

GAO

Forces That Will Shape
America's Future:
Themes from GAO's
Strategic Plan
2007 - 2012

This document was reissued on April 11, 2007, to add clarifying language on pages 3, 7, and 20, to correct typographical errors on pages 6, 17, 24, and 28, and to add page 33, Image Sources. The printed version of this document incorporates these changes.

Serving the Congress and the Nation



SERVING THE CONGRESS AND THE NATION

GAO'S STRATEGIC PLAN FRAMEWORK

MISSION

GAO exists to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people.

THEMES

- Changing Security Threats
- Sustainability Concerns
- Economic Growth & Competitiveness
- Global Interdependency
- Societal Change
- Quality of Life
- Science & Technology

GOALS & OBJECTIVES



Provide Timely, Quality Service to the Congress and the Federal Government to . . .

. . . Address Current and Emerging Challenges to the Well-being and Financial Security of the American People *related to . . .*

- Health care needs
- Lifelong learning
- Work benefits and protections
- Financial security
- Effective system of justice
- Viable communities
- Natural resources use and environmental protection
- Physical infrastructure

. . . Respond to Changing Security Threats and the Challenges of Global Interdependence *involving . . .*

- Homeland security
- Military capabilities and readiness
- Advancement of U.S. interests
- Global market forces

Help Transform the Federal Government's Role and How It Does Business to Meet 21st Century Challenges *by assessing . . .*

- Roles in achieving federal objectives
- Government transformation
- Key management challenges and program risks
- Fiscal position and financing of the government

Maximize the Value of GAO by Being a Model Federal Agency and a World-Class Professional Services Organization *in the areas of . . .*

- Client and customer satisfaction
- Strategic leadership
- Institutional knowledge and experience
- Process improvement
- Employer of choice

CORE VALUES

Accountability

Integrity

Reliability

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Letter from the Comptroller General

March 2007

I am pleased to transmit this document that describes the forces that are likely to shape our nation's future, its place in the world, and the changing role of the federal government. This document is an integral part of GAO's strategic plan for serving the Congress for fiscal years 2007 through 2012. Our plan describes our proposed goals and strategies for supporting the Congress and the nation in facing the challenges of a rapidly changing world. In keeping with our commitment to update the plan every 3 years, we have identified seven key themes that provide the context for our plan. These themes are ensuring the nation's readiness to face changing security threats; addressing a range of sustainability challenges from fiscal challenges to environmental challenges; maintaining economic growth and competitiveness; recognizing global interdependencies related to people, information, goods, and capital; adapting to societal changes resulting from demographic and other shifts; maintaining U.S. citizens' quality of life; and managing advancements in science and technology.

The United States is a culturally diverse country whose citizens are united by their belief in liberty, equal opportunity, and the possibility of a better life through perseverance and hard work. The United States is known for its innovation, its openness to new ideas, and its desire to leave things better for future generations. At this point in time, our nation has relatively strong economic growth, low unemployment rates, moderate inflation rates, and strong capital markets. Compared to most nations, the United States ranks very high on measures like personal income, literacy, and home ownership. The United States is also currently the only global superpower. Clearly our nation has much to be proud of and thankful for. However, the United States faces a range of major sustainability challenges that need urgent attention in such areas as government financing, defense and homeland security, Iraq, immigration, education, energy, environment, foreign policy, health care, and our nation's critical infrastructure. Many of these challenges transcend geopolitical and sectoral boundaries.

The world's overall security environment has changed dramatically, from the conventional threats posed during the Cold War era to more unconventional and asymmetric threats. Providing for people's safety and security requires attention to threats as diverse as terrorism, violent crime, natural disasters, and infectious diseases. The response to many of these threats depends not only on the action of the U.S. government but also on the cooperation of other nations and multilateral organizations, as well as state and local governments, the private sector, and the nonprofit sector. Complicating such efforts are a number of failed states allowing the trade of arms, drugs, or other illegal goods; the spread of infectious diseases; and the accommodation of terrorist groups. Meeting the nation's defense needs in the future may prompt decision makers to reexamine fundamental aspects of the nation's national security programs, such as how the Department of Defense (DOD) and the Department of Homeland Security (DHS) plan and budget to best mitigate risk within current and expected resource levels to respond to these various threats.

Internally, the nation's ability to provide for the safety and security of its citizens and to shape its society and its place in the world are endangered by current fiscal, energy, environmental, and other policies that are clearly unsustainable. In the future, the United States faces large and growing structural fiscal deficits driven largely by known demographic trends and rising health care costs. Unfortunately, the math just does not come close to working. In addition, our nation's financing and energy supply are overly dependent on others. Further, climate change is real and human behavior contributes to it.

Economic growth and competition are also affected by the skills and behavior of people living in the United States, the policies of the U.S. government, and the ability of U.S. private and public

sectors to innovate and manage change. The U.S. education system must prepare the nation's workforce by providing the necessary skills and knowledge to drive innovation, productivity, and economic growth while enabling the United States to continue to improve its standard of living and competitive posture. Importantly, the saving and investment behavior of U.S. citizens affects the capital available to invest in research, development, and productivity enhancement. And the tax and regulatory policies of the federal government affect the nation's economic growth and ability to compete. The U.S. economy benefits from less restrictive labor and product market regulation and lower tax burdens than many other countries that are members of the Organisation for Economic Co-operation and Development (OECD), although deregulation can present its own challenges and requires adequate oversight to protect the public interest.

Meanwhile, economies as well as governments and societies are becoming increasingly interdependent as more people, information, goods, and capital flow across increasingly porous borders. Indicators such as international trade and financial transactions reveal how economic activity has come to link nations. Both U.S. imports and exports as a share of the gross domestic product (GDP) more than doubled from 1970 to 2005. The United States faces the challenge of securing its borders to protect the safety and security of the nation without impeding the exchange of people, ideas, goods, and capital needed to sustain economic growth and to strengthen civil society. And transportation systems—highway, rail, and air—as well as U.S. immigration and employment policies and practices may require significant changes in response to these trends.

As the U.S. economy evolves and global interdependence grows, U.S. society is rapidly changing. The U.S. population is aging and becoming more diverse. As the population ages and the ratio of elderly persons and children to persons of working age increases, the sustainability of U.S. social insurance systems will be further threatened. Specifically, according to the 2000 census, the median age of the U.S. population was the highest it had ever been, and the baby boomer age group—people born from 1946 to 1964, inclusive—was a significant part of the population. As this group ages, it will have a continuing influence on society and social programs.

These societal changes add to concerns about the sustainability of the nation's resources and current U.S. policies. They represent threats to safety and security and affect quality of life for people living in the United States and around the globe. Despite increasing productivity and economic growth, U.S. citizens face a gap between the haves and the have nots. Lack of affordable housing, urban sprawl, and growing commute times leave many U.S. citizens struggling to balance the daily demands of work and family.

Science and technology offer many possibilities for improving quality of life. They hold the promise of future productivity gains and economic growth. However, with opportunities come challenges, such as ensuring cybersecurity, protecting personal privacy, and preserving tax bases for state and other governmental entities. The proliferation of information on the Internet, for example, has helped break down borders and has increased global interdependence. However, safeguards on the quality of information are few. At the same time, the possibilities suggested by advances in science and technology, especially in areas such as medicine, raise ethical and moral questions that our society must confront.

The United States will face an increasing need to reexamine what it does, how it does business, and with whom it does business. The seven themes discussed here and the issues they encompass will require the federal government to form strategic partnerships and alliances with state and local governments, as well as with the governments of other nations around the world. They will also require partnering for progress between levels of government, the private sector, and the nonprofit sector. Successful approaches to these issues will also need to focus on exercising foresight, addressing challenges before they become crises, maximizing value, managing risks, understanding the long-term and collateral impact of individual actions, and targeting resources and policies, while achieving real and sustainable results. Policymakers will need to transform

the perspectives of the U.S. labor force and governance processes as well as apply technology to address public goals.

If our nation is to be prepared for the challenges and changes that are coming, government transformation is essential. Nothing less than a top-to-bottom review of federal programs and policies is needed to determine if they are meeting their objectives. As a nation, we need to ask, “What is the proper role of the federal government in the 21st century, and how should it be organized, executed, managed, and financed?” Since at least the 1960s, the number of federal employees has dropped even as federal outlays have risen, partly because of technology and the fact that the dollars that fund federal programs are increasingly flowing to nonfederal entities. We need to better assess how well these entities are performing and whether they are achieving the desired results. The policy process needs redesign so that it can better support policymakers in reexamining the base of federal programs (e.g., federal entitlements, policies, and programs), updating budgetary priorities, and reviewing commitments as well as revenue approaches. In doing so, the policy process must have the capacity to provide policymakers not only with information to analyze the performance and results achieved by specific agencies and programs, but that of broad portfolios of programs and tools contributing to specific policy goals. Developing key outcome-based national indicators focused on the broadest levels of policy aspirations—for example, improving national health outcomes, reducing crime, or improving national educational progress—is essential to identifying and addressing broad national needs within current and expected resource levels.

Such a transformation requires leadership by elected and public officials that is dedicated, courageous, creative, committed, constructive, cooperative, and stewardship oriented. The Congress and the President need to decide which policies and programs remain priorities, which should be overhauled, and which have simply outlived their usefulness. Appointed and career officials at every federal agency and program need to give careful thought to their missions and operations in light of current trends and future realities. To assist policymakers and managers, the following pages contain more detailed descriptions of these key themes and issues along with some of the implications for governance. While many issues are related to multiple themes, we discuss each issue under the theme that it most influences, and we list related issues under each theme. Appendix I contains a table that displays the interrelationships of the issues and themes.

If you would like to know more about specific areas of GAO’s work, you will find our strategic plan, which describes the performance goals, key efforts, and potential outcomes for each of our strategic objectives, on our Web site at www.gao.gov. Links on that Web page will also take you to our agency’s performance and accountability reports. If you have questions, please contact me at (202) 512-5500 or walkerd@gao.gov or Gene L. Dodaro, Chief Operating Officer, at (202) 512-5600 or dodarog@gao.gov.

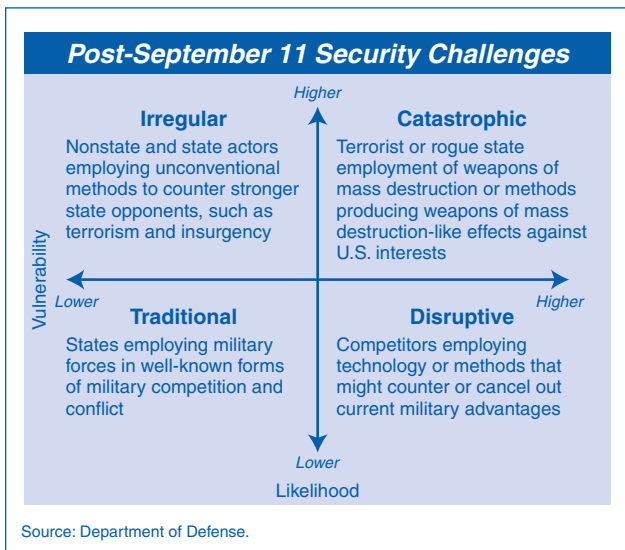


David M. Walker
Comptroller General
of the United States

Ensuring the Nation's Readiness to Address Changing Security Threats

U.S. citizens today live in an uncertain and unstable world that is affected by threats that the United States cannot address alone, either as a nation or as a government. Protecting the security of the United States and the personal safety of its citizens encompasses many military and civilian efforts. As the definition of homeland security evolves, it covers efforts such as defending the nation against terrorists; securing the country's borders; controlling crime, especially violent crime; preparing for and recovering from natural disasters; and mitigating public health threats. Responsibility for protecting national security, once clearly divided between military and civilian agencies, is being debated and reexamined in light of changing threats and the need to balance security and the protection of civil liberties. For example, as figure 1 indicates, in addition to the traditional threats, DOD recognizes that it is more likely to face nonstate entities employing irregular tactics, terror, and asymmetric warfare than states employing conventional armies operating within clearly established political boundaries.

