

# Realizing America's Economic Potential

## A Growth Agenda for the New Abundant Economy



A Report by the Economic Growth Program, New America Foundation  
Supported by the Bernard and Irene Schwartz Foundation



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The Economic Growth Program  
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NEW  
AMERICA  

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FOUNDATION

Washington, DC



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## Executive Summary

Over the past decade and half, two pivotal developments have come together to create the conditions for what could be a new golden era of faster economic growth and rising prosperity. One development involves the technological advancements and other changes associated with the new economy, which have substantially increased U.S. and world productivity growth. The bursting of the tech bubble in 2000 may have put an end to the hype surrounding the new economy. But it did not undo the three productivity-enhancing revolutions of the new economy—the information technology revolution, the revolution in business and finance, and the efficiency revolution in materials and energy—that continue to deliver productivity growth well above that of the 1973–95 period. Indeed, the greatest productivity gains from these revolutions may yet lie ahead, as workers and firms fully gain competence in the use of these new technologies, and as more efficient business practices become more widely spread.

The other pivotal development relates to the integration of China, India, and the former Soviet Union into the world economy. The inclusion of these three populous regions into the global economy has created what economists call positive supply-side shocks, resulting in surpluses in labor, capital, and productive capacity. The most obvious impact of China, India, and the former Soviet Union has been on the world's labor market. Their entry into the world economy has in effect doubled the global labor force in the course of a decade, raising the return on capital and dampening wages and inflation. Capital has also become plentiful because of the high-savings propensities of China and other Asian economies. In fact, these high-saving societies of Asia are producing more savings than the world can absorb. This glut of world savings, together with the increasing globalization of financial markets, has predictably driven down the cost of capital and has helped keep interest rates low worldwide.

Together, the productivity-enhancing revolutions associated with the new economy and the positive supply-side shocks brought about by the integration of China, India, and the former Soviet Union into the world economy have created what is called here the new abundant economy. The **new abundant economy** contrasts sharply with the supply-side

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## Executive Summary

constrained economy of the 1973–95 period, which diminished our economic growth expectations and radically altered the prevailing policy framework, ushering in an era of supply-side policy measures aimed at taming inflation, cutting taxes, curbing government spending, and deregulating markets. By contrast, the new abundant economy has created the conditions for more rapid economic growth and rising living standards without greater price and wage inflation, making possible once again a full-employment economy that delivers great prosperity to the overwhelming majority of Americans.

But as we have seen with the tech bubble of the late 1990s and with widening income and wealth inequality, the new abundant economy can bring with it a new set of challenges, for which many of the supply-side policies of the 1980s and 1990s are inappropriate. In a world of rapidly rising productivity growth and excess labor and capital, asset bubbles and deflation become greater worries than inflation; maintaining demand and wage income becomes a more serious concern than stimulating supply; funding public investment becomes more important than lowering the cost of capital for private investment; and ensuring the future strength of one's productive economy becomes a greater priority than breaking down more trade barriers. If not properly managed, these problems can be as serious as those from which the U.S. and world economies suffered from the mid-1970s to the mid-1990s. In fact, the U.S. and world economies have significantly underperformed their potential over the past decade in part because governments have pursued the wrong policies and have had the wrong growth agenda. In spite of rapid productivity growth and abundant labor and capital, U.S. and world economic growth over the past ten years is less than it was in the 1950s and 1960s and is only on par with the economically troubled 1970s. Moreover, a more possible serious challenge lies ahead because the current pattern of economic growth—growth that is overly dependent upon personal consumption in the United States fueled by a housing boom and debt creation—is not sustainable.

This report shows how our economic thinking must change to meet the challenges associated with the otherwise favorable economic conditions of this new era. U.S. policymakers face both a macroeconomic challenge related to putting the U.S. and world economies on a more optimal growth path and a microeconomic challenge of strengthening America's productive economy. With regard to the first challenge, the report argues that the biggest near-term constraints on economic growth are not America's budget and current account deficits, as conventional wisdom holds. Rather, the constraints involve the lingering hangover from the tech and housing bubbles, which threatens both investment and consumption, and inadequate world demand, caused by suppressed consumption abroad and depressed wage growth at home. The report therefore calls for a public-investment-led transition strategy in the United States to stimulate both investment and demand, and a global Keynesian program abroad to increase consumption in newly industrialized countries like China, as the best way to avert the next recession and put the U.S. economy on a more sustainable path to realizing its full growth potential.

The report also lays out an agenda for strengthening America's productive economy and ensuring future prosperity. The U.S. economy has many inherent strengths, but it also has some potentially debilitating weaknesses that could compromise future economic growth. The report recommends a five-part program entailing: 1) increased investment in both America's knowledge capital and its physical infrastructure; 2) a program to accelerate new energy development and greater energy efficiency; 3) a strategy for on-shoring more jobs and investment in America's tradable goods sector; 4) policies to promote an efficiency revolution in health care and education; and 5) a wage and asset-based incomes policy to ensure that more Americans share the fruits of the new abundant economy. ■

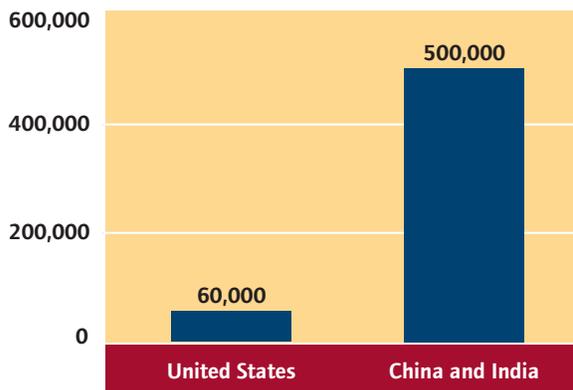
# I. The Making of the New Abundant Economy

In the 1970s, a combination of oil price shocks and a productivity slowdown conspired to lower the potential growth rate of the U.S. economy. But even as economists were still marking down the economy's speed limit, new forces were at work that would by the mid-1990s once again dramatically reverse the growth outlook of the American economy for the better. High-savings, production-oriented economies in Asia were relentlessly adding low-wage manufacturing capacity to the world economy while boosting the pool of world savings. New advances in computing and the advent of the Web were making possible new ways of working and communicating leading to significant efficiency gains. And countries long apart from the world economy with vast new skilled and unskilled labor pools were about to become integrated into the global economy. As a result of these and other changes, both the supply of critical inputs into the world economy—labor, capital, and production capacity—and the efficiency with which the economy could use them—was increasing. By the late 1990s, these forces had come together to create a new abundant economy that would radically alter the growth prospects of the U.S. and world economies.

The changes that make up the new abundant economy can be broken down into two broad categories: positive supply-side shocks and productivity-enhancing revolutions.

## **Positive Supply-Side Shocks**

Over the past decade, the U.S. and the world economies have experienced three positive supply-side shocks—resulting in a significant increase in the world's supply of labor, savings, and productive capacity. These shocks are the result in part of the entry of China, India, and the former Soviet bloc into the world economy and in part of the economic success of several generations of high-savings, production-oriented East Asian economies beginning with Japan in the late 1970s and the four East Asian tigers (Hong Kong, Singapore, South Korea, and Taiwan) in the late 1980s. Together, these shocks have brought down inflation and raised the speed limit at which the economy can grow. And as we will see, the generally favorable economic conditions these shocks have created are not transitory; they will be with us for at least the next five to ten years and must be taken into account when considering economic policy in the short to medium term.



ENGINEERS AND SCIENTISTS GRADUATED ANNUALLY

Source: "A New World Economy," *Business Week*, August 22, 2005.

### *Positive Supply Shock 1: An Abundant Pool of Labor*

The most discussed supply-side shock has been the increase in the available pool of global labor, and the downward pressure it has put on wages and the cost of labor. The entry of China, India, and the former Soviet Union into the world economy has more than doubled the global labor force within a matter of a decade. These regions alone account for some 1.47 billion workers, many of whom have found their way into the world's labor pool as a result of companies being able to use new communications technology and outsourcing practices to tap them and as a result of companies in these countries now competing directly in the international market.<sup>1</sup>

When one thinks of China and India, one normally thinks of low-skilled labor. But the expansion of the global labor pool is not limited to low-skilled workers. Indeed, outsourcing, especially in the area of services, increasingly entails the use of skilled workers as well. And here again, China and India have added greatly to the available pool of talented workers. China and India, for example, graduate a combined half million engineers and scientists a year, dwarfing the 60,000 the United States produces annually.<sup>2</sup> Indian schools alone produce 260,000 engineers.<sup>3</sup> In the field of life sciences, the McKinsey Global Institute estimates that China and India will increase the number of new researchers they produce by 35 percent by the year 2008.<sup>4</sup> And by the year 2010, China will grad-

uate more Ph.D.s in science and engineering than the United States.<sup>5</sup> Although the quality of Chinese and Indian scientists and engineers on average still lags behind that of their U.S. counterparts, their numbers and growing skill levels have greatly increased the world's talent pool and are beginning to make contributions to the skill needs of international as well as local companies.

This increase in the global labor pool, along with rising immigration, has had some notable negative consequences for wages in the United States and other countries. But it has on balance also increased the world's growth potential in at least three ways. First, it has helped to hold down goods and wage-related inflation. A study by the investment bank, Dresdner Kleinwort Wasserstein, estimates that China has knocked off a full percentage point from the U.S. inflation rate.<sup>6</sup> This is mainly because China's vast pool of cheap labor has driven down costs in manufacturing. For example, largely because of China's increased production, the average price of clothing and shoes has dropped 35 percent in real terms over the past ten years.<sup>7</sup> Meanwhile, India's vast pool of English-speaking workers has driven down the cost in services. Companies shifting work to India have reportedly cut costs by as much as 40 to 60 percent.<sup>8</sup>

Second, the expanded supply of labor has increased the world's growth potential by increasing the returns on capital. As Harvard economist Richard Freeman has noted, the increase in the supply of labor has cut the global capital/labor ratio by 55 to 60 percent, raising the return on capital.<sup>9</sup> U.S. firms have been the one of the principal beneficiaries of this shift. They have become more profitable because they have been able to tap into this expanded global labor pool through outsourcing, collaborative ventures, and immigration. They also have become more productive because they have been able to take advantage of the more rapid productivity growth possible in these economies. Thus, U.S. firms that have maintained substantial operations in the United States have in effect been able to import productivity growth by selectively out-sourcing certain business functions.

Finally, it has expanded the world's capacity for innovation and technological advancement. India and China are adding increasing numbers of scientists and engineers to the world's skilled labor pool, and this in turn is stimulating the growth of scientific and technical knowledge, and thus the rate of technological advancement. Moreover, because they can throw more brains at technical problems at a fraction of the cost of talent in advanced industrialized economies, it is also reducing the cost of innovation. U.S. companies that can take advantage of this talent will obviously benefit, as will the American consumer. But the concentration of scientific and engineering talent in India and China may also pose some challenges to America's technological leadership and the benefits American companies derive from their current technological superiority, including the ability to capture premium economic rents from innovation.

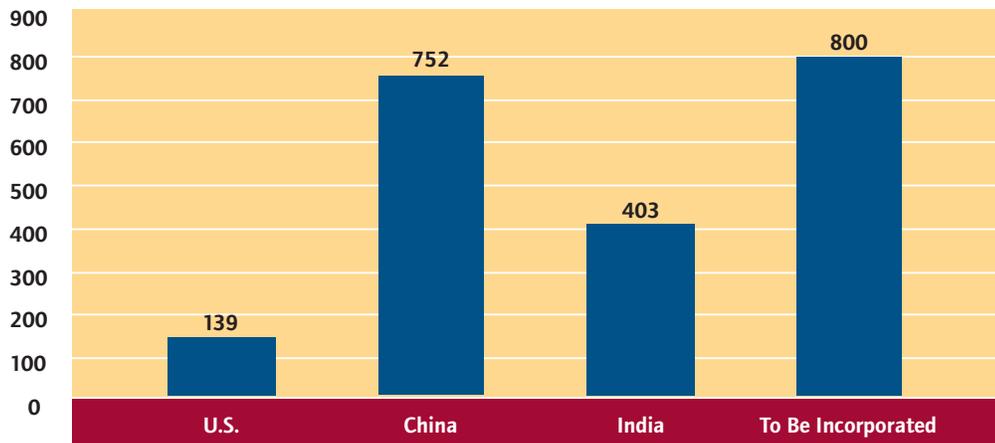
Although there are some reports of labor shortages developing in specific places in China and India, on the whole these countries will continue to maintain a plentiful supply of labor well into the next decade, especially as education improves and labor mobility increases. There is in fact a large reserve pool of labor in both countries: more than 800 million working-age individuals in China and India have yet to be absorbed into the formal, connected economy. In other countries, the aging of

populations in Europe and some developing countries, such as Mexico, will begin to reduce the growth of new entrants into the workforce, although in most cases the effects will not be felt for another decade, and in many cases the effects will be offset by the fact that workers in these countries will work longer before retiring. Thus, at current economic growth and productivity growth rates, the world economy is likely to continue to experience an ample supply of both skilled and unskilled labor for the foreseeable future.

*Positive Supply Side Shock 2: A Global Glut of Savings*

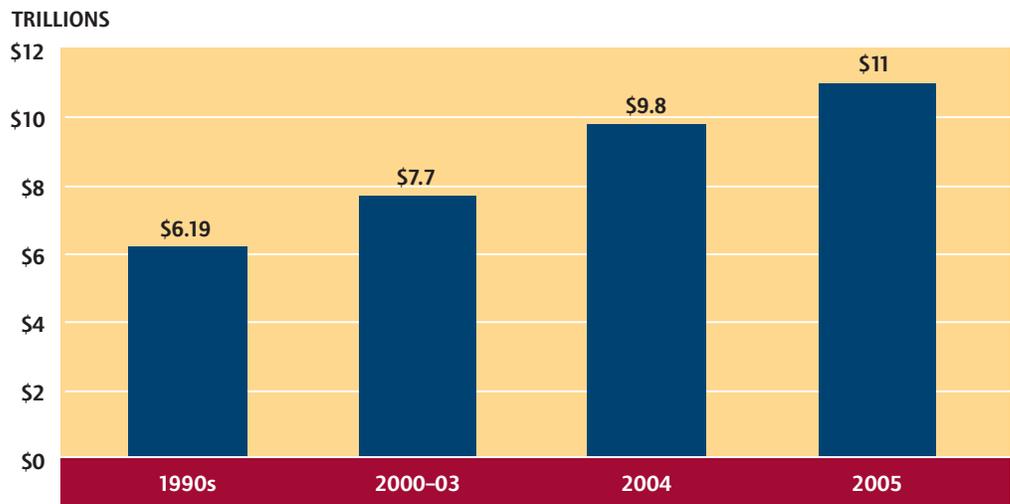
If labor is plentiful and increasingly accessible because of globalization, so is capital. In fact, it is even more so. The global stock of savings has exploded in recent years—from \$7.7 trillion in 2003 to \$11 trillion in 2005, an increase of more than 40 percent in two years.<sup>10</sup> Global excess savings is due in part to a slowdown in global investment but in much greater part to a boom in savings. The greatest increase in savings has come from emerging Asia (Asia excluding Japan)—whose savings as a percentage of GDP has increased from 32 percent to 34 percent during this period. China is responsible for a large part of this increase: its savings rate has increased to nearly 50 percent of GDP.<sup>11</sup> Euro-zone economies have also become

Millions of Workers



TOTAL EMPLOYED AND POTENTIAL EMPLOYED

Source: The Conference Board, Total Economy Database, January 2006.



GLOBAL SAVINGS

Sources: Morgan Stanley; IMF.

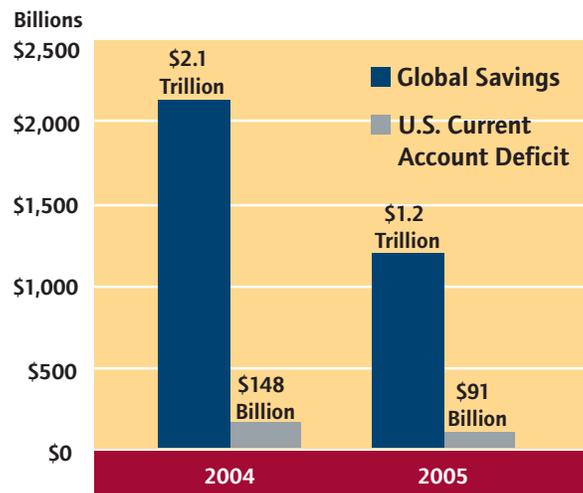
(or in some cases remained) structural savers, and have contributed to this increase, although less so than those in Asia. More recently, the oil-exporting countries of the Persian Gulf and Russia have increased their savings and current account surpluses as a result of rising oil prices.

