education and training made a direct contribution to long-term growth and, at the same time, helped prepare people for higher-skill jobs in export and other industries. By limiting the ability of companies to raise prices, international trade also encouraged corporate innovation and gave the Federal Reserve more room to pursue a growth-supporting monetary policy.

Clinton and his team viewed their economic policies as being part of a national competitiveness strategy in which the private sector played a powerful role. For Clinton and his administration, there was a clear sense that rapid growth and flexible markets could be a powerful force for achieving national goals including social welfare. Where they made sense, the Clinton administration did not hesitate to seek and encourage public–private partnerships.

September 11: New Reality, New Competitors, and New Competition

As the United States enters the twenty-first century, the geopolitical and global economic landscape has shifted once again. In 2001, its economy slipped into a recession lasting three quarters. The subsequent economic recovery in 2002 and the first half of 2003 was tepid and halting. And the economy carried the extra burden of the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon and a series of corporate scandals that started with the collapse of Enron in late 2001. The long bull market of the 1990s ended in March 2000, as the air began to come out of the stock market bubble and ushered in three consecutive years of decline. Individual investors, major pension funds, foundations, and university endowments suffered a collective loss of trillions of dollars. Investment slowed and fell to near-depression levels in the information-technology and telecommunications sectors.

The September 11, 2001, attacks on the World Trade Center and the Pentagon brought the post–Cold War era to an end. President George W. Bush called America to a global war on terrorism. Only months later, the country sent its troops halfway around the world to a rapid victory over the terrorist-harboring Taliban regime in Afghanistan. In his 2002 State of the Union address, the president spoke of an "axis of evil" that encompassed Iraq, Iran, and North Korea. In the spring of 2003, the U.S. military scored a rapid victory over Iraqi forces. The fighting, however, is not over. Insurgent-led

conflict and almost daily death continue, while the United States and its coalition partners work to bring stability, democracy, and renewed prosperity to Iraq. Homeland security became more of a national priority than at any time since the emphasis on civil defense in the 1950s. In 2002, Congress created a new federal agency, the Department of Homeland Security, to coordinate national efforts to provide domestic security. National leaders began to prepare the country for the risk of another terrorist attack.

With the focus on national security and recovery from a faltering economy, concern about long-term growth largely disappeared. The lessons of the competitiveness strategy, the possibilities of a New Growth Compact, and the growing importance of public–private partnerships received little public attention.

Yet questions are again surfacing about the long-term competitiveness of the American economy. The sense in the 1990s that globalization was inevitable and almost always part of a "win–win" outcome has faded in the early twenty-first century. At times, advocates for trade as an isolated engine of growth overlooked the need for institutions, sound governance, adequate infrastructure, and a host of other elements. Thinking has changed in light of the 1997 Asian financial crisis, the difficult search for prosperous democracies in the former Soviet Union, and a growing acceptance that there are significant short-term losers as well as many winners as the world experiences ever deeper economic integration.

At home in the United States, there will be continued efforts to build on the Trade Act of 2002 by further extending trade adjustment assistance to include service workers. Faced with accelerating change driven by trade and technology, the country must move toward supporting even greater flexibility by making pensions, health care, and other benefits universally available and universally portable.

The interdependence that has come with globalization has brought many benefits but also created added risks. In two recent years, the global supply chain of parts and products was disrupted by the threat of terrorism, the eruption of Severe Acute Respiratory Syndrome, and a West Coast longshoreman's strike. Managing dependence has become a national imperative. The focus on fighting terrorism, the ongoing conflicts in Iraq and Afghanistan, and the global security interests of the United States will almost surely lead to a Cold War–like era in which geopolitical considerations will come at the cost of the domestic economy. At the same time, the United States faces a growing number of new competitors and new, global, online competition.

To meet these new challenges, the country must develop national policies that recognize shifting global economic patterns, the development of new technologies, and the growth strategies of major economic competitors. In effect, the United States must develop a capacity for geoeconomic strategy that matches its commitment to geopolitics. Where foreign policy penalizes a domestic industry, leaves intellectual property rights unenforced, or foreign markets unopened, the United States will need to take offsetting action to compensate an industry or add funds for research to maintain its long-term economic strength.

In the early twenty-first century, the country faces a new geopolitical challenge, rising new competitors, and a new form of competition. As Mark Twain once said, "History does not repeat itself . . . but it rhymes." Like the Cold War, the United States is again engaged in a global struggle, this time against terrorism, failing states, and the spread of weapons of mass destruction. Instead of focusing on Germany and Japan, national attention has shifted to the rise of China, the loss of jobs to India, and Brazil's leadership of a new bloc of countries in international trade relations.