Figure 1: Traditional, Disruptive, Irregular, and Catastrophic Security Challenges



by the Cold War to less traditional, more diffuse threats. Securing a wide range of potential targets is a major challenge because the targets include government facilities; commercial and financial systems; cultural and historic landmarks; food, water, and power supplies; and information, transport, and energy networks. The challenges of counterterrorism are likely to become more elusive as concerns continue regarding the potential for terrorists to acquire and use chemical, biological, or nuclear weapons or other weapons of mass destruction.

The rise of other nations as major powers, the reversal of democracy in some regions, and the spread of extremist ideologies increase the urgency with which the United States must enhance its ability to support national, homeland, and economic security interests. Furthermore, in regions of conflict, chaos and corruption can create a climate that fuels terrorism; organized crime; and illegal trafficking in arms and weapons of mass destruction or their precursors, in narcotics, and even in human beings. Any of these may constitute immediate threats to our national security that will not be defeated by military action alone. International security today and in the future requires the United States to establish a new set of resources; a long-term commitment; more integrated interagency responses; ongoing multilateral coordination of U.S. diplomatic, military, intelligence, and law enforcement efforts; and a capacity to act, adapt, and react quickly.

Growing Instability, Rogue Nations, Failed States, and Nuclear Proliferation

The 2004 report of the National Intelligence Council, *Mapping the Global Future*, notes that while no single country is likely to rival U.S. military power by 2020, more countries may be in a position to make the United States pay a heavy price for any military action it opposes. The report notes that the possession of chemical, biological, or nuclear weapons by Iran and North Korea and other nations' possible acquisition of such weapons also increase the potential cost of any military action against them by other countries. The Department

Terrorism

The September 11, 2001, terrorist attacks dramatically changed the definition of national security and homeland security for the United States, with the focus shifting from conventional threats posed

of State's 2004–2009 strategic plan identified the proliferation of weapons of mass destruction, along with terrorists possibly acquiring them, as a pre-eminent threat to U.S. security. Like other nations, the United States is recognizing that failed or failing states—nations where governments effectively do not control their territory, citizens largely do not perceive the governments as legitimate, and citizens do not have basic public services or domestic security—can create breeding grounds for terrorism and illicit activities that may constitute threats to homeland security and core national interests. In addition, while the United States has been a leading contributor to international organizations, per capita incomes have grown only modestly in the developing world. According to the United Nations, about 2.5 billion people, or 40 percent of the world, live on \$2 or less per day. Although China and India experienced significant gains in per capita income from 1975 through 2005, other low-income countries did not experience similar growth, and vast disparities remain in nations' per capita incomes. Taking differences in cost of living into account, average incomes in 1975 in nations in the high-income group were about 14 times higher than for those in the low-income group. In 2004, average incomes in the high-income group remained 13 times higher.

Border and Port Security

Border security aims to prevent the entry of persons or materials that pose a potential danger to the United States. The U.S. government faces the daunting challenge of monitoring 170 ports of entry along 7,500 miles of land border that the nation shares with Canada and Mexico; 115 ports of entry at international airports; 361 ports of entry at port facilities along the Atlantic, Pacific, Gulf, and Great Lakes coasts; as well as 95,000 miles of coastline. Before the attacks of September 11, 2001, border security was focused on preventing the illegal entry of people and goods. However, the attacks of September 11 underscored the need to maintain vigilance against those who wish to do us harm.

Created immediately after the attacks, the Transportation Security Administration now has about 50,000 employees to oversee the security of our nation's airports and seaports as well as highways, railroads, buses, and mass transit systems. Since September 11, DHS has increased its workforce, assigning over 12,000 staff to

patrol areas between ports of entry. In addition, at domestic and foreign ports, DHS has assigned about 18,000 officers to inspect travelers and cargo and deployed nonintrusive inspection technology to assist them.

A U.S. port of entry



Source: GAO.

The Coast Guard has assessed security and completed port security plans at the 55 seaports designated as strategic and reviewed security plans developed by owners of 3,000 port facilities and over 9,000 vessels. Recently, DHS established the Secure Border Initiative, a comprehensive, multiyear, multibillion-dollar program that seeks to secure U.S. borders through a mix of personnel, tactical infrastructure, rapid response capability, and technology. While these initiatives may help ensure border security, they must be balanced with the essential goals of maintaining the free flow of people and trade along with maintaining our nation's image as an open and welcoming society.

Transnational and Violent Crime

According to the Department of Justice, the overall crime rate and the rate of violent crimes declined from 1994 through 2005 in the United States. In addition, the number of violent crimes—including murder, rape and sexual assault, robbery, and assault—dropped to an all-time low of 21 victims per 1,000 people in 2005. Nonetheless, compared with other countries, the United States still has an unusually high rate of violent crime, ranking third in the rate of major assaults and rapes.

Experts have identified transnational crime as an emerging issue and a growing threat to national and global security. These illicit activities are hard to quantify and include nuclear and arms smuggling, terrorism, narcotics trafficking, human trafficking, cyber-crimes, counterfeiting, money

laundering, and other financial crimes. Some transnational crime involves organized criminal enterprises that grew in the aftermath of the Cold War, benefiting from the weakening of government institutions, more open borders, and ethnic strife. Conservative estimates place the international proceeds of money laundering, for example, at from 2 percent to 5 percent of global GDP (an estimated \$1.2 trillion to \$3.1 trillion). Within the United States, more than 14 million people spend, by most conservative estimates, over \$60 billion annually buying illicit drugs, of which four-fifths are of foreign origin. According to a 2004 White House Office of National Drug Policy report, the economic cost of drug abuse in 2002 in the United States was estimated at \$180.9 billion with major cost components being workplace productivity (\$128.6 billion), criminal justice system and social welfare (\$36.4 billion), and health care (\$16 billion). U.S. businesses estimate counterfeiting—which has expanded beyond handbags and watches to a wide range of products, including pharmaceuticals and electronics—costs legitimate businesses billions annually. Further, such counterfeiting efforts pose dangers to the health and safety of consumers.

Natural Disasters

Extreme weather events have wide-ranging impacts on health and life. Hurricanes Katrina and Rita in 2005 revealed the need for greater support than had previously been envisioned from all government sectors—federal, state, and local—as well as the military and national guard and the private and nonprofit sectors. These two hurricanes left more than 1,500 dead, affected over 90,000 square miles, caused more than \$80 billion in damage, and forced mass evacuations from five states along the Gulf Coast, according to DHS. An estimated 600,000 households were displaced, and 50,000 to 100,000 households remained in temporary housing 1 year later. The capabilities of several federal, state, and local agencies were clearly overwhelmed. As events unfolded in the immediate aftermath and ensuing days after Hurricane Katrina's final landfall, responders at all levels of government—many of them victims themselves—encountered significant breakdowns in such vital areas as emergency communications and obtaining and deploying essential supplies and equipment. Expected to cost \$35 billion in insurance claims, Hurricane Katrina also focused the insurance industry's attention on extreme weather and their links to climate.

Concerned with patterns of extreme weather events becoming more intense and variable, the industry is collecting and analyzing data to better assess risk and determine what it will opt not to insure, which could shift risk to the government as insurers of last resort.

Infectious Diseases and Public Health

Infectious diseases represent current and future threats to people in this nation and across the world. For example, more than 20 million people worldwide have died from AIDS since 1981, and tens of thousands of people are newly infected each day. In early 2003, severe acute respiratory syndrome (commonly known as SARS) emerged as a health threat as it traveled rapidly from China to other parts of the world, including North America. There is also concern about the prospect of a worldwide influenza epidemic, partly because influenza pandemics may affect people who are not typically at high risk. Experts estimate that the next pandemic could kill up to 2 million people in the United States and cause major social disruption. Public health experts have raised concerns about the ability of the nation's public health system to respond to an influenza pandemic because a pandemic could overwhelmingly burden hospitals or outpatient medical facilities, and the demand for vaccines could be great.

Related Issues

- Fiscal deficits and debt burdens
- Defense and homeland security strategies
- Food and water resources
- Energy, environment, and resource protection
- Immigration
- Transportation
- Demographic diversity
- Income distribution gaps
- Cybersecurity and personal privacy
- Productivity and economic growth
- Information and communications technology
- Space exploration
- Humanity and ethics

Sustainability Concerns about Government Policies and Approaches

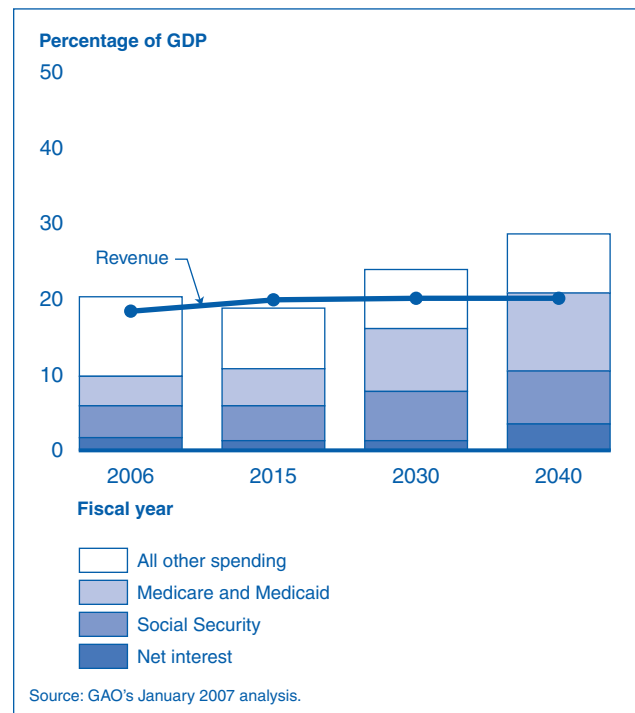
Our nation faces a major challenge in meeting the needs of a growing population in light of historical levels of taxation as a percentage of the economy, increased global competition for natural resources, and other key trends. The world population of 6.54 billion in 2006 is growing at an annual rate of 1.14 percent, and according to the United Nations' (UN) most conservative forecasts, is expected to peak in midcentury at 9 billion. According to U.S. Census Bureau estimates, the U.S. population hit an all-time high of 300 million in 2006. The population is expected to grow to 420 million by 2050, placing the United States a distant third behind India and China, which together will constitute one-third of the world's population. Owing in part to demographic changes in the growing U.S. population, an urgent issue facing our nation is the nation's worsening financial position and growing long-term fiscal imbalance. Long-term fiscal simulations suggest that federal deficits could reach unsustainable levels in as little as two decades. State and local governments face increasing future fiscal pressures as well. Funding health care needs, defense and homeland security, as well as social programs in view of the current tax gap plays a critical role in this equation. At the same time, our nation faces daunting challenges related to rising health care costs, unsustainable energy consumption, dependence on oil, global climate change (sometimes referred to as global warming), procurement of the resources needed for a growing and more diverse population, and depletion of natural resources such as oil and water.

Fiscal Deficits and Debt Burdens

The U. S. government's \$494 billion operating deficit (excluding the Social Security surplus) in fiscal year 2005 and \$434 billion in fiscal year 2006 are daunting in the near term and are a prelude to a challenging long-term budget outlook. This outlook presents major challenges to the nation's ability to respond to forces that shape its society, our nation's place in the world, and the role of

the federal government in the future. Long-term budget simulations also show that demographic trends and rising health care spending will raise federal deficits and debt to unsustainable levels. Specifically, if discretionary spending grows with inflation through 2017, and if current tax cuts expire as scheduled, spending for Social Security, Medicare, and Medicaid will consume more than three-quarters of federal revenue in 2040. (See fig. 2.)