At the same time that the stock of world savings has increased, the globalization of capital markets has unlocked national savings, creating a global pool of capital that the United States can tap—often at preferential rates because of the dollar’s central role in the international monetary system. Since the Asian financial crisis, the dollar (and with it U.S. interest rates) has been the beneficiary of a new practice by developing and emerging economies of accumulating large holdings of foreign exchange reserves—in part to maintain a competitively favorable exchange rate and in part as insurance (in most cases, excessive insurance) against a possible financial crisis.

The combination of an explosion of global savings, the increased integration of world capital markets, and the expanded role of the dollar in the world’s monetary system has dramatically altered the rules governing macroeconomic policy in the United States. To begin with, it has allowed the United States to run much larger current account deficits for a much longer period than it would have been able to do a decade ago. The United

States may absorb upward of 70 percent of the world’s excess savings.<sup>12</sup> But as data from the International Monetary Fund shows, the pool of global savings has grown more rapidly than the U.S. current account deficit or the combined current account deficits of the Anglo-Saxon economies,<sup>13</sup> and for that reason a major sustained exit from the dollar has become much less likely.

The increase in global excess savings has put downward pressure on interest rates nearly worldwide but especially in the United States. Analysts estimate that the flow of money from emerging



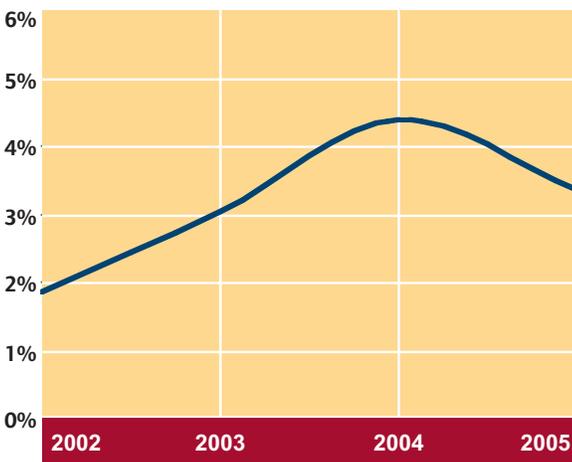
GROWTH OF GLOBAL VS. U.S. CURRENT ACCOUNT DEFICIT

Sources: Morgan Stanley; IMF, World Economic Outlook Database, September 2005.



10 YEAR BOND YIELD, 2002-05

Source: U.S. Department of the Treasury.



U.S. GDP GROWTH, 2002-05

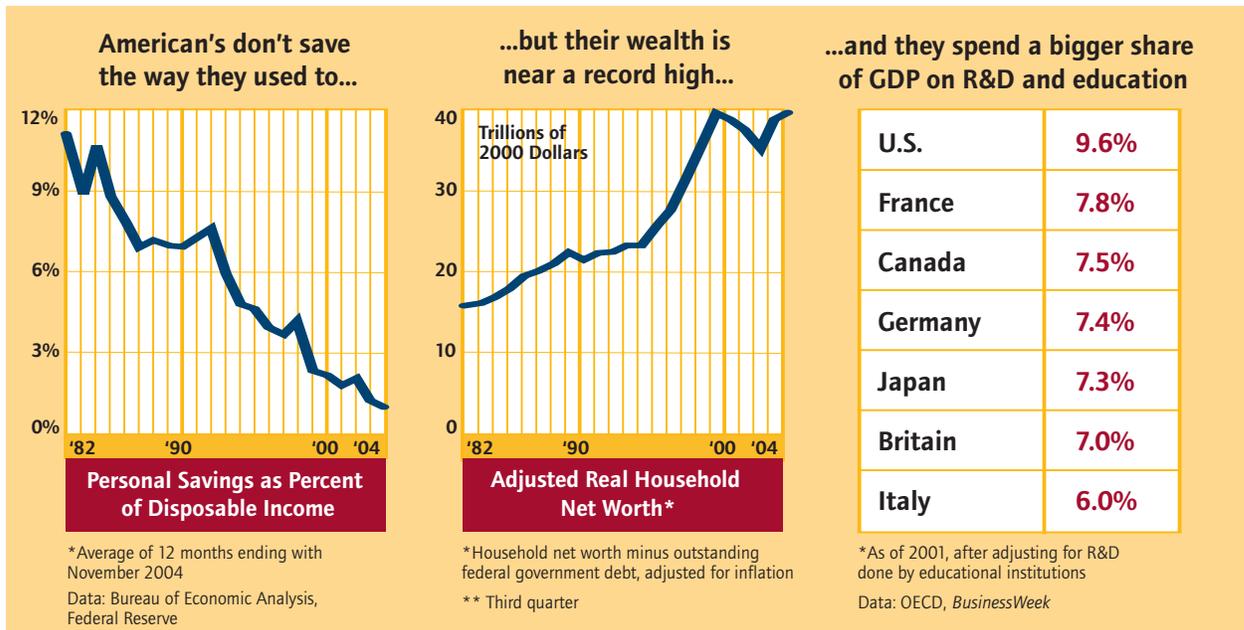
Source: OECD.

economies to the United States has alone reduced long-term interest rates in the United States by 1.5 percentage points.<sup>14</sup> That helps explain why the yields on U.S. long bonds are now hovering near the bottom of their 25-year range, and why real short-term interest rates are two percentage points below their average at the equivalent stage of recoveries since 1960. In other words, excess world savings help explain the conundrum former Federal Reserve chairman Alan Greenspan famously posed before his departure in 2005: why have long-term rates held steady or fallen even as U.S. growth has increased and even as the Fed has

raised short-term rates?<sup>15</sup> Whereas a decade ago, U.S. policymakers had to worry about a potential run on the dollar and upward pressure on U.S. interest rates, they now have to worry that excess global savings will keep rates too low for too long.

Still, some economists continue to dismiss the idea of a global savings glut and to worry more about the U.S. budget deficit than they do about excess world savings. But despite legitimate concerns about the low U.S. savings rate, there are good reasons to conclude that excess global savings is not a short-term phenomenon and will remain the greater problem for the next five to ten years. First, the weight of high-savings economies, like China, in the global economy will continue to grow. China is forecast to become the world's second-largest economy within the next decade, followed by Japan and Germany, which also are high-savings societies. And even if the savings rates of these economies decline (which they must for the sake of more balanced and sustainable world economic growth), savings will remain abundant because the decline in gross savings will be offset by the improved efficiency of these countries' capital markets. Second, demographic shifts will likewise prop up savings for at least the next five years. Large generational cohorts of high-savings societies like China are just approaching their peak savings age. And in Japan and many European economies, aging baby-boom workers are expected to accelerate their accumulation of funds for retirement as they realize that public pensions are not fully adequate for their retirement needs.

Meanwhile, the U.S. national savings rate may be understated. The U.S. gross national savings rate of 13.6 percent and net savings rate of negative 0.5 percent in 2005 are both troubling. But the United States may have what some economists call a high "hidden savings" rate. For one thing, it does not include in its calculation of savings what families, the government, and firms spend on education and research and development, all of which are now measured as consumption. And as the comparative figures with other advanced industrialized countries show, this can make a substantial



**U.S. HIDDEN SAVINGS RATE**

Source: Michael J. Mandel, "Our Hidden Savings," *Business Week*, January 17, 2005.

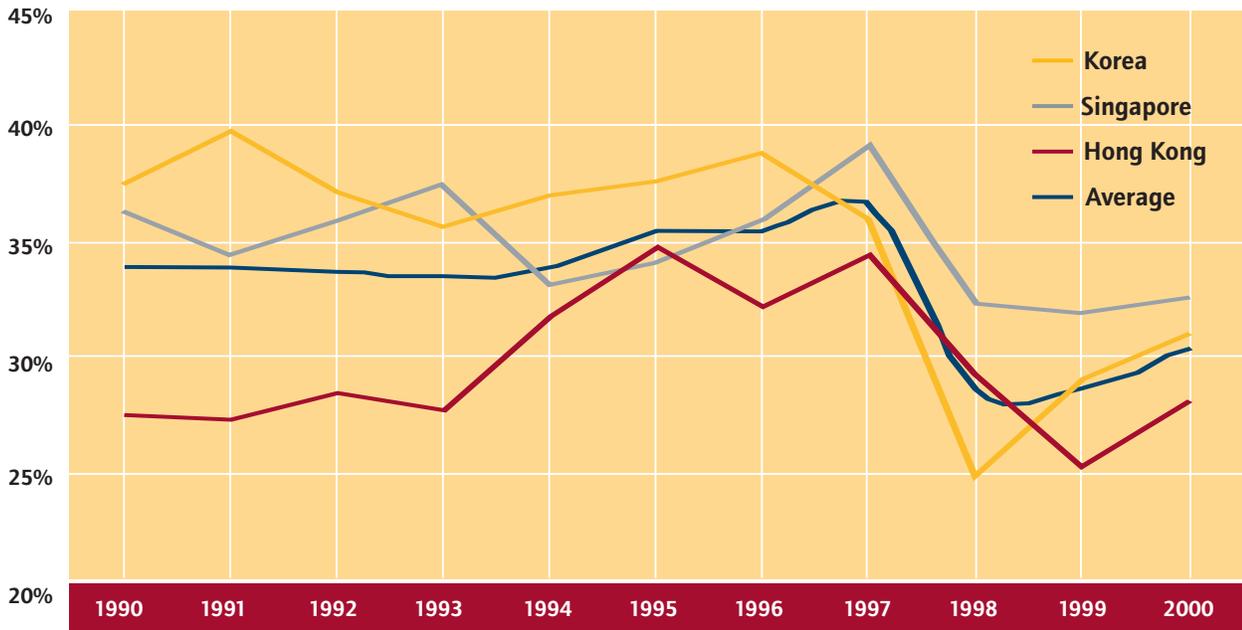
difference in the calculation of the U.S. savings rate. The United States devotes 9.6 percent of GDP to education and research and development; Germany and Japan devote only 7.5 percent. *Business Week* magazine concludes that if the hidden savings rate was properly accounted for, the net U.S. savings rate would be more like 4 percent.<sup>16</sup> In addition, some argue that the U.S. savings rate does not adequately account for the increase in net wealth of many households owing to the appreciation of financial assets, especially home prices, although there is also some reason to worry that some of the appreciation is the product of short-term bubbles, not sustainable gains, and that many middle- and lower-income households are overextended with debt burdens.

*Positive Supply-Side Shock 3: Excess Productive Capacity*

The world economy has also experienced a major expansion in productive capacity over the past decade, resulting in excess capacity in many sectors of the global economy, particularly those related to manufacturing. This excess capacity is the result of successive investment booms and dramatic

increases in productivity growth. The first investment boom involved the East Asian tigers and follow-on tigers—South Korea, Taiwan, Singapore, Hong Kong, Malaysia, Thailand—and began in the early 1990s and extended until the Asian financial crisis in late 1997. During this decade, East Asia's production-oriented economies added an unprecedented amount of new productive capacity that outstripped consumption in those societies, adding excess capacity in basic manufacturing and electronics to world supply. During the boom, average investment to GDP ratios climbed as high as 37 percent—in comparison to a developing country norm of 20 to 25 percent.<sup>17</sup>

The East Asian production boom was followed by the information technology and telecommunications expansion of the late 1990s. Fixed business investment in the United States as a share of GDP spiked at 18 percent in 2000, some two percentage points higher than the postwar average since 1947, and the greatest share of that increase was concentrated in telecommunications and information technology. The investment boom of the late 1990s created a capacity overhang in these sectors that in some areas is still being worked off.

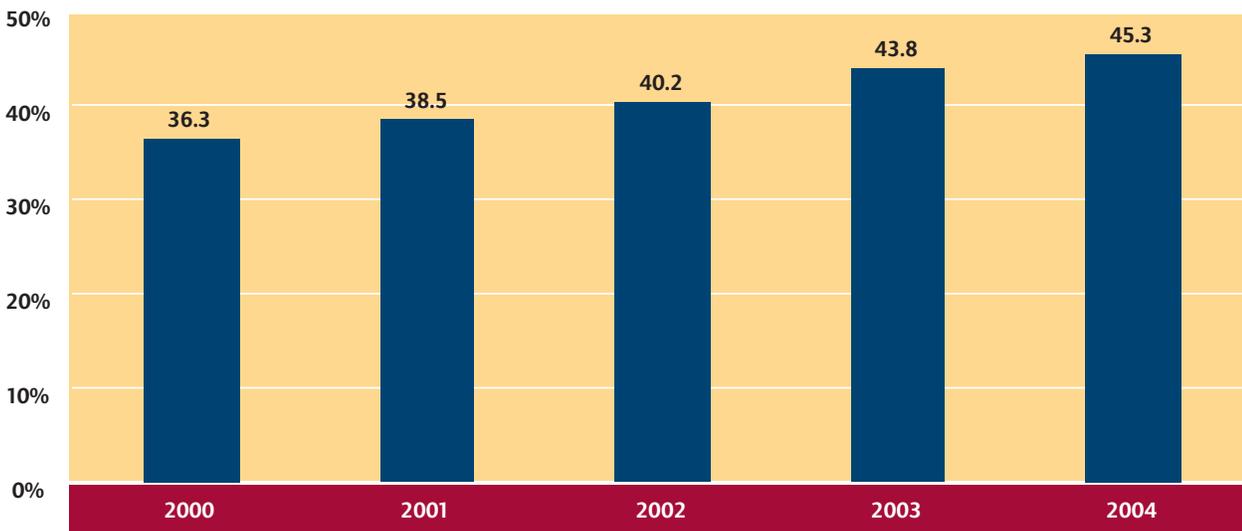


INVESTMENT AS A PERCENTAGE OF GDP

Source: Asian Development Bank, *Key Indicators* 2005.

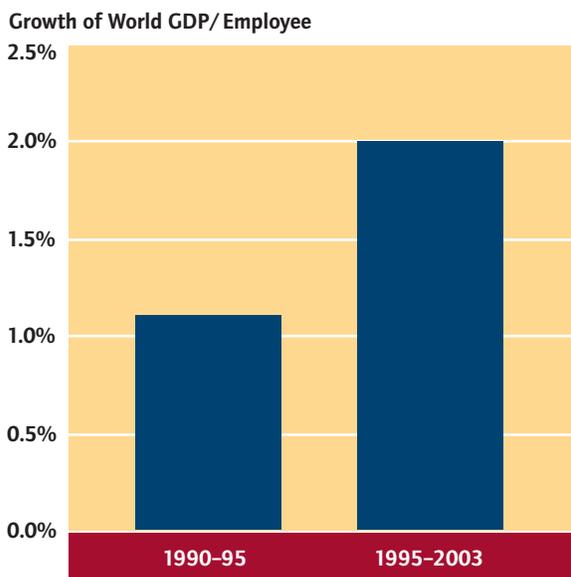
The third and perhaps most spectacular investment boom—China’s—began in 2001 and is still ongoing. China has experienced massive overinvestment with investment averaging more than 40 percent of GDP from 2001 to 2005, up from 34 percent in the previous five years.<sup>18</sup> The result, according to a Chinese government study, is over-

capacity in at least ten sectors of the Chinese economy, including aluminum, automobiles, cement, coke, steel and textiles.<sup>19</sup> The Chinese government has tried to cool off investment but without much success. Thus, the problem of overcapacity, except in the power and energy sectors of the economy, continues to build. State-directed capitalist



INVESTMENT IN CHINA AS A PERCENTAGE OF GDP

Source: Asian Development Bank, *Key Indicators*, 2005.



### MAPPING PRODUCTIVITY GROWTH

Source: The Conference Board, Total Economy Database, January 2006.

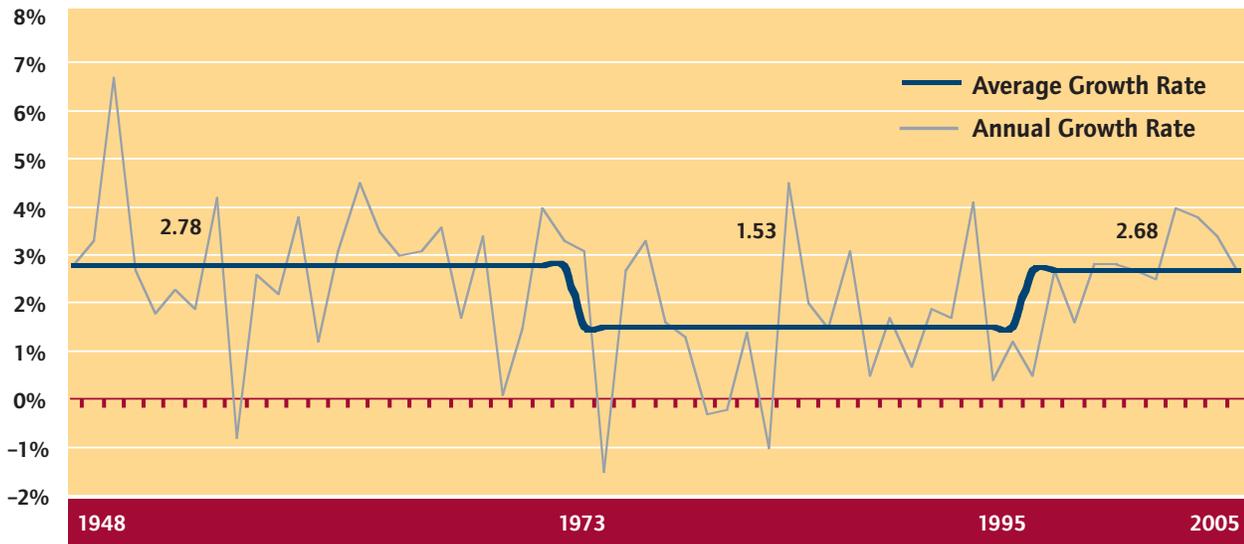
economies like China's do not have well-developed financial systems and thus are prone to overinvestment and do not work off overcapacity very fast. (In China's case, it actually has a number of regional state-directed capitalist economies, all of which are trying to outinvest the others.) Given the growing weight of these economies, the world economy may remain subject to overcapacity for the near future.

