

Employment outlook: 2004-14

The U.S. economy to 2014

The economy is expected to expand at a steady pace over the coming decade, while inflation will remain restrained and productivity growth will remain strong

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Under the assumptions used by the Bureau of Labor Statistics in developing projections of the economy, gross domestic product (GDP) is expected to reach \$14.7 trillion in chained 2000 dollars by 2014, an increase of \$3.9 trillion over the 2004–14 projections span. This translates to an average annual rate of growth for real GDP of 3.1 percent, 0.1 percentage point lower than the historical rate of 3.2 percent from 1994 to 2004. A slowing in the growth of civilian household employment, from 1.2 percent a year during the 1994–2004 period to 1.0 percent annually between 2004 and 2014, is expected to result in an increase of almost 15 million employed persons over the projection horizon, about 1.5 million less than what was noted across the 1994–2004 decade. The unemployment rate is expected to slow down to 5.0 percent in 2014—0.5 percentage point lower than that in 2004.

Following an almost unprecedented decade-long expansion, the U.S. economy began to slow during 2000 and entered a relatively short-lived recession spanning March to November of 2001. A number of factors helped push the economy into the 2001 recession, including shocks to investment by businesses and households and the unexpected declines in real net exports in 2000, which likely exacerbated the shock to the capital goods sector. After the trough in the fall of 2001, the economy grew modestly through 2002 and for much of 2003, but kicked into higher gear in 2004. Despite sharp increases in oil prices, real GDP grew at a solid annual rate of 4.2 percent in 2004. This recovery has been led by strong growth in consumer spending accompanied by robust housing activity. Business investment lagged behind its pace in prior

recoveries until 2004, when an inventory buildup and an upturn in equipment and software purchases allowed this component of GDP to contribute to a strengthening recovery.

For more than a decade, the United States has grown increasingly dependent on imported goods. However, growth of U.S. exports has not kept pace over the period, leading the current account balance—the broadest measure of international trade and financial flows—to hit a record deficit in 2004, rising to 5.6 percent of GDP in that year. Additionally, the costs of military operations in Iraq and Afghanistan, along with homeland security expenses, have pushed the Federal budget to a record deficit of \$407 billion in 2004.

During the 2001–04 period, inflation has been virtually non-existent until the 2004 run-up in oil prices. However, interest rates are still low by historical standards, even though the Federal Reserve initiated a campaign to tighten interest rates in June 2003. Over this same period, labor productivity has continued to increase strongly, continuing the productivity growth of the last 5 years of the 1990s. Employment growth has been slower than it has usually been in expansions, but employment has generally trended upward since September 2003.

This article focuses on projected trends in aggregate economic growth for the 10-year period from 2004 to 2014, and sets the stage for BLS projections of detailed industry and occupational employment. It first examines the macroeconomic model used to develop the projections, along with the major underlying assumptions necessary to generate solutions with that model. It then presents a detailed look at the projections of the aggregate

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demand categories of GDP. This article also discusses the Bureau's expectations for the GDP growth of income, labor productivity, and employment. The last section briefly addresses a BLS sensitivity study. The projections are described in the context of trends covering the 2004–14 period and based on apparent economic relationships over the past 20 years of economic growth and development.

The macroeconomic model

The aggregate economic projections presented in this article have been developed in the context of the macroeconomic model provided by Macroeconomic Advisers, LLC, a St. Louis, MO, based forecasting group.¹ The company's quarterly model comprises 609 variables descriptive of the U.S.

economy, of which 169 are exogenous assumptions—variables whose values must be provided to the model in order to calculate a solution for a given period of time. Among the 169 exogenous variables, only a relatively small number significantly affect the long-term projections of the value of GDP and its demand makeup, as well as the level of employment necessary to produce that GDP. Included in the list of critical assumptions are monetary and fiscal policies and population growth and demographics. The key assumptions are listed in table 1.

In addition, the projections are generally prepared with selected critical results, such as the inflation rate, the level of the unemployment rate, the labor productivity growth rate, and foreign trade assumptions, which are much more carefully evaluated than other variables in the model. Setting a

Table 1. Major assumptions affecting aggregate projections, 1984, 1994, 2004, and projected 2014

Exogenous variables	Billions of chained 2000 dollars (unless noted)				Average annual rate of change		
	1984	1994	2004	2014	1984–94	1994–2004	2004–14
Monetary policy related:							
Federal funds rate (percent)	10.23	4.20	1.35	4.50	-8.5	-10.7	12.8
Excess reserves (billions of dollars) .....	.67	1.07	1.62	2.50	4.8	4.2	4.4
Ninety-day Treasury bill rate (percent)	9.52	4.25	1.37	4.14	-7.8	-10.7	11.7
Yields on 10-year Treasury notes (percent)	12.44	7.08	4.27	5.29	-5.5	-4.9	2.2
Fiscal policy, tax-related:							
Effective Federal marginal tax rate on wages and salaries (percent)	25.9	21.8	21.4	21.4	-1.7	-2	.0
Effective Federal marginal tax rate on interest income (percent)	26.0	23.4	23.0	23.0	-1.0	-2	.0
Effective Federal marginal tax rate on dividend income (percent)	33.9	26.4	24.5	22.5	-2.5	-7	-8
Effective Federal marginal tax rate on capital gains (percent)	37.9	24.7	15.0	15.0	-4.2	-4.9	.0
Maximum Federal corporate rate (percent)	46.0	35.0	35.0	35.0	-2.7	.0	.0
Government outlays-related:							
Defense consumption, other	122.3	118.9	204.1	222.8	-.3	5.6	.9
Defense gross investment expenditures	50.4	53.8	68.5	73.2	.7	2.4	.7
Nondefense consumption, other	41.7	57.9	90.8	78.3	3.3	4.6	-1.5
Nondefense gross investment expenditures ...	17.7	25.2	33.5	31.7	3.6	2.9	-6
Federal transfer payments to persons, other .	85.9	118.9	174.4	172.8	3.3	3.9	-1
Federal grants-in-aid to State and local governments, Medicaid	42.0	96.9	156.5	165.6	8.7	4.9	.6
Federal grants-in-aid to State and local governments, other	86.5	103.1	157.5	172.5	1.8	4.3	.9
Energy-related:							
Refiners' acquisition cost of imported oil (nominal dollars per barrel)	28.87	15.41	35.89	33.40	-6.1	8.8	-7
Domestic share of U.S. crude oil acquisitions (as percentage of total acquisitions)	72.2	48.5	36.1	30.3	-3.9	-2.9	-1.7
Domestic oil product	38.5	32.8	29.6	27.9	-1.6	-1.0	-6
Demographic-related:							
Total population including overseas Armed Forces (in millions)	236.1	260.6	294.1	321.0	1.0	.9	.9
Population aged 16 and older (in millions)	176.4	196.8	223.4	247.2	1.1	1.3	1.0

SOURCE: Historical data, Federal Reserve Board, Bureau of Economic Analysis, Energy Information Administration, Census Bureau; projected data, Bureau of Labor Statistics, Energy Information Administration, Census Bureau.

preliminary target value for those key variables helps BLS analysts define the parameters around which the aggregate projections are developed.

Major model assumptions

Monetary policy assumptions. Between 2001 and 2003, the Federal Reserve Board cut the Federal funds rate 13 times, from a high of 6.5 percent to a 46-year low of 1 percent. The purpose of this almost unprecedented number of interest rate cuts was to fight the effects of the 2001 recession, the 9/11 terrorist attacks, the impacts of two wars, and the prolonged slow recovery of labor markets following the 2001 recession. Beginning in 2004, after the economy had enjoyed almost 10 years of economic expansion, accompanied by several straight months of job growth, the Federal Reserve shifted its monetary policy stance from “loose” to “neutral”—a hypothetical level that neither stimulates nor impedes growth. The Federal Reserve has raised the funds rate 12 times, in .25-basis point increments, since late June 2004. This policy allowed the Federal Reserve to raise the rate from 1 percent to 4 percent—the highest level in 4 years—so that it could slow growth just enough to forestall inflation. Over the longer term, BLS has assumed that the Federal Reserve will continue to tighten slowly the Federal funds rate, reaching a rate of 4.5 percent by 2014, a level consistent with moderately strong trend growth and stable inflation. Other interest rates in the economy are expected to move as the overall term structure of rates has dictated in the past.

Inflation assumptions. Inflation slowed significantly during the 1990s and continued to grow very slowly until mid-2004. Since then, it has begun to show signs of acceleration, primarily in response to rising energy costs. The increase in interest rates by the Federal Reserve so far has managed to hold down demand-driven inflation, which might otherwise have accompanied the moderately robust economic growth over the recovery from the 2001 recession. Even with higher oil prices, a supply-based phenomenon, the economy has not yet seen major increases in the core rate of inflation² and, over the longer term, BLS has assumed that the Federal Reserve’s monetary actions will continue to keep inflation within reasonable bounds. Based on the Bureau’s projections, the rate of inflation as measured by the chain-weighted GDP price index, is expected to grow at an average of 1.8 percent per year over the projection horizon, the same rate as that during the preceding 10 years.