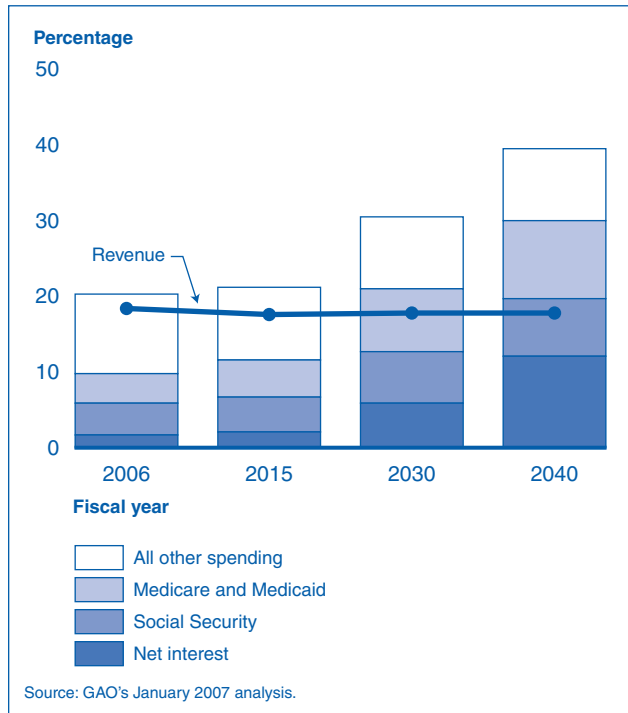
Figure 2: Potential Fiscal Outcomes under Baseline Extended



Note: In addition to the expiration of tax cuts, revenue as a share of GDP increases through 2017 mainly because of (1) real bracket creep, (2) more taxpayers becoming subject to the alternative minimum tax, and (3) increased revenue from tax-deferred retirement accounts. After 2017, revenue as a share of GDP is held constant—implicitly assuming that action is taken to offset increased revenue from real bracket creep, the alternative minimum tax, and tax-deferred retirement accounts.

If all expiring tax provisions are extended and discretionary spending keeps pace with the economy, federal revenues may not be adequate to pay even Social Security and interest on the federal debt. (See fig. 3.)

Figure 3: Potential Fiscal Outcomes under Alternative Simulation: Discretionary Spending Grows with GDP after 2007 and All Expiring Tax Provisions Are Extended



Note: The alternative minimum tax exemption amount is retained at the 2006 level through 2017, and expiring tax provisions are extended. After 2017, revenue as a share of GDP is held constant—implicitly assuming that action is taken to offset increased revenue from real bracket creep, the alternative minimum tax, and tax-deferred retirement accounts.

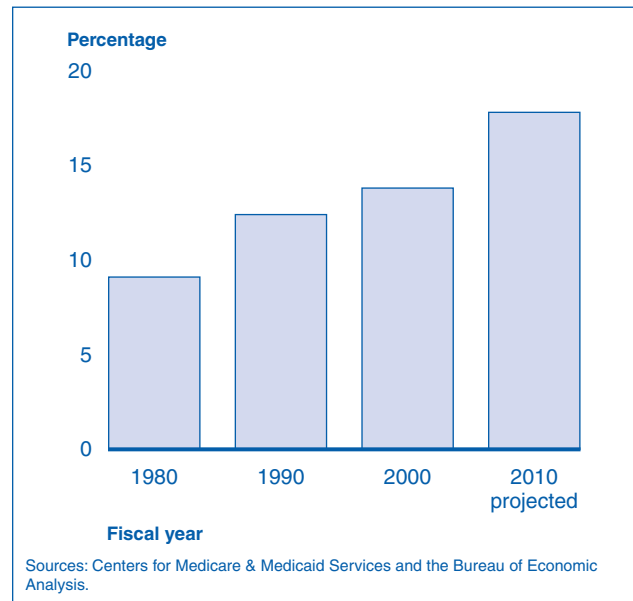
Balancing the budget would require massive spending cuts or massive tax increases or some combination of the two. Simply slowing the growth of discretionary spending and allowing tax cuts to sunset would not eliminate the long-term imbalance. Although additional economic growth helps ease any burden, the potential fiscal gap is far too great to be solved through economic growth alone. Additionally, the United States' reliance on foreign countries to finance its debt through their purchase of U.S. Treasury securities may be unsustainable in the long-term.

Health Care Quality, Access, and Costs

Total health care spending rose from \$827 billion to about \$2.0 trillion between 1992 and 2005 and is predicted to increase to \$3.1 trillion in the coming decade. This price tag results,

in part, from advances in expensive medical technology, including new drug therapies, and the increased use of high-cost services, products, and procedures. Consequently, health care expenditures consume a continually increasing proportion of the nation's GDP, as shown in figure 4.

Figure 4: National Health Expenditures as a Percentage of GDP



The United States leads the world in per capita spending for health care. Yet, many policymakers, industry experts, and medical practitioners contend that the U.S. health care system—in both the public and private sectors—is in crisis. According to surveys by the U.S. Census Bureau in 2005, 44.8 million people in the United States, or one of every seven, did not have health insurance. While some did not have health insurance by personal choice, others could not obtain access to it. In the public sector, long-term simulations of the federal budget show a large and growing structural deficit resulting, in large part, from known demographic trends and rising health care costs, increasingly borne by the federal government. In the private sector, employers and other private purchasers of health care services find that the soaring cost of health insurance premiums poses a threat to their competitive position in the global market, contributing to company decisions to outsource jobs overseas, hire part-time rather than full-time workers, and minimize cash wage increases and pension costs. All of these issues argue for rethinking the design of the current U.S. health care system, but in

doing so, policymakers must balance needs versus wants, while assessing both affordability and sustainability.

Defense and Homeland Security Strategies

Striking an affordable balance between addressing current and future national security and other needs will be an ongoing challenge in the foreseeable future. The war on terrorism and in Iraq will place added demands on a defense and security budget that has steadily increased. Despite increases in regular obligation authority from \$287 billion in fiscal year 2001 to \$432 billion in fiscal year 2007, DOD's overall obligation authority has been further expanded in recent years. Supplemental appropriations totaled about \$451 billion from fiscal year 2001 through fiscal year 2007 to support the war on terrorism. As of March 2007, the Congress is considering a request for an additional \$93.4 billion in supplemental appropriations for the remainder of fiscal year 2007. To maintain readiness and sustain the current military force, DOD is faced with identifying capabilities—including critical technologies needed to meet the demands of today's security environment—while retaining U.S. military technological superiority.

As noted in our 2007 high-risk series report, DOD faces significant management challenges. These high-risk areas relate to DOD's major business operations intended to support the warfighter, including business systems modernization, financial management, the personnel security clearance process, supply chain management, support infrastructure management, weapon systems acquisition, contract management, and DOD's overall management approach to business transformation. Billions of dollars have been wasted annually because of the lack of adequate transparency and appropriate accountability across DOD's business areas. To address these challenges, DOD is in the process of transforming many of its business operations. However, it still lacks some critical elements (e.g., a comprehensive, integrated, and enterprisewide business transformation plan; sustained leadership; and a chief management officer) that are needed to ensure a sustainable transformation effort. While this transformation will likely take many years to achieve, it could free up resources

through efficiencies and reduction in waste that can be better used for other purposes.

Since the U.S. military abandoned conscription and moved to an all-volunteer force in 1973, the force has become older and better educated, with more female and minority representation and more married members and members with children. To sustain such a high-quality force, DOD must recruit and retain several hundred thousand people each year, and its ability to do so is closely tied to its overall compensation system. Also, DOD recognizes that retention of some personnel can be influenced by the support services and benefits provided to dependents and retirees. Consequently, DOD's overall compensation system is designed to provide servicemembers with cash and noncash benefits, like housing, education, health care, and retirement plans. Each year, since fiscal year 2002, DOD's overall military compensation budget has exceeded \$100 billion, and is growing. Furthermore, DOD's costs to provide benefits, such as health care, have continued to spiral upward, with expanded health care to reservists and retirees representing the primary cost drivers in growing benefits costs. As the overall military compensation outlays continue to grow larger, questions arise as to DOD's ability to sustain such cost growth over time. In addition, we have reported that DOD's business model for the National Guard and Reserves is unsustainable and will need to be reexamined in light of their current roles in supporting both overseas and domestic operations.

In addition to defense spending, total budget authority—including gross discretionary funding, mandatory funding, and fees and trust funds—for DHS ranged from approximately \$36 billion to \$43 billion yearly from fiscal year 2004 to fiscal year 2007, excluding supplemental appropriations of \$70 billion in fiscal year 2005 for hurricane relief, among other things. DHS requested about \$46 billion in total budgetary authority for fiscal year 2008 excluding some offsetting fee collections. In GAO's 2007 high-risk series report, we reported that DHS had made progress in addressing major transformation, management, and program challenges. However, DHS still has much to do in addressing these challenges if it is to effectively carry out its homeland security and other missions and successfully transform 22 agencies into a single department. For example,

Table 1: Major Reported Long-term Fiscal Exposures, Fiscal Years 2000 and 2006

Dollars in trillions

	2000	2006
Explicit liabilities (publicly held debt, military and civilian pensions, retiree health, and other)	\$6.9	\$10.4
Commitments and contingencies (Pension Benefit Guaranty Corporation, undelivered orders, and other)	0.5	1.3
Implicit exposures (future social insurance benefits)	13.0	38.8
Social Security	3.8	6.4
Medicare Part A	2.7	11.3
Medicare Part B	6.5	13.1
Medicare Part D	—	7.9
Total	\$20.4	\$50.5

Source: Department of the Treasury.

Notes: Estimates for Social Security and Medicare exclude trust fund balances and are 75-year open group projections expressed as present values as of January 1 of each year; all other data are as of September 30. Medicare Part D did not exist in 2000. Numbers may not total because of rounding.

DHS needs to further strengthen its strategic planning process by taking such steps as better integrating risk-based principles with its resource allocation decisions. DHS also needs to develop a comprehensive strategy, with a dedicated management integration team, to support and facilitate its management integration efforts.

Social Insurance Commitments

Current budget projections and financial statements do not recognize the implications of today's policies or the government's long-term social insurance commitments. Table 1 gives a few examples of the wide range of fiscal exposures the federal government takes on. Although our long-term budget simulations assume that currently scheduled Social Security and Medicare benefits will be paid, the federal government's financial statements—consistent with current international standards—do not record as liabilities the differences between future funded and scheduled benefits of these social insurance commitments. The financial statements also do not adequately account for the costs of future health care benefits for veterans. These fiscal exposures represent significant commitments that future generations will have to address.

Tax Gaps

The collection of taxes plays a significant role in the nation's fiscal health. The tax gap—the

difference between the tax amounts taxpayers pay voluntarily and on time and what they should pay under the law—has been a long-standing problem in spite of many efforts to reduce it. The Internal Revenue Service's most recent estimate of the difference between taxpayers' timely and accurate payments and what they owed was \$345 billion. The Internal Revenue Service estimates it will eventually recover \$55 billion of this gap, resulting in a net tax gap of \$290 billion. When some taxpayers fail to comply, the lost revenue shifts the burden of funding the nation's commitments more heavily on compliant taxpayers. Reducing the gap would help improve the nation's fiscal stability. Multiple approaches, however, including increasing reporting and withholding requirements, simplifying the tax system, providing the Internal Revenue Service with enforcement tools, and devoting additional resources to enforcement, are needed to reduce the gap.

Energy, Environment, and Resource Protection

As the nation progresses into the 21st century, addressing long-term stresses on the environment will require modifying approaches to using natural resources and energy. The nation's rich natural resource base has enabled it to achieve tremendous economic growth. However, growth built upon overexploitation of natural resources may not be sustainable because the engines of that growth—factories, cars and trucks, fertilizers, and electricity-generating plants—often adversely

affect air and water quality and can potentially change climate catastrophically. In this connection, the average global surface temperature was higher during the last few decades of the 20th century than during any comparable period of the previous four centuries. Continued climate change could hinder agriculture production, transportation, power generation, and the insurance sector—industries on which U.S. economic prosperity depends, while also adversely affecting health, agriculture, forests, wildlife, water resources, and coastal areas. Addressing the impact of economic activity on the environment, an already difficult question, will increasingly necessitate international discussions and partnerships since the global nature of environmental problems will require global solutions.