The boom in productive capacity is not just due to the overinvestment of Asia's production-oriented economies. It is also the result of significant improvements in world productivity growth, including gains in these Asian economies, which have allowed both emerging and advanced industrialized economies get more capacity out of each investment dollar. Between 1995 and 2003, annual world productivity grew by 2 percent—in comparison to

1.1 percent for the period 1990–95.<sup>20</sup> Productivity growth in the largest population regions—South Asia and East Asia—has increased at a rate of 3.2 percent.<sup>21</sup> And the potential for future high productivity growth is enormous, as more capital is added to workers: China's and India's level of productivity is 85 percent below that of the United States.

The U.S. economy has benefited from and will continue to benefit from this future worldwide productivity boom in three ways. First, it has driven down the cost of many goods and services, freeing up resources for other uses. Second, it has ensured high returns on capital, spurring more capital investment. This is especially true for American companies and financial institutions, which have been able to use the world's excess savings more efficiently than their counterparts in Asia, which have experienced low returns because of overinvestment and inefficient use of capital. Third, with the right policies and reforms, it will eventually help raise incomes and increase demand for American goods and services.

The one exception to this general condition of abundance, of course, involves energy and commodities. Clearly, increased demand from China and India has tightened world oil supplies and has helped raise prices. But the rise in oil prices also reflects a substantial security premium in the world oil market and can be attributed to some speculative excess as well. Thus, it is not clear how much of a constraint the price of oil and energy will be on the world economy in the near future as some of the speculative excess begins to subside and as inventories build. Moreover, efficiency gains in the use of energy could greatly alleviate current concerns about tightening supplies and peak oil production.



U.S. PRODUCTIVITY GROWTH

Source: U.S. Bureau of Labor Statistics.

### Three Overlapping Productivity-Enhancing Revolutions

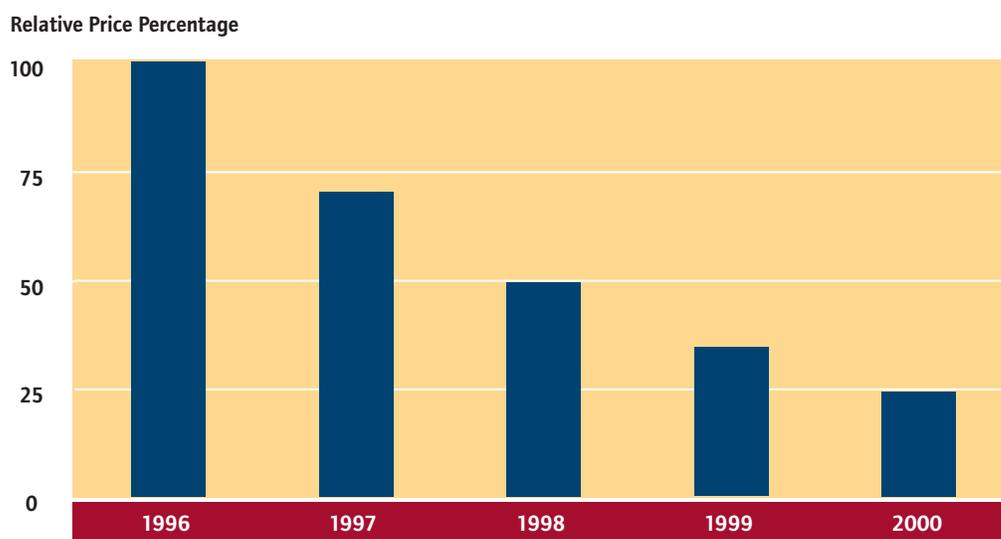
The key to rising living standards is, of course, improved productivity, and more rapid productivity growth is the most significant feature of the new economy. U.S. productivity growth has increased to the pre-1973 levels that were responsible for the rapid improvement in American living standards after World War II. According to data from the Labor Department, U.S. productivity growth averaged 2.6 percent from 1995 to 2003, a substantial improvement over the 1.3 percent average for the period 1973–95. And available data suggest that it has continued at this impressive pace in 2004 and 2005.<sup>22</sup>

This productivity speed-up is the product of three overlapping productivity-enhancing revolutions: a technological revolution in data processing and communications, the full benefits of which we are just beginning to realize; a related revolution in the U.S. business model and the production and distribution process made possible

by globalization and these new technologies; and an efficiency revolution in materials and energy, of which the United States has yet to take full advantage but which nonetheless has significantly softened the economic effects of higher oil prices. On the horizon are potential efficiency revolutions in health care and education, and further out are emerging biotechnology and nanotechnology revolutions, which may eventually bring comparable gains.

#### *The Information Technology Revolution*

By far the biggest contributor to U.S. productivity growth has been the wave of technological innovation associated with computer and communications equipment. Between 1996 and 2000, computer and semiconductor prices declined at an average rate of between 25 to 35 percent a year.<sup>23</sup> These extraordinary price declines dramatically reduced each unit cost of investment in computer and communications equipment, speeding up the pace of capital investment.



COMPUTER/SEMICONDUCTOR PRICE DECLINE

Source: Bradford J. DeLong, "Productivity Growth in the 2000s," *NBER Macroeconomics Annual*, 2002.

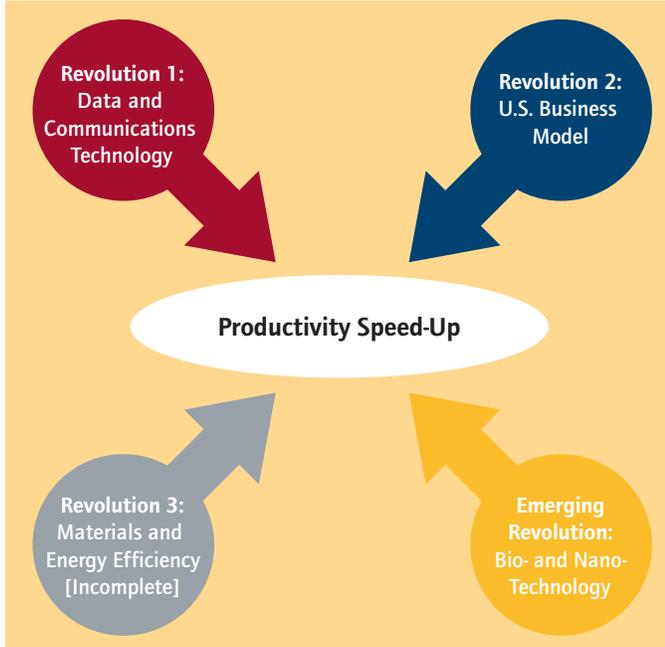
Each successive generation of falling prices in turn has produced new uses for computers and communications equipment, bringing additional efficiency gains. Computer use has advanced from simple data processing to complex organizational tasks, such as inventory control, to advanced design functions, allowing airplanes to be designed and tested in wind tunnels, for example. The computer has already transformed the way business is organized in a number of industries and professions, and one can imagine a further expansion in the use of computers in health care, education, and other low-productivity sectors of the economy.

Economists who have studied information technology and productivity growth tend to agree that there are a number of reasons to expect further productivity gains from information technology.<sup>24</sup> First, the elasticity of demand for information technology goods is expected to remain high; in other words, further declines in the price of information technology will generate more investment and greater use. Second, the share of national income attributable to information technology will continue to grow. Thus, more of the economy will benefit from the higher productivity associated with the information economy. Third, information technology will continue to be diffused throughout

the economy and may even help transform low-productivity sectors such as education and health care. Finally, the greatest productivity gains will come as workers and firms become more competent in the use of those new technologies. Many workers are still scaling the learning curve of the information technology revolution, and a new generation of more tech-savvy workers is making its way into the workforce.

### *The Revolution in Business, Finance, and the Production Process*

The new information-era technologies have in turn helped to revolutionize the U.S. business model, and this has contributed to further productivity growth. The main features of the new business model—a flatter organization chart, flexible working practices, real-time management—are well known. They have enabled companies to reap significant efficiency gains by allowing them to reduce staff levels, particularly middle-level managers, and to tap both low-skilled and high-skilled labor worldwide, further cutting labor costs. These technologies and business practices have also allowed companies to pursue real-time management of the global supply chain and inventory system and to eliminate energy waste by optimiz-



PRODUCTIVITY SPEED UP

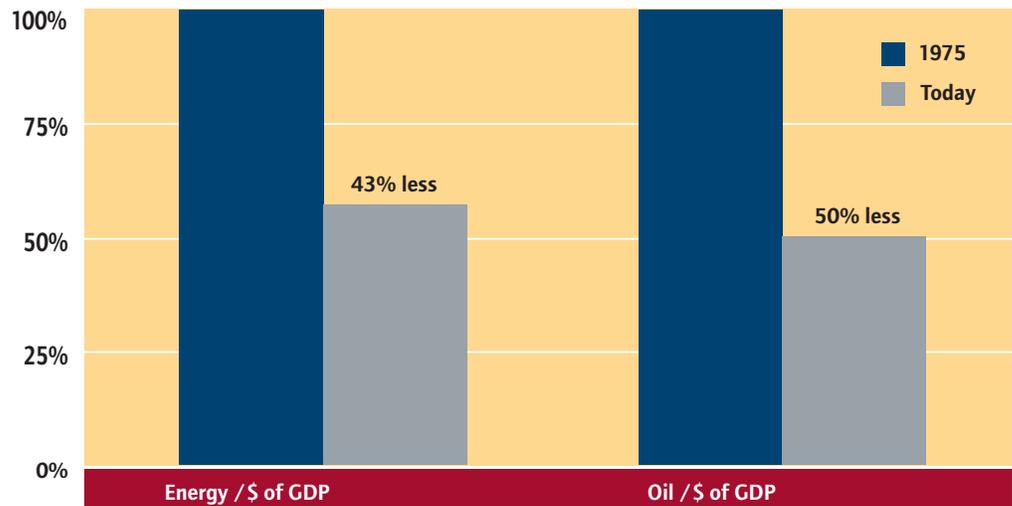
ing transportation resources, resulting in further efficiency improvements.

The greatest gains from this new information technology-enabled business model have been in the manufacturing sector. In addition to the general efficiency gains mentioned above, it has enabled companies to transform the production process. It has facilitated continuous process innovations, which have lowered the capital costs of the design, production, and distribution phases of the manufacturing process. In addition, it has made possible mass customization, enabling firms to mass-produce customized products and deliver customized services. The retail sector has likewise benefited from this new business model, as have many services. There have been some revolutionary changes in retailing and financial services, as exemplified by the proliferation of automated checkout counters and automatic tellers, respectively.

The business model in money and finance has changed in other ways that has dramatically expanded the financial economy and its impact on the real economy. In particular, there have been important advances in how finance allocates and

moves capital. Most notably, there has been an explosion of financial instruments that allow both individuals and companies to tap otherwise illiquid assets for working capital and consumption. This development, of course, may also entail some new risks, but when properly regulated it has made capital more widely available and more efficient. As a result, money now circulates more rapidly than it once did, contributing to both efficiency and abundance.

The big question for the future is whether the efficiency gains from the information-age business model can be extended into education, health care, and transportation, which are potential big productivity bottlenecks. Arguably, these areas of the economy are more labor intensive in nature, and thus less susceptible to productivity improvements. Yet, even in these cases, there is room for greater use of information technology as well as ways to overhaul education and health care delivery systems to achieve productivity gains. In health care, for example, the digitization of medical records and the spread of evidence-based medicine could bring significant productivity gains as well as reduce



GAINS IN U.S. ENERGY EFFICIENCY

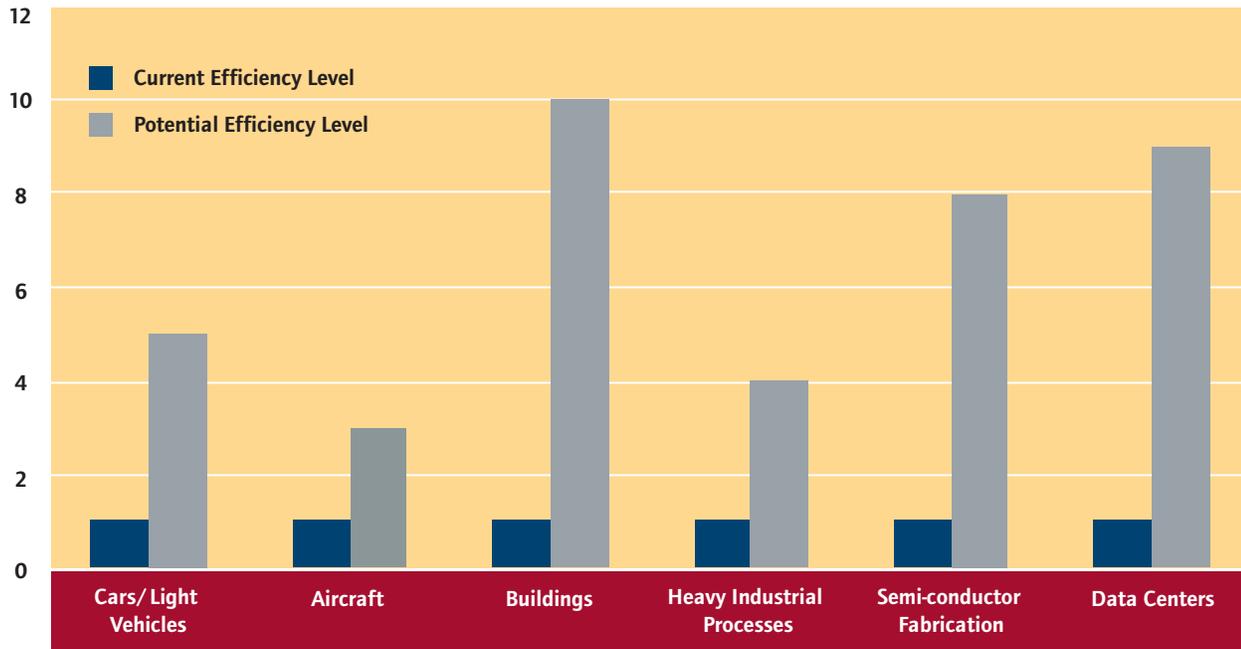
Source: Amory Lovins, "Leaner, Greener World," Business Week Online, August 23, 2004.

medical errors. In education, there is reason to believe that students after a certain age can learn more effectively from well-designed interactive computer programs than they can from teachers. And, there is evidence that smart highways can relieve traffic congestion and thus reduce energy use. But we have barely begun to tap their potential in many urban and suburban locations.

By the standards of other advanced democracies, America's health care, transportation, and educational systems are inefficient and constitute a disproportionate share of the economy. Thus, even small efficiency gains in each of these areas would have a significant economic impact. For example, our health care system consumes more than 16 percent of GDP—almost twice that of other advanced democracies—and education accounts for another 7.5 percent of GDP. Consequently, there is considerable room for productivity improvements.

*The Efficiency Revolution in Energy and Materials*  
As noted earlier, the one exception to the general condition of abundance in recent years has been energy and raw materials. But even here supply constraints have not constrained growth significantly because of offsetting improvements in efficiency. The United States lags behind other OECD economies in energy efficiency (it consumes twice as much energy as Europe and three times as much as Japan to produce a unit of GDP).<sup>25</sup> Still, thanks to efficiency improvements, the United States now uses 43 percent less energy and 50 percent less oil per dollar of real GDP than it did in 1975.<sup>26</sup> This explains why the U.S. economy has weathered \$60 to \$75 a barrel oil so well. Most of this gain is the result of better technical efficiency rather than changes in the composition of GDP, although some services are clearly less energy-intensive than manufacturing and agriculture.

Relative Efficiency Levels



## POTENTIAL EFFICIENCY GAINS

Source: Amory Lovins, "Leaner, Greener World," Business Week Online, August 23, 2004.