Fiscal policy assumptions I: tax rates. In 2004, current dollar receipts of the Federal Government amounted to 16.5 percent of nominal GDP, whereas current dollar expenditures accounted for 19.7 percent. This has led to a Federal budget deficit of \$407 billion in 2004—a historically high level and accounting for 3.5

percent of nominal GDP. There is broad agreement that a debt ratio of this magnitude sustained over the long run would have a dampening effect on the growth potential in the U.S. economy. In light of this, the Bureau has assumed that no further cuts in marginal tax rates are likely to take place by 2014.³ As incomes continue to grow and as defense expenditures are assumed to grow somewhat less rapidly in the coming decade, the effect of these assumptions could pull the growth of Federal revenues above growth in expenditures once again, thus reducing (but not totally doing away with) the Federal budget deficit. Under these assumptions, the debt ratio falls to 1.0 percent by 2014, a considerably more sustainable level over the longer run.

Fiscal policy assumptions II: spending. The impacts of the Afghanistan and Iraqi wars and the costs of developing, funding, and deploying an effective homeland defense organization have served to push Federal defense spending sharply higher in 2004. The Defense Department’s current budget plan for the next 7 years embodies higher funding levels for defense spending than in any year since 1980. The defense budget has been designed to support the war on global terrorism, to restructure America’s Armed Forces, to develop a global defense posture, to field advanced war fighting capabilities, and to care for U.S. military and civilian personnel.⁴ On the basis of the Defense Department’s estimates of spending needs, the Bureau has assumed that after 2011, real defense spending will remain close to the level attained in 2011 for the entire decade of the projections, but that very little real growth in defense programs will take place. On the nondefense spending side of the accounts, Federal employment and spending on Federal programs has been assumed to continue a long, slow slide, declining in real terms at a –0.6-percent annual rate.

As a result of the assumptions regarding both revenue collection and spending, the budget deficit is expected to decline from the \$407-billion level in 2004 to a deficit of \$189 billion in 2014, accounting for 1 percent of nominal GDP and placing a much less noticeable strain on potential economic growth.

Demographic assumptions. Demographic factors play a key role in determining growth potential of the economy over the medium- to long-term. The Bureau’s assumptions in this area are based on the Census Bureau’s middle-series population projections published in 2003.⁵ The Census projections show the U.S. population expanding at an annual rate of 0.9 percent between 2004 and 2014, and attaining a level of 321.0 million. Expected growth in the older age cohorts will be considerably stronger than those in the past, as the baby-boom generation ages. The leading edge of their cohort will reach age 65 in 2011. This “graying” of the baby boomers will have a variety of interesting impacts on the labor force and on labor force

participation rates. BLS prepares labor force and participation rate projections for detailed age-sex-race-ethnicity groups and those estimates are presented elsewhere in this issue.⁶ The aggregate economic projections make use of aggregations of those more detailed projections. Overall, the Bureau expects the labor force to grow from 147.4 million in 2004 to 162.1 million in 2014, an annual growth rate of approximately 1.0 percent.

Oil price assumptions. Over the past decade, the U.S. average refiner's acquisition cost for imported crude oil averaged around \$20.00 per barrel in current dollars. Since late 2001, however, prices have been increasing sharply. As a result of surging worldwide demand, led by the United States, China, and India, along with international concern over potential supply shortages as a result of Middle Eastern unrest, U.S. crude oil prices jumped to \$56 per barrel in 2004. Oil prices surged by more than \$60 per barrel during the summer of 2005, as fears of tight petroleum markets and limited refining capacity worked through the international pricing system. Lately, prices once hit record highs of more than \$70 per barrel in the wake of the devastation caused by Hurricane Katrina in the Gulf region, where many oil refineries, oil transportation operations, and drilling platforms are located.

The crucial question is whether these latest oil price shocks will have any staying power. Long-term higher oil prices will have undeniable impacts on many sectors of the U.S. economy. In the aggregate economic model, the level of GDP determines the level of energy demanded by the economy. Higher crude oil prices can moderate demand for energy, but can also call forth higher levels of domestic production, as higher levels of secondary oil reclamation become feasible at those higher prices. The portion of energy demand not met by domestic production is, by assumption, met by imports of crude petroleum. Over the longer run, therefore, crude oil price increases can actually lower U.S. dependence on foreign oil, but at what cost? Oil price assumptions used by BLS are drawn from the annual energy projections developed by the U.S. Department of Energy. Under the assumption that there will be no further OPEC shocks, the world oil price has been projected to decline from the high in 2004 to about \$33 per barrel in current dollars by 2014.⁷

Unemployment rate and inflation. As a result of the 2001 recession, the unemployment rate rose from 4.0 percent in 2000 to 6.0 percent in 2003. Although employment recovery has been slower than production growth, the unemployment rate has been slowly returning to lower levels, dropping to 5.5 percent in 2004 and further declining to 4.9 percent by August 2005. The generally accepted notion about the relationship between lowering unemployment and increasing upward pressures on inflation is that as long as the actual unemployment rate does not fall below the so-called non-accelerating inflation rate of unemployment (NAIRU), then potential tight labor market impacts on inflation will be minimized. The difficulty has always been to come up with a reasonable estimate for what the NAIRU actually is.⁸

A low steady rate of inflation is not only expected, but also desirable, and BLS has assumed that the unemployment rate will be in the 4.5- to 5.0-percent range throughout the projection period, thus removing unemployment as an exacerbating factor for inflation.

Productivity assumptions. Growth in potential GDP depends on the rate of growth of the labor force, on the rate of growth of capital, and on improvements in labor productivity. Productivity is the critical component for rising living standards. Generally, during past recessionary periods, labor productivity has fallen since demand declines typically occur faster than businesses can shed employees. Surprisingly, during the 2001 recession, productivity continued to grow quite strongly right through the cyclical downturn and well into the recovery from that downturn, contributing significantly to the relative "joblessness" of the recovery. Having risen at about a 2.5-percent annual rate of growth in the latter half of the 1990s (in itself a significant improvement in growth from the 1970s and 1980s), labor productivity has accelerated to a robust 4.2-percent growth annually in the past 3 years. Improved technology, large corporate mergers, increasing globalization of both markets and suppliers, and domestic job cuts have all contributed to the back-to-back gains in productivity growth.

It is unclear to what extent this continued rise is due to: unusual cyclical factors or an underlying structural change in productivity.⁹ What is clear though is that productivity growth is one of the critical influences on long-term growth potential and increases in living standards. In the 2014 projections, BLS has assumed that productivity growth will slow somewhat from the current high rates of growth, but will remain strong, compared with longer run historical standards. The expectation is that productivity will grow 2.7 percent, on average, over the 10-year projection horizon, which in turn reflects assumptions regarding strong equipment investment growth and continuing growth in the quality of computers and software.

Foreign trade assumptions. The trade deficit has widened and the current account deficit has deteriorated significantly in recent years. U.S. consumers continue to manifest high levels of demand for a wide range of manufactured goods that have been made in the United States in smaller quantities over the years. While exports of U.S. products to the rest of the world remains strong, they have been growing less rapidly than have U.S. imports for the past decade or so. The Bureau's projection assumptions contemplate a much narrower trade deficit by 2014, as compared with previous BLS projections.¹⁰ The dollar will have to depreciate steadily against foreign currencies in order to slow the growth in the U.S. current account deficit.¹¹ Over the projection period, BLS has assumed that the trade-weighted exchange rate will continue to depreciate by 22.7 percent between 2004 and 2014. Net exports (exports minus imports) are expected

to be –\$380 billion in real terms, a 2.6-percent share of GDP and down from the 2004 deficit share of 5.6 percent.

GDP from the demand side

Following very strong growth over the latter half of the 1990s, U.S. economic performance slowed in 2000 and tipped into a recession in 2001. During the 3-year period ending in mid-2003—a period including the bursting of the high-tech bubble, the terrorist attacks of 9/11, significant losses of stock market wealth, the continuing reports of corporate accounting scandals, and the wars in Iraq and Afghanistan—the economy struggled with below-trend growth, accompanied by a rising unemployment rate. During this period, consumer spending was moderate, inventory accumulation was slow, business investment was sluggish, foreign trade deficits were widening, and only defense spending was growing with any real strength.

Following the second quarter of 2003, the U.S. economy once again began to grow more strongly, buoyed by Federal tax cuts, gains in household wealth, and growing optimism about the pace of business investment as well as continued strength in corporate profits. With real GDP growth at an average rate of 4.2 percent in 2004, it was sufficient to generate employment growth. As mentioned earlier, over the long term, real GDP is projected to grow at an average annual rate of 3.1 percent per year over the 2004–14 span. (See table 2.)