The links between energy use, environmental protection, and national security are at the heart of the sustainability issue. While the United States accounts for 5 percent of the world's population, it consumes 25 percent of the energy used worldwide. The preponderance of this energy consumption is in the form of fossil fuels. In fact, the United States leads all nations in oil consumption. As competition for these resources increases from developing economies in China and India and the dollar declines in value, the price of this oil has dramatically increased with attendant economic consequences. While the United States has modest domestic supplies that are and can be tapped, current rates of consumption mean that an ever-increasing share of the oil consumed has been and will continue to be imported, often from unstable regions of the world with obvious national security consequences. Likewise, continued and growing dependence on fossil fuels is having increasingly deleterious and potentially catastrophic climatological impacts. The dependence on fossil fuels is most obvious in the transportation sector but is also evident in electricity production. Switching away from coal and increasing production of nuclear power to meet growing electricity demand avoids global warming concerns but creates a different environmental dilemma—storing and protecting large quantities of radioactive waste.

Without a vision for a sustainable energy future that includes conservation and alternative energy sources, the turmoil in energy markets, national security threats, and risk of increasing environmental harm are likely to grow more

severe. In addition, the federal government has a history of selling its assets—including oil, gas, timber, grazing rights, and water—below fair market value and often even below delivery costs. This practice shortchanges the Treasury and distorts markets for these resources.

Food and Water Resources

The United States is still the world leader in agricultural exports but must adapt to a changing world. For example, climate is a critical determinant of agricultural productivity and any change can influence crop yields over time. Other potentially negative environmental effects can occur with pressure to reduce U.S. dependence on foreign energy sources. In particular, the rising demand for biofuels has increased crop prices—especially higher corn prices resulting from the increasing demand for ethanol—and the added cropland may have adverse effects, such as increasing soil erosion, diminishing water quality, and contributing to loss of wildlife habitat. Lastly, agricultural business and trade is more global, and therefore more competitive, today. The U.S. agricultural sector is driven by a small number of giant agribusinesses that trade internationally and very large farming operations. As the people of the United States become increasingly diverse, so too has the food the American public consumes. In 2006, the United States imported \$64 billion in agricultural goods (and exported \$68 billion).

The United States also faces challenges in meeting future demands for clean water, as water tables have fallen in North America as well as on every other continent, and half of all streams in the United States have been polluted with pesticides and fertilizers. Population growth, particularly in arid regions of the country, may soon face a limiting obstacle—the availability of fresh water. In fact, water managers in 36 states expect water shortages in the next 10 years under even normal conditions. Similar conflicts over scarce water resources as well as the oceans' resources can be seen around the world and will be exacerbated as demand increases with global population growth. Evidence of such stress can be found on many fronts, in addition to depleted freshwater supplies, deteriorating fisheries, and accelerated loss of biodiversity in freshwater and saltwater ecosystems.

Related Issues

- Education, skills, and knowledge
- Immigration
- Tax policy
- Regulatory policy
- Saving and investment
- Trade
- Capital markets
- Transportation
- Aging and life spans
- Dependency ratios
- Income distribution gaps
- Retirement security
- Urbanization and sprawl
- Productivity and economic growth
- Information and communications technology
- Space exploration
- Elections and citizens' involvement

Maintaining Economic Growth and Competitiveness

Many of the issues facing the Congress and the nation stem from complex and evolving structures of domestic and global economies. The United States still leads the world in the size of its GDP and, according to a *Fortune 500* survey, the number of multinational corporations based here. However, it also has the world's largest national debt, trade deficit, and federal foreign debt. The U.S. economy has evolved from a manufacturing-based economy to one based on knowledge and services. According to an October 2004 Stanford Institute for Economic Policy Research policy brief, employment in manufacturing as a share of the labor force fell farther and faster here than in any other industrialized nation over the past 4 decades.

The last few years of the 1990s saw a dramatic surge in productivity that resulted in rapid economic growth. Although this growth paused at the beginning of the 21st century, it has since resumed at a more moderate pace. Despite this growth, factors such as education, immigration, tax and regulatory policies, individual prosperity, and the adoption of innovative technologies present significant challenges to the nation's economic growth and competitiveness over the longer term. For example, the World Economic Forum has stated that while the United States remains a center for technological development, it has dropped out of first place in a ranking of economic competitiveness, largely because of its public indebtedness, associated with large fiscal and trade deficits.

Education, Skills, and Knowledge

Because intellectual assets are the underpinning of a knowledge-based economy, investment in human capital and research and development is fundamental to continued growth. For policymakers, this requires greater attention to educating and training children and adults. U.S. corporations now operate globally, competing with corporations based in other countries for skilled knowledge workers. Experts predict that the shortage of skilled knowledge workers globally

will only grow more critical and will jeopardize U.S. economic growth and competitiveness. Also, both the U. S. government and the private sector are experiencing a shortage of workers who have the cultural understanding and skills, including language skills, to work in the global environment.

Several social indicators illustrate the challenges our nation faces in preparing children for the changing economy and world. The Department of Labor projects a continued need for people trained for computer and mathematical occupations in the next decade (an increase of 29 percent, according to the Department of Labor). According to a 2003 OECD study assessing high school students' knowledge and skills, the United States ranked between 25th and 28th in mathematics and between 20th and 27th in science among the 41 countries participating in the study (the ranges reflect different ranking methods and subject areas). These rankings point to potential shortfalls in skilled knowledge workers educated here. In addition, an academic achievement gap in mathematics and reading also exists between groups of students. In 2005, eighth grade national reading test scores for white students averaged over 20 points higher than those for African American and Hispanic students. Their math scores were on average over 30 points higher. And dropout rates among youth from the kindergarten through high school public school system are raising concern among policymakers and educators.

The methods of preparing children for their futures as citizens and workers will have to be adapted to a rapidly changing environment in which workers face less job stability and changing pension systems. New emphasis should also be given to continuing education and training for adults, both to increase workers' flexibility and to help them adapt to longer life expectancies that will allow them to stay in the workforce longer, a prospect that is significant for retirement policies. For example, the sufficiency of retirement savings will depend on the earning power of older workers, as well as on how long they stay in the labor force.

Immigration

Another factor that influences economic growth for our nation is the movement of people, which occurs for many reasons—permanent migration, temporary relocation for business or education, family reunification, or travel and tourism. Global migration is increasing. While there are various reasons for such migration, the opportunity for employment is one of the most important magnets attracting immigrants to countries. Reports indicate that migrants, particularly labor migrants, help to keep viable segments of certain labor-intensive industries, expand foreign trade, provide valuable language and cultural expertise to companies, and contribute to the economic vitalization of some communities. Yet these reports also note that immigration, particularly illegal immigration, may have adverse consequences, such as helping depress wages for low-skilled workers and creating net fiscal costs for some levels of government. Also, the economic impact that immigrants have on their home countries is profound. Money that immigrants, both legal and illegal, send to their countries—remittances—has become the second largest source of external finance for developing countries after foreign direct investment.

According to U.S. Census Bureau estimates, the U.S. population added another 100 million people, or one-third of its population, from 1967 through 2006. Legal immigrants and their offspring constitute a significant component of this increase with many of the estimated half a million new immigrant arrivals each year over the last 10 years being from Latin America or Asia. In addition, many individuals already in the United States on temporary visas are allowed to stay permanently in the United States, adding to the numbers who become legal permanent residents each year.

Adding to the overall population is an unknown but substantial number of aliens who enter illegally or enter legally but overstay their visas. For example, an estimated 40 percent of the illegal population are people who entered legally but overstayed their visas.

The U.S. Census Bureau's March 2003 Current Population Survey estimated that 34 million people, or 12 percent of the U.S. population, were foreign born. While the data vary significantly by ethnic group, noncitizens who are foreign-born tend to

be twice as likely to be in poverty as native and naturalized citizens and are also less likely to have graduated from high school.

A U.S. immigration office



Source: GAO.

U.S. firms use a variety of means to obtain the skills they need, including visa and guest worker programs to bring workers into the United States and outsourcing and foreign direct investment to access workers abroad. As the global competition for high-skilled workers heightens, the United States' strength—its ability to attract the world's best and brightest—will be critical to our nation's ability to sustain its global competitiveness and ensure future economic success. In certain sectors, the United States has relied on foreign-born workers. For example, in the science and technology sectors, almost a quarter of U.S. college-educated scientists and engineers are foreign born. According to a January 2007 Duke University study, immigrant entrepreneurs founded 25.3 percent of the U.S. engineering and technology companies in the past decade that together were responsible for generating an estimated \$52 billion in 2005 sales and creating just under 450,000 jobs as of 2005. Also, the study reported that foreign nationals contributed an estimated 24.2 percent of international patent applications in 2006. While much attention has been focused on high-skilled workers, policymakers also need to determine how best to construct guest worker programs that would recruit less-skilled workers, such as technicians and factory workers. Immigrants make up a sizable percentage of the labor force in farming, fishing, forestry, building and grounds cleaning, and maintenance. In seeking the skills that we need, the United States will need to effectively balance our nation's security interests—

preventing the entry of individuals who may commit terrorist acts—with economic interests.

The nation also faces the challenge of deciding what to do about the unauthorized population of immigrants now living and working in the United States. While difficult to measure, in 2004, the U.S. Census Bureau estimated that the illegal population in the United States was roughly 12 million people. Unlike past immigrants, new immigrants are relocating not only to urban centers that are experienced in acculturating them but also to nonurban centers across our nation. States and local governments are on the front lines of dealing with the social and economic implications of immigration policy as they deal with large numbers of immigrants lacking language and other skills, requiring a wide range of social services, and seeking to assimilate into the U.S. culture. According to the National Conference of State Legislatures, immigration has become their policymakers' primary concern, with 32 states approving in 2006 84 laws—mostly enforcement related—from 570 introduced. As a nation, the United States needs to decide how to address the undocumented immigrant situation by considering, among other things, improving current immigration and labor law enforcement; using temporary guest worker programs to address labor shortages; providing reasoned and reasonable pathways to family reunification, legal permanent residency, and citizenship; and devising different methods of treatment for those who have committed criminal acts and those who have not.

Tax Policy

In fiscal year 2006, U.S. taxpayers paid about \$2.4 trillion in combined federal taxes, including income, payroll, and excise taxes. These taxes, along with over \$240 billion in deficit borrowing, funded the federal government. Tax revenue represented about 18 percent of GDP—near the midpoint of the range of federal taxes as a share of GDP for the past 40 years. Beyond funding government, any tax system, including the current one, has profound effects on the economy as a whole and on individual taxpayers, for both today and tomorrow.

The U.S. position in the worldwide economy has fundamentally changed, and the structure and composition of the U.S. economy has shifted, raising questions about whether the current federal tax system is well suited to the needs of the

economy and society. U.S. workers and firms must now succeed in a world of fast-paced technological change and constantly evolving global competition. In addition, over the years, the federal tax system—especially the federal income tax system—has become more complex, less transparent, and subject to frequent revision. While some complexity is understandable, it has become more difficult and more costly for taxpayers to understand and comply with tax requirements; opportunities for tax evasion have increased, through vehicles such as tax shelters; and the Internal Revenue Service finds it harder to explain and enforce the tax laws.

Incentives for saving are a particular concern. Private sector savings are near historical lows and government savings, because of federal budget deficits, are negative. The imbalance between federal revenues and expenditures, if allowed to persist in the long term, will adversely affect economic growth. Addressing the imbalance will require closer scrutiny of both tax revenues and expenditures.