The United States has a lot to gain from further improvements in energy efficiency. At current prices of oil, achieving Japanese levels of efficiency could boost U.S. GDP growth by more than a full percentage point. But even greater gains are possible. Efficiency advocates believe it is possible to reap significant efficiency gains through better design and with new technologies. According to efficiency expert Amory Lovins, it is possible to improve the efficiency of cars and light trucks five-fold, with no compromise of safety, size, or performance. Lovins estimates that we could double the efficiency of heavy trucks, and triple that of aircraft. We could achieve five to ten times the efficiency of buildings, and do two to four times better in heavy industrial processes. Somewhat surprisingly, we could do even better in high-tech. According to Lovins, we could boost the efficiency of semiconductor fabricators by a factor of eight, data centers by a factor of nine.<sup>27</sup>

Even if these estimates prove to be too optimistic, there has been enough experience with the efficiency revolution to suggest that significant

improvements are possible. Greater efficiency boosts growth by both increasing consumption and the value of capital. It also therefore promotes job creation. And some efficiency gains from reducing the costs of inputs may also reverse some parts of the off-shoring process because it may make local fabrication more cost-effective than tapping Third World labor, even taking into account reduced global transportation costs.

### Raising the Economy's Speed Limit and Expanding the Pie

Economists are divided over the validity of the notion of a nonaccelerating inflation rate of unemployment (NAIRU), what might be called the economy's safe speed limit. In the early 1990s, its proponents argued that the rate was close to 6 percent—in other words, it was not possible to push the U.S. unemployment rate below 6 percent or to grow the economy faster without setting off inflation. Even its staunchest advocates now acknowledge that the positive supply-side shocks and productivity-enhancing revolutions of the past decade

have significantly altered NAIRU.<sup>28</sup> As a result of these structural changes, the economy can grow faster without igniting inflation and without pushing up interest rates than was possible in previous decades. Meanwhile, the expansion of productive capacity worldwide, together with improved productivity, has left plenty of room for more expansionary macroeconomic policy and for much more rapid advances in living standards.

There are no reliable estimates of exactly how fast the U.S. economy could grow with the right policies. But the kind of constraints on economic growth U.S. policymakers faced over the past several decades largely no longer exist. Indeed, for the first time in 40 years, U.S. policymakers have the freedom to push the economy closer to full employment and thus to reap the social and economic benefits that accompany it. The abundant

supply of global savings and productive capacity has also given them greater freedom in dealing with government finances and future unfunded liabilities. Rather than having to make painful choices between current consumption and future economic growth, American policymakers can take advantage of historically low interest rates to fund long-needed improvements in America's public infrastructure and to finance research and development that will lay the foundation for future prosperity. The higher economic growth rates that result from these investments in turn will increase tax revenues and expand the country's future tax base, reducing the burden of future government programs. In short, the new abundant economy gives the current set of policymakers policy options that their predecessors did not have in the supply-constrained 1980s when interest rates were much higher. ■

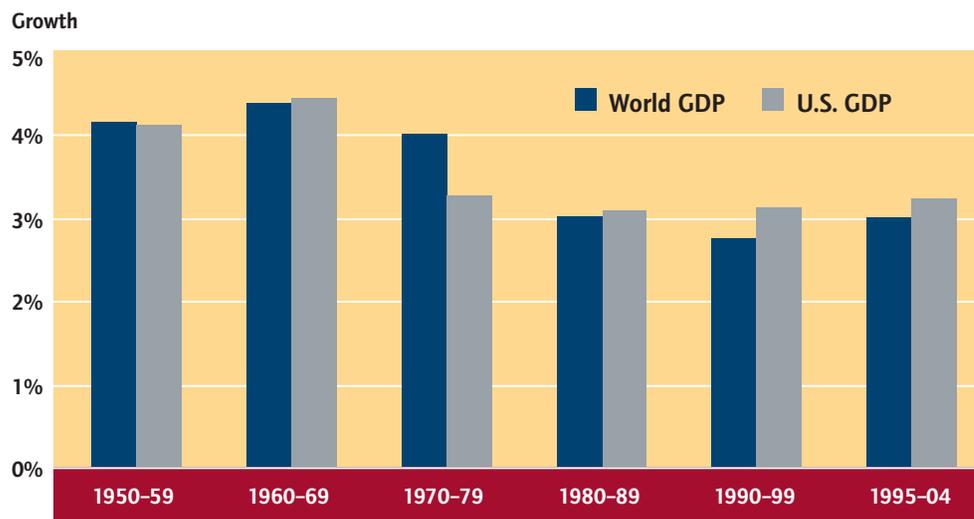
## II. The Paradox of the New Abundant Economy: New Policy Challenges

The conclusion that the U.S. economy can grow faster does not of course mean that it will. That depends on good policy, and in particular the ability of both domestic and international policy to help steer the economy onto a more optimal growth path. Good policy in turn depends upon our ability to understand the real constraints on the economy and to deal with them effectively.

In spite of the very favorable growth conditions for the U.S. and world economies, U.S. economic growth has been relatively poor, lagging behind the performance of the economy in the

1950s and 1960s, and only roughly on par with the oil shock years of the 1970s. From 1995 to 2004, a period associated with the first decade of the new economy, U.S. GDP growth averaged 3.24 percent in comparison to average growth of 4.12 percent in the 1950s, 4.44 percent in the 1960s, and 3.27 percent in the 1970s.<sup>29</sup> World economic growth, including per capita economic growth, was also considerably better in the 1950s and 1960s, and somewhat better in the 1970s, than it has been over the last decade.

Even more worrying, the benefits of economic growth have been highly



U.S. AND WORLD GDP GROWTH, 1950-2004

Sources: U.S. Bureau of Economic Analysis; Earth Policy Institute.

concentrated and uneven. The majority of the gains from improving productivity growth have gone to a small group of professionals and managers, and to capital owners. For example, in 2004, even excluding capital gains, the real income of the richest 1 percent surged by almost 12.5 percent.<sup>30</sup> Yet real median family income, including the real earnings of the typical college graduate, actually fell. In fact, over the last three years, the median hourly wage for American workers has declined by 2 percent, after factoring in inflation. Even for workers at the 90th percentile of earners—those making about \$80,000 a year—inflation has outpaced pay increases over the last three years. In other words, wages, except for the very top income-earners, have become decoupled from rising productivity. Worker productivity rose 16.6 percent from 2000 to 2005, while total compensation for the median worker rose 7.2 percent.<sup>31</sup>

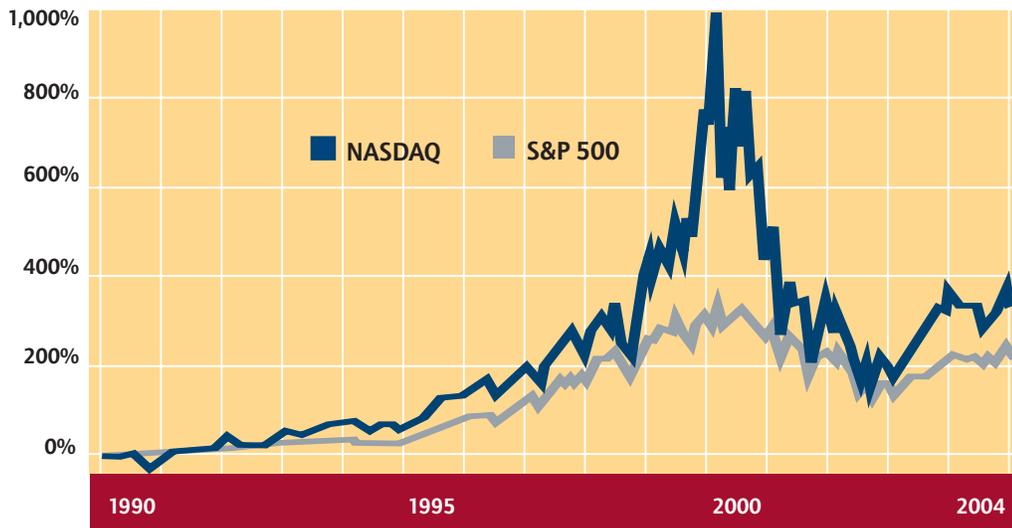
For all its real promise, the new abundant economy has not delivered either in terms of overall growth or rising living standards for most Americans. One can argue that the disappointment relating to growing inequality is an inevitable result of the new abundant economy and can only be compensated for with other socioeconomic policies, and to some degree this may be so. But a large part of the explanation, especially for the economy's relatively poor growth performance, lies in a flawed conceptual framework for policy. Indeed, it is the paradox of the new abundant economy that the policies that were seen as appropriate for the 1980s and early 1990s, and which still guide the thinking of both parties, are counterproductive to fully realizing the growth and wealth creation potential of the new abundant economy.

Indeed, the greatest obstacle to realizing the full potential of this economy may be a way of thinking more appropriate to the supply-constrained 1970s and 1980s, which has led us to believe that pushing the economy closer to full employment to boost wages would lead to more inflation, that more public investment without reducing the budget deficit would raise interest rates, that government efforts to speed energy development or

technological advancement are inefficient, or that the entire new economy would unravel if we protected certain strategic manufacturing sectors of the economy from unfair competition. In fact, it is only because economic policy has at times deviated from this conventional wisdom that the economy has done as well as it has, especially after the bursting of the tech bubble in 2001, when the Fed slashed interest rates and federal deficit spending increased significantly.

For much of the past decade, for example, conventional wisdom has held that the greatest risk to the economy is America's twin deficits—our budget and current account deficits—which are a reflection of America's low savings rate. But our analysis of the global savings picture suggests that American savings are low because Asia's and, to a lesser degree, Europe's savings are abnormally high and because developing economies, such as China, have decided to accumulate large foreign reserve currencies to prevent their currencies from appreciating. As a result of these high-savings practices, the stock of excess global savings has been increasing and the United States, in effect, has had no choice but to dis-save in order to maintain adequate levels of economic growth and employment in both the U.S. and world economies. Therefore, the appropriate policy response in the first instance would not be measures to increase U.S. savings but to reduce savings and increase consumption in Asia and Europe. In the 1980s, it may have been appropriate for the United States to put its own house in order first, but in today's vastly more integrated global economy to do so paradoxically would bring the entire global neighborhood down with it.

Another case of the misapplication of the conventional wisdom of 1980s and 1990s relates to wage and goods inflation. In spite of the run-up in oil prices and the danger of these costs being passed through the economy, and in spite of rising health care and education costs, wage and goods-price inflation has not been a serious risk given excess labor and productive capacity worldwide. Nor is it likely that it will be in the near future. The greater problem has been inadequate world



#### STOCK MARKET BUBBLE

Source: Bloomberg Financial Markets.

demand outside the United States and, within the United States, demand sustained by personal consumption financed by rising household debt levels rather than by real wage increases. In fact, a little upward pressure on wages would actually have been good for the economy because it would have allowed consumers to sustain spending from real wage gains rather than by more debt creation as is now the case. If there is a problem with inflation, it relates to asset inflation and to cost increases in certain particularly inefficient services like health care and education.

Not all of the policy innovations of the 1980s and 1990s are, of course, inappropriate to realizing the potential of the new abundant economy. But many of them do need to be applied with greater sensitivity to the economic conditions of the early 21st century and as to how they will affect the economy's performance.

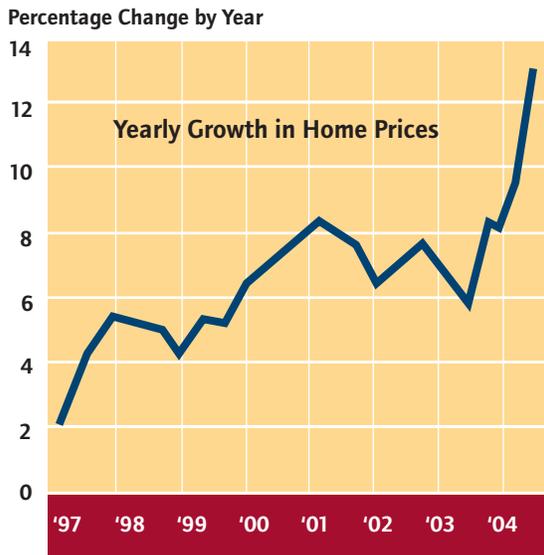
#### The Problem of Asset Bubbles

In an economy with an abundant supply of labor, savings, and productive capacity, the main macroeconomic problem is not wage or goods-price inflation. It is the tendency of the economy to be prone to asset inflation which can quickly turn into

asset bubbles, especially when low inflation is accompanied by new technological advancements that spark "irrational exuberance" and excessive credit creation. Asset bubbles can raise economic growth for a short period of time when they are inflating, as they did in the late 1990s, but they can undermine growth on the way down, as they did in 2001 and 2002, and they can act as a prolonged drag on economic growth as the economy works off the excesses of investment and consumption that accompany asset bubbles.

Thus, while wage and price inflation was the main problem of the supply-and innovation-constrained 1970s and 1980s, asset inflation and asset bubbles have been the main macroeconomic challenges in the new abundant economy, just like they were in the new abundant economy of the 1920s. In fact, as history and theory would have predicted, the new abundant economy has produced successive asset-price bubbles or at least asset-price inflation. First there was the telecom and tech bubble of 1997–2001, the scale of which was reflected in the fall of the NASDAQ from a peak of 5,048 in March 2000 to 1,114 in October 2002. The tech bubble has been followed by the housing and real estate bubble, which may now be deflating.

## The Paradox of the New Abundant Economy: New Policy Challenges



### HOUSING BUBBLE

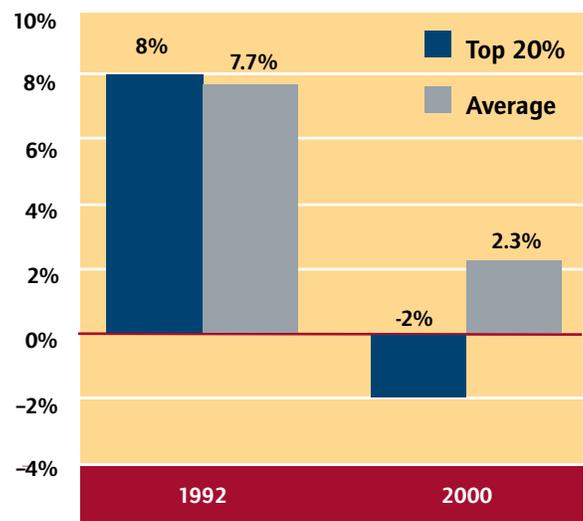
Source: "The Economy: Five Wild Cards for 2005," *Business Week*, December 27, 2004.

Housing prices rose more than 60 percent over the last five years, and by an even greater amount in certain hot markets on the coasts.<sup>32</sup> There is also some evidence of an asset bubble in commodities. Commodities like gold, copper, and to some extent oil, have shown signs of speculative froth and excessive price run-ups.

Asset-price bubbles pose problems for both the real economy and for macroeconomic policy. First, they distort investment away from more productive investment. Over \$3 trillion in wealth was lost when the NASDAQ bubble burst, a significant portion of which was misinvested in telecom-related capacity that is now becoming obsolete because of more recent technological advances. Likewise, the housing bubble has resulted in the misinvestment of a similar large sum of wealth as reflected by the growing excess inventory of unsold four- and five-bedroom homes in many locations. Meanwhile, we have underinvested in new energy development and exploration and in our basic infrastructure, and for those investment choices we are paying the price of \$60–\$70 per barrel oil and clogged ports and traffic-choked highways, which are impeding the movement of goods to market.

Second, asset bubbles skew wealth inequalities because they dramatically increase the wealth of asset owners—at least for a time. This in turn can drive down the savings rate because of the strong wealth effect rising asset prices have on savings in the United States. As people feel richer because of rising equity or housing prices, they tend to increase their consumption. This is especially true of individuals in the top quintile of income and wealth in the United States. For example, a study by Ajay Kapur, chief global strategist for Citibank, found that the falloff in the national savings rate from 1996 to 2001 was due to a decline in the savings rate of the top 20 percent, which he attributed in large part to the wealth effect from rising asset prices.<sup>33</sup> A similar process accounts for the decline in savings in 2004–05.

Finally, and most importantly, the bursting of asset bubbles can lead to financial crises, demand shocks (deflation), and/or investment stalls (i.e., long periods of weak investment). As noted earlier, asset bubbles may for a short time lead to higher growth, but the downturns that follow portend either a sharp economic collapse or a prolonged slowdown as demand weakens and investment stalls. The 1929 stock market crash led to what



### SAVINGS RATE DECLINE

Sources: Philip Coggan, "The Short View: Hey, Big Spenders," *Financial Times*, October 19, 2005; OECD.

economists call bad deflation and a full-scale depression. The bursting of Japan's asset bubble in the early 1990s caused a prolonged 15-year slowdown in spite of an unprecedented monetary easing. The U.S. economy was able to avoid deflation after the NASDAQ bubble burst only through dramatic rate cuts and increased federal spending, but even then the recovery was the weakest recorded in the postwar period, and it came at the price of a new asset bubble in housing and commodities.