Personal consumption expenditures. Personal consumption spending, the largest component of sales to final users, accounts for two-thirds of GDP. From the 1960s through the mid-1990s, the growth of consumer spending reflected the interaction of many factors that influenced consumer purchasing decisions. Among those factors, the most

important were: increasing family affluence, shifting demographic characteristics, technological innovations, and changing tastes and lifestyles. Affected by the wave of baby boomers moving into their prime earning years, nominal consumer spending increased as a share of GDP from slightly more than 62 percent in 1974 to almost 64 percent in 1984 and more than 67 percent by 1994. (See table 3.) Rising disposable family income during that period supplied the resources necessary to support the expansion in consumption. Once the baby-boom consumers had reached their peak earning years, the increases in family income slowed somewhat. However, consumers continued to maintain very high levels of consumption. As a result, much of the continued consumer spending seen in the 1990s came at the expense of personal saving. The personal savings rate dropped from an average of 10.0 percent of disposable income high over the 1974–84 period to 4.8 percent by 1994. (See table 4.)

Buoyed by a tight job market, steady incomes, low interest rates, low inflation, and sharply increasing wealth from rising asset prices, consumer spending accelerated at a fast pace over the last 4 years of the 20th century, growing by 4.6 percent yearly from 1996 to 2000. Mirroring the expansion in consumption, the personal savings rate continued to drop, reaching 2.3 percent by 2000. The decline was in part due to rising consumer spending as a proportion of disposable income, but it was also due to perceived wealth effects of a soaring stock market, a phenomenon which is not adequately captured by the savings rate statistic.

Despite a series of shocks beginning in late 2000 through 2003, consumers continued to spend at a moderate pace and this, which many economists believe, could have attributed to keeping the downturn significantly milder than it could have been. Gains from Federal tax cuts and low mortgage

Table 2. Real gross domestic product by major demand category, 1984, 1994, 2004, and projected 2014

Category	Billions of chained 2000 dollars			Average annual rate of change				Contribution to percent change in real GDP		
	1984	1994	2004	2014	1984–94	1994–2004	2004–14	1984–94	1994–2004	2004–14
Gross domestic product	\$5,813.6	\$7,835.5	\$10,755.7	\$14,650.5	3.0	3.2	3.1	3.0	3.2	3.1
Personal consumption expenditures	3,863.4	5,290.7	7,588.6	10,020.4	3.2	3.7	2.8	2.15	2.51	1.92
Gross private domestic investment	857.7	1,099.6	1,809.8	2,863.2	2.5	5.1	4.7	.38	.84	.76
Exports	318.7	706.5	1,117.9	2,145.7	8.3	4.7	6.7	.72	.51	.80
Imports	441.2	786.0	1,719.2	2,525.4	5.9	8.1	3.9	–.64	–1.06	–.66
Federal defense consumption expenditures and gross investment	400.6	404.6	481.3	500.7	.1	1.8	.4	.04	.07	.02
Federal nondefense consumption expenditures and gross investment	146.0	191.7	242.2	228.6	2.8	2.4	–.6	.07	.05	–.01
State and local consumption expenditures and gross investment	677.9	943.3	1,228.4	1,490.6	3.4	2.7	2.0	.39	.31	.23
Residual ¹	–9.6	–15.0	6.7	–73.4	...	...	...	...	...	...

¹ The residual is calculated as real gross domestic product, plus imports, less other components.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

Table 3. Nominal gross domestic product by major demand category, 1984, 1994, 2004, and projected 2014

Category	Billions of current dollars				Percent distribution			
	1984	1994	2004	2014	1984	1994	2004	2014
Gross domestic product	\$3,933.2	\$7,072.2	\$11,734.3	\$19,046.3	100.0	100.0	100.0	100.0
Personal consumption expenditures	2,503.3	4,743.3	8,214.3	13,124.5	63.6	67.1	70.0	68.9
Gross private domestic investment	735.7	1,097.1	1,928.1	3,405.1	18.7	15.5	16.4	17.9
Exports	302.4	720.9	1,173.8	2,614.1	7.7	10.2	10.0	13.7
Imports	405.1	814.5	1,797.8	3,403.9	-10.3	-11.5	-15.3	-17.9
Federal defense consumption expenditures								
and gross investment	281.6	353.7	552.7	721.7	7.2	5.0	4.7	3.8
Federal nondefense consumption expenditures								
and gross investment	92.8	165.4	274.9	335.5	2.4	2.3	2.3	1.8
State and local consumption expenditures								
and gross investment	422.6	806.3	1,388.3	2,249.3	10.7	11.4	11.8	11.8

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

rates in general, as well as incentives offered by automakers, were key factors behind the willingness of consumers to continue spending. Some rebounds in household wealth and continued gains in disposable personal income beginning in the second half of 2003 helped boost solid spending growth; as a result, personal consumption's share of GDP rose to 70.0 percent in 2004. (See table 3.)

Consumer spending, over the medium to long term, is primarily determined by the growth of real permanent income, demographic influences, and changes in relative prices. The share of nominal personal consumption expenditures in GDP is projected to account for 68.9 percent in 2014. Real consumer demand is projected to grow at an average annual rate of 2.8 percent from 2004 to 2014. The importance of the relationship between GDP and personal consumption expenditure also can be viewed from the contribution of real personal consumption to the change in real GDP, which provides a measure of the composition of growth in GDP.¹² Over the 2004–14 projection period, consumption spending will contribute about 1.9-percentage points to the 3.1 percent in real GDP growth projected by BLS. (See table 2.) Real disposable income (chained to 2000 dollars) is projected to grow at a 2.9-percent annual rate between 2004 and 2014, whereas the savings rate is projected to increase slowly to 3.4 percent by 2014. (See table 4.)

At a finer level of detail, purchases of durable consumer goods tend to fluctuate with those economic conditions influencing consumer buying decisions on big-ticket items such as automobiles and home furniture. During the past few years, consumer purchases of cars and light trucks have been impressive, climbing sharply to 17.3 million units in 2000, as the value of sales incentives reached a new high and buyers responded eagerly to those incentives. The long-term outlook for motor vehicle sales calls for a slowdown in the rate of increase relative to past performance. Total light-vehicle sales are anticipated to reach 18.3 million units in 2014. Although the

number of vehicles per person has increased significantly in the past 20 years, the United States may be approaching a saturation point in the rate of vehicle ownership as new cars become more reliable and significantly increase their useful life span, and as consumers increasingly move into older age cohorts, when vehicle demand tends to taper off. BLS projects that future growth in vehicle sales will primarily be driven by growth in population and demand for replacement vehicles. Demand for motor vehicles and parts is projected to grow much slower at a rate of 3.1 percent yearly between 2004 and 2014, compared with 5.2 percent in the 1994–2004 period. (See table 5.)

Over the past few decades, expenditures for nondurable goods, such as food and clothing, have increased at a slower pace than have those spent on durable goods and services, because spending on such short-term necessities tends to increase more slowly than rises in income. The share of personal spending allocated to nondurable goods dropped from 30.3 percent in 1994 to 28.2 percent in 2002. Admittedly, the nondurables share has increased to 28.8 percent in 2004, but this is largely due to sharp increases in gasoline prices. The Bureau projects that the long-term diminution in the trend growth for nondurable goods will continue over the projection horizon.

In contrast, expenditures for consumer services, including housing, medical care, and other personal services, represent the largest share of total consumption and have been growing larger as a share steadily over the past few decades. A major contributor to overall growth in spending on services are increases in health care expenditures. As the Nation's 78 million baby boomers age, and as medical technology advances, demand for health services will rise and the average per-person cost of many health care services will rise also. Spending on medical services increased 3.4 percent per year during the 1994–2004 period. Over the coming 10 years, due to the importance of demographic factors, spending on medical