Regulatory Policy

Government policies to improve the economic performance of both the private and public sectors through measures such as liberalizing trade and drawing on greater market competition have also resulted in changes to the U.S. and world economies. The U.S. government and, increasingly, the governments of foreign nations have moved away from heavily regulated or state-owned enterprises to more competitive markets. In the United States, the federal government has moved to deregulate industries such as trucking, electricity, and telecommunications. In Europe and elsewhere, governments have privatized publicly owned industries, and many planned economies have reorganized to be more market oriented.

Consequently, formerly regulated industries have been forced to become more efficient as new competitors enter previously protected markets. According to an OECD study, the U.S. economy benefits from an industry structure that has less restrictive labor and product market regulation than that of many other OECD members. Nevertheless, deregulation can present its own challenges, and such policies should be implemented in the context of oversight institutions that can protect the public interest.

Saving and Investment

Although the economy was growing at the beginning of the 21st century, concern over that growth's sustainability increased, because of a serious decline in personal saving into negative territory. Personal saving is an important component of national saving that helps fuel capital investment and research and development and, in turn, drives the productivity growth that allows personal incomes to rise without accelerating inflation. Personal saving declined from about 5 percent of GDP in the early 1990s to turn negative in 2005 and 2006 for the first time in over 20 years. The last time that the personal savings rate was negative for 2 straight years was 1932 and 1933. The effect of low personal saving on national saving has been compounded by a return to federal budget deficits that have brought government saving into negative territory. The nation has been able to sustain a high rate of investment in the face of this decline in saving because of the increase in foreign investment in the United States. Unless the nation can increase its own saving level, it will continue to rely on foreign inflows for future investment, productivity growth, and financing of federal deficit spending. This increased reliance on foreign investors also serves to increase the risk of higher interest rates. A further decline in the dollar and other economic disruptions can result if foreign investors' appetites for U.S. debt decline. In the longer run, the level of aggregate saving may place even greater constraints on federal spending for national priorities, particularly Social Security, Medicare, and Medicaid. This budget outlook reinforces the importance of long-term growth fueled by efficiency, saving, and investment that will allow the nation to support its commitments to future generations.

Innovation and Change Management

Today, knowledge is a tradable commodity along with material goods. Creating new knowledge requires innovation and a society able to adapt and to exploit that knowledge for its own benefit. Innovation is a critical measure of a nation's technology industry; it determines the nation's ability to convert core research into marketable technology, in turn fueling economic growth and creating new jobs. The growing use of technology

and knowledge-based services raises a number of issues that the nation must face. The importance of research and development, particularly in the private sector, requires strategic management and attention to incentives. The nature of new knowledge and its relationship to technology has changed, and the rewards are going to those who can most quickly transform new ideas into useful technologies and other tools. For example, in the past, the cycle in which a new idea was transformed into useful technology took 20 years. Today, the period of innovation is considerably shorter, having been reduced even to zero where science and its associated technology are joined. Change management, encompassing the transformation of entities through such means as strategic leadership and management, human capital, business process reengineering, and supply chain management, has also become critical.

Related Issues

- Border and port security
- Natural disasters
- Infectious diseases and public health
- Fiscal deficits and debt burdens
- Health care quality, access, and costs
- Defense and homeland security strategies
- Tax gaps
- Energy, environment, and resource protection
- Food and water resources
- Trade
- Information
- Capital markets
- Transportation
- Aging and life spans
- Dependency ratios
- Demographic diversity
- Income distribution gaps
- Changing social behaviors
- Retirement security
- Employment
- Productivity and economic growth
- Information and communications technology
- Cybersecurity and personal privacy
- Data quality and reliability
- Space exploration

Recognizing Global Interdependency

Economies, governments, and cultures are becoming increasingly interdependent as more people, goods, money, and information move more rapidly across boundaries that once seemed to firmly separate them. While such movement has brought many benefits to many people, interdependence has challenged governments to extend benefits to people in the world's poorest areas. Other challenges, such as the risk of pandemic viruses and extreme weather conditions, mean that governments and other institutions must work together to resolve global problems. Concerns exist that rising nationalism and protectionism in certain countries, coupled with mistrust of international organizations and multinational corporations, may slow or reverse progress made in promoting global interdependence.

Trade

Indicators such as international trade and financial transactions reveal how economic activity has come to link nations. The United States is still one of the top global exporters. U.S. exports rose as a share of GDP from about 5 percent in 1970 to about 10 percent in 2005. The rise in U.S. imports was even greater, however, from about 5 percent to about 15 percent of GDP—resulting in a huge increase in the U.S. trade deficit from 1995 through 2005. According to a 2006 Council on Competitiveness report, about a third of the trade deficit is from oil imports, another third is from trade with China, and the remaining third is from all other imports.

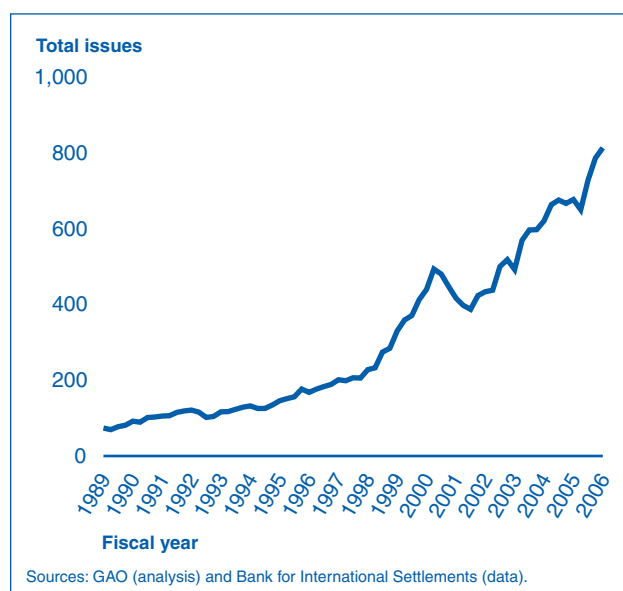
Not spread uniformly, growth in U.S. trade was greatest with China, Mexico, and Canada. China's share of U.S. exports rose from 2 percent in 1980 to 5 percent in 2005; its share of imports rose from none to 15 percent. Exports to Mexico and Canada increased from 25 percent to 37 percent, imports 22 percent to 28 percent. Meanwhile, U.S. trade with Africa, the European Union, and Latin America generally declined. This picture reflects a greater integration of the North American market and a shift in the pattern of trade from the Atlantic toward the Pacific. Some experts point out that while the United States has the

largest trade deficit, the size of this deficit may be overestimated because many U.S. multinational firms report their sales through their foreign operations.

Capital Markets

The globalization of capital markets provides both benefits and risks, including systemic risks. Figure 5, for instance, demonstrates the growth in international money market instruments from 1989 to 2006, showing dramatic growth through the period.

Figure 5: International Money Market Instruments Issued, 1989-2006



Note: The data used for this chart are available from the *Bank for International Settlements Quarterly Review*, December 2006, table 13A, which is available at www.bis.org. The labeled data points are as of September of the respective year.

Today, U.S.-based exchanges and banking corporations compete for business worldwide. While still dominant, the U.S. financial and commodity exchanges face increased competition from exchanges abroad. High-profile corporate scandals, such as Enron and WorldCom, prompted concerns about firms trading on U.S. exchanges and the reliability of information about them. Although reform legislation—the Sarbanes-Oxley

Act of 2002—was enacted to strengthen confidence in U.S. exchanges, there are increased pressures to develop international accounting, auditing, and financial reporting standards to provide investors better and more comparable information along with greater transparency. As U.S. multinational corporations have moved their operations globally, U.S. banking corporations have become global leaders, moving into such emerging markets as China, India, and Eastern Europe, even as foreign financial institutions become more important players in U.S. financial markets.

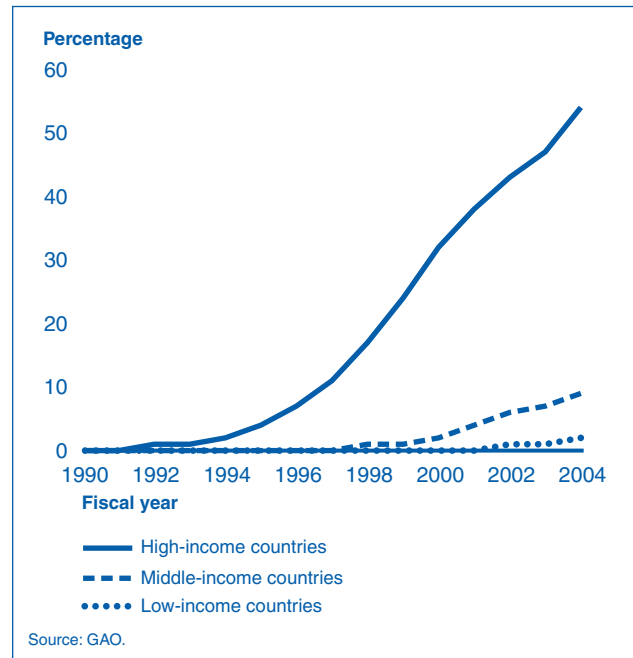
International concern about the fundamental soundness of the U.S. economy relating to its consumer spending and federal deficit and prospects for future growth along with the principle of diversification has caused investors to shift their investments to other countries, recently resulting in a depreciation of the dollar. U.S. net international indebtedness has increased sharply, to more than 20 percent of GDP from 1999 through 2005. While such financial flows can benefit the United States, a high level of U.S. foreign indebtedness may not be sustainable and may leave U.S. and other nations' economies vulnerable to disruption. For example, U.S. Treasury securities account for a large share of the securities that foreign investors trade. China and Japan hold the largest shares, but the United States has large bilateral trade deficits with China and Japan. The large and persistent imbalances in U.S. current account balances with both nations have led many experts to focus on the currency policies of those governments, such as intervention to influence the value of their currencies.

Information

With advances in information and communications technology, the world is connected as never before. According to a 2005 World Information Society report, many parts of the developing world are making strong gains in mobile telephone adoption (over one-third of the world's population have mobile phones) and, to a lesser extent, Internet access. Millions of personal computers, handheld devices, and "smart" phones now form a global network through the Internet, allowing individuals, governments, and businesses to communicate, exchange information, and

transact business instantaneously. According to the UN, a billion people are connected to the Internet. At the end of 2004, for example, the percentage of the world population using the Internet in developed areas was eight times that in developing areas. (See fig. 6.)

Figure 6: Global Internet Users by National Income Group, 1990–2004



Note: We combined data for several countries from the World Development Indicators Online database to construct this figure.

Mobile phone subscribers as a share of the world population increased from 1 percent to 27.4 percent from 1994 to 2004; Internet users increased from 0.5 percent of the population to 12.8 percent during that same period. During this time, the digital divide lessened as these indicators grew more rapidly in developing countries than in developed countries. Although the digital divide lessened, such factors as poverty and lack of electricity continue to hinder some developing countries from entering the Internet age.

Transportation

Over the next two decades, demands for transportation will increase because of increases in travel and trade. Nations that can make wise investments in transportation will enjoy higher living standards and growing economies.

The United States' economic vitality and the quality of life of its citizens depend significantly on a sound, secure, and available physical infrastructure. The nation's transportation system presents particularly complex policy challenges, because it encompasses many modes—air, water, highway, rapid transit, and rail—whose systems are owned, funded, and operated by public and private sectors. According to the American Society of Civil Engineers' 2005 Report Card, our nation's physical infrastructure is badly in need of investment and repair.

Policymakers face the challenge of maintaining the safety and condition of the transportation system while preventing congestion from overwhelming it. For example, the United States remains heavily dependent on trucks and rail to transport goods and produce. Freight rail tonnage is expected to increase by 50 percent by 2020. In addition, air travel and air traffic are projected to increase 4.3 percent annually through 2015. Airports will need to accommodate increasing numbers of regional jets, new super jumbo jets, and competition from abroad. Transportation decisions are inextricably linked with economic, environmental, and energy policy concerns, and coordination across levels of government and different sectors is complex. New security imperatives to deter terrorists present additional challenges for all modes of transportation that must be addressed in a rapidly changing demographic and technological landscape.

