

EXHIBIT 1. **Strength in Numbers**

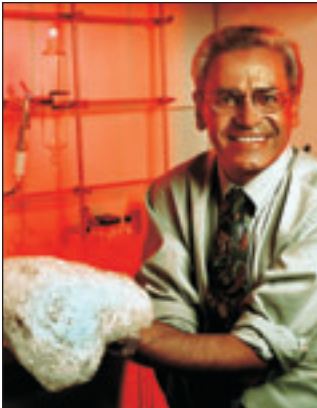
Annual GDP, Consumption and Defense Spending per Capita

Years	Period	Real GDP	Real defense spending	Real consumption
1776	Revolutionary War	\$ 1,449	n.a.	n.a.
1917–19	World War I	\$ 6,039	\$ 538	\$ 5,425
1941–45	World War II	\$ 11,724	\$ 3,381	\$ 6,213
2000	Today	\$ 34,996	\$ 1,050	\$ 23,743

All amounts in 2000 dollars.



America fought World War II on an average annual gross domestic product of \$1.6 trillion (measured in today's dollars). Today's economy—a \$10 trillion behemoth—is more than six times larger. Scaling the view down to the personal level, our GDP per capita is three times that of 1941–45, and per capita consumption is 3.8 times greater. The nation has far more economic muscle with which to safeguard its citizens.



Scientists at Sandia National Laboratories have developed a nontoxic foam for neutralizing chemical and biological agents such as anthrax.

A Resilient Economy

Every day, 135 million Americans report to work, striving to improve their living standards. Every day, 285 million U.S. consumers determine the pattern of employment and production through their spending on goods and services.

Americans make up just 5 percent of the world's population, but our \$10 trillion economy accounts for a quarter of global output. We own, consume and make more of nearly everything—from cars and houses to movies and sports events. We're among the world's leaders in just about every cutting-edge technology. We're the world's greatest trading nation—the biggest importer and the top exporter.

U.S. industrial production is six times larger than in 1950. Total output has expanded more than fivefold. So has the capital stock—a measure of the economy's capacity to produce goods and services.

It's foolhardy to pick a fight with a rich nation. The greater the economic power, the more a nation can sacrifice to fight its enemies while still attending to the needs and wants of its population.

The U.S. economy had a per capita income of \$34,996 in 2000. In the 1940s, the nation fought and won World War II, against a powerful, fully armed enemy, with just a third of today's economic power—\$11,724 per person, as measured in constant dollars. (*See Exhibit 1.*) Fighting the war against terrorism will cost billions of dollars. But with its huge economy, the United States can afford the tab.

Annual defense spending per capita during World War II was an inflation-adjusted \$3,381—or 29 percent of the nation's total production. Today, each American's share of the defense budget comes to \$1,050, just 3 percent of our total output. Military spending will go up over the next few years, but the country will still live comfortably while confronting its

EXHIBIT 2. **Strength in Diversification**
A Broader Economy

	Percentage of GDP	
	1947	2000
Manufacturing	28.5	16.0
Retail trade	11.4	7.9
Agriculture	8.3	1.2
Federal government	8.2	3.4
Real estate	7.2	9.9
Transportation	5.7	2.8
State and local government	4.0	7.3
Construction	3.7	4.1
Mining	2.7	1.1
Electric, gas and sanitary services	1.5	2.0
Health services	1.5	4.8
Communications	1.3	2.5
Banking and finance	1.3	5.2
Insurance	1.0	2.1
Other	13.7	29.7



Since its founding, the nation has experienced numerous swings in economic activity. In the predominantly agrarian 1800s—even as late as the Dust Bowl era of the 1930s—weather conditions alone could alter the course of GDP. As America industrialized, farming became less dominant, and manufacturing grew in importance to sometimes balance (and other times amplify) agriculture’s cycle. Over time, factory output grew dominant and put its own stamp on GDP. As recently as 1947, manufacturing, retail trade and agriculture made up nearly half of GDP, together exerting a large influence on the business cycle.



America’s transportation sector accounts for just 2.8 percent of aggregate output—compared with 5.7 percent in 1947—0.8 percent being transportation by air. The economy works continuously to become more stable by developing substitute means of production and consumption—as it has, for example, with travel and transportation. The availability of road and rail transport helped soften the blow to the overall economy when U.S. air traffic was hard-hit after the terrorist attacks.

enemies. One way to look at it: The nation could *double* its military budget with just one year’s economic growth.