Table 4. Personal income, 1984, 1994, 2004, and projected 2014

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1984	1994	2004	2014	1984	1994	2004	2014	1984-94	1994-2004	2004-14
Personal income	\$3,289.4	\$5,842.5	\$9,713.3	\$16,008.1	100.0	100.0	100.0	100.0	5.9	5.2	5.1
Labor income	2,116.4	3,725.5	6,284.9	10,431.9	64.3	63.8	64.7	65.2	5.8	5.4	5.2
Disbursements of wages and salaries	1,854.9	3,232.1	5,389.4	8,912.4	56.4	55.3	55.5	55.7	5.7	5.2	5.2
Other labor income	261.5	493.4	895.5	1,519.5	7.9	8.4	9.2	9.5	6.6	6.1	5.4
Business-related personal income	891.4	1,543.7	2,420.4	3,925.6	27.1	26.4	24.9	24.5	5.6	4.6	5.0
Proprietors' income	243.3	473.3	889.6	1,331.2	7.4	8.1	9.2	8.3	6.9	6.5	4.1
Rental income	40.2	119.7	134.2	272.1	1.2	2.0	1.4	1.7	11.5	1.2	7.3
Personal dividend income	90.7	233.9	490.6	672.9	2.8	4.0	5.1	4.2	9.9	7.7	3.2
Personal interest income	517.3	716.8	905.9	1,649.5	15.7	12.3	9.3	10.3	3.3	2.4	6.2
Transfer payments	400.1	827.3	1,427.5	2,443.3	12.2	14.2	14.7	15.3	7.5	5.6	5.5
Less social insurance contributions	-118.5	-254.1	-419.5	-792.7	-3.6	-4.3	-4.3	-5.0	7.9	5.1	6.6
Uses											
Personal income	3,289.4	5,842.5	9,713.3	16,008.1	100.0	100.0	100.0	100.0	5.9	5.2	5.1
Personal consumption	2,503.3	4,743.3	8,214.3	13,124.5	76.1	81.2	84.6	82.0	6.6	5.6	4.8
Tax and nontax payments	386.6	721.5	1,117.6	2,032.6	11.8	12.3	11.5	12.7	6.4	4.5	6.2
Personal interest payments	77.0	112.8	186.7	298.1	2.3	1.9	1.9	1.9	3.9	5.2	4.8
Transfers to foreigners	7.8	15.4	42.9	71.5	.2	.3	.4	.4	7.1	10.8	5.2
Personal savings	314.8	249.4	151.8	481.3	9.6	4.3	1.6	3.0	-2.3	-4.8	12.2
Addenda											
Disposable personal income	2,912.0	5,151.8	8,664.2	13,975.5	...	...	...	...	5.9	5.3	4.9
Disposable personal income, chained 2000 dollars	4,494.1	5,746.4	8,004.3	10,669.8	...	...	...	...	2.5	3.4	2.9
Per capita disposable income	12,319	19,555	29,475	43,543	...	...	...	...	4.7	3.6	4.0
Per capita disposable income, chained 2000 dollars	19,011	21,812	27,230	33,243	...	...	...	...	1.4	1.4	2.0
Savings rate (percent)	10.8	4.8	1.8	3.4	...	...	...	...	-7.8	-9.3	6.7

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

services is expected to continue to post solid gains and is projected to grow at the same rate of 3.4 percent annually.

Nonresidential investment. The growth of high-tech establishments contributed substantially to growth in plant and equipment spending during the boom of the late 1990s. Following the tech-bubble burst, the 2001 recession hit nonresidential investment hard, due to large overcapacities developed during the boom period. Spending on equipment and software, the largest category of business investment, plummeted 4.9 percent in 2001, followed by a further drop of 6.2 percent in 2002. Overall, business investment lagged behind prior recoveries over the 2001-03 period, beginning a more normal recovery path only in 2004. The long-awaited pickup in capital spending finally emerged, largely due to a sudden rebound in corporate profits, to monetary policy stimulus, and to modest business tax incentives. With a substantial increase of 11.9 percent in 2004, investment in nonresidential equipment and software surpassed even the level of investment during the dot-com boom in the late 1990s.

By comparison, investment in nonresidential construction has been stagnant since 2002, as vacancy rates in both office

and industrial buildings remain high. With a notable decline in investment in power and communication facilities, which occurred in 2004, purchases of nonresidential structures grew only moderately at a 0.7-percent annual average pace between 1994 and 2004. (See table 6.)

As the economy expands at a steady pace with good profitability, technological innovation, and solid demand growth, BLS projections indicate that nonresidential investment in equipment and software will grow at a robust rate of 7.6 percent per year from 2004 to 2014. Purchases of nonresidential structures are expected to grow faster than the historical pace: 1.3 percent annually over the projection period, compared with a 0.7-percent growth between 1994 and 2004.

Residential investment. In contrast to the softness in nonresidential investment during the early 2000s, residential construction growth has been robust for much of the past 3 years. Record-low mortgage rates and the continued growth in housing demand have powered home sales to record highs. In addition, the equity market bubble, low return from other interest-bearing investment alternatives, and a robust trend in housing price appreciation have all contributed to a shift in personal

Table 5. Personal consumption expenditures, 1984, 1994, 2004, and projected 2014

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1984	1994	2004	2014	1984-94	1994-2004	2004-14
Personal consumption expenditures	\$3,863.4	\$5,290.7	\$7,588.6	\$10,020.4	3.2	3.7	2.8
Durable goods	341.7	529.4	1,089.9	1,711.2	4.5	7.5	4.6
Motor vehicles and parts	210.8	276.2	457.0	617.2	2.7	5.2	3.1
Other durable goods	145.2	258.7	636.2	1,122.2	5.9	9.4	5.8
Nondurable goods	1,263.7	1,603.9	2,200.4	2,627.5	2.4	3.2	1.8
Services	2,279.7	3,176.6	4,310.9	5,749.8	3.4	3.1	2.9
Housing services	672.7	869.4	1,078.4	1,396.1	2.6	2.2	2.6
Medical services	618.1	887.1	1,233.5	1,723.5	3.7	3.4	3.4
Other services	990.6	1,422.5	1,998.7	2,622.3	3.7	3.5	2.8
Residual ¹	-37.7	-27.1	-15.6	-88.4	...	...	...

¹ The residual is the difference between the first line and the sum of the most detailed lines.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

Table 6. Gross private domestic investment, 1984, 1994, 2004, and projected 2014

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1984	1994	2004	2014	1984-94	1994-2004	2004-14
Gross private domestic investment	\$857.7	\$1,099.6	\$1,809.8	\$2,863.2	2.5	5.1	4.7
Fixed nonresidential investment	514.9	689.9	1,186.7	2,175.9	3.0	5.6	6.3
Equipment and software	279.9	467.2	947.6	1,974.0	5.3	7.3	7.6
Computers and software	12.7	65.1	334.6	1,149.4	17.7	17.8	13.1
Other equipment	336.3	426.9	617.2	1,007.1	2.4	3.8	5.0
Structures	285.1	232.3	248.4	282.4	-2.0	.7	1.3
Fixed residential structures	293.0	364.8	561.8	667.8	2.2	4.4	1.7
Single-family	144.2	198.9	307.5	347.6	3.3	4.5	1.2
Multifamily	45.6	18.3	33.2	37.2	-8.7	6.2	1.1
Other	102.6	147.2	220.7	283.9	3.7	4.1	2.6
Change in business inventories	71.3	63.6	52.0	60.7	-1.1	-2.0	1.6
Residual ¹	-140.1	-52.7	-3.8	-305.2	...	...	...

¹ The residual is the difference between the first line and the sum of the most detailed lines.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

investments toward real estate markets. In mid-June of 2004, when rates on a 30-year mortgage sank to 5.21 percent, the lowest level in more than 4 decades, housing starts surged to an all-time high of 1.95 million units. Over the past decade, homeownership rates have risen across all regions of the country as well as all age and demographic groups, setting a record high of 69.2 percent of the U.S. households in the fourth quarter of 2004, compared with 67.5 percent in 2000 and 64.2 percent in 1994.

Although interest rates clearly influence the short-term timing of home purchases, in the longer run, one of the most significant factors that drive home sales is the shifting makeup of the population. By 2014, as baby boomers pass the prime home-buying age group of 35 to 44, demand for residential investment is projected to retreat a bit (the surge in second

home buying notwithstanding) and settle down after its 2004 record high. A still healthy 1.7-percent average annual growth rate is expected over the 2004-14 period, while housing starts are expected to rise modestly to 1.98 million units in 2014.¹³

In sum, real business investment as a whole is expected to be a leading force in economic growth over the next decade, at a rate of 4.7 percent per year in the 2004-14 period, contributing an average of 0.8 percentage points to the 3.1 percent growth in real GDP over the same span. Nominal private investment's share of GDP is anticipated to increase to 17.9 percent in 2014, from a share of 16.4 percent in 2004. (See table 2 for real GDP and table 3 for nominal GDP.)

Foreign trade in goods and services. Since the end of World War II, U.S. policy has generally supported the liberalization

of international trade. During the 1990s, a strong U.S. dollar and falling foreign commodity prices in emerging markets helped keep the Nation's rate of inflation low, and, when combined with other factors, helped trigger strong growth in consumer spending. However, increased globalization and international competition also have brought new challenges to the U.S. economy, including a widened trade deficit in total goods and services. The trade deficit has posed increasing difficulties for the U.S. economy during the 1990s. Though the recent weaker dollar is making U.S. exports more competitive overseas, exports are being hindered by slower growth in our foreign markets, especially in Europe. At the same time, strong U.S. demand for goods from abroad continues to bring in more imports. The Nation's insatiable appetite for an array of foreign-made goods, joined by the rise in imported oil prices, has driven the trade gap to a level that many economists are beginning to characterize as "unsustainable."¹⁴ As long as the United States appears to be able to maintain strong economic growth over the longer run, its major trading partner countries might be willing to continue supporting the U.S. trade deficit. Should the economy falter, then that willingness might evaporate.