In fact, the dilemma policymakers face in responding to a deflating bubble with asymmetrically easier monetary policies, as the Fed did in 2002, is that it can set the stage for a new set of imbalances, in this case a housing bubble. And as we will see shortly, the deflation of the housing bubble could lead to slower economic growth, if not an outright recession. In short, the economy pays a price in economic growth from asset bubbles, and this fact helps explain the relatively unimpressive performance of the new abundant economy.

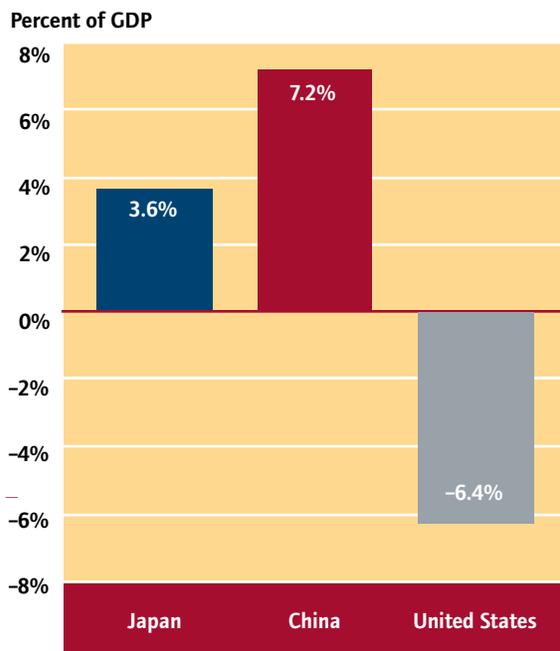
Avoiding asset bubbles, especially follow-on bubbles, would require a different kind of policy framework than has prevailed over the last decade. It would also require the more adroit use of regulatory measures to try to curb excessive credit creation, such as higher margin requirements on the stock exchange during periods of euphoria, or tighter credit controls during real estate booms. In terms of macroeconomic policy, a better mix of monetary and fiscal policy—less loose monetary policy and more spending on public investment and infrastructure—would help moderate asset inflation while promoting stronger growth. It would also help to smooth out the boom and bust investment cycles of the new economy, and it would have been a better policy choice for dealing with the deflating tech bubble than was the policy of overly easy monetary policy and supply-side tax cuts that was in fact pursued.

### **Inadequate and Uneven World Demand**

A second reason for the relative poor performance of the new abundant economy is inadequate and uneven world demand, which is often the characteristic of economies with rapid productivity growth and excess labor. New business investment in many sectors of the economy is stalled today not because the cost of capital is too high or the budget deficit is crowding out private investment but because many companies do not see major new growth and profit prospects due to relatively weak demand. Many firms are sitting on large cash reserves and are using the cash to buy back stock rather than expand operations. This may be good for the shareholders in the short term, but it is not good for economic growth and job creation. As noted earlier, a sustained falloff in investment is not unusual after the bursting of an asset bubble, and despite very accommodative monetary policy, business investment outside China remains relatively weak.

Policymakers seem to have forgotten that an economy with excess labor and rapid productivity growth tends toward underconsumption, resulting in weak demand and slower growth. Rapid productivity growth has the paradoxical effect of displacing labor and raising unemployment, weakening the bargaining power of labor, and with it, wages. Countervailing government policies are needed to ensure that the benefits of productivity gains are widely shared and that aggregate demand is maintained. But policies such as increases in the minimum wage or generous retraining programs have not been an acceptable part of the new economy's policy framework. Demand in the United States has been maintained therefore not by wage increases but by a combination of rising consumer debt and by extracting equity out of rising housing values. But such a strategy for maintaining demand is not sustainable, especially with housing prices beginning to soften and even fall in many locations.

## The Paradox of the New Abundant Economy: New Policy Challenges



CURRENT ACCOUNT BALANCE

Source: IMF, World Economic Outlook Database, September 2006.

The paradox of productivity problem is exacerbated in a world economy increasingly dominated by high-savings, production-oriented economies, like many of the Asian economies. These economies tend to underconsume and overproduce, and thus they depend on export demand to drive their economic growth. The overall result is not only inadequate and uneven worldwide demand but also an unhealthy dependence on the U.S. consumer market, which is reflected in rising current account imbalances. In 2005, 32 percent of China's and 23 percent of Japan's merchandise exports went to the United States. This year, China and Japan are running current account surpluses of 7.2 percent of GDP and 3.6 percent of GDP respectively, while the U.S. current account deficit tops 6.4 percent of GDP. Add to these imbalances the current account surpluses of the major oil-exporting economies, which are nearly as large as those of Japan and China.

Weak world demand outside the United States has pushed more imports into the United States and reduced the market for American-made goods and services. Thus, it is not surprising that the U.S.

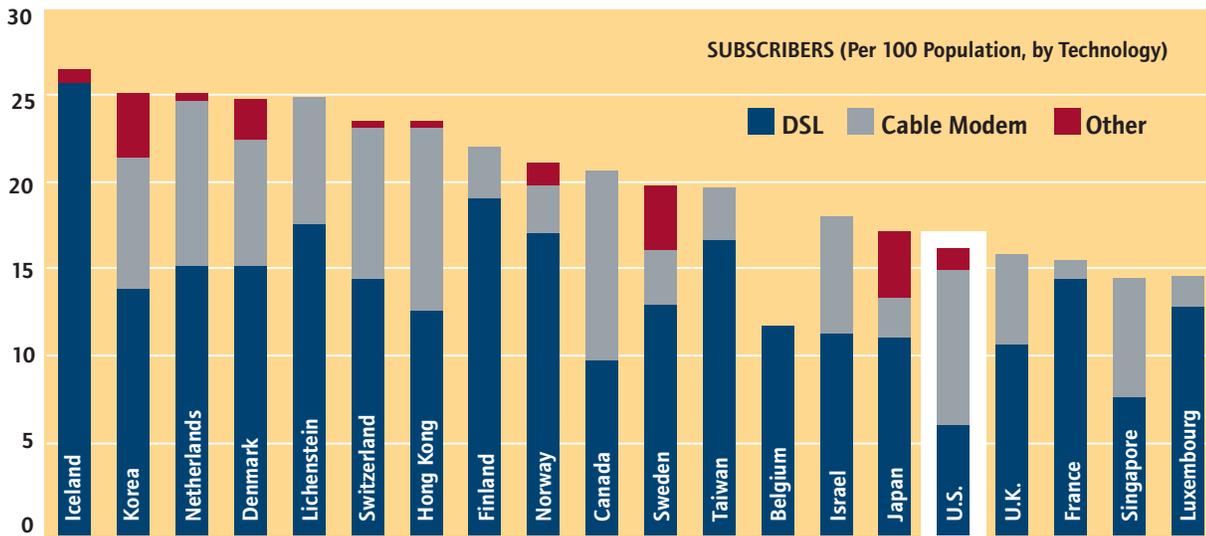
current account deficit has increased from 3 percent in the late 1990s to more than 6 percent today, as the weight of the high-savings Asian economies in the world economy has grown. The trade deficit, in turn, has acted as a drag on U.S. economic growth and has created an unsustainable pattern of weak economic growth that is too dependent on debt-led U.S. consumption. Weak demand has also contributed to a weak economic growth environment in another way. With too much supply chasing too little demand, firms in many sectors of the economy have no choice but to engage in cutthroat measures. Companies are thus trying to increase profitability, not by tapping expanding markets but by cutting costs, especially wage costs, which further reduces global aggregate demand.

For this reason, the current focus of top policy-makers in both parties on cutting the deficit and raising U.S. savings in order to lower interest rates is counterproductive when the real problem is weak world demand. And as noted earlier, the driving force behind weak world demand and the global imbalances is Asia's structural savings surplus, with China playing an increasingly significant role. The fundamental economic fact is that the United States cannot safely reduce its excess spending if others do not decrease their excess saving at the same time. The first step in the way out of the current weak demand and slow-growth trap, therefore, is not for the United States to cut its budget deficit but for the Asian economies to take steps to increase consumption. That is also the best way to increase economic growth and expand the global economy.

### A Deficit in Public Investment

A third problem is that over the last several decades American policymakers have neglected public investment, and the U.S. economy has begun to pay the price in terms of slower growth than it would otherwise have been able to achieve. And it will pay an even higher price in the future if U.S. policymakers do not begin to address the large backlog of public investment needs. Public investment is an essential tool for U.S. policymakers. In the short term, as suggested earlier, it can

PENETRATION (Lines per 100 Inhabitants)



BROADBAND PENETRATION

Source: International Telecommunication Union, December 2005.

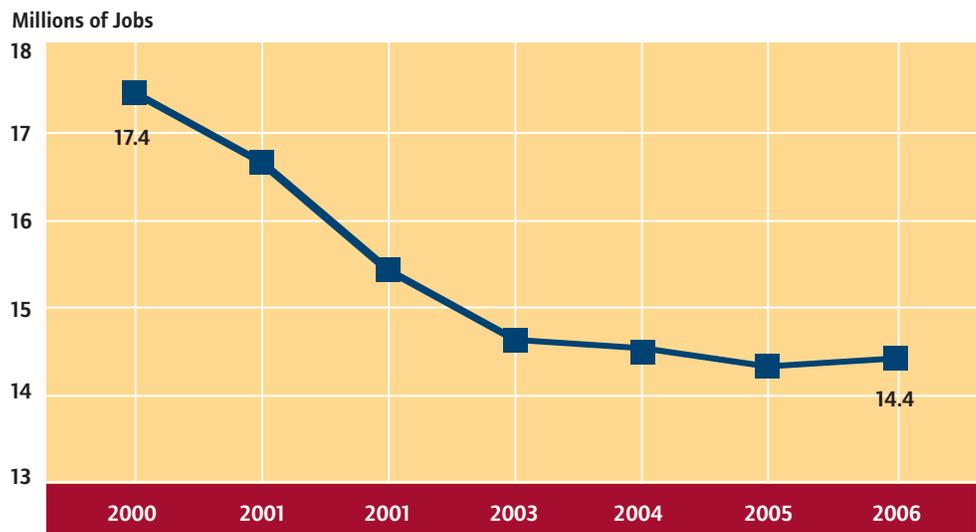
help smooth out investment cycles by stimulating private investment during periods of uncertainty and weak demand, such as that we have experienced since the bursting of the tech bubble and 9/11. In the longer term, it can strengthen the productive capacity of the economy, laying the foundation for higher productivity growth in the future.

Yet because of concerns about the budget deficit and competition with other spending priorities, the federal government has not adequately funded either the nation's public physical infrastructure or its knowledge capital for several decades. From 1950 to 1970, the United States devoted 3 percent of GDP to spending on infrastructure—roads, bridges, waterways, electrical grids, and other essentials of a modern and competitive economy. Since 1980, it has been spending well less than 2 percent, resulting in a huge accumulated shortfall in needed investment. Not surprisingly, infrastructure bottlenecks—traffic-choked roads, clogged ports, uneven broadband access—are undercutting our nation's efficiency. The biannual report of the American Society of Civil Engineers offers these and other examples of an inadequate public infrastructure:

- Over a quarter of the nation's bridges are structurally deficient or functionally obsolete;

- Most of our airports will not be able to accommodate the new jumbo jets scheduled for introduction later this decade or handle the expected growth in the number of small regional jets necessary for commerce in smaller business centers.
- Nearly 50 percent of the 257 waterway locks operated by the U.S. Army Corps of Engineers are functionally obsolete.
- Poor road conditions cost U.S. motorists \$54 billion a year in automotive repairs and operating costs; these same motorists spend a total of 3.5 billion hours a year stuck in traffic.<sup>34</sup>

The United States is also now lagging behind in the infrastructure of the information age. Only 33 percent of households have access to broadband, which is increasingly critical for successful commerce. The United States now ranks 16th in the world in broadband penetration. And the costs of broadband in the United States are rising relative to those in other countries, putting American-based companies at a disadvantage. U.S. consumers, for example, are forced to pay nearly twice as much as their Japanese counterparts for connections that are 20 times slower.<sup>35</sup>



U.S. MANUFACTURING JOBS

Source: U.S. Bureau of Labor Statistics.

The United States has also underinvested in basic science and research and development. Basic scientific research is important because it makes possible the technological breakthroughs that can revolutionize the economy and the way we live. It is also responsible for the innovation from which American companies derive premium returns on capital. But research and development spending as a share of GDP has declined over the last two decades, as the federal government's support for research and development has shrunk.

The United States has also not kept up with other countries in the training of skilled workers, particularly scientists and engineers. The United States now graduates fewer engineers per capita than nearly all other advanced industrialized countries. Some American firms are thus beginning to complain about the shortage of skilled workers in some sectors of the economy, forcing them to rely more on outsourcing than they would like.

In sum, underinvestment in research and development, a less than world-class infrastructure, and an inadequately trained workforce are acting as a drag on American economic growth. If the goal is to boost productivity, innovation, and growth, then government policy in the near term should emphasize spending more on education, research and

development, and public infrastructure, even if in the short term the additional spending increases the budget deficit.

### Weaknesses in America's Tradable Goods Sector

The current pattern of global integration—between a consumer-oriented U.S. economy and production-oriented Asian economies—has contributed to structural weaknesses in the U.S. economy, especially in the tradable goods sector. This weakness in turn has constrained U.S. economic growth and could further undermine it in the future. More specifically, the combination of an overvalued dollar together with Asia's mercantilist trade practices and the lack of a coherent manufacturing policy has eroded America's productive capacity in manufacturing and more generally the strength of the tradable goods sector of the economy.

The manufacturing capital stock of the United States has declined in relative terms over the last 20 years, decreasing from 8.4 percent in 1985 to 7.3 percent in 2003. Moreover, new capital spending over the course of the 2002–03 recovery lagged behind that of previous recoveries, in part because so many cheap manufactured goods were flooding the U.S. market. Between mid-2002 and 2003,

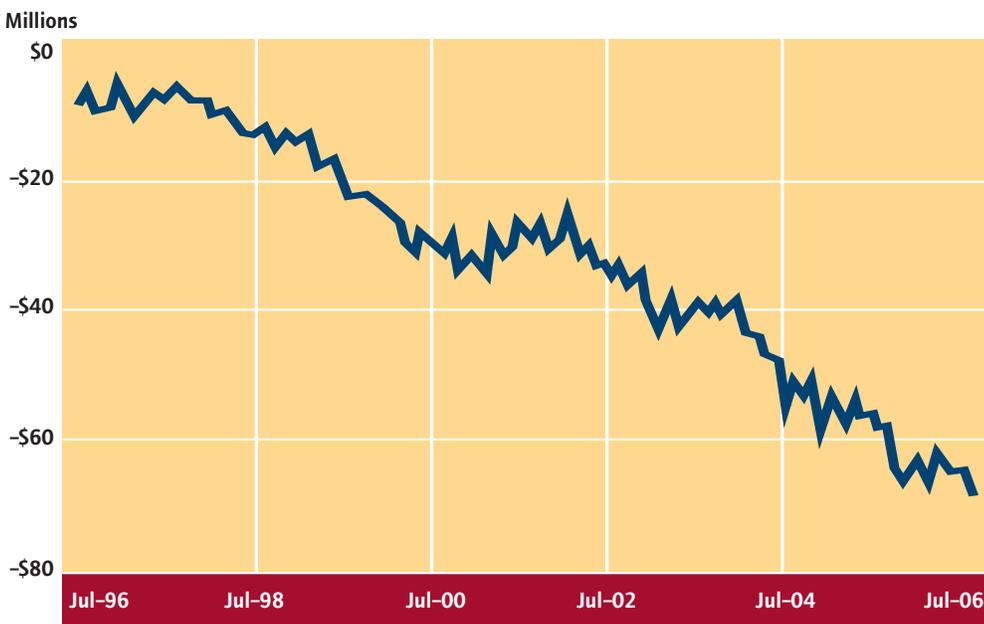
capital spending increased by only 5 percent compared with an average gain of 15 percent during the first year of the five previous business expansions.<sup>36</sup> As a result, manufacturing output has increased relatively little in spite of impressive gains in productivity, and accordingly the United States has lost more than 3 million manufacturing jobs over the past six years.<sup>37</sup>

The United States, of course, wants to let go of the less productive parts of the economy better suited to lower wage economies. But U.S. policymakers have gone too far in accepting the hollowing out of America's tradable goods sector. After all, manufacturing at the high end remains a high-productivity sector of the economy, and still pays above-median wages. Thus, retaining manufacturing employment, even as manufacturing becomes more productive and the United States specializes in more higher-value-added production, is essential to maintaining a strong middle class.