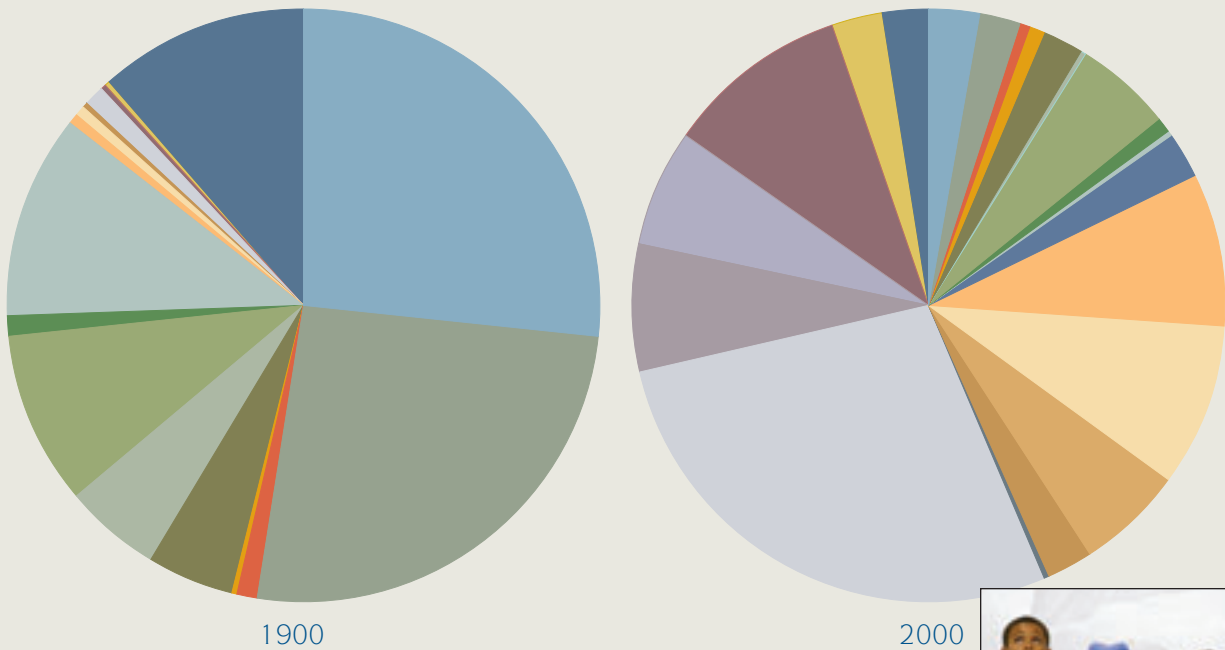
Throughout history, world powers have fallen because their economy couldn’t support their military. The latest, of course, was the Soviet Union, whose inefficient socialist economy couldn’t keep pace with the Cold War spending of the United States.

Guns or butter? Yesterday’s economic lessons focused on the consumer hardship caused when military spending sapped production of civilian goods and services. As the wealthiest nation in history, we have the ability to produce both guns *and* butter.

The U.S. economy hasn’t only grown larger. It’s also become more diversified. In 1947, three sectors—manufacturing, retail trade and agriculture—made up nearly half the U.S. economy. Over the past half-century, those industries have shrunk to a quarter of output. At the same time, the economic pie has expanded with the birth of whole new industries—such as computers and biotechnology—that add more to the mix. (*See Exhibit 2.*) Transportation now makes up less than 3 percent of total output. The airline industry, one of the

Today these sectors make up but a quarter of output. We’ve also developed numerous new sectors—such as computers, the Internet and biotechnology—and expanded yesterday’s small ones—entertainment and health services, for example—thereby diversifying and stabilizing output.

EXHIBIT 3. **We Are the World**
Foreign-Born Population in the United States



- Key**
- Canada
 - British Isles
 - Germany
 - France
 - Portugal and Spain
 - Southern Europe
 - Austria and Switzerland
 - Eastern Europe
 - Europe (not elsewhere classified)
 - Scandinavia
 - Africa
 - Eastern Asia
 - South Eastern Asia
 - South Central Asia
 - Asia (not elsewhere classified)
 - Australia, New Zealand and Pacific Islands
 - Mexico
 - Other Central America
 - South America
 - Caribbean
 - Region or country not reported

sectors hardest hit after the terrorist attacks, accounts for less than 1 percent of the economy.