In 2004, imports exceeded exports by a record \$624.0 billion in nominal terms, or \$601.3 billion in real terms, up from the 1994 figure of \$93.6 billion in nominal terms, or \$79.4 billion in real dollars. As a share of GDP, nominal exports increased from 7.7 percent in 1984 to 10.2 percent in 1994 and 10.0 percent in 2004. In contrast, the nominal import share of GDP increased from 10.3 percent in 1984 to 11.5 percent in 1994 and jumped further to 15.3 percent by 2004. In terms of real growth, exports increased at an 8.3-percent annual rate from 1984 to

1994, while imports enjoyed average annual growth of 5.9 percent. Over the 1994–2004 period, real exports posted a 4.7-percent rate of growth and imports grew much more rapidly, at 8.1 percent. (See tables 2 and 3.)

The Bureau's 10-year outlook for U.S. trade is that global accessibility will continue to increase and that international competition will continue to grow strongly. As the world becomes more open to trade and as the United States maintains its ability to compete effectively in world markets, the share of GDP accounted for by both exports and imports is expected to grow apace. A continued decline in the exchange rate will stimulate U.S. exports and increase its international competitiveness. Real exports are expected to grow at a 6.7-percent annual rate between 2004 and 2014. (See table 7.)

Imports are projected to grow at a rate of 3.9 percent annually over the 2004–14 projection period, much lower than the 8.1-percent annual growth over the 1994–2004 span. Imports of goods are expected to grow at 3.8 percent per year, and a 4.2-percent annual rate of growth is projected for imports of services during the 2004–14 period. Net exports are still expected to be in deficit in 2014, but its share is expected to drop by more than half, from 5.6 percent of real GDP in 2004 to just 2.6 percent in 2014. Although the Bureau projects a continued increase in the trade surplus in services, the gain will not be large enough to offset the large deficit in goods.

The current account deficit, primarily reflecting the trade deficit, but also including net international flows of investment income and transfers, has jumped sharply since 1999. Prosperity at home makes the United States an investment destination for foreign firms seeking lucrative and expanding markets, resulting

Table 7. Exports and imports of goods and services, 1984, 1994, 2004, and projected 2014

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1984	1994	2004	2014	1984–94	1994–2004	2004–14
Exports of goods and services	\$318.7	\$706.5	\$1,117.9	\$2,145.7	8.3	4.7	6.7
Goods	210.2	477.9	783.6	1,445.7	8.6	5.1	6.3
Nonagricultural	178.9	432.6	734.0	1,365.1	9.2	5.4	6.4
Agricultural	36.0	43.6	50.8	85.2	1.9	1.5	5.3
Services	111.1	231.1	334.1	700.0	7.6	3.8	7.7
Residual ¹	-7.3	-7	-1.1	-4.5	...	...	...
Imports of goods and services	441.2	786.0	1,719.2	2,525.4	5.9	8.1	3.9
Goods	343.0	640.0	1,452.7	2,115.0	6.4	8.5	3.8
Nonpetroleum	294.1	558.4	1,315.6	1,927.8	6.6	8.9	3.9
Petroleum	56.5	95.7	137.8	192.3	5.4	3.7	3.4
Services	101.6	147.3	267.1	403.0	3.8	6.1	4.2
Residual ²	-11.0	-15.5	-1.3	2.3	...	...	...
Trade surplus/deficit	-122.5	-79.4	-601.3	-379.7	-4.2	22.4	-4.5

¹ The residual following the detail categories for exports is the difference between the aggregate of "exports of goods and services" and the sum of the figures those separate categories for exports of goods and services.

² The residual following the detail categories for imports is the difference

between the aggregate of "imports of goods and services" and the sum of the figures those separate categories for imports of goods and services.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

in a surge in foreign demand for dollar assets, such as stocks, corporate bonds, and Treasury securities. In addition, a drop in the national savings rate due to a rising Federal deficit pushed the current account deficit from less than 4 percent of GDP before 2000 to a potentially unsustainable level of 5.6 percent share in 2004.¹⁵ Owing to steady pressure on the value of the dollar from the current account deficit, further depreciation is projected to help make imported goods more expensive while making U.S.-made goods more competitive in global markets. By 2014, the current account deficit is expected to improve, but still run a large deficit of approximately \$699 billion; a 3.7-percent share of nominal GDP.

Federal Government. During most of the 1980s and the 1990s, the Federal Government faced large annual deficits. The question of how to reduce the deficit was a centerpiece of discussion among economists and policymakers for more than 20 years. In nominal terms, the deficit grew from \$168.1 billion in 1984 to a peak of \$297.4 billion in 1992; a 4.7-percent share of GDP. Between 1993 and 1997, the deficit grew steadily smaller. In 1998, after 28 years of deficits, the budget recorded a substantial surplus of \$38.8 billion. The surplus continued to increase during the 1999–2000 period, from \$103.6 billion in 1999 up to \$189.4 billion in 2000. The surplus accounted for

1.9 percent of nominal GDP in 2000—the largest share of the past 4 decades. This dramatic change was attributable to increasing tax revenues from the expanding economy and a slowing in expenditures due to the Balanced Budget Act of 1996.

However, the Federal budget once more found itself in a deficit situation, as economic growth began to cool after 2000, defense spending increased sharply in response to military operations in support of the war on terrorism, and as revenues fell in response to tax cuts. The Federal budget deficit increased to a record high level of \$407 billion in 2004, accounting for a 3.5-percent share of nominal GDP.¹⁶ (See table 8.)

BLS assumes that the Federal budget will remain in deficit throughout the projection period, declining to \$189.3 billion in 2014, and accounting for 1.0 percent of GDP. The projections also anticipate shifts in the composition of Federal expenditures over the 2004–14 period. Transfer payments (primarily Medicare and Social Security) are projected to account for a 49.2-percent share of Federal expenditures by 2014, increasing from 44.1 percent in 2004. Within the next 10 years, the baby-boom generation will begin to reach retirement age and become eligible to receive Medicare benefits. Growth in the number of beneficiaries will account for an increasing share of the rising costs for Medicare. In addition, advances in medical

Table 8. Federal Government receipts and expenditures, 1984, 1994, 2004, and projected 2014

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1984	1994	2004	2014	1984	1994	2004	2014	1984–94	1994–2004	2004–14
Receipts	\$688.3	\$1,297.5	\$1,934.7	\$3,455.2	100.0	100.0	100.0	100.0	6.5	4.1	6.0
Personal tax and nontax receipts ..	302.4	548.3	802.4	1,473.7	43.9	42.3	41.5	42.7	6.1	3.9	6.3
Corporate profits tax	75.2	156.7	216.8	293.6	10.9	12.1	11.2	8.5	7.6	3.3	3.1
Indirect business tax	57.8	98.8	111.9	167.7	8.4	7.6	5.8	4.9	5.5	1.3	4.1
Contributions for social insurance	252.8	493.7	803.7	1,520.2	36.7	38.0	41.5	44.0	6.9	5.0	6.6
Expenditures	856.4	1,509.8	2,312.1	3,644.5	100.0	100.0	100.0	100.0	5.8	4.4	4.7
Defense consumption	232.9	300.7	477.6	647.6	27.2	19.9	20.7	17.8	2.6	4.7	3.1
Nondefense consumption	77.1	140.1	227.1	297.7	9.0	9.3	9.8	8.2	6.2	4.9	2.7
Transfer payments	318.5	621.3	1,018.8	1,793.6	37.2	41.2	44.1	49.2	6.9	5.1	5.8
To persons	309.3	605.5	998.5	1,779.2	36.1	40.1	43.2	48.8	7.0	5.1	5.9
Unemployment	15.9	23.5	34.6	38.2	1.9	1.6	1.5	1.0	4.0	3.9	1.0
Social Security	173.0	312.1	485.8	806.8	20.2	20.7	21.0	22.1	6.1	4.5	5.2
Medicare	64.7	163.2	293.4	707.9	7.6	10.8	12.7	19.4	9.7	6.0	9.2
Other	55.6	106.6	184.7	226.3	6.5	7.1	8.0	6.2	6.7	5.7	2.1
To foreigners	9.3	15.8	20.3	14.3	1.1	1.0	.9	.4	5.5	2.6	–3.4
Grants-in-aid to State and local governments	76.7	174.7	350.4	496.1	9.0	11.6	15.2	13.6	8.6	7.2	3.5
Net interest paid	127.5	240.7	202.6	371.8	14.9	15.9	8.8	10.2	6.6	–1.7	6.3
Subsidies less current surplus	23.8	33.3	35.5	37.7	2.8	2.2	1.5	1.0	3.4	.7	.6
Less wage accruals	–1	.0	.0	.0	.0	.0	.0	.0	...	...	...
Surplus/deficit	–168.1	–212.3	–406.5	–189.3	...	...	...	...	2.4	6.7	–7.4
Surplus/deficit as percentage of gross domestic product	–4.3	–3.0	–3.5	–1.0	...	...	...	...	–3.5	1.4	–11.7

NOTE: Government current receipts and expenditures were reclassified in the 2003 National Income and Product Accounts comprehensive revision. The figures shown here may not reflect the revised and updated data.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

technology will keep pushing up the costs of health care provision. Underlying the demographic changes anticipated for the next decade, BLS projects that spending for Medicare and Social Security will account for a 41.5-percent share of Federal expenditures by 2014, up substantially from 33.7 percent in 2004 and 31.5 percent in 1994. In contrast, as the new Medicare drug benefit program replaces Medicaid payments for individuals who are eligible for both programs, the share of grants-in-aid to State and local governments (primarily Medicaid funding and support) is projected to fall from 15.2 percent in 2004 to 13.6 percent in 2014, still higher than the 11.6-percent share in 1994.