And again, private voices are joining those of government leaders in calling for improved education; increased funding for advanced technologies, and a faster pace of innovation. In a 2004 op-ed article in the *Wall Street Journal,* Carly Fiorina, the chief executive of Hewlett-Packard, looks back at the President's Commission on Industrial Competitiveness as a guide for responding to today's economic challenges.[5] On July 22, 2004, Senator Joseph Lieberman (D-Conn.) introduced the Commission on the Future of the United States Economy Act (S 2747), which was inspired by the 1983 President's Commission on Industrial Competitiveness (the Young Commission).[6] The Computer Systems Policy Project—chaired by Craig Barrett, the chief executive of Intel, a leading semiconductor firm—calls for greater innovation and investment to drive future productivity growth.[7] The private-sector Council on Competitiveness is on the move again with a major National Innovation Initiative cochaired by Samuel J. Palmisano, the chairman and chief executive of IBM, and G. Wayne Clough, the president of the Georgia Institute of Technology.[8] Mary Good, the 2000 president of the American Association for the Advancement of Science and President Clinton's first undersecretary for technology policy, chairs the Alliance for Science & Technology Research in America (ASTRA), a new organization pushing for increased funding for the physical sciences.[9] In the early twenty-first century, many of the nation's concerns and some of the proposed answers are beginning to rhyme with some of the most important verses from the 1980s.

The broad outlines of a twenty-first-century competitiveness strategy grow readily out of the experience of the 1990s. The emphasis on public and private investment, a recognition of how public and private sectors complement each other, and the continued importance of public–private partnerships are not just artifacts of yesterday but also important guideposts for the future. These policies helped generate rapid growth in the 1990s, creating tight labor markets that opened up new opportunities for all Americans, including those still struggling to develop twenty-first-century skills. The central role played by innovation and technology policy also suggests creative ways to combine the goals of economic growth, energy security, and an improved environment. While the experience and success of the 1990s contain the broad outlines of a growth strategy for the twenty-first century, individual policies must be adapted to a shifting geopolitical reality, a new set of challenges, and changed economic conditions.

The need for a mix of long-term strategy and policy adaptability was very effectively made by John Rollwagen, the candidate to be deputy secretary of commerce at the beginning of the first Clinton term. As the former chief executive of Cray Research, then the leading supercomputer company in the United States, Rollwagen used stories about Cray founder Seymour Cray to teach key management lessons. Rollwagen would periodically take a group of Cray employees to visit different university researchers and Cray suppliers. As Rollwagen told the story, the group would always start with a visit to Seymour Cray, who would spell out a detailed, five-year vision of the future. At the end of one tour, the group had time for a second visit with Cray. Again, he spelled out a detailed five-year vision of the future, but one that was slightly different from the vision of just a few weeks before. Competitiveness strategists need to think in similar terms—a long-term vision, and a strategy that adjusts to changing circumstances. In describing the past, *Building the Next American Century* seeks to help shape the future.

Chapters 1 through 4 of this book set the economic and political context of America in the 1970s and describe the search for a new growth policy that involved looking overseas as well as to the country's past. Chapters 5, 6, and 7 discuss the congressional initiatives and the response of the Reagan administration that culminated in the Omnibus Trade and Competitiveness Act of 1988. Chapter 8 points to some of the parallel developments in the states and in the private sector.

The book then moves to describe the George H. W. Bush administration and its partial embrace of a competitiveness strategy (chapter 9) and the focus on competitiveness in the 1992 presidential campaign (chapter 10).

Subsequent chapters explore the adoption of competitiveness as national policy (chapter 11), briefly examine the 1994 Gingrich revolution and the Clinton comeback (chapter 12), and assess the relationship of the strategy for competitiveness to 1990s prosperity (chapter 13).

The book also looks forward to sketch the outlines of a competitiveness strategy for the twenty-first century. Building on the twentieth-century experience, the twenty-first-century strategy would encourage public and private investment (chapter 14), strengthening the innovation system (chapter 15), and building an American learning system (chapter 16). The United States will need to move beyond the emphasis on international trade to a policy of global engagement focusing on the flows of capital and technology, growth in the developing world, international environmental goals, the construction of adequate social safety nets, and the protection of labor rights (chapter 17). Chapter 18 summarizes the past contributions and future direction of a national competitiveness strategy and concludes with thoughts about the American Dream in the twenty-first century.

Notes

1. Rudolf Flesch, *Why Johnny Can't Read, and What You Can Do about It* (New York: Harper & Row Perennial Library, 1955).

2. The text of the report, *A Nation at Risk,* which was issued by the National Commission on Excellence in Education, can be found at http://www.ed.gov/pubs/NatAt/Risk/html.

3. Mary White, *The Japanese Educational Challenge: A Commitment to Children* (New York: Macmillan, 1987).

4. For a brief description of the General Electric Theater that helped make the GE slogan famous, see "General Electric Theater," at http://www.museum.tv/archives/etv/G/htmlG/generalelect.htm.

5. Carly Fiorina, "Be Creative, Not Protectionist," *Wall Street Journal,* February 13, 2004.

6. See Senator Joseph I. Lieberman, *Congressional Record,* July 22, 2004 (Washington, D.C.: U.S. Government Printing Office), S8731–33.

7. "Choose to Compete: How Innovation, Investment and Productivity Can Grow U.S. Jobs and Ensure U.S. Competitiveness in the 21st Century," Computer Systems Policy Project, Washington, January 7, 2004. The report can be viewed at http://cspp.org/reports/ChoseTOCompete.pdf.

8. A summary of the National Innovation Initiative can be found at http://www.compete.org/nii/.

9. For information on ASTRA, see http://www.aboutastra.org/.