Related Issues

- Terrorism
- Growing instability, rogue nations, failed states, and nuclear proliferation
- Border and port security
- Natural disasters
- Infectious diseases and public health
- Fiscal deficits and debt burdens
- Defense and homeland security strategies
- Energy, environment, and resource protection
- Food and water resources
- Education, skills, and knowledge
- Immigration
- Tax policy
- Regulatory policy
- Saving and investment
- Innovation and change management
- Demographic diversity
- Income distribution gaps
- Changing social behaviors
- Employment
- Productivity and economic growth
- Information and communications technology
- Cybersecurity and personal privacy
- Space exploration
- Humanity and ethics
- Elections and citizens' involvement

Adapting to Societal Changes

Profound changes in the characteristics of the U.S. population will continue in the coming decades as it becomes older and more ethnically diverse. Unlike in Europe and Japan, demographers here project a continued growth in the U.S. population of 300 million over the next three or four decades in terms of its labor force and children. According to the 2000 census, the median age of the U.S. population is now the highest it has ever been, which is influenced by the 75 million baby boomers who were born from 1946 through 1964, inclusive. This generation, coupled with the more significant trends of rising life longevity and falling fertility rates, is expected to place increased demands on the government's social insurance commitments, including Social Security, Medicare, and Medicaid. These trends will also create challenges for the federal, state, and local governments and the private and nonprofit sectors in ways that they have only begun to consider. While experts disagree on the degree to which income inequality has grown, these trends should be carefully monitored for their social and political implications. A key emerging area for policymakers is how rapid changes in information and communications technology affect purchases of goods and services (e-commerce), re-

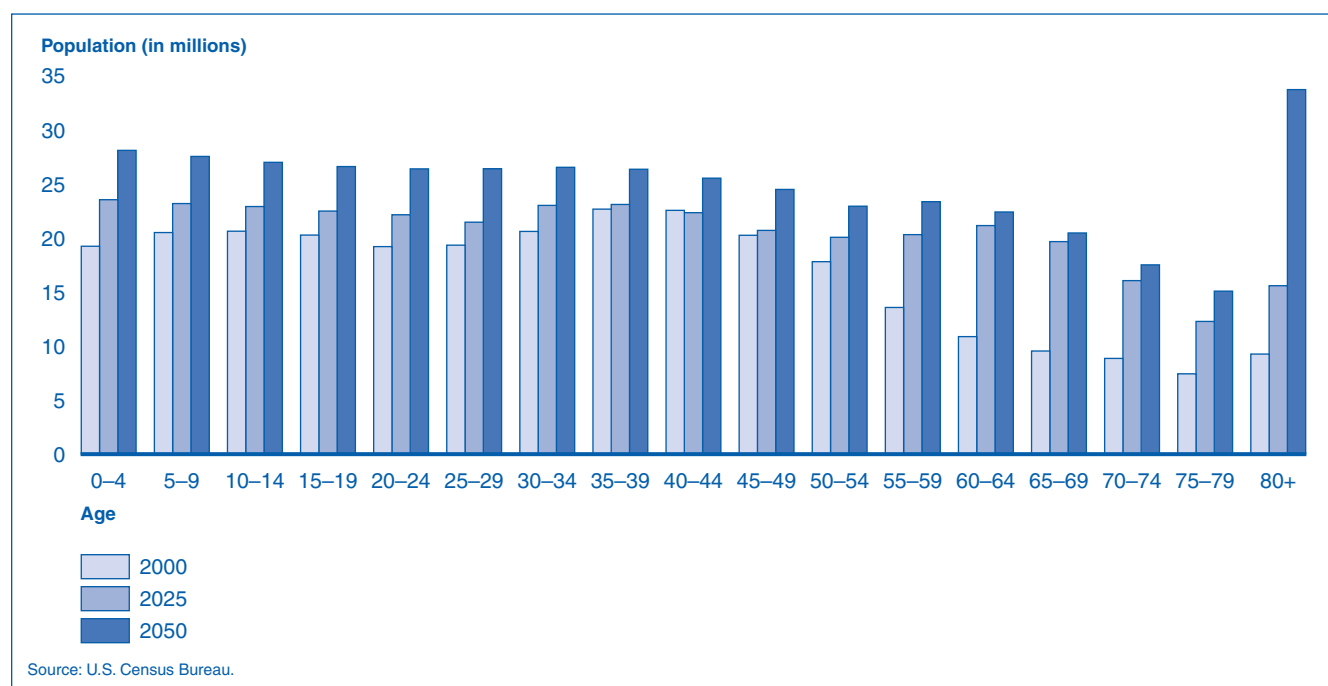
lationships with government (e-government), and social interactions in the community.

Aging and Life Spans

Our nation's population is becoming older, mirroring global trends in both developed and developing countries. According to the UN, the world's population has transitioned from a state of high birth and death rates to a state of low birth and death rates marked by a rapid, large, and ubiquitous growth in the number and proportion of older persons. Life expectancy in the United States has increased; 50 years ago it was age 65 and now it is well over 70 for both men and women. People age 80 and older are projected to rise in number in the United States from 9.3 million in 2005 to 33.7 million by 2050 (see fig. 7).

Although baby boomers are projected to be healthier and wealthier than prior generations of retirees, they will also live longer and have greater retirement income needs, but not necessarily have greater means. For example, there will be many others who will be needy and depend on their families or other social institutions for assistance. Women older than 60 outnumber men in the United States

Figure 7: U.S. Population for 2000, 2025, and 2050



and around the world, and the burden of caring for elderly persons falls more heavily on women than on men. Women's longer life spans do not generally increase their years of disability later in life but, in some cases, their health is affected by earlier lack of health care. Moreover, for older women, the accumulated effect of lower lifetime earnings, lower pensions, lower social status, and lesser access to property and inheritance contributes to their disproportionate poverty, especially if they are widowed or have never been married.

Experts predict that the "age-in-place phenomenon," whereby aging baby boomers remain in their residences, will be a more dominant force behind elderly growth in the first quarter of the 21st century as all communities experience an increase in their aging populations. The public, private, and nonprofit sectors will need to anticipate how best to keep them involved in their communities as well as provide needed transportation, social, and health services. Older people in retirement in the United States receive care more commonly at home and in the community than in nursing homes. Among those who remain at home, about 80 percent are helped by family and friends, more than 65 percent depending entirely on unpaid care. The kind of care elderly persons seek, however, depends not just on their finances but also on their culture and family structure. For example, 79 percent of Asian women and 76 percent of Hispanic women older than 65 lived with family in 2003, while only 57 percent of non-Hispanic white women lived with family. The percentages of the elderly who are divorced or were never married, who live alone or with only a spouse, and who live without adult children are likely to rise.

Dependency Ratios

Relative to the world's younger population, the world's elderly population is growing quickly in absolute numbers and percentages. The needs of young adults and elderly persons, of whatever background, will come together at a critical crossroads in the next several decades. This will be true in developing countries, where economic resources are fewer, health care is less adequate, and traditional family support systems may break down as populations shift. It will also be true in developed countries, including the United States. As the baby boomers age, the share of the population 65 or older is projected to grow

from 12.3 percent of the population in 2000 to 20.5 percent in 2040.

The aging of the baby boom generation will have dramatic implications for the federal budget. By 2040, federal spending on Social Security, Medicare, and Medicaid is estimated to reach 17.8 percent of GDP, up from 6.7 percent of GDP in 2000. Estimates suggest that the increased numbers of beneficiaries served coupled with anticipated inflation in health care costs will drive spending for these three programs to about 24 percent of GDP by 2080. While the baby boomers are exerting such pressures on federal expenditures, the growth of the labor force is expected to slow considerably, becoming negligible by 2050. This decline in the number of working-age people compared with the rise in the number of elderly persons has obvious implications for the Social Security and Medicare trust funds. Today, about 3.3 people pay into Social Security for every person receiving benefits. By 2080, this ratio is projected to be fewer than 2 people for every person receiving benefits. The challenge will be to examine and prepare for what the late 20th century's trends imply for the 21st century with respect to support systems for the growing numbers of the aging and the diminishing numbers of young adults who care for them.

Demographic Diversity

The United States has become more racially and ethnically diverse. According to 2005 figures from the U.S. Census Bureau's American Community Survey, our nation's growing diversity has reached virtually every state in our nation. The survey's February 2007 reports on the Hispanic, Asian, and black populations also highlighted important differences in the characteristics of the subgroups within these populations in such areas as education, income levels, and where they live. The U.S. Census Bureau projects that from 2000 to 2050 the United States will experience a significant shift in its racial composition. While the non-Hispanic white population would increase in projected numbers from 195.7 million to 210.3 million, their share of the nation's population would decrease, from 69.4 percent to about 50.1 percent. The Hispanic population (of any race) would significantly increase from 35.6 million to 102.6 million and their share of our nation's population would nearly double, from 12.6 percent to 24.4 percent. Similarly, the Asian popu-

lation is projected to increase from 10.7 million to 33.4 million and their share of the population would double, from 3.9 percent to 8 percent. The black population is projected to rise from 35.8 million to 61.4 million, raising their share of the country's population from 12.7 percent to 14.6 percent. As our nation transitions, an essential goal will be to ensure a civil and cohesive society that has tolerance and respect for the rights of all individuals. The government will need to consider how best to promote and build consensus on core civic values that are important to all Americans. Also, policymakers will need to consider the demographics of diversity as they reexamine existing programs and design new programs.

Income Distribution Gaps

Although many people in this country enjoy economic prosperity, income inequality in the United States is a growing concern. While some have taken issue with the U.S. Census Bureau's official measures for poverty and income inequality, it is generally recognized that poverty imposes costs on the nation as a whole, not merely in terms of programmatic outlays but also through lost productivity that can affect the overall economy. Also, concerns exist that growing income inequality potentially can destabilize U.S. society and undermine its democracy. Specifically, research shows that poverty can negatively affect economic growth by affecting the accumulation of human capital and rates of crime and social unrest.

The federal government spends billions of dollars on programs to assist low-income individuals and families and attempts to reduce income inequality through government tax and income transfer policies. According to the U.S. Census Bureau, approximately 37 million people in the United States—nearly 13 percent of the total population—lived below the poverty line in 2005. This percentage was significantly larger for particular population groups, specifically children, minorities, and those living in certain geographic areas such as inner cities. Experts debate the degree to which income inequality, in which people in the richest segment of society see their incomes rise more rapidly than people in the poorest segments, has grown. Some experts express concern about the reliability of the data. Many others assert that while data reliability problems exist, multiple measurement sources indicate a growing gap. For example, the U.S. Census Bureau's

measurement of inequality suggests that income inequality was 9 percent higher in the United States in 2005 than in 1989. Contributing factors could be the transition of the U.S. economy from manufacturing to knowledge and services, which has resulted in both a loss of higher-paying manufacturing jobs, especially jobs located overseas, and a greater emphasis on education, knowledge, and skills for workers today and in the future.

Changing Social Behaviors

Rapid advances in information and communications technology are affecting every sector of society as connectivity becomes needed rather than merely wanted. According to 2006 reports on surveys conducted by the Pew Internet and American Lifestyle Project, Associated Press, and America Online, 73 percent of adults (about 147 million) and 45 percent of teenagers (about 11 million) in the United States use cell phones. Internet usage is widespread, partly because of the availability of high-speed broadband, with nearly 73 percent of adults and 87 percent of teenagers using it. People in the United States are growing more comfortable with buying goods and services electronically. While e-commerce still represents a small portion of the overall sales of goods and services, it has steadily grown.