Real defense spending (which includes expenditures for military compensation, defense capital goods, and gross investment in equipment and structures) declined absolutely over the 1988–98 period as military force levels were reduced and purchases of new weapons systems were postponed. Some older equipment also was retired without replacing it. In 1999, however, real spending on defense reversed its 10-year trend and started to rise slightly, due mainly to increases in consumption of capital goods and investment in equipment and software. After the September 11 terrorist attacks, defense spending expanded in response to the threat of terrorism and need for homeland security protection. The surge in military spending has been driven by the costs of the war in Iraq and

post-war reconstruction expenditures in Afghanistan. On the basis of Defense Department estimates, BLS has assumed that military force levels will remain fixed at 1.5 million troops through the projection period. The Defense Department budget plans adopted by BLS for these projections would go to defeating global terrorism, restructuring U.S. Armed Forces and global defense posture, developing and fielding advanced war fighting capabilities, and caring for U.S. military and civilian personnel.¹⁷ As a result, real defense spending is projected to grow at an average annual rate of 0.4 percent from 2004 to 2014, reaching \$500.7 billion in the latter year. (See table 9.)

Real nondefense Government spending, which includes the salaries of Government employees, administrative expenses, and all Federal nondefense programs, is assumed to decrease at a rate of –0.6 percent per year between 2004 and 2014, compared with the 2.4-percent annual rate of growth between 1994 and 2004. (See table 2 and table 9.) High-priority spending increases for national defense and homeland security are expected to squeeze Federal investment in virtually all other research and development areas. This assumption leads the Federal nondefense consumption expenditures and gross investment projected nominal share of GDP to 1.8 percent in 2014, well below the 2.3-percent share in both years—1994 and 2004. (See table 3.)

Table 9. Government consumption expenditures and gross investment, 1984, 1994, 2004, and projected 2014

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1984	1994	2004	2014	1984–94	1994–2004	2004–14
Government consumption expenditures and gross investment	\$1,227.0	\$1,541.3	\$1,952.3	\$2,222.9	2.3	2.4	1.3
Federal Government consumption and investment	547.3	596.5	723.7	729.6	.9	2.0	.1
Defense consumption and investment	400.6	404.6	481.3	500.7	.1	1.8	.4
Compensation, civilian	75.4	65.8	50.5	48.2	–1.4	–2.6	–.5
Compensation, military	121.3	103.9	100.9	97.6	–1.5	–.3	–.3
Consumption of fixed capital	43.2	65.2	61.6	63.4	4.2	–.6	.3
Other consumption	121.0	116.9	202.5	222.8	–.3	5.6	1.0
Gross investment	50.4	53.8	68.5	73.2	.6	2.5	.7
Nondefense consumption and investment	146.0	191.7	242.2	228.6	2.8	2.4	–.6
Compensation	91.1	97.7	98.0	91.7	.7	.0	–.7
Consumption of fixed capital	9.2	15.9	23.6	26.7	5.5	4.1	1.3
Commodity credit corporation inventory change	–1.7	–.3	–1.0	.0	–16.7	13.7	...
Other consumption	41.8	58.1	88.8	78.3	3.3	4.3	–1.2
Gross investment	17.7	25.2	33.5	31.7	3.6	2.9	–0.6
State and local government consumption and investment	677.9	943.3	1,228.4	1,490.6	3.4	2.7	2.0
Compensation	493.7	607.9	703.0	726.1	2.1	1.5	.3
Consumption of fixed capital	43.3	65.6	98.0	131.3	4.2	4.1	3.0
Other consumption	58.9	107.4	179.5	333.4	6.2	5.3	6.4
Gross investment	106.4	163.2	248.9	334.0	4.4	4.3	3.0
Residual ¹	–44.6	–5.0	–4.1	–35.5	...	...	...

¹ The residual is the difference between the first line and the sum of the most detailed lines.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

State and local governments. Real spending by State and local governments is projected to increase 2.0 percent annually from 2004 to 2014. This is a decline from the 2.7-percent annual rate of growth posted for the 1994–2004 period and 3.4 percent for the 1984–94 period. (See table 9.) As a percentage of GDP, nominal consumption by State and local governments is projected to maintain its position in the economy, representing 11.8 percent of GDP in 2014, up slightly from the 11.4-percent share in 1994 and representing about the same share as that in 2004. (See table 3.)

By 2014, State and local government receipts of grants-in-aid from the Federal Government for Medicaid and other programs are expected to grow much more slowly than in the past, reflecting an assumption of general fiscal restraint on discretionary spending that will be necessary if reductions in the Federal deficit are to take place. Grants-in-aid represented 20.0 percent of State and local revenues in 1994, rose to 23.1 percent in 2004, and is projected to drop back to 20.3 percent in 2014. This translates to an average annual rate of growth of 3.6 percent from 2004 to 2014, well below the 8.6-percent annual rate of growth over the 1984–94 period and the 7.1-percent rate of growth over the 1994–2004 period. (See table 10.)

On the purchases side, current consumption expenditures are expected to continue to account for the largest component of total State and local spending in 2014. Their share of total purchases of goods and services is projected to increase

slightly from 73.8 percent in 2004 to 74.3 percent in 2014. Also, an increased level of transfer payments, due to increases in Medicaid services and retirement pensions, is expected to keep the share of transfer payments rising, from 19.8 in 2004 to 21.0 percent in 2014.

In sum, State and local governments will run surpluses throughout most of the projection period; statutorily, nearly every State is required to do so, as their expenditures are tied closely to available revenues.

GDP from the income side

Over the 1984–2004 period, direct payments to labor income have remained a steady portion of total personal income, accounting for 64.3 percent in 1984, slightly down to 63.8 percent in 1994 and back to 64.7 percent in 2004. Similarly, wage and salary disbursements, the largest segment of direct payments, have shown the same steady share, around 55 percent, over the same period. Over the next 10 years, the projections anticipate that labor income will represent a slightly larger portion of total income, reaching a 65.2-percent share in 2014, accompanied by a 55.7-percent share for wage and salary disbursements. (See table 4.)

Also over the 1984–2004 period, another major component of personal income, business-related personal income, which includes proprietors' income, rental income, personal dividends,

Table 10. State and local government receipts and expenditures, 1984, 1994, 2004, and projected 2014

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1984	1994	2004	2014	1984	1994	2004	2014	1984–94	1994–2004	2004–14
Receipts	\$436.0	\$875.2	\$1,506.6	\$2,441.1	100.0	100.0	100.0	100.0	7.2	5.6	4.9
Personal taxes	84.2	173.5	312.8	558.9	19.3	19.8	20.8	22.9	7.5	6.1	6.0
Corporate profits taxes	18.8	30.0	41.5	55.8	4.3	3.4	2.8	2.3	4.8	3.3	3.0
Indirect business taxes	251.6	482.7	792.1	1,303.5	57.7	55.2	52.6	53.4	6.7	5.1	5.1
Property taxes	99.7	199.4	322.8	565.7	22.9	22.8	21.4	23.2	7.2	4.9	5.8
Other	151.9	283.3	470.5	737.8	34.8	32.4	31.2	30.2	6.4	5.2	4.6
Contributions for social insurance	4.7	14.5	19.7	26.7	1.1	1.7	1.3	1.1	11.9	3.1	3.1
Federal grants-in-aid	76.7	174.7	348.3	496.1	17.6	20.0	23.1	20.3	8.6	7.1	3.6
Expenditures	411.9	864.8	1,490.3	2,396.9	100.0	100.0	100.0	100.0	7.7	5.6	4.9
Consumption	347.6	663.3	1,099.7	1,780.7	84.4	76.7	73.8	74.3	6.7	5.2	4.9
Compensation	256.5	501.1	789.1	1,279.3	62.3	57.9	52.9	53.4	6.9	4.6	5.0
Consumption of fixed capital	32.0	59.5	104.7	172.8	7.8	6.9	7.0	7.2	6.4	5.8	5.1
Other	59.2	102.7	206.0	328.6	14.4	11.9	13.8	13.7	5.7	7.2	4.8
Transfer payments to persons	71.2	206.7	374.8	613.7	17.3	23.9	25.1	25.6	11.3	6.1	5.1
Medicaid	38.8	144.9	294.7	502.5	9.4	16.8	19.8	21.0	14.1	7.4	5.5
Other	32.3	61.8	80.0	111.2	7.9	7.2	5.4	4.6	6.7	2.6	3.3
Net interest paid	-5.6	4.1	20.5	9.5	-1.4	.5	1.4	.4	...	17.4	-7.4
Less dividends received	-2	-8	-2.8	-4.0	.0	-1	-2	-2	14.1	14.2	3.6
Subsidies less current surplus	-1.1	-8.6	-1.9	-3.0	-3	-1.0	-1	-1	23.2	-14.3	4.9
Less wage accruals .....	.0	.0	.0	.0	.0	.0	.0	.0	...	...	...
State and local deficit/surplus	23.9	10.5	16.3	44.2	...	...	...	...	-7.9	4.5	10.5