America’s employment base shows a similar increase in breadth. The 15 most common occupations, including farming and carpentry, made up two-thirds of all employment in 1900. Today, the top 15 jobs include computer operators and engineers, but together these jobs account for less than a third of all employment.

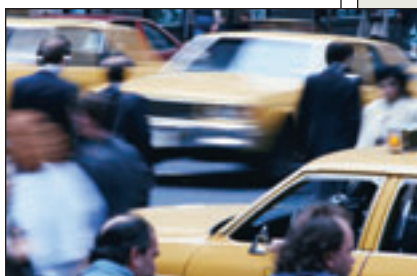
When it comes to personal investing, financial gurus preach diversification as a way to reduce risk. What’s good for investors is good for nations as well. In today’s economy, jobs are spread more evenly among a wide variety of industries, none of them overly dominant. Trouble in one or two sectors doesn’t create waves that swamp the economy as a whole.

Our immigrant population has become more varied along with our economy. In 1900, during an earlier wave of newcomers, more than half the foreign-born came from two countries, the United Kingdom and Germany. Now, as then, America’s prosperity, openness and freedom are magnets for people from other nations. But today’s foreign-born population comes from almost every part of the globe. (*See Exhibit 3.*) We are the world.

Immigration opponents might worry that we’re inviting potential enemies into the country. America, though, has grown



America is largely a nation of immigrants, or descendants thereof. Our strength lies not only in the size and diversification of our economy but also in the diversity of our people. A hundred and fifty years ago, immigrants from the British Isles and Germany made up more than 80 percent of our melting pot. In 1900, that figure was still more than half. Today, the scope of America’s foreign-born population gives much of the human race an interest in our well-being. Spoken by such a great variety of people, the words “I am an American” resonate strongly around the world.



In 2001, two of America's greatest cities—New York and Washington—came under attack. More than 3,000 lives were lost, and a substantial amount of property was destroyed. At one time, targeting such major population centers would have crippled the United States. But the growth of new centers from border to border and coast to coast gives us strength in numbers.

EXHIBIT 4. **Border to Border, Coast to Coast**
More Population Centers,
Spread Out Nationally

MSA population	1950	1970	2000
1,000,000+	12	33	50
500,000+	25	65	82
250,000+	49	125	147
100,000+	119	217	260
50,000+	157	243	280
Rural population	54,478,981	53,886,996	52,229,070

rich and powerful as a nation of immigrants who create human bridges to other nations. People from other parts of the world can learn firsthand about us, and we can learn about them.

We're more decentralized as well as more diverse. With each decade, America's population has dispersed across the continent, evening out the distribution of economic activity and thereby making the country less vulnerable to disruption.

In 2000, the United States had 50 metropolitan statistical areas (MSAs) of more than 1 million. In 1950, we had just 12. The number of MSAs with 100,000 people rose from 119 to 260 over those five decades. The decentralization makes it harder to cripple the nation. *(See Exhibit 4.)*

The rise of new population centers has been accompanied by a dispersal of economic activity. In 1950, a narrow swath of the country—from New England through the Great Lakes—produced 55 percent of the nation's income. By 2000, the region was down to 41 percent. Over the past 50 years, jobs and businesses spread south and west, with the sprawling Sunbelt rising from 36 percent of income to 53 percent.

Decentralization isn't only a matter of geography. Our transportation assets are widely distributed, with interstate highways crisscrossing the country, north to south, east to west. The number of interstate highway miles jumped from 32,000 in 1970 to 46,000 today. All told, we have nearly 4 million miles of roads.

Seeing interstates as security as well as economic assets isn't new. The system, designed in the 1950s, gave us a way to move military personnel and equipment and evacuate cities. It even provided a place for emergency aircraft landings. Just over a decade later, national security gave the impe-



In 1950, America had only 12 MSAs of 1 million people or more. Today we have 50, including such recent arrivals as Phoenix, Atlanta, Denver, Miami, Dallas and San Diego. The rural population has remained essentially the same since 1950.