There are ways in which the weaknesses in the manufacturing sector have hurt U.S. economic growth in addition to the question of the impact on middle-class jobs. First, because American policymakers have allowed the manufacturing sector to

shrink vis-à-vis other sectors of the economy, U.S. productivity growth has been less than it could have been. As has been widely noted by economists who have studied U.S. productivity growth over the past decade, a substantial share of the gains in productivity have come from manufacturing. But since the manufacturing sector has declined relative to the size of the U.S. economy, those gains have had less of an impact on overall productivity growth than if manufacturing had not declined. Even the most strategically minded economy will suffer from what economists call Baumol's cost disease, but the United States may be allowing the most productive sectors of the economy to shrink too fast.

Second, because the U.S. economy has less spare capacity in manufacturing than other economies, it has not been able to respond quickly to an increase in domestic and world demand. Thus, it has forgone economic growth and new job creation it would have enjoyed had it maintained a more robust manufacturing capacity. For the same reason, the U.S. trade deficit has not responded to declines in the value of the U.S. dollar. The fact is that our tradable goods sector has not kept pace



TRADE BALANCE, GOODS AND SERVICES

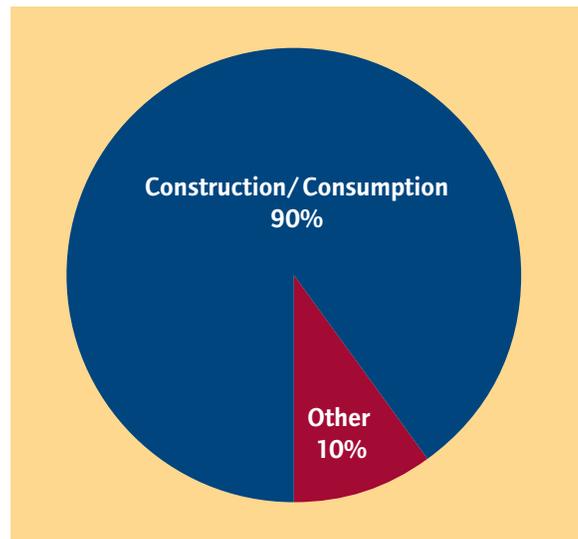
Sources: Federal Reserve Bank of St. Louis; U.S. Bureau of Economic Analysis; U.S. Census Bureau.

with the growth of American consumption. As the economist David Hale points out, our current account deficit, now running close to 7 percent of GDP, is equal to 40 percent of American manufacturing output.<sup>38</sup> Given that we have a capacity utilization rate of nearly 79 percent, that means we do not have enough capacity to reverse our external deficit. This lack of ready U.S. capacity (while the world has excess capacity) helps explain why the decline in the value of dollar has not produced any major improvement in our trade deficit, and will not be able to do so in the future.

In order to be able to reverse the growth of the U.S. current account deficit, the United State will need at some point to shift resources in relative terms from consumption to investment in the tradable goods and tradable services sector of the economy. And that will take more than merely relying on the market. It would also require measures to encourage on-shoring of productive capacity, such as the strategic use of public infrastructure investment, and a willingness to use trade and investment policy to ensure a level playing field and to advance the success of American-based firms in strategic industries.

### A Suboptimal Pattern of Economic Growth

In large part because of the failure of policy to respond properly to the problems associated with the new abundant economy, the U.S. and world economies have grown in a suboptimal way for the past decade. From 1995 to 2001, the world economy was too dependent on an investment boom in the emerging markets in Asia, and then by the tech bubble in the United States and Europe. Since the bursting of the tech bubble in 2001, the global economy has been driven by the twin engines of consumption and housing in the United States and corporate and state-directed investment in China. These two engines in turn have stimulated economic growth in the capital-goods exporting economies of Germany and Japan and the oil-exporting and mineral-rich economies of the world economy. The Asian and European export economies and the oil-exporting surplus countries

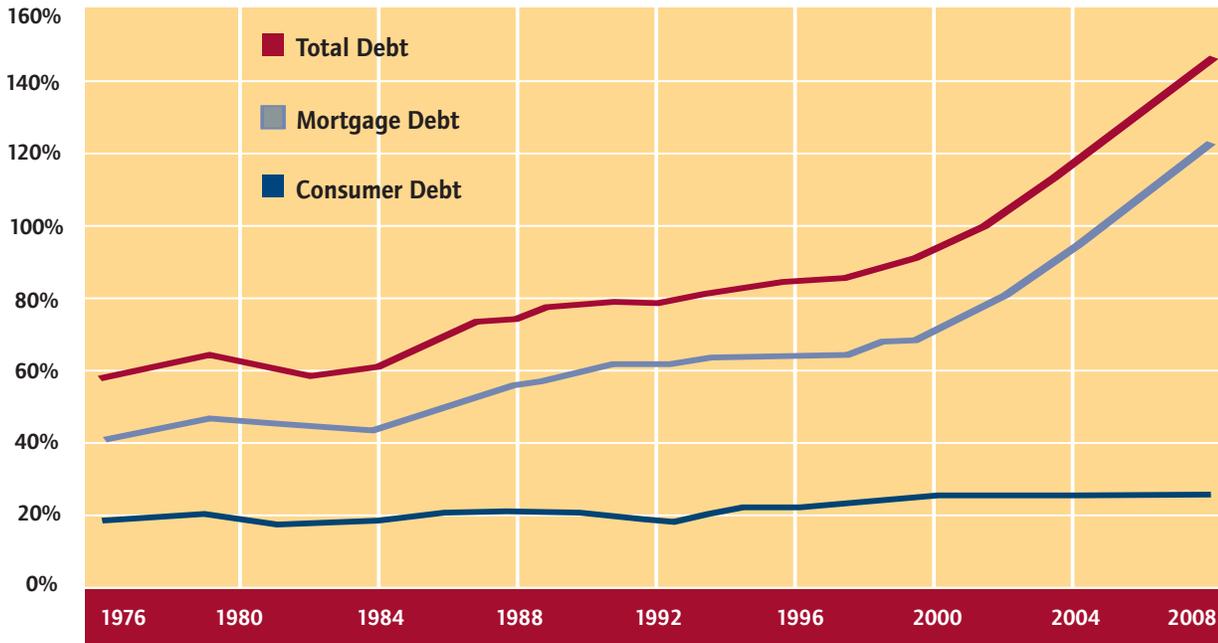


U.S. GDP GROWTH SINCE 2001

Source: Merrill Lynch.

of Russia and the Persian Gulf have recycled their capital surpluses to support consumption in the United States and to fuel a housing and real estate boom in the United States, Britain, Australia, and parts of Europe, which has been one of the main engines of world economic growth. Over the past five years, for example, consumption and housing have accounted for 90 percent of U.S. GDP.<sup>39</sup> While personal consumption and housing have been hot, capital investment in the United States and throughout much of the industrialized world, outside of China, has been relatively weak because companies have been reluctant to invest until the overcapacity of the late 1990s has been worked off and until they have seen new growth opportunities, which have been slow to materialize in today's demand-constrained world economy.

This pattern of economic growth has produced more growth than some economists thought possible given the excesses of the late 1990s and the problems associated with international terrorism. But, still, it has not been optimal because it has been too dependent on American consumption, which in turn has been too dependent on debt-led financing and a housing boom. In the United States, there is evidence that this pattern of consumption is beginning to reach its limits. With



HOUSEHOLD DEBT AS A PERCENTAGE OF DISPOSABLE INCOME

Sources: U.S. Bureau of Economic Analysis; Federal Reserve Board.

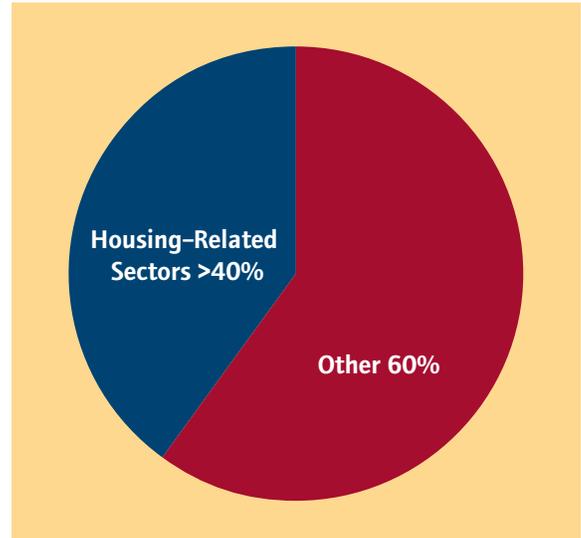
their real wages stagnant or falling, millions of Americans have resorted to borrowing in an effort to maintain their living standards. Last year, household debt rose to 131 percent of disposable income,<sup>40</sup> partly because many Americans have pushed their credit card debt to the max and because many, including many high-income Americans, have piled on mortgage debt. As a result, debt payments now consume 18.7 percent of the income of the average American family, and an ever higher percentage among those in the bottom two-fifths of the income ladder.<sup>41</sup> Consumers in the top fifth by income may be able to continue to drive a disproportionate share of American consumption. But even for them some belt-tightening may be necessary if housing prices fall, because they too have consumed more and saved less as a result of rising home values.

Other things equal, the economic effects of a housing slump could be more severe than those accompanying the technology bubble implosion in 2001 exactly for that reason. The current household property holdings are almost double those of equity portfolios and also affect more Americans. In addition, the wealth effects of rising housing prices are believed to be much greater than those of equities. Another factor is that housing and housing-related economic activity has contributed a much larger boost to GDP growth, accounting for more than 40 percent of new private sector jobs from 2001 to 2005, than did the financial sector in the late 1990s.<sup>42</sup> A slowdown in the U.S. consumer economy in turn would have a serious negative impact on China and other Asian export-oriented economies given their dependence on the U.S.

## The Paradox of the New Abundant Economy: New Policy Challenges

consumer market and the fact that they are already burdened with overcapacity in many manufacturing sectors. Thus, a sputtering U.S. consumer engine could easily create problems for the other main engine of recent world economic growth.

A slowdown or even a recession caused by the collapse of the interrelated consumption and housing boom in the United States would not be the hard landing that some deficit hawks are most concerned about. But it would raise some difficult policy questions in light of our earlier analysis of the prolonged effects of deflated asset bubbles on economic growth and the important role U.S. consumption has played in driving a world economy in which high-savings, production-oriented economies make up a growing percentage of the world's GDP. ■



NEW PRIVATE SECTOR JOBS SINCE 2001

Source: Merrill Lynch.

### III. A New Growth Agenda

This understanding of what has constrained economic growth over the past decade and what could impede it in the future suggests a new economic growth agenda for the nation and the world. To more fully realize the economic growth potential of the United States described earlier, American policymakers must deal successfully with both a macroeconomic challenge involving the effects of a housing and consumption slowdown and a microeconomic challenge involving the future productive base of the American economy. The macroeconomic challenge is to overcome the lingering hangover of the tech and housing bubbles and to put the U.S. and world economies on a more optimal economic growth path. The microeconomic challenge is to strengthen America's productive economy, particularly its tradable goods and services sectors, and to lay the foundations for more widely shared economic prosperity, both domestically and internationally.

#### **Putting the World Economy on a More Optimal Economic Growth Path**

The expected slowdown in U.S. consumption as a result of a correction in the U.S. housing market creates some dilemmas for U.S. policymakers who have tended to limit their understanding of macroeconomic policy to a combination of easier monetary policy and tax cuts. On the one hand, responding to a deflat-

ing bubble with asymmetrical easier monetary policy may only create another bubble, further prolonging the transition to a more optimal pattern of economic growth. On the other hand, tax cuts, especially supply-side tax cuts, would need to be disproportionately large to compensate for the lost wealth effects of a housing correction because much of the stimulus would leak out into the world economy. And a combination of easier monetary policy and tax cuts may only reinforce the world economy's dependence on U.S. consumption, and thus the suboptimal pattern of economic growth.

A more optimal economic growth path would reverse the current global imbalances by increasing productive investment in the United States and by expanding consumption demand abroad, especially in the large emerging market economies where productivity growth is improving rapidly. Increased investment in the United States would lead to increased productive capacity, enabling American-based companies to take advantage of rising export demand for their goods and services. It would also lead to rising wages, enabling households to reduce their debt burdens without cutting back on consumption. A combination of increased investment and rising wages at home with consumption-led economic growth abroad would create the true Goldilocks economy.

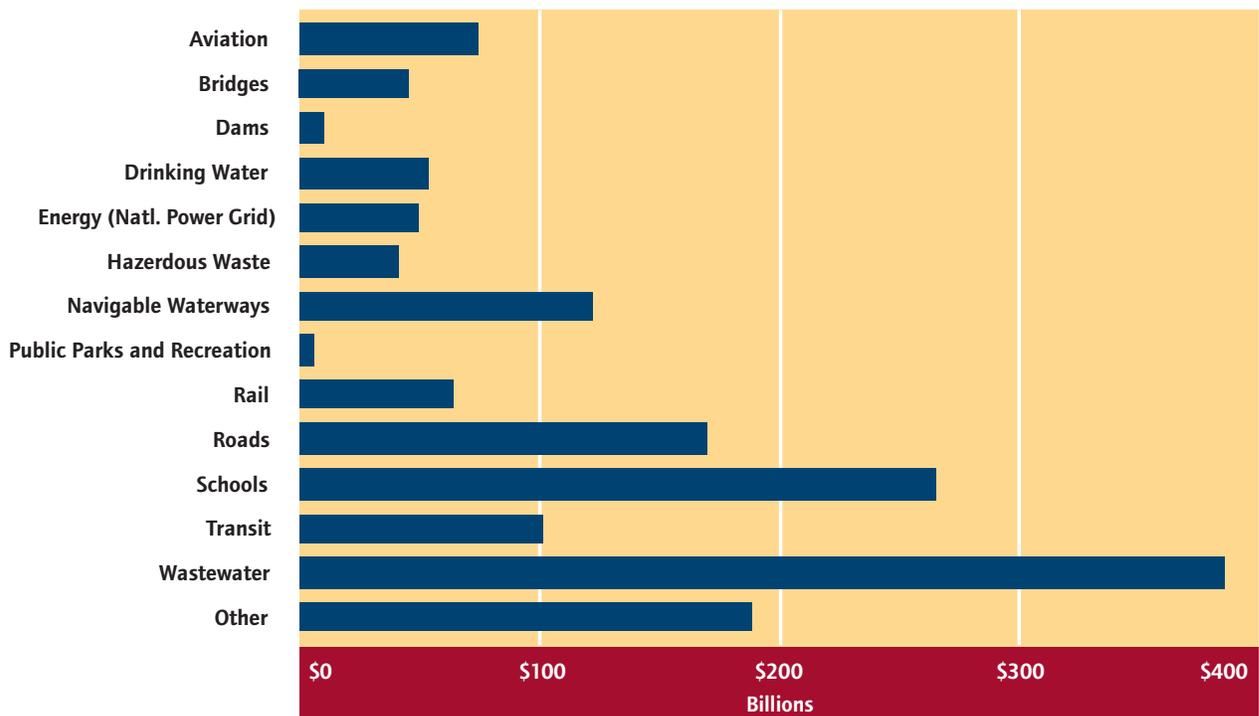
*A Public-Investment-Led Transition Strategy*

The best way to move the U.S. economy onto this more optimal economic growth path would be to make increased public investment the centerpiece of any transition strategy. Public investment is the most effective way to increase both demand and investment at the same time. If in spite of low interest rates or low inflation companies will not commit to more investment spending because of weak demand or uncertainty, then the best way to jump-start more investment is to do so directly by increasing public investment outlays. Such investment would also have the advantage of creating more jobs, particularly more good jobs, putting upward pressure on wages. If combined with efforts to promote greater consumption and demand abroad, a public-investment-led strategy would correct the imbalances created by successive asset bubbles and simultaneously strengthen America’s productive economy.

A public-investment-led transition strategy would have advantages over other policy alternatives. First, in terms of demand, most of the public

investment would go to stimulate domestic investment and jobs, and thus would be more efficient than either supply-side or demand-side tax cuts in countering an economic slowdown. Supply-side tax cuts or investment credits might go to overseas investment, and demand-side tax cuts would partly leak out into purchases of imports, which would only reinforce the current pattern of growth.

Second, in terms of investment, public investment, particularly public infrastructure investment, is a more direct and more reliable way to increase both public and private investment than are supply-side tax cuts or deficit reduction, the policy choices respectively of the Bush administration and former Clinton administration officials. More public investment is needed to correct the current shortcomings in both the nation’s physical infrastructure and knowledge capital. Any increase in public investment related to these unmet needs would have positive returns for the economy and would in any case be better than no increase in public investment at all.



INFRASTRUCTURE INVESTMENT NEEDED

Source: American Society of Civil Engineers.