NOTE: Government current receipts and expenditures were reclassified in the 2003 National Income and Product Accounts comprehensive revision. The figures shown here may not reflect the revised and updated data.

SOURCE: Historical data, Bureau of Economic Analysis; projected data, Bureau of Labor Statistics.

and personal interest income, accounted for a diminishing share of personal income, from a 27.1-percent share in 1984, down to a 26.4-percent in 1994, and further down to 24.9 percent in 2004. The projections anticipate that the decreasing share trend for this type of income will continue through the projection period, falling to a 24.5-percent share in 2014. Substituting for the decline in business-related personal income, transfer payments have become an increasingly substantial source of personal income over the past two decades. Between 1984 and 2004, transfer payments rose as a share of personal income from 12.2 percent in 1984 and 14.2 percent in 1994 to 14.7 percent in 2004. The Bureau projects this category will continue to rise until it accounts for 15.3 percent in 2014, reflecting both per-capita medical costs and the increasing elderly population, the most likely users of Medicare programs.

Traditionally, personal consumption is considered the most important indicator of how people spend their incomes and how lifestyles change as consumption's share of income has increased over time. In 2004, the share rapidly increased to a historical high of 84.6 percent, resulting in a very low personal saving level. Over the projection period, the trend of increased consumption is projected to ease and settle down at an 82.0-percent share in 2014, while the personal savings rate is projected to improve gradually, from 1.8 percent in 2004 to 3.4 percent in 2014.

On a per capita basis, nominal disposable income is projected to increase at an average annual rate of 4.0 percent from 2004 to 2014, reaching a level of \$43,500 in the latter year; a gain of more than \$14,000 over the projection span. In real terms—that is, in chained 2000 dollars—per capita income is projected to grow 2.0 percent per year from 2004 to 2014. Another way of interpreting this growth is that real standards of living will continue to rise over the projection period when measured on the basis of growth of disposable personal income.

Productivity

Labor productivity, the amount of output produced for each hour of work, is one of the critical components responsible for rising living standards, because it allows companies to increase worker salaries based on their increased efficiency rather than passing salary increases through to consumers in the form of higher product prices, which would increase inflation. Since the mid-1990s, rapid advances in computing power, software efficiency, and more sophisticated communications capabilities have formed a set of powerful complementary innovations. This bunching of productivity-enhancing technological innovations, working in combination with a favorable U.S. economic environment, boosted productivity sharply. Despite a series of negative shocks beginning in late 2000, U.S. private sector productivity growth has remained strong. Productivity grew

annually at 4.3 percent in 2002 and 4.4 percent in 2003. Combined with a 4.0-percent increase in 2004, the average productivity gain of 4.2 percent for the 3 years capped the strongest burst in more than a half-century of recordkeeping. However, the downside of that increased efficiency is that companies got more output from their existing work force without hiring new workers, and job openings diminished during the 2001 recession and recovery period as companies strove to get increased production from slimmer work forces. Much of this was in response to the increasingly tight labor markets over the latter half of the 1990s. As long as labor markets remained tight, all was well and good. Once demand for labor fell due to the recession, the continuing strong productivity growth contributed to the relatively long recovery period with virtually no new employee hiring following the 2001 trough.

The rapid gains in productivity have begun to slow since the third quarter of 2004, as the U.S. economy shifts into a new phase of steady expansion. This indicates that productivity gains may be settling into more sustainable rates and will be less robust in the future. As the expansion matures and hiring picks up, productivity growth tends to slow as the level of employee effort returns to normal when firms devote resources to hiring and training new workers and detract from current production.

Over the next 10 years, it is uncertain whether the recent surge in productivity growth will continue, but moderately high levels of productivity growth are still expected. Over time, the faster productivity growth could mean higher standards of living because significant portions of the gains may eventually take the form of higher real wages. The Bureau anticipates that productivity will grow at a more “trend-like” 2.7 percent per year over the 2004–14 period, same as the 2.7-percent annual rate of growth over the 1994–2004 span. (See table 11.) This expected stable productivity growth in the aggregate economic projections is consistent with the strong growth of capital stocks, resulting from the projected rates of business investment, especially in efficiency-enhancing equipment and computer software.¹⁸

Employment

The 1990–91 recession was followed by 9 successive years of economic expansion, resulting in year-to-year decreases in unemployment and increases in employment through the remainder of the 1990s. The civilian unemployment rate fell for 8 straight years, from 7.5 percent in 1992 to 4.0 percent in 2000, the lowest reading for that statistic in 30 years. Nonfarm payroll employment expanded by about 23.1 million persons over the 1992–2000 period. Starting with the recession in 2001, the country suffered through 2 years of declines in employment. However, the continued recovery in output, combined with continued strong demand finally caught up with the robust

Table 11. Labor supply and factors affecting productivity, 1984, 1994, 2004, and projected 2014

Category	Levels				Average annual rate of change		
	1984	1994	2004	2014	1984–94	1994–2004	2004–14
Labor supply (in millions, unless noted):							
Total population	236.1	260.6	294.1	321.0	1.0	.9	.9
Population aged 16 and older	176.4	196.8	223.4	247.2	1.1	1.3	1.0
Civilian labor force	113.5	131.0	147.4	162.1	1.4	1.2	1.0
Civilian household employment	105.0	123.1	139.2	153.8	1.6	1.2	1.0
Nonfarm payroll employment	94.5	114.3	131.5	149.4	1.9	1.4	1.3
Unemployment rate (percent)	7.5	6.1	5.5	5.0	-2.1	-1.0	-.9
Productivity:							
Private nonfarm business output per hour (billions of chained 2000 dollars)	29.0	34.2	44.6	58.1	1.7	2.7	2.7

SOURCE: Historical data, Bureau of Economic Analysis, Census Bureau, Bureau of Labor Statistics; projected data, Bureau of Labor Statistics.

growth in productivity in 2004, and employment increased about 1.2 million workers in 2004 from the weak reading of 2002. Under the assumptions of long-term economic stability, the BLS model assumes a return to more normal levels of job creation in the future. In 2014, a 5.0-percent unemployment rate is assumed in the macroeconomic model. (See table 11.)

Overall, civilian household employment is projected to increase by 1.0 percent per year from 2004 to 2014. The result is that about 14.6 million employed persons will be added to the economy over the 10-year projection period. Payroll employment, measured on a nonfarm establishment basis, is projected to grow at an annualized rate of 1.3 percent between 2004–14, rising from 131.5 million to 149.4 million, or by 17.9 million jobs.¹⁹

The civilian labor force is projected to grow at a rate of 1.0 percent per year from 2004–14, 0.2 percentage points lower than the rate of growth over the preceding 10-year period. This translates into an increase of 14.7 million over the projection period. The Census Bureau projects that the total U.S. population will increase at a 0.9-percent rate of growth over the 2004–14 period, the same rate of growth between 1994 and 2004. The Census Bureau also estimates that the population aged 16 and older will increase at a rate of 1.0 percent over the projection

span, 0.3 percentage points lower than the rate of growth in the earlier period.²⁰

Sensitivity of BLS economic projections

Although the use of the macroeconomic model to prepare projections may appear to be a precise and scientific operation, the development of an economic projection actually is filled with uncertainty. The assumptions made for this purpose cover a broad range of key parameters that influence the outcome of the projections. A divergent viewpoint about these assumptions would naturally lead to different economic projection paths. A sensitivity study examining the impact of changes in such key parameters can assist users in identifying results that are most likely to be affected by unexpected developments in key assumptions. The Bureau's latest sensitivity study accompanied the 2000–10 aggregate economic projections.²¹

IN SUMMARY, the projections anticipate a growing economy over the coming decade, characterized by restrained inflation, continuing strong productivity growth, and a labor force growing fast enough to provide adequate labor supplies for future growth expectations. □

Notes

¹ The macroeconomic model developed by the Macroeconomic Advisers, LLC forecasting group, has been used to prepare the BLS aggregate economic projections since May 2002. The Macroeconomic Advisers firm developed and supports the Washington University Macro Model, which the Macroeconomic Advisers team uses as a central analytical tool for their short- and long-term forecasts of the U.S. economy. The macro model is a quarterly econometric system of 609 variables—440 equations and 169 exogenous variables. It operates and simulates on a Windows-based software program called WUMMSIM.

