



# **CBO's Projections of the Labor Force**

September 2004

---

## Notes

Several figures use shaded vertical bars to indicate periods of recession as defined by the National Bureau of Economic Research. A recession extends from the peak of a business cycle to its trough.

All years referred to are calendar years.

---



## Preface

**T**his paper explains the assumptions behind the Congressional Budget Office's (CBO's) updated projections of the labor force. Those figures underlie some of the agency's 10-year economic and budgetary projections (see *The Budget and Economic Outlook: An Update*, September 2004).

The paper was written by David Brauer, with contributions from Tracy Foertsch and assistance from Amrita Palriwala and Brian Mathis, under the supervision of Kim Kowalewski and Robert Dennis. Christine Bogusz and Janey Cohen edited the report, and John Skeen proofread it. Maureen Costantino prepared the report for publication, and Annette Kalicki produced the electronic version for CBO's Web site ([www.cbo.gov](http://www.cbo.gov)).

Douglas Holtz-Eakin  
Director

September 2004





**CONTENTS**

**CBO's Projections of the Labor Force** 1

**Population** 3

**Projecting Labor Force Participation Rates** 5

People Under 25 6

Men Ages 25 to 54 6

Women Ages 25 to 54 7

People 55 and Older 7

**The Effect of Changing Marginal Tax Rates  
on the Projections** 8

**Tables**

1.	CBO's Projections of the Labor Force, by Age Group and Sex, for Selected Years	2
2.	Alternative Projections of the Labor Force	3
3.	Estimates of the Effects of Marginal Tax Rates on Labor Supply	8

**Figures**

1.	Comparison of CBO's September 2004 and January 2004 Labor Force Projections	10
2.	Alternative Projections of the Size of the Labor Force Through 2014	11
3.	The Overall Labor Force Participation Rate	12
4.	Alternative Projections of Labor Force Participation Rates for People Ages 16 to 19	13
5.	Labor Force Participation Rates for Men Ages 25 to 54, by Age Group, 1980 to 2003	14
6A.	Alternative Projections of Labor Force Participation Rates for Men Ages 50 to 54	15
6B.	Participation Rate Relative to That of the Same Cohort at Ages 40 to 44	16
7.	Labor Force Participation Rate for Women Ages 25 to 54, 1960 to 2003	17
8A.	Alternative Projections of Labor Force Participation Rates for Women Ages 50 to 54	18
8B.	Participation Rate Relative to That of the Same Cohort at Ages 40 to 44	19
9A.	Alternative Projections of Labor Force Participation Rates for Women Ages 60 to 64	20
9B.	Participation Rate Relative to That of the Same Cohort at Ages 50 to 54	21



# CBO's Projections of the Labor Force

**T**his paper presents the Congressional Budget Office's (CBO's) projections of growth in the labor force from 2004 through 2014. It also discusses several key sources of uncertainty surrounding the two main factors that determine the size of the labor force: the size of the adult civilian noninstitutional population; and changes in the fraction of that population that is either working or actively looking for work—the labor force participation rate.<sup>1</sup>

One important source of uncertainty in developing labor force projections is the course of future levels of net immigration—both legal and unauthorized.<sup>2</sup> Population projections are sensitive to assumptions about how many unauthorized residents will enter and remain in the United States, how many legal immigrants and refugees will be admitted, and how many foreign-born residents will choose to emigrate.<sup>3</sup>

- 
1. The civilian noninstitutional population comprises people “16 years of age and older, who currently reside in [one] of the 50 states or the District of Columbia, who do not reside in institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces.” See Department of Labor, Bureau of Labor Statistics, and Department of Commerce, Bureau of the Census, *Current Population Survey: Design and Methodology*, Technical Paper 63RV (March 2002), p. 5-3.
  2. For purposes of this document, legal immigrants are people admitted as lawful permanent residents, refugees, and asylees, as well as people admitted as legal temporary residents. (An asylee is defined as “an alien in the United States or at a port of entry who is found to be unable or unwilling to return to his or her country of nationality, or to seek the protection of that country because of persecution or a well-founded fear of persecution.” See Department of Homeland Security, Office of Immigration Statistics, *2002 Yearbook of Immigration Statistics* [October 2003], p. 218.) Unauthorized immigrants are residents who either entered the United States illegally or were legally admitted but remained beyond the expiration of their visa without adjusting their status. Population projections also take into account flows of people between the United States and Puerto Rico and other U.S. territories and possessions.