Public investment would also be a more efficient way to stimulate private investment. Supply-side tax cuts are particularly inefficient in that the money saved from reduced taxes is just as likely to be consumed or invested abroad. As for deficit reduction, its principal purpose is to lower interest rates, but lower interest rates would not do much to stimulate investment when the cost of capital is already low by historical standards. By contrast, public investment can enhance private investment in two ways. It can increase the efficiency of existing investment and resources. And it can “crowd in” private investment by making new private investment feasible in places where earlier it was not. One study for the Chicago Federal Reserve by David Aschauer found that in the long run each additional dollar of public infrastructure investment raises private investment by 45 cents, and that a 10 percent increase in public capital increased aggregate output by 3.9 percent.<sup>43</sup> There is some disagreement in the academic community about the extent of the benefits of public investment for private investment, but few experts doubt that it has a positive effect. But even if Aschauer’s estimates are too high, public investment would still be a more efficient way to stimulate investment under today’s economic conditions than would be supply-side tax cuts or deficit reduction.

The main argument against public investment spending as a countercyclical tool is that it takes too long to implement—by the time public projects are approved and implemented the economy is on the way to recovery. But we are not suggesting using public investment as a classical countercyclical measure. The economy is not facing a business inventory recession; it is still struggling with the legacy of the bursting of the tech bubble and the follow-on housing bubble. In this case, a healthy dose of public investment spending is a necessary preventive measure against a prolonged slowdown caused by an investment stall after the bursting of an asset bubble.

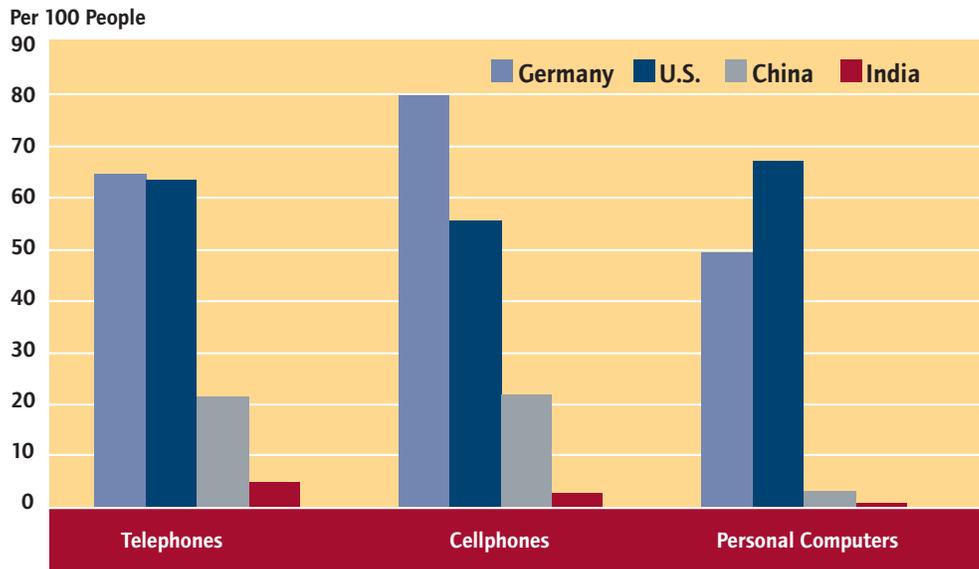
The other argument is that more public investment would increase the deficit, but some increase in the deficit is inevitable if households are to rebalance their accounts without causing a major recession.

If households are to be able to increase their savings without depressing economic growth, then either the government or the corporate sector must decrease their savings and/or export demand must increase to reduce the external imbalance. It therefore would be better that any increase in the government deficit be the result of the affirmative decision to increase public investment, which produces a positive return to the economy, than it be the product of an economic slowdown. Moreover, as noted earlier, the world economy is awash in excess savings, and the best way to mop up those savings is to issue long-term bonds to fund public infrastructure projects. Otherwise, any new effort to stimulate the economy through easier monetary policy, if it works at all, will only lead to more asset inflation.

*Global Keynesianism Abroad: Promoting a Middle-Class-Consumption Boom in Emerging Economies*

A program of expanded public investment spending would be one pillar of a transition strategy to a sustainable faster-growing world economy. The other would be measures to encourage greater middle-class consumption abroad. A better balance between consumption and production at home means more consumption relative to production abroad, especially in the high-savings newly industrialized Asian economies. As noted earlier, these economies have experienced rapid productivity gains over the past decade. The goal of American policy ought to be to help these economies translate those productivity gains into rising wages and living standards—so that working men and women there can consume more of what they produce and so that the world economy can grow in a more balanced way.

To achieve this goal, American policymakers need to shift their international economic thinking from the neoliberal, export-oriented nostrums of the 1980s and 1990s to the Keynesian ideas of the 1940s and 1950s, when the United States dramatically expanded its middle class and raised living standards. Rather than encourage emerging economies to develop primarily through the export of manufactured goods and their component parts, U.S. international economic policy



COMMUNICATIONS CONSUMPTION

Source: U.S. Statistical Abstract, 2006.

should champion middle-class development aimed at increasing domestic consumption. This means helping emerging economies to expand home ownership, invest in public infrastructure, improve public education, build a social safety net, and create more small and medium-size businesses, much as the United States did in the last century. The end goal of this policy should be to build a larger global middle class in emerging economies, which could relieve U.S. consumers of some of the burden of serving as the main consumer locomotive of the world economy.

The conditions for rebalancing the world economy in this way are present in many newly industrialized economies, where there is enormous pent-up consumer demand from rising incomes and years of suppressed consumption. Emerging market consumers in these economies have a lot of catching up to do and the increasing ability to do so. In China, for example, there is one car for every 65 people, in comparison to two cars for every three Americans. China has one-half the televisions, one-quarter the computers, and one-third the cell phones per capita as Europe.<sup>44</sup> As importantly, there is also enormous demand for more spending on education, health care, and housing.

The same is true for many of the other fast-growing newly industrialized economies of Asia.

Even though other economies in Asia are richer, the key to increasing consumption in emerging economies is China, which by virtue of the size of its labor force increasingly sets wage levels for both developing countries and newly industrialized economies. An increase in Chinese wages and consumption would give other countries room to let their wages and consumption rise. Chinese officials seem to understand that for reasons related both to domestic stability and to international concerns economic growth in the future must be driven by domestic consumption. Accordingly, they have begun to experiment with policies to create a housing mortgage market and to increase spending on health care and education.

But U.S. policy toward China has not been very coherent in reinforcing this interest. U.S. international economic policy needs to do a better job of encouraging this newly announced direction by pushing China on international labor rights as well as intellectual property rights and by using the OECD and the World Bank to help China create a social safety net and to develop a home mortgage market. Because China lacks a real safety net and

does not have reliable public systems of health care or education, Chinese workers are engaged in enormous precautionary saving, which is holding down consumption. The best way to reduce this high level of precautionary savings is to help China put in place a modern social safety net and to do a better job of providing education and health care for its citizens.

The creation of a modern safety net will take time, but the government and the corporate sector could increase spending on education and health care in the interim. In addition, the World Bank could do more to support public infrastructure projects and social spending in developing economies to increase consumption. In the short term, these changes are critical to a transition to a more sustainable pattern of global economic growth. Over time, they may reduce to some degree the pool of excess global savings (although lower savings rates can be offset by financial reform aimed at improving the efficiency of capital allocation), but the benefits to a more optimal pattern of world economic growth would outweigh any loss to the global pool of capital.

### **Building America's Future Economic Strength**

The U.S. economy has many inherent strengths—deep capital markets, entrepreneurial companies, flexible business practices, and widespread property ownership—that enable it to both drive and take advantage of the new abundant economy. But it also has some structural weaknesses that will impede future economic growth if they are not corrected. In addition to its overdependence on debt-led consumption, this report has identified several areas of concern: the deteriorating condition of American public infrastructure; the rising cost of energy and America's relative energy inefficiency; weaknesses in America's tradable goods sector; productive bottlenecks in health care and education; and growing wealth and income inequality. Any growth agenda that aims to realize America's economic potential will need to focus on these problems.

### *Replenishing America's Public Capital*

In keeping with a public investment-led growth strategy, one of the first priorities of U.S. policy ought to be to replenish America's public capital. The most recent report of the American Society of Civil Engineers concludes that \$1.6 trillion needs to be spent over the next five years to alleviate problems with the nation's physical infrastructure.<sup>45</sup> And that report does not address the problems with our lagging performance in the area of broadband penetration and cost. Nor does it touch on the decline in spending on basic science and research, and the effects this is having on the innovation economy. Some prominent former Clinton administration officials have recommended postponing new public investment until the budget deficit is reduced. Others have suggested concentrating spending on innovation and knowledge capital at the expense of new public infrastructure initiatives. But both these approaches are short-sighted in light of the central importance of public investment spending to a successful transition to a more sustainable growth path.

Still, some priorities need to be established to guide public investment. Maintaining America's technological edge by adequately funding basic science and research and the nation's system of innovation obviously should be one priority. So should be efforts to extend broadband access and reduce its cost. And still another should be government support for pushing the technological frontier to develop new sources of energy.

Beyond these obvious goals, the principal priority should be spending on public infrastructure that is needed to strengthen the productive economy and to help overcome other structural weaknesses in America's tradable goods sector. In this connection, special attention should be given to energy production and to the on-shoring of higher-value-added production and business services. For example, North Dakota is increasingly a developer and exporter of relatively low-cost energy—wind power and oil shale—but that part of the country lacks

the transportation system and pipelines to move the petroleum to market and the transmission lines to sell the electricity to those parts of the country where it is most needed. Similarly, companies have wanted to expand operations in the U.S. heartland to take advantage of lower housing costs and better schools but parts of the region lack broadband access and air transportation hubs, both of which are critical to business operations. This has impeded the on-shoring of many good jobs, and thus income and economic growth. Identifying these public infrastructure bottlenecks and correcting them should be one of the highest priorities of any new public investment program.

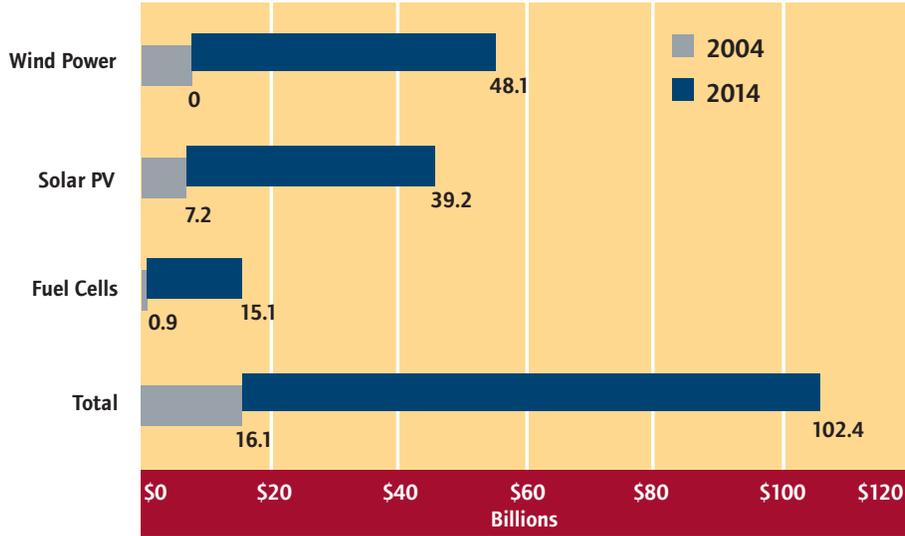
Making wise investment decisions and ensuring that public investment is adequately funded will require institutional reform. The United States underinvests in public capital in part because it neither properly accounts for its public capital expenditures nor properly finances them. The U.S. federal government is virtually the only government among the world's advanced industrialized countries not to have a formal capital budget that separates public investment outlays from current consumption expenditures. And unlike state and local governments, which use special purpose bonds to fund specific capital needs, the federal government finances public infrastructure projects out of general government revenues or out of special trust funds like the Highway Trust Fund. This makes no sense since public investment is different from current government expenditures in both character and economic consequence. Most public investment, especially most public infrastructure projects, should be paid for over the useful life of the investment, and the fact that it earns a return on investment in the form of higher productivity and increased tax revenues should be reflected in how we account for it.

Ideally, the federal government should establish a formal capital budget and set up a quasi-govern-

ment agency to oversee and finance public infrastructure projects by tapping the international capital markets. But the sensible idea of a federal capital budget has always met with political opposition. A second-best option would be to ask the Office of Management and Budget to refine and more widely publicize its annual breakdown of capital expenditures in the budget. An equally important policy innovation would be for Congress to ask the Treasury Department to develop a new class of 30- to 50-year bonds to finance public infrastructure and other public investment projects. This new class of bonds would technically increase the national debt, but because they would fund public investment projects that would have positive returns for the economy they would not have the same consequences as other deficit spending. Indeed, as noted earlier, issuing long-term bonds would be a financially wise use of debt because the federal government would be able to take advantage of historically low interest rates to rebuild America's infrastructure, thus creating the foundation for faster economic growth in the future. The returns on this faster economic growth would far exceed any increased borrowing costs.

### *Promote New Energy Development and Energy Efficiency*

Another weakness of the U.S. economy is its vulnerability to high energy prices and its relative low energy efficiency, which during times of high oil and gas prices raises the cost of doing business, cuts into discretionary consumer spending, and increases the trade deficit. The deep cyclical character of the world oil market has worked against a consistent market approach to develop new energy sources. The pattern of high prices followed by low prices has deterred private companies from investing heavily in the next generation of energy supplies and has slowed the effort to reduce America's dependence on oil.



CLEAN ENERGY PROJECTED GROWTH, 2004–14

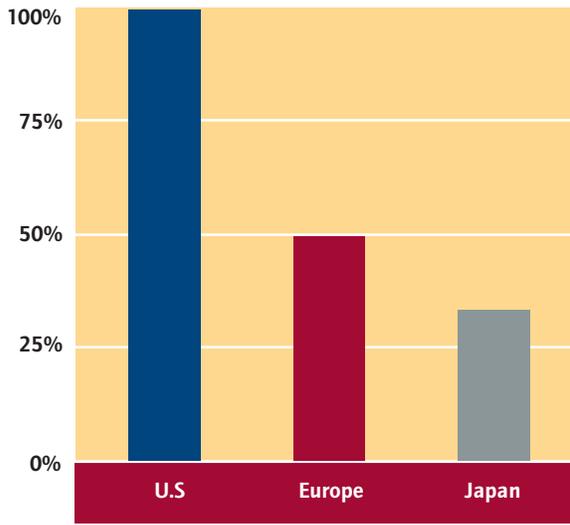
Source: "Clean Energy Trends 2005," Clean Edge, March 2005.

The current high level of oil and gas prices has made other energy sources, such as ethanol, economically attractive for the first time since the 1978–79 oil crisis. Venture capital funds are incubating thousands of new energy companies to produce ethanol, biodiesel, wind, solar, and thermal power. The investment in ethanol and biodiesel has sparked a mini-boom in the corn-producing region of the Midwest and Great Plains. Yet there remains a real worry that once oil falls below \$50 a barrel this mini-investment boom will go bust, and the funding as well as the potential profits of many new energy companies will dry up. A similar worry persists with regard to conservation efforts to increase energy efficiency with the retrofitting of homes and the development of more fuel-efficient vehicles.

Thus, there is a need for a strong national energy policy that would perform three functions. First, the federal government should help start-up companies that are developing new energy sources grow

to scale and survive any temporary downturn in world oil prices. One option would be to use government procurement policies and mandatory usage requirements, such as Minnesota has done in requiring that vehicles use 20 percent ethanol by 2013, to create a floor under alternative energy demand. Another would be to use an adjustable carbon tax to maintain an optimal level of energy prices. Revenues from the adjustable tax could be used to fund new energy research and development.

Second, Washington needs to increase funding for research into new energy sources and new technologies. The real promise of a new energy economy lies in the next generation of technology—in cellulose ethanol and hydrogen cars, for example. But developing these technologies and bringing them to market will require much greater government support than is now available. The next administration should make the next frontier in energy technology its signature program.



RELATIVE ENERGY CONSUMPTION PER UNIT OF GDP

Source: Ricardo Bayon, "The Fuel Subsidy We Need," *Atlantic Monthly*, January/February, 2003.

Finally, the government should provide both incentives and assistance for greater energy efficiency. The market alone does not ensure that companies and individuals will make the investments or acquire the knowledge needed to realize energy efficiency gains and, as noted earlier, the United States has a lot of catching up to do with Europe and Japan. In addition to providing low-cost loans and tax credits, the federal government should create a technology extension service, modeled on the successful Agricultural Extension Service, to assist individuals with the use of the latest technologies to reduce the cost of heating and cooling their homes, and businesses to enhance their efficiency.

The Apollo Alliance Project provides some idea of what a program incorporating these three goals would look like and what it could accomplish. The project calls for the federal government to invest \$300 billion over the next ten years in the development of alternative fuels from various forms of ethanol and biodiesel to clean coal and wind power. It also calls for measures to increase energy efficiency, from the adoption of hybrid cars to more fuel-efficient buildings and transportation systems.