² The core rate of inflation is the underlying inflation rate of the

economy after excluding volatile energy and food prices. This core inflation rate is a good measure of the inflation rate consumers, business, and others expect over the next few years.

³ The tax provisions of the “Economic Growth and Tax Relief Reconciliation Act of 2001” came just after the economy had entered the 2001 recession. It lowered marginal tax rates for all taxpayers. Its immediate tax relief in the summer and the fall of 2001 boosted consumer demand and helped to ensure that the recession was short and shallow. The major tax provisions will expire in 2010. The tax provisions of the “Jobs and Growth Tax Relief Reconciliation Act of 2003,” were enacted as an extended plan to speed up the 2001 tax cuts. BLS has

assumed that the current set of tax cuts will, in fact, be made permanent and no further tax cuts are likely to take place by 2014.

⁴ Department of Defense spending and force-level estimates through the year 2011 are published in *National Defense Budget Estimates For FY 2006* (Office of the Under Secretary of Defense (Comptroller), April 2005). For a brief description of the budget, see, "Fiscal 2006 Department of Defense Budget Release," No. 129-05 (Department of Defense, Feb. 7, 2005).

⁵ More information regarding the Census Bureau's Interim Projections of the Population, is available on the Internet at www.census.gov/population/projections, under the label "Interim projections consistent with Census 2000." For more detailed information on adjustments made to the Census Population Projections reflecting later historical data, see Mitra Toossi, "Labor force projections to 2014: retiring boomers," this issue, pp. 25–44.

⁶ For a further discussion of labor force projections, see Toossi, "Labor force projections to 2014."

⁷ Each year, the Energy Information Administration of the Department of Energy publishes a range of estimates regarding energy supply and demand over the coming 20 years. The Bureau's energy assumptions for nominal world oil prices are based on the Department of Energy results. See *Annual Outlook 2005 with Projections to 2025* (U.S. Department of Energy, Energy Information Administration, February 2005). The real imported oil prices are derived from their nominal prices, deflated by the GDP chain-weighted deflators.

⁸ The non-accelerating inflation rate of unemployment, NAIRU, is also called the natural rate of unemployment to distinguish it from the actual unemployment rate. The actual rate is the number released by BLS every month. The natural rate is the rate at which inflation is equal to expected inflation, in other words, the level of unemployment that keeps inflation growing at a fixed rate. When the actual rate is higher than the natural rate, inflation growth will tend to slow; when the actual rate is lower than the natural rate, inflation is expected to accelerate. The natural rate, or NAIRU, provides an important bench-mark for gauging the outlook for future inflation. Actually, there is no way to estimate exactly the value of NAIRU because it is not constant and it changes over time depending on the factors determining the structural unemployment rate of the economy. (We observe only the actual unemployment rate.) For a further discussion on NAIRU, see Laurence H. Meyer, *A Term at the Fed: An Insider's View* (New York, NY, Harper-Collins Publishers, Inc., 2004) pp. 36–38.

⁹ On the one hand, many economists still believe that relatively robust productivity improvements will remain a fixture of the economy in the coming years, a trend that would shape everything from job formation to interest rate policy to the inflation outlook. On the other hand, some economists contend that productivity growth will slow as businesses reach the limits of squeezing more output from existing workers and step up hiring in the face of continuing strong demand.

¹⁰ See Betty W. Su, "The U.S. economy to 2012: signs of growth," *Monthly Labor Review*, February 2004, pp. 23–36.

¹¹ On July 20, 2005, the People's Bank of China announced that it had abandoned the yuan's peg to the U.S. dollar, and had revalued the currency's U.S. dollar exchange rate to 8.11 yuan, from a decade-long fixed 8.27 yuan to the dollar, roughly a 2-percent yuan appreciation. With a large and growing trade deficit with China, the United States could expect the direct impact to be limited in the near term.

¹² The contributions to percent change in a real aggregate, such as real GDP, provide a measure of the composition of growth in the aggregate that is not affected by the non-additivity of its components. This property makes contributions to percent change a valuable tool for economic analysis. Contributions of sub-aggregates, such as personal consumption expenditures (PCE) goods, to the percent change of the aggregate, say, total PCE or GDP, are calculated by summing the contributions of all the deflation-level components contained in the sub-aggregate. For a further discussion, see *Calculating the Contributions of Components to the Change in GDP and in other Major Aggregates*, *National Income and Product*

Accounts of the United States, 1929–97: Volume 1 (U. S. Department of Commerce, Bureau of Economic Analysis, September 2001), p. M–18.

¹³ Prices and sales of existing owned homes rose to record highs in April 2005. It was the first time that the median price was more than \$200,000 and was the biggest year-over-year price gain in nearly 25 years.

¹⁴ See Maurice Obstfeld and Kenneth Rogoff, "The Unsustainable U.S. Current Account Revisited." Paper prepared for the July 12–13, 2004 National Bureau of Economic Research preconference on "G–7 Current Account Imbalance: Sustainability and Adjustment, working paper 10869. Also see Michael Kouparitsas, "Is the U.S. current account sustainable?" *Chicago Fed Letter*, No. 215 (Federal Reserve Bank of Chicago, June 2005).

¹⁵ Based on national accounting identities, the national savings rate is calculated by adding the current account balance (exports less imports with net factor income added) to gross investment and dividing by GDP. In other words, the current account balance is the difference between national savings relative to domestic investment. Thus, a decrease in the national savings rate reflects a widening of the external deficit.

For more information regarding the current account balance, see Congressional and Budget Office, "The Declining in the U.S. Current-Account Balance Since 1991," *Economic and budget issue brief*, Aug. 6, 2004. Also see Peter Coy, "That Trade Deficit Is No Debacle," *Business Week*, Jan. 31, 2005, pp. 30–31 and Catherine L. Mann, "The US Current Account, New Economy Services, and Implications for Sustainability," Institute of International Economics. A paper initially prepared for the conference titled "On the Future Agenda for Economic Policy," Oct. 24, 2002.

¹⁶ The Congressional Budget Office closed its books in the fiscal year 2004 that ended September 30. The deficit for fiscal 2004 was \$412 billion. In this article, the budget surplus or deficit is measured in calendar year and on the National Income and Product Accounts basis.

¹⁷ For a discussion of defense spending and military force-level estimates, see *National Defense Budget Estimates For FY 2006*, April 2005 and "Fiscal 2006 Department of Defense Budget Release," Department of Defense, Feb. 7, 2005.

¹⁸ For a detailed discussion of labor productivity and employment, see Jay M. Berman, "Industry output and employment projections to 2014," this issue, pp. 45–69.

¹⁹ Employment on a household basis, the concept of employment used in the aggregate economic projections discussed in this article, is a count of persons who are working. The historical estimates for household employment are derived from the Current Population Survey, a survey carried out for the Bureau of Labor Statistics by the U.S. Bureau of the Census. The concept of employment on an industry level of detail, discussed elsewhere in this issue of the *Review*, is a count of jobs and is based on an establishment-level survey called the Current Employment Statistics survey. Since 1994, these two measures have diverged sharply. For an explanation of the increase in this employment gap, see Thomas Nardone, Mary Bowler, Jurgen Kropf, Katie Kirkland, and Signe Wetrogan, "Examining the Discrepancy in Employment Growth between the cps and the CES," a paper prepared for presentation to the Federal Economic Statistics Advisory Committee, Oct. 17, 2003. Also ongoing BLS research on the possible causes of differences in employment trends is available on the Internet at www.bls.gov/cps/ces_cps_trends.pdf.

²⁰ Population and labor force estimates from 2000 reflect the results of Census 2000 adjustments. The new weighting procedures resulted in the higher population estimates and higher civilian labor force figures due to a major reevaluation of the international migration estimate. For a further discussion of population and labor force projections, see Toossi, "Labor force projections to 2014: retiring boomers," this issue, pp. 24–44.

²¹ The methodology used and the results from the study are presented in Betty W. Su, "The U.S. economy to 2010," *Month Labor Review*, November 2001, pp. 17–19.