The Fed's Response

The Federal Reserve moved quickly to help keep the nation's financial and payments systems running smoothly after the September 11 attacks. Among the actions the Fed took:

- The New York Trading Desk injected an unusual amount of liquidity into the economy through repurchase agreements, called *repos*.
- The Fed lent money directly to banks through the discount window. The \$45 billion in discount loans outstanding on Wednesday, September 12, dwarfed the \$59 million average of the previous 10 Wednesdays.
- The Federal Reserve—along with the comptroller of the currency—urged banks to work with customers affected by the events. The Fed stood ready

with additional funds to assist in restructuring loans.

- Because the grounding of aircraft prevented the timely clearing of checks, the Federal Reserve extended almost \$23 billion in check float on September 12—about 30 times the average float over each of the previous 10 Wednesdays.
- The Fed established or extended swap lines with foreign central banks. Such arrangements enable central banks to temporarily exchange currencies to meet liquidity needs in foreign currencies. For example, the Fed and the European Central Bank agreed on an arrangement that allowed the ECB to draw up to \$50 billion in dollar-denominated deposits in exchange for an equivalent amount in euro.

The dollar deposits were available to European banks whose U.S. operations were affected by the events of September 11.

- The Federal Open Market Committee reduced the federal funds rate target by half a percentage point, to 3 percent, on Monday, September 17, just before the New York Stock Exchange reopened. The Fed's action was seen as an effort to boost confidence in the economy. In announcing the rate cut, the Fed noted that it

would continue to supply unusually large volumes of liquidity to the financial markets “until more normal market functioning is restored.”

Deposits at Federal Reserve Banks give us a picture of the liquidity pumped into the economy. On September 12, deposits totaled nearly \$103 billion, more than five times the average of the previous 10 Wednesdays.

Adapted from C.J. Neely, “September 11, 2001,” *Monetary Trends*, Federal Reserve Bank of St. Louis, November 2001.

A Monetary Snapshot

	Repos	Discount window lending	Float	Deposits at Federal Reserve Banks
Wednesday averages 7/4–9/5/01	\$27,298	\$ 59	\$ 720	\$ 19,009
9/12/01	\$61,005	\$45,528	\$22,929	\$102,704
9/19/01	\$39,600	\$ 2,587	\$ 2,345	\$ 13,169

Millions of dollars

tus to what would become the Internet, a worldwide information network that's everywhere, with no central location.

Like diversification, decentralization strengthens the economy by making it less vulnerable to major disruptions. Even with much of New York, a key financial center, hobbled after September 11, only a tiny portion of America's economic assets were out of commission. Most disruptions were brief. We benefited not only from backup and emergency systems but also from the know-how to get commerce up and running again.

As it turned out, we received an unintended dividend from the intensive preparations for Y2K, when, many experts warned, a software glitch could shut down computers at the start of the new millennium. Valuable knowledge, once acquired, wasn't lost. Our open, competitive system put it to good use in reducing the economy's vulnerability to shock.

Financial markets functioned well in a time of crisis, providing a virtually uninterrupted flow of money and credit. The Federal Reserve did its part by settling accounts and bolstering confidence, keeping the payments system working smoothly. (See “*The Fed's Response*.”)

Our banking system found strength in redundancy. Commerce is less likely to grind to a halt in a crisis because we've developed ready alternatives to trips to the bank. The nation now operates 273,000 automated-teller machines, offering



EXHIBIT 5. **A Wealth of Resources**
Our National Infrastructure



The nation's infrastructure is constantly growing, as businesses seek profit and government invests in public projects. The United States has nearly 4 million miles of roads and highways, more than 590,000 bridges and 77,000 dams, over 19,000 airports and nearly 12,000 utility companies. Natural gas pipelines have almost doubled since 1970 and now crisscross more than 2 million miles.

	1970	Current
Miles of interstate highway	32,000	46,000
Miles of public road	3,730,082	3,932,017
Number of dams	48,000	77,400
Number of bridges	571,936	590,153
Square miles of inland water area	138,319	138,989
Number of airports	11,261	19,098
Miles of fiber-optic cable	0	39,000,000
Number of utility companies	6,256	11,662
Number of cellular sites	0	114,059
Number of cellular towers	0	104,000
Number of Internet web sites	0	31,299,592
Number of web hosts	13	109,574,429
Number of U.S. satellites in orbit	n.a.	700
Number of ATM terminals	1	273,000
Miles of petroleum pipeline	176,000	157,000
Miles of natural gas pipeline	1,121,178	2,039,173

access to cash 24 hours a day. In 1970, the main office of Chemical Bank in New York had the country's only ATM, so customers of other banks had to conduct their business during office hours. (See Exhibit 5.)