Instant access to information is causing increased demand for it in the public sector, fueling a greater focus on the government's ability to provide information through electronic means. As in the rest of the world, e-government systems are growing rapidly to help automate information and business processes, make decision making more transparent, and facilitate public participation. The media are also undergoing changes as they struggle to balance printed media with the growing demand for Web-based media. The growth of various and multiple forms of media makes it increasingly difficult to capture the time and attention of the people. Also, rather than becoming merely consumers of information, people are beginning to create and customize information in cyberspace. The network of Web logs, or blogs, where any individual can enter his or her views on Internet sites accessible to the public is doubling in size every 6 months, forming a new medium for personal creativity and social and political action. A number of social networks, virtually real "second worlds," and online games have millions of participants. Corporations and politicians are beginning to explore them as a way to promote or sell their products, brands, and messages.

Related Issues

- Border and port security
- Infectious diseases and public health
- Fiscal deficits and debt burdens
- Health care quality, access, and costs
- Defense and homeland security strategies
- Social insurance commitments
- Energy, environment, and resource protection
- Education, skills, and knowledge
- Immigration
- Regulatory policy
- Capital markets
- Information
- Transportation
- Retirement security
- Employment
- Work and family
- Urbanization and sprawl
- Housing
- Cybersecurity and personal privacy
- Productivity and economic growth
- Information and communications technology
- Elections and citizens' involvement

Maintaining the Quality of Life for U.S. Citizens

Around the world, nations are increasingly concerned with measuring and improving the quality of life of their citizens. Various economic, social, and environmental indicators suggest that in many respects, the quality of life in the United States has improved over the past several decades. Large segments of the population continue to enjoy greater economic prosperity than ever before. For example, more than two-thirds of U.S. households own their own homes. Moving forward, challenges will continue in areas such as retirement security, employment, balancing work and family, urbanization and sprawl, affordable housing, and personal privacy.

Retirement Security

Retirement security in the United States is primarily based on Social Security, pensions, health insurance, and private savings as well as earnings from continued employment. For a large portion of the workforce, Social Security is the primary source of income, providing an inflation-adjusted monthly benefit for the duration of their retirement years. Yet, the nation's increased life spans and reduced fertility have combined to create long-term fiscal stress on the Social Security program. If unaddressed, these fiscal challenges will result in the exhaustion of the Social Security trust fund by 2040 and will likely shift greater responsibility for retirement security planning and saving to individuals.

The United States is unusual compared to most industrialized countries in that employers play a large role in the provision of pensions and health insurance. Like Social Security, the private employer pension system is also facing major challenges. U.S. firms have increasingly shifted pension costs and risks onto their employees. In 1980, 35 percent of private sector workers were covered by defined-benefit pension plans whereby the employer assumed the risk of fluctuations in investments. By 2003, only 18.5 percent of the workforce was covered by such plans, because employers had shifted responsibility for retirement savings to workers, largely through 401(k) plans. Health care has also become a major source of financial insecurity, in that fewer employers are providing health insur-

ance to their retired employees. Meanwhile, employers that still offer retiree health benefits have tightened eligibility standards and increased the share of costs that retirees bear. Although smaller pensions, rising health care costs, and longer life expectancies would seem to require workers to accumulate more saving on their own, savings rates have been declining since the early 1980s, with rates falling to historic negative levels in 2005 and 2006.

Earnings from employment also play an important role in retirement security as older employees can work longer prior to their complete exit from the labor market. Extending the labor force participation of older workers can lead to greater retirement income security, lead to an improved national fiscal outlook, and be individually rewarding. However, to facilitate the employment of older workers, government, businesses, and workers will have to come together to address the existing challenges of employer misperceptions about the productivity and trainability of older workers, inflexible work scheduling, and other impediments to extending senior labor force participation.

Employment

The U.S. workforce of the 21st century is expected to find a very different set of opportunities and challenges from those previous generations encountered. Demographic and economic trends indicate that the size and composition of the labor force, as well as the characteristics of many jobs, are changing in the 21st century. Some experts predict that the United States will soon see tight labor markets, partly because of changes in demographic trends—the 75 million baby boomers will be followed by a generation of 44 million born from 1965 through 1980—and demands for higher skills. As the cost of information continues to decline, even high-skilled occupations that do not rely on personal contact may face increased competition from abroad. At the same time, job instability among many young workers in the United States is potentially serious, tending to point toward higher unemployment later in life. Other factors that will shape the labor market include the beginning of the retirement of the baby boom generation, which

will affect some industries more than others; low labor force participation rates among certain groups, such as high-school dropouts, low-income people, and some minority groups; and the number of immigrants—both legal and undocumented—in the labor force. The gap between the skills employers require and the skills U.S. workers have poses a significant challenge for the labor market. The several factors that contribute to this gap include the growth of the knowledge-based economy, decreased support for training programs, and insufficient emphasis on career education in schools.

Work and Family

Work is a central part of many people's lives. At the same time, people value their families and their leisure time. Finding the right balance between work, family, and leisure is an individual decision, but employers can attract and retain employees by providing a more family-friendly environment in which to work. This can include flexible work schedules; part-time work; telecommuting options; paid holidays, vacations, and sick days; options for extended time off; and on-site day care programs. The upward trend in demand for these benefits is expected to continue.

Urbanization and Sprawl

Like the rest of the world, the United States is becoming increasingly urbanized, with many metropolitan areas growing at an extraordinary rate. In addition, people in this country, who have always been mobile, are on the move again, migrating from the Northeast and Midwest to the Southeast and Southwest and to coastal areas. Such mobility has implications on resource distribution and physical infrastructure investments.

The growth of suburbs outside central cities, accelerating after World War II, had both positive and negative effects. Suburban growth began in response to a number of social, economic, demographic, and technological factors, including the postwar population boom; the increased availability of suburban housing; and the greater use of automobiles. When suburban growth means the rapid spread of fragmented, low-density, automobile-dependent development on the fringes of cities, some observers see urban sprawl. Sprawling development can occur in rural

and urban areas and can encompass residential, commercial, and industrial zones.

Research has identified positive effects of urban sprawl, such as increased homeownership and new, sometimes lower-cost locations for businesses. At the same time, research points to negative effects, such as higher infrastructure costs in low-density areas, increased traffic congestion, and less green space. Some experts believe—and anecdotal evidence supports their belief—that the federal government influences urban sprawl through specific programs (such as federal housing and transportation programs), taxation, and regulation, among other things, but few studies document the extent of such influence.

Housing

Homeownership continues to be a primary means for many families to accumulate wealth in this country. On the premise that homeownership contributes to stable and vital communities, the U.S. government has created incentives for homeownership by providing home mortgage tax deductions and liquidity through various governmental and quasi-governmental entities. These policies along with rising home values have lifted the rate of ownership among households close to 70 percent. While the overall homeownership rate is at a historic high, in certain subpopulations the rate lags behind. In recent years, the housing market has added significantly to investment and jobs in housing-related sectors such as construction, mortgage brokering, and lending. It has also added to the “wealth effect” in that homeowners have extracted increasing amounts of equity from their homes, fueling consumer spending. However, experts are concerned that recent increases in defaults and foreclosures may signify a significant slowing or possible downturn in the housing market, which could adversely affect a large sector of the population as well as the overall economy. While there are federal programs designed to provide decent housing affordable to targeted populations that do not own homes, such as tax provisions related to the construction of federally financed rental housing, a growing number of low-income and moderate-income homeowners spend half or more of their incomes on housing and face challenges finding adequate and affordable housing near jobs and public transportation.

Related Issues

- Terrorism
- Border and port security
- Transnational and violent crime
- Natural disasters
- Infectious diseases and public health
- Fiscal deficits and debt burdens
- Health care quality, access, and costs
- Defense and homeland security strategies
- Social insurance commitments
- Energy, environment, and resource protection
- Food and water resources
- Education, skills, and knowledge
- Immigration
- Regulatory policy
- Saving and investment
- Trade
- Transportation
- Aging and life spans
- Dependency ratios
- Demographic diversity
- Income distribution gaps
- Changing social behaviors
- Productivity and economic growth
- Information and communications technology
- Cybersecurity and personal privacy
- Humanity and ethics

Managing Advancements in Science and Technology

Science and technology influence every aspect of life. While information technology is a major force today—linking individuals, organizations, and economies around the world—other kinds of scientific and technological advances are also creating significant changes. Developments in science and technology present great opportunities to improve the quality of life, the performance of the economy and the government, and the relationship of government to citizens. For example, advances in biomedical science, including the mapping of the human genome, hold promise for extending life expectancies. Advances in physics hold promise for unlimited clean energy supplies. These developments challenge the government’s ability to evaluate their potential and assess their effect on security, safety, privacy, and equity. At the same time, these advances are accompanied by challenges with which our nation must deal, such as protecting data from abuse and misuse, ensuring that data are accurate and reliable, weighing the cost of advancing science (e.g., through space exploration), and considering the ethical and moral issues of medical research.

Productivity and Economic Growth

Science and technology has been the most significant ingredient for sustained economic growth in the United States, generating at least half of U.S. economic growth in the past 50 years and serving as a major source of productivity improvements. According to OECD, several sources of economic growth are related to key factors in the changing economy, among them research and development expenditures. Advances in science and technology in the United States have historically been fueled by combined public and private sector research and development investments of about \$284 billion annually. These investments, along with the nation’s strong research and development infrastructure and intellectual property protections, have long ensured the United States’ leadership in the development and commercialization of scientific advances, and they have helped

nurture entrepreneurship and dissemination of information on new technologies.

The United States still has an impressive network of government laboratories, academic research centers, and business-backed research facilities. However, U.S. leadership is now challenged in view of fiscal constraints and a changing world. Whereas the United States was once the source of 70 percent of the world’s research and development, it is now the source for 30 percent, and U.S. funding of basic research has steadily decreased. Private sector firms’ investment in research and development has increased, but they are less inclined to fund basic research. Some large firms are establishing their own universities and research centers in this country and abroad, while universities are developing and participating in business enterprises. Regardless of the source of the investment, it is essential to our nation’s future economic growth that we continue to invest in research and technology. For example, advances in nanotechnology, which involve manipulating matter at the level of individual atoms, made by a multiagency research group and others, may lead to far-reaching innovations such as drugs able to target specific parts of the body at a given time. These innovations hold great promise for future growth but also pose social challenges as well.

Information and Communications Technology

The United States has maintained its leadership in information and communications technology but it faces considerable competition from other countries. According to an annual ranking by the World Economic Forum, the United States ranked fourth in 2004, regaining its lead position in 2005, based on its information and communications technology physical infrastructure, availability of venture capital, high levels of business and government usage, and use of latest technologies. However, other indexes suggest that the United States is not a global leader when a broader set of indicators are considered. The United States ranked seventh of the top 10 economies

in 2005 according to the Information and Communications Technology Opportunity Index, a global index developed by a Canadian nongovernmental organization that measures four broad indicators—networks, skills, uptake (e.g., televisions, personal computers, phone lines, and Internet use), and intensity. More recently, the Digital Opportunity Index—a global index that the World Information Society developed in conjunction with multiple stakeholders—indicates that the United States ranked 21st when measured using broad indicators of opportunity, infrastructure, and utilization.

The United States faces a challenge in achieving the policy goal of providing universal service in light of the size of the country, rapid changes in information and communications technology, the high costs of installing the infrastructure, and ensuring that fees are affordable. Science and technology are expected to continue to generate rapid increases in computing and communications powers, and recent advancements in chip technology will make mobile phones even smarter. Installing the infrastructure to provide all households broadband access is costly and affects affordability as firms seek to recoup their costs through fees. The U.S. information and communications infrastructure depends on a few firms, each betting on a specific technology (for example, cable versus telephone) to provide interconnectivity. The high costs of installing the infrastructure, as well as competition for service fees, are forcing firms to adapt. For example, AT&T recently merged with Bell South and Cingular to combine broadband, wireless, voice, and video services. Also, as cities vie for skilled knowledge workers, they are investing in wireless infrastructures for Internet access and connectivity. Wireless technologies, such as wireless local and metropolitan area networks (sometimes referred to as WiFi and WiMax), provide new low-cost alternatives for providing broadband access to not only cities but rural and remote areas as well. Thirty percent of adults who access the Internet do so wirelessly, and 45 percent of those who access the Internet do so elsewhere than the workplace.