The project's architects estimate that such a program would create 3.3 million jobs, the great majority of which will be high-skilled jobs in science, technology, and energy production.<sup>46</sup> It would generate \$1.4 trillion in new GDP, an enormous return on the government's investment. And it would greatly reduce American dependence on oil, particularly imported oil. By 2016, if the program was fully implemented, 38 percent of the automobiles on the road would be hybrid or hydrogen cars, and 15 percent of the country's energy needs would be met by renewable sources. In addition, the program would reduce energy consumption by 16 percent by taking advantage of more efficient design and technology. It would cut America's energy imports in half, reducing the trade imbalance by more than \$100 billion a year at current prices.

### *On-shoring Investment and Jobs in America's Tradable Goods Sector*

Economic growth in the future will be driven more by rising business and consumer demand abroad. But America's relatively weak tradable goods sector poses a constraint on the goal of tapping this great growth potential. In that sense, America's main economic problem is not so much overconsumption as underproduction, and the way to correct its trade imbalance with the rest of the world is not by cutting U.S. consumption but by increasing U.S. production to meet rising world demand. The United States will therefore need to expand investment in its tradable goods sector and to on-shore more good jobs and investment.

Fortunately, there is an opportunity to expand significantly the on-shoring of higher-value-added production and business services. As a number of American-based companies are demonstrating, manufacturing in the United States is not dead: it is still viable if a company has the right business model and if local conditions can support that model. Many of the same features of the new abundant economy that make it possible for firms to engage in sophisticated off-shore manufacturing strategies also make it possible for them to locate

production and business services in the United States, especially high-value-added production and services that require greater quality supervision and oversight. Indeed, under the right conditions, off-shoring and on-shoring can work in tandem to expand capacity and to create more jobs both at home and abroad.

But in order to take advantage of the on-shoring possibilities made possible by the new abundant economy, the United States needs an intelligent on-shoring strategy, particularly an on-shoring manufacturing strategy. What we have now is an incoherent mix of policies that push companies in different directions and an incoherent mix of local conditions, some favorable and some unfavorable to locating investment and production onshore. On balance, many companies would prefer to locate more production and jobs onshore in order to avoid overextended global supply chains and rising transportation costs, but they need the right conditions and incentives.

In spite of the wage differentials between American workers and those in the newly industrializing economies, it is possible to develop a more coherent manufacturing strategy that avoids the low road of lowering wages on the one hand or engaging in beggar-thy-neighbor protectionism on the other. Such a strategy would aim to lower the cost of doing business in the United States while providing companies with the essential things they need to be successful. It would consist of the following elements. First, it would provide businesses with a world-class infrastructure suited for higher-value production and advanced business services by increasing public investment. Second, it would reduce the cost of domestic energy and materials by taking greater advantage of the efficiency revolution. Third, it would increase the skill level of American workers through improvements in education and through the establishment of for-the-job training programs that would prepare and retrain workers for specific skills for which there is great demand.

Fourth, it would relieve companies of the burden of rising health care costs and the administra-

tion of health insurance programs by adopting a citizen-based health care reform program. Fifth, it would lower the tax burden on companies locating jobs in the United States by reducing the corporate income tax and the payroll tax, thereby reducing by equal amounts the cost of capital and the cost of labor. It would also eliminate the current incentives in the tax code to move investment overseas.

Finally, it would better use trade policy to protect American-based companies from the unfair trade practices of mercantilist economies. In particular, it would do a better job of protecting American-based companies from supply surges from abroad and from the dumping of excess production during slowdowns in world economic growth, such as occurred after the 1997–98 world financial crisis.

Together, these policy changes would reduce the cost of doing business onshore while offering companies the advantage of better infrastructure and better trained workers than they would be able to find abroad. They would also encourage more direct foreign investment in the United States, as foreign companies seek to ensure access to the U.S. consumer market. The strategy these policy changes entail would help ensure that the United States retains higher-value-added production and the skills related thereto even as U.S. firms take advantage of the world labor market. At the same time, it would be compatible with the global Keynesian program recommended to encourage greater middle-class consumption abroad because it would force other economies to increase demand rather than see the U.S. market as a dumping ground for their excess production.

This program of rebuilding our tradable goods sector could be financed, at least in part, by reforming our wasteful and inefficient agriculture support systems. Subsidies for agricultural commodities could be redirected toward spending for infrastructure, energy development, and job training in America's heartland.<sup>47</sup> Such a new heartland development strategy would help diversify the economy of middle America while at the time enabling businesses to tap the underutilized resources of that region.

### *An Efficiency Revolution in Health Care and Education*

U.S. productivity growth since 1995 has been impressive, but it could have been more impressive still if the U.S. health care and education systems had participated in the efficiency revolution. Productivity bottlenecks in health care and education threaten to constrain future U.S. productivity growth as the size of these sectors grow and as their poor performance begins to weigh on other sectors of the economy. Already, American-based companies are at a competitive disadvantage because of exorbitant health care costs and because American educational institutions are doing a poor job of preparing workers for the productive economy of the 21st century. The government could relieve American-based companies of the burden of providing health insurance, but without an overhaul of the system to make it more efficient that would just shift the costs onto individuals or onto the government.

By the standards of other advanced democracies, the U.S. systems for providing health care and education are considerably inefficient. Not only has this inefficiency dragged down the nation's overall productivity performance, it has made it difficult to expand access to these goods because of rising relative costs. As noted earlier, the U.S. health care system consumes more than 16 percent of GDP but delivers below OECD-average health and life expectancy. The United States spends more per student at the K-12 level than almost all other democracies, yet American students perform near the bottom of most international tests. Furthermore, the cost of college tuition has risen by more 56 percent over the past five years, pricing many young people out of a college education.<sup>48</sup>

For these reasons, U.S. policy must promote a quality and efficiency revolution in both the U.S. health care and educational systems. Government policy should begin with incentives to make better use of information technology in both the health care system and in U.S. schools and universities. As evidenced by the turnaround within the Veterans Administration hospital system, the digitization of

medical records, together with the use of evidence-based medicine, would bring some immediate productivity gains. So would the expanded use of telemedicine. Beyond that, a more serious overhaul of how we provide health care may be required to realign the incentives of providing quality health care with cost-containment measures.

A similar reform and restructuring approach will need to be applied to education, and not just at the K-12 level. The greatest future quality and productivity gains may occur in higher education, where costs are rising most rapidly but where there are the most opportunities to make greater use of information technology to reduce costs and accelerate learning. As mentioned earlier, studies suggest that after a certain age students learn more effectively with interactive computer programs than they do in standard teacher classrooms. This finding could revolutionize higher education and lower overall tuition costs at American colleges and universities.

### *A Pro-Growth Wage and Asset-Based Incomes Policy*

Except for a few years in the late 1990s, the real wages of most working Americans have stagnated or fallen during the past two decades. Thus, the great majority of income gains from rising productivity have gone to a smaller number of professional workers and to the owners of capital. This uneven distribution of wealth and income from the new abundant economy has begun to constrain future economic growth because it has made the economy more dependent on high-end consumption and because it has forced many households to sustain consumption by taking on more debt.

The new abundant economy with the excess global supply of labor has put downward pressure on wages, even in some sectors not directly subject to international trade. But it has also made it possible to raise wages without setting off inflation and thus to run the economy closer to full employment. In fact, as the late 1990s demonstrate, the best social protection for workers is a full-employment economy. Still, some forms of labor market intervention would also be necessary: measures to increase the

minimum wage and to restrict the immigration of low-skilled workers would help workers at the bottom end and would encourage more productivity-enhancing economic activities. It is also possible to increase the after-tax real wages of working Americans by reducing the payroll tax, which is the largest tax many workers pay, and by replacing the lost revenues with a steeply progressive consumption tax that would hit high-end consumption.

But in the new abundant economy, focusing only on wages will not correct the problem of widening inequality or ensure a broad middle class. In a world of excess labor, there will be limits to wage increases and capital will continue to reap a disproportionate share of the gains from productivity growth. Government policy must therefore also increase asset ownership among working Americans so more Americans enjoy the benefits of capital ownership. Upward mobility to some degree has always depended on one's ability to accumulate a wide range of assets—from buying a home and getting a postsecondary education, to starting a business and securing a nest egg for retirement. But it is even more so in today's economy. It is the combination of both income and asset ownership that enables individuals to take advantage of the

opportunities offered by a prosperous society and dynamic economy.

Yet fully half of all Americans currently have few or no assets. According to Federal Reserve data, the bottom 40 percent of the population owns less than 1 percent of the nation's wealth, while the bottom 60 percent owns less than 5 percent. Regrettably, the asset-building system now in place facilitates wealth creation disproportionately for those households with higher incomes. Of the \$384 billion in federal subsidies for asset-building activities in 2007, \$367 billion comes in the form of tax expenditures, which overwhelmingly benefit families earning more than \$50,000 per year. Lower-income families are offered fewer and less attractive ways to build wealth.<sup>49</sup> They are generally denied tax subsidies for asset accumulation, and indeed are often penalized if they try to do so by asset-owning restrictions on means-tested benefits.

One of the priorities of both U.S. economic and social policy therefore must be to better distribute the benefits of U.S. asset-building policy. A fairer, pro-growth asset-building program would eliminate tax preferences for well-to-do Americans and redirect these tax expenditures to working Americans for purposes of asset accumulation. ■



## Conclusion: The Economics of Abundance

Few nations have ever created prosperity as great and widespread as the United States has over the past century. And few nations have had more experience with the economics of abundance than has the United States. After all, few countries have been as blessed as the United States, with its ample supply of arable land and natural resources and with countries eager to lend it their capital, and no other nation has been more on the cutting edge of the great technology revolutions of the last century, from automobiles to aerospace to information technology than has the United States. Yet few nations have at times had so much trouble with managing economic policy during times of abundance and plenty. Thus, the abundant, high-productivity years of the 1920s gave way to the Great Depression of the 1930s in part because American policymakers did not know how to manage the asset bubble that resulted from the irrational exuberance of the day and in part because they lacked the institutions and perhaps the wisdom to ensure that prosperity became ever more widely shared.

And now, it seems, we are in danger of forgetting the lessons of how this prosperity can be lost through policies meant for a more supply-constrained world. Thus, in both our domestic and international policies, we may be at risk of repeating, albeit on a smaller scale, the mistake an earlier generation made in not understanding the new economic challenges that rapid productivity growth and an abundant supply of labor and capital entail. As this report has tried to show, the biggest obstacle to the unfolding era of prosperity made possible by the productivity-enhancing revolutions of the new economy and by the integration of China, India, and the former Soviet Union into the world economy is not the shortage of capital and the risk of wage and goods inflation, as so many policymakers of both parties seem to believe, but a way of thinking more appropriate to the supply-constrained 1970s and 1980s.

With the right policies and the right growth agenda, a new era of sustained faster economic growth and rising prosperity lies before us. This report has laid out what the agenda should be and the challenges it must meet to realize the full potential of that new abundant economy. Unlike some competing agendas, it does not call for sacrifices where sacrifices are not needed, but it does call for Americans to be true to their hardworking and innovative character and for American policymakers to think more intelligently about how to put America's considerable resources and talents to work to produce a more prosperous world. ■



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## Notes

- <sup>1</sup> Richard Freeman, “China, India, and the Doubling of the Global Labor Force: Who Pays the Price of Globalization?” *The Globalist*, June 23, 2005.
- <sup>2</sup> “A New World Economy,” *Business Week*, August 22, 2005.
- <sup>3</sup> Ibid.
- <sup>4</sup> Ibid.
- <sup>5</sup> Freeman, “China, India, and the Doubling of the Global Labor Force.”
- <sup>6</sup> “From T-shirts to T-bonds,” *The Economist*, July 28, 2005.
- <sup>7</sup> Ibid., n. 6.
- <sup>8</sup> “The Rise of India,” *Business Week*, December 8, 2003.
- <sup>9</sup> Freeman, “China, India, and the Doubling of the Global Labor Force.”
- <sup>10</sup> Data from Morgan Stanley and the International Monetary Fund.
- <sup>11</sup> International Monetary Fund, *World Economic Outlook*, September 2005, chart 2.1.
- <sup>12</sup> Maurice Obstfeld and Kenneth Rogoff, “Global Current Account Imbalances and Exchange Rate Adjustments,” *Brookings Papers on Economic Activity* 1:2005: 67–123.
- <sup>13</sup> Data from Morgan Stanley and the International Monetary Fund, *World Economic Outlook*, September 2005.
- <sup>14</sup> Edmund L. Andrews, “Global Trends May Hinder Effort to Curb U.S. Inflation,” *New York Times*, August 28, 2006.
- <sup>15</sup> “Testimony of Federal Reserve Chairman Alan Greenspan before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate,” February 16, 2005.
- <sup>16</sup> Michael J. Mandel, “Our Hidden Savings,” *Business Week*, January 17, 2005.
- <sup>17</sup> Asian Development Bank, *Key Indicators*, 2005.
- <sup>18</sup> Ibid.
- <sup>19</sup> Jim Jubak, “The New Risk from China: Deflation,” *TheStreet.com*, February 1, 2006.
- <sup>20</sup> The Conference Board and Groningen Growth & Development Center, *Total Economy Database*, January 2006.
- <sup>21</sup> Ibid.
- <sup>22</sup> U.S. Bureau of Labor Statistics.
- <sup>23</sup> Bradford J. DeLong, “Productivity Growth in the 2000s,” in *NBER Macroeconomics Annual*, ed. Mark Gertler and Kenneth S. Rogoff (Cambridge: MIT Press, 2003).
- <sup>24</sup> Ibid.
- <sup>25</sup> Ricardo Bayon, “The Fuel Subsidy We Need,” *Atlantic Monthly*, January/February, 2003.
- <sup>26</sup> Amory Lovins, “Leaner, Greener World,” *Business Week Online*, August 23, 2004.

- <sup>27</sup> Ibid.
- <sup>28</sup> Laurence Ball and Gregory N. Mankiw, “The NAIRU in Theory and Practice,” *Journal of Economic Perspectives* 16 (fall 2002): 115–36.
- <sup>29</sup> Data from the U.S. Bureau of Economic Analysis.
- <sup>30</sup> “New Data Show Extraordinary Jump in Income Concentration in 2004,” Center on Budget and Policy Priorities, July 25, 2006.
- <sup>31</sup> Steven Greenhouse and David Leonhardt, “Real Wages Fail to Match a Rise in Productivity,” *New York Times*, August 28, 2006.
- <sup>32</sup> Dean Baker, “The Housing Bubble Fact Sheet,” Issue Brief, Center for Economic and Policy Research, July 2005).
- <sup>33</sup> “Plutonomy: Buying Luxury, Explaining Global Imbalances,” *The Global Investigator*, October 14, 2005.
- <sup>34</sup> American Society of Civil Engineers, “Report Card for America’s Infrastructure,” 2005.
- <sup>35</sup> S. Derek Turner, “Broadband Reality Check II: The Truth Behind America’s Digital Decline,” Free Press, September 2006.
- <sup>36</sup> David Hale, “Manufacturing Capacity Key Factor in Trade Deficit,” *Chicago Sun-Times*, March 10, 2005.
- <sup>37</sup> “Employment, Hours, and Earnings from the Current Employment Statistics Survey,” U.S. Bureau of Labor Statistics, 2006.
- <sup>38</sup> Hale, “Manufacturing Capacity Key Factor in Trade Deficit.”
- <sup>39</sup> “House of Cards,” *Morning Call Notes*, Merrill Lynch, June 20, 2005.
- <sup>40</sup> “Flow of Funds Accounts of the United States,” Board of Governors of the Federal Reserve System, September 26, 2006.
- <sup>41</sup> Release on Household Debt, Federal Reserve, Second Quarter, 2006.
- <sup>42</sup> “House of Cards.”
- <sup>43</sup> David Aschauer, “Is Public Expenditure Productive?” *Journal of Monetary Economics* 23 (1989): 177–200.
- <sup>44</sup> “Comparative International Statistics,” U.S. Census Bureau Statistical Abstract of the United States, 2006.
- <sup>45</sup> “Report Card for America’s Infrastructure.”
- <sup>46</sup> For a summary of the project, see William Greider, “Economics 2004,” *The Nation*, January 26, 2004.
- <sup>47</sup> See Joel Kotkin and Delore Zimmerman, *Rebuilding America’s Productive Economy: A Heartland Development Strategy*, New America Foundation, 2006.
- <sup>48</sup> College Board, “Trends in College Pricing” 2005.
- <sup>49</sup> Reid Cramer, Leslie Parrish, and Ray Boshara, “The Assets Report 2006: A Review, Assessment, and Forecast of Federal Assets Policy” (Washington, D.C.: New America Foundation, February 2006).





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