We can continue spending with less cash in our pockets. Just 16 percent of American families had a general-purpose credit card in 1970. Today, nearly 70 percent do. On top of that, the number of point-of-sale terminals, which process transactions without cash, jumped to nearly 2.4 million in 2000, up from 53,000 a decade ago.

All across the economy, we have more than the bare minimum of what we need.

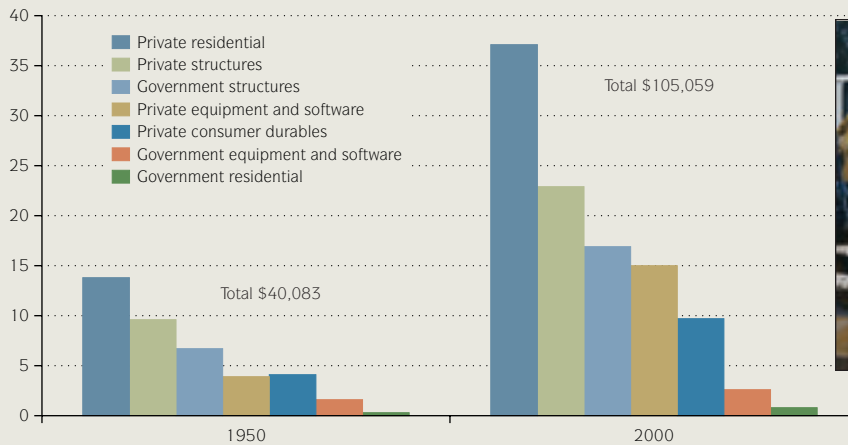
Until the early 1970s, delivering messages usually involved one of two means of communication—a telephone monopoly or the U.S. Postal Service. In today's economy, the channels are proliferating. In the past two decades, an innovative marketplace has added fax machines, electronic mail, Internet chat rooms and wireless handheld devices. We have a multitude of choices for telecommunications services. Business is booming for private alternatives to the post office—such as FedEx Corp.—that provide door-to-door service.



In 1970 we had no fiber-optic cable in place, no cellular sites or towers, no Internet sites, one lone ATM, no point-of-sale terminals and only a handful of satellites. Today these tools abound, making commerce easier, faster and more reliable.

Capital Stock per Person

2000 dollars (in thousands)



One measure of national wealth is the stock of real capital—residential and commercial buildings, dams, roads and bridges, factories, equipment and software, consumer durables and the like. At \$105,059, our stock of real capital per person is more than 2.5 times greater than in 1950.



The largest component of real wealth is our housing stock, at over \$37,000 per person (an average of nearly \$150,000 for a family of four). The fastest growing component of our capital stock is private equipment and software, which increased more than sevenfold over the past half century, nearly fourfold per capita.

Television also employs a growing variety of delivery systems. In addition to the traditional broadcasting towers, signals arrive in our homes via cable, satellite and computer modem. Satellite radio, introduced in 2001, offers listeners myriad news, weather, sports and music stations and reliable service no matter where they travel.

A telephone in the pocket or purse has become an everyday convenience, with 128 million Americans owning cell phones. The number is continuing to rise rapidly as many of us seek the peace of mind that comes with portable communications. A cell phone is no longer a pricey luxury. The average bill fell from an inflation-adjusted \$160 a month in 1985 to \$46 in 2001.

With landlines in parts of Manhattan out of commission or inaccessible, cell phones gave those affected by the World Trade Center attack a way to reach out to family and friends. Many New York City firms turned exclusively to mobile communications to conduct business.

Overlapping and competing systems provide the protection of redundancy. If one method or location fails, substitutes can keep the wheels of commerce turning.

Our infrastructure runs deeper and broader than ever. Since 1970, the miles of natural gas pipelines have nearly doubled, as has the number of electric utility companies. The number of airports has nearly doubled since 1970 to 19,098, with more flights providing options for travelers. Nearly 40 million miles of fiber-optic cable stitch the nation together. In the heavens above, 700 U.S. satellites provide a mobile communications infrastructure impervious to attack from all but the most advanced nations.

The greater a nation's capital stock, the greater its capacity to produce and to endure loss. In 2000, the value of the nation's capital stock reached a record \$30 trillion, five times 1950's level, measured in constant dollars. As devastating as the property loss was on September 11, it represents just 0.05 percent of national real wealth.