Cybersecurity and Personal Privacy

Increasing computer interconnectivity has revolutionized the way in which governments, nations, and much of the world communicate and conduct business. While the benefits have been enormous, this widespread interconnectivity can compromise individual privacy, increase exposure to commercial and governmental surveillance, and inundate both people and organizations with unwanted e-mail. In addition, new crimes committed over the Internet have become widespread, such as identity theft, as well as phishing, or obtaining access to an individual's assets by diverting them to a fraudulent Web site where they can be tricked into providing credit card, bank account, and Social Security information. These types of criminal activities result not only in economic losses but also undermine public confidence in the Internet for both personal use and commercial transactions.

Widespread interconnectivity also poses significant risks to our nation's computer systems and, more important, to the critical operations and infrastructures they support. The Homeland Security Act of 2002 and federal policy established DHS as the focal point for coordinating activities to protect the computer systems that support our nation's critical infrastructures. However, safeguarding information that could compromise national security, business interests, and individual privacy if lost will continue to be a challenge to the public and private sectors as technology advances and computing and communications electronics become even smaller in size, and those who try to break into computer systems become increasingly sophisticated. As small electronics such as the mobile phone become wider spread, terrorists and criminals are using them for their activities and as a means to make their transactions more difficult to detect and trace.

Data Quality and Reliability

Data are crucial in science and technology. Data must be accurate if findings are to be reliable. The need for accuracy is based on the need to ensure users that what is reported is credible and reliable. One inaccuracy can cast doubt on the reliability of an entire report or study and can divert attention from the substance of the work. Also, inaccurate data can damage an organization's credibility and reduce its effectiveness and as information and knowledge migrate to the Internet, risk increases that inaccurate and unverified information will be accepted and quickly disseminated.

In addition to damaging the scientific enterprise, scientific misconduct involving such actions as fabricating and falsifying data can erode the trust of citizens in science and government. Nonetheless, detecting scientific misconduct and ensuring data quality can be costly and time consuming. Further, because scientific research is globally interdependent, all countries must handle the challenge of detecting and preventing scientific misconduct similarly in order for science to advance. Therefore, U.S. decision makers need to collaborate and coordinate with those in other countries to establish policies that ensure data quality and reliability in the most efficient and effective manner. OECD has established a work group through the Global Science Forum, which brings together science policy officials from OECD countries, to develop recommendations for ensuring scientific integrity and preventing misconduct.

Space Exploration

Despite many successes in exploring space, the loss of life, unsuccessful missions, and unforeseen cost overruns have recently increased the level of concern over its benefits, particularly with regard to human space flight. Since the National Aeronautics and Space Administration's (NASA) inception, it has undertaken programs that have greatly advanced scientific and technological knowledge. However, the loss of Shuttle Columbia and its crew is symbolic of the difficult environment in which NASA must perform its mission and the risks associated with human space exploration. The complexities NASA faces in returning the remaining three shuttles to flight so that construction on the International Space

Station can resume, and the debate over the potential cost and the federal government's role in implementing the administration's vision for space exploration, are emblematic of the challenges the nation will need to resolve in the years ahead.

Humanity and Ethics

The tragic consequences of the use of thalidomide and the revelation of the Tuskegee syphilis study shocked the public and convinced policymakers that unregulated biomedical research represents a clear threat to research subjects. Consequently, the Congress and various federal agencies have taken actions to protect the rights of research subjects. Nonetheless, controversy continues as the research community grapples with what scientific and technological advances will allow them to do as they consider the moral and ethical implications of their work. The controversy will continue, especially when it involves vulnerable populations, such as pregnant women, fetuses, subjects of in vitro fertilization research, prisoners, and children. Also, as science advances in such areas as cloning and stem cell research, which may provide a means of extending life and even rejuvenation, important questions must be addressed with regard to social and economic implications as well as intergenerational equity.

Elections and Citizens' Involvement

All levels of government share responsibility in U.S. elections. Administering an election is a year-round process of voter registration, absentee and early voting, election administration and vote casting, and vote counting and certification. Each stage of an election involves people, processes, and technology. Electronic voting systems appear to hold promise for the efficiency and accuracy of elections by automating manual steps, accommodating voters with special needs, and implementing controls over voters' and election workers' errors. However, in a series of recent reports, election officials, computer security experts, citizens' advocacy groups, and others have expressed significant concern about the security and reliability of electronic voting systems. The issues they have raised must be resolved if reliable elections are to be conducted.

Related Issues

- Terrorism
- Growing instability, rogue nations, failed states, and nuclear proliferation
- Border and port security
- Natural disasters
- Infectious diseases and public health
- Fiscal deficits and debt burdens
- Health care quality, access, and costs
- Defense and homeland security strategies
- Energy, environment, and resource protection
- Food and water resources
- Education, skills, and knowledge
- Immigration
- Tax policy
- Regulatory policy
- Innovation and change management
- Trade
- Capital markets
- Information
- Transportation
- Aging and life spans
- Income distribution gaps
- Changing social behaviors
- Employment
- Work and family
- Housing
- Cybersecurity and personal privacy

Governance Implications

As the pace of change accelerates in every aspect of life in the United States, the federal government is faced with new and more complex economic, demographic, social, technological, security, and other challenges that it alone cannot address. In fact, achieving meaningful national results and outcomes generally requires the coordinated efforts of various federal agencies, other governments both internationally and at the state and local levels, nongovernmental organizations, for-profit and not-for-profit contractors, the private sector, and others. The response to and recovery from hurricanes Katrina and Rita, the nation's preparations for a possible pandemic influenza, and a host of other public issues vividly underscore the critical importance of employing a broad and integrated governance perspective—as opposed to one focused exclusively on federal government programs and organizations—to the global and national challenges of the 21st century.

To address these global and national challenges, the policy process itself must have the capacity to transcend the focus on specific programs and agencies to address how broad portfolios of programs and tools contribute to policy goals. Assessing the coherence of all related policy tools to ascertain whether they are aligned and relevant for a changing society will be a critical task in rethinking and updating the federal government's role. At the same time, promoting effective partnerships with third parties in the formulation and design of complex national initiatives is increasingly vital to achieving successful policy outcomes in the years ahead. Since at least the 1960s, the number of federal employees has dropped even as federal outlays have risen, partly because the dollars that fund federal programs are increasingly flowing to nonfederal entities. In fact, it is increasingly common to hear references to the “multisector” workforce that must work in concert to address any particular public need rather than just a federal or even public sector workforce.

Long-term fiscal pressures and other emerging forces will test the capacity of the policy process to reexamine and update priorities and portfolios of federal entitlements, policies, programs, commitments, and revenue approaches. A process that only considers incremental changes to existing priorities and portfolios will constrain the nation's capacity to both respond to the fiscal challenges and to make govern-

ment more effective in the 21st century. Rather, the funding base of government—both spending and revenue—must be reassessed so that emerging needs can be addressed while outdated and unsustainable efforts can be either reformed or eliminated.

Developing a set of outcome-based key national indicators focused on the broadest levels of policy aspirations—for example, improving national health outcomes, reducing crime, or improving national educational progress—is essential to identifying and addressing broad national needs. Such a set of key national indicators could be used to inform executive branch strategic planning, enhance performance and accountability reporting, and facilitate the much-needed and long overdue review of the base of the federal government's policies, programs, functions, and activities in light of 21st century challenges and opportunities. They can also help to focus more attention on the horizontal dimension of government, the need to take a more integrated approach to the tools of government, as well as the need to work across boundaries (organizational, geopolitical, and sectoral) to achieve desired results. GAO is monitoring collaborative efforts, both domestically and internationally, seeking to develop a set of key national indicators that will be generally accepted by a broad range of stakeholders. A collaborative effort of this magnitude and complexity takes time, but it also serves to maximize the chance of both current use and long-term sustainability of the resulting indicator set. The key is for the indicators to be as outcome based as possible, timely, accessible, reliable, and balanced.

Finally, the basic management systems and processes in federal agencies will have to undergo fundamental updating and reengineering to respond effectively to the governance and fiscal challenges facing the nation. Nothing less than a transformation in the people, processes, and technology used to address public goals is necessary to address the demanding policy goals facing the nation in a time of rapid change. First and foremost, continued progress must be made in addressing the federal government's high-risk programs and operations—those that have great vulnerability to waste, fraud, abuse, and mismanagement and those in need of broad-based transformation to address major economy, efficiency, or effectiveness challenges.

Appendix I: Interrelationships of Themes and Issues

Issues	Themes	Changing security threats	Sustainability concerns	Economic growth and competitiveness	Global interdependency	Societal change	Quality of life	Science and technology
Terrorism, including weapons of mass destruction		✓ ^a			✓		✓	✓
Growing instability, rogue nations, failed states, and nuclear proliferation		✓ ^a			✓			✓
Border and port security		✓ ^a		✓	✓	✓	✓	✓
Transnational and violent crime		✓ ^a					✓	
Natural disasters		✓ ^a		✓	✓		✓	✓
Infectious diseases and public health		✓ ^a		✓	✓	✓	✓	✓
Fiscal deficits and debt burdens		✓	✓ ^a	✓	✓	✓	✓	✓
Health care quality, access, and costs			✓ ^a	✓		✓	✓	✓
Defense and homeland security strategies		✓	✓ ^a	✓	✓	✓	✓	✓
Social insurance commitments			✓ ^a			✓	✓	
Tax gaps			✓ ^a	✓				
Energy, environment, and resource protection		✓	✓ ^a	✓	✓	✓	✓	✓
Food and water resources		✓	✓ ^a	✓	✓		✓	✓
Education, skills, and knowledge			✓	✓ ^a	✓	✓	✓	✓
Immigration		✓	✓	✓ ^a	✓	✓	✓	✓
Tax policy			✓	✓ ^a	✓			✓
Regulatory policy			✓	✓ ^a	✓	✓	✓	✓
Saving and investment			✓	✓ ^a	✓		✓	
Innovation and change management				✓ ^a	✓			✓
Trade			✓	✓	✓ ^a		✓	✓
Capital markets			✓	✓	✓ ^a	✓		✓
Information				✓	✓ ^a	✓		✓
Transportation		✓	✓	✓	✓ ^a	✓	✓	✓
Aging and life spans			✓	✓		✓ ^a	✓	✓
Dependency ratios (workers to retirees and workers to minors)			✓	✓		✓ ^a	✓	
Demographic diversity		✓		✓	✓	✓ ^a	✓	
Income distribution gaps		✓	✓	✓	✓	✓ ^a	✓	✓
Changing social behaviors				✓	✓	✓ ^a	✓	✓
Retirement security			✓	✓		✓	✓ ^a	
Employment				✓	✓	✓	✓ ^a	✓
Work and family						✓	✓ ^a	✓
Urbanization and sprawl			✓			✓	✓ ^a	
Housing						✓	✓ ^a	✓
Productivity and economic growth		✓	✓	✓	✓	✓	✓	✓ ^a
Information and communications technology		✓	✓	✓	✓	✓	✓	✓ ^a
Cybersecurity and personal privacy		✓		✓	✓	✓	✓	✓ ^a
Data quality and reliability				✓				✓ ^a
Space exploration		✓	✓	✓	✓			✓ ^a
Humanity and ethics		✓			✓		✓	✓ ^a
Elections and citizens' involvement			✓			✓		✓ ^a
Governance implications								
Strategic partnerships and alliances		✓	✓	✓	✓	✓	✓	✓
Role of the nation-state		✓		✓	✓			✓
Governance structures		✓	✓	✓	✓	✓	✓	✓
Combating fraud, waste, and abuse		✓	✓	✓	✓			✓
Risk, results, horizontal, and future focus, including key national indicators		✓	✓	✓	✓	✓	✓	✓

Source: GAO.

^aThis issue is discussed under the theme above.

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SERVING THE CONGRESS AND THE NATION

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2007-2012



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