A second key source of uncertainty is how participation rates for various demographic groups will evolve over time. The pending retirement of the baby-boom generation (people born between 1946 and 1964) will tend to reduce the overall labor force participation rate—especially in the latter half of the projection period. The overall rate will also be affected by trends in participation rates within demographic subgroups. Those trends are difficult to discern because it is not clear how much of the recent declines in participation can be attributed to cyclical weakness and how much represents changes in the trends themselves. (The overall labor force participation rate fell sharply during and after the last recession, from 67.1 percent in 2000 to 66.2 percent in 2003 and to an average of 66.0 percent in the first eight months of 2004.)<sup>4</sup> Furthermore, there is no guarantee that overpredictions of the labor force participation rate in some demographic subgroups might be offset by underpredictions in others, particularly if some as yet unidentified influence is dampening participation rates within many subgroups.

A third key source of uncertainty in developing labor force projections is how scheduled changes in tax law will affect the labor force participation rate. CBO's projections assume the continuation of current law, including the expiration in 2010 of both the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA). They also assume that people deciding whether to participate in the labor force act as though EGTRRA and JGTRRA will expire. When those laws expire, some workers will face increased marginal tax rates, thus reducing their expected after-tax wage rates and

- 
3. Some categories of legal immigration are subject to numerical limits; in those cases, CBO's projections are based on assumed levels under current law. However, several important categories, most notably immediate relatives of U.S. citizens, are not subject to such limits.
  4. The 2004 figure is seasonally adjusted.

**Table 1.****CBO's Projections of the Labor Force, by Age Group and Sex, for Selected Years**

	Actual Labor Force Participation Rate in 2000 (Percent)	Actual Labor Force Participation Rate in 2003 (Percent)	Projected Labor Force Participation Rate in 2014 (Percent)	Projected Population in 2014 (Millions)	Projected Labor Force in 2014 (Millions)
People Under 25	65.8	61.6	64.0	39.0	25.0
Teens	52.0	44.5	47.7	16.9	8.1
Men 20 to 24	82.6	80.0	81.0	10.9	8.9
Women 20 to 24	73.1	70.8	72.0	11.1	8.0
Men Ages 25 to 54	91.6	90.6	90.5	62.5	56.6
25 to 34	93.4	91.8	92.0	20.9	19.2
35 to 44	92.7	92.1	92.3	19.8	18.3
45 to 54	88.6	87.7	87.4	21.8	19.0
Women Ages 25 to 54	76.7	75.6	77.3	64.1	49.6
25 to 34	76.1	74.1	78.7	21.1	16.6
35 to 44	77.2	76.0	77.3	20.4	15.8
45 to 54	76.8	76.8	76.1	22.5	17.1
People 55 and Older	32.4	35.7	39.3	81.8	32.2
Men 55 to 64	67.3	68.7	68.0	19.3	13.1
Women 55 to 64	51.9	56.6	58.3	20.6	12.0
Men 65 to 69	30.3	32.8	33.9	6.9	2.3
Women 65 to 69	19.5	22.7	24.9	7.7	1.9
Both sexes 70 and older	8.3	8.8	10.2	27.4	2.8
<b>Total</b>	<b>67.1</b>	<b>66.2</b>	<b>66.0</b>	<b>247.4</b>	<b>163.3</b>

Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics.

Note: The projected labor force level and participation rate for 2014 in this table do not take into account the effect of changes in average marginal tax rates scheduled under current law. Including those effects reduces the projected total labor force level to 162.2 million and the total labor force participation rate to 65.6 percent.

modestly dampening labor force participation starting in 2011.

The U.S. labor force will total 162.2 million people in 2014, CBO projects, up from 146.5 million in 2003, which implies an average growth rate between 2003 and 2014 of about 0.9 percent a year. The projected figure for 2014 is about half a million higher than the figure in CBO's previous *Budget and Economic Outlook*, published in January (see Tables 1 and 2 and Figure 1 on page 10). However, it is slightly lower than the Social Security Administration's (SSA's) projection of 162.8 million people (see Figure 2). CBO's projection is also slightly below the Bureau of Labor Statistics's (BLS's) projection in every year through 2012, the last year of BLS's projection.<sup>5</sup> Two commercial forecasters also project rates of growth—Macroeconomic Advisers (MA) and Global In-

sight (GI). CBO's projection of average annual growth in the labor force between 2003 and 2014 falls between those two firms' projections.

CBO's forecast is below those of both SSA and BLS for several reasons. First, SSA's forecast was completed early this year and thus did not incorporate lower-than-expected labor force participation rates during the first half of the year, as CBO's did. The two forecasts also differ in terms of the estimated population level in 2004.

5. SSA's projections, which are not published in detail, were provided to CBO by the agency. BLS's projections are discussed at length in Mitra Toossi, "Labor Force Projections to 2012: the Graying of the U.S. Workforce," *Monthly Labor Review*, vol. 127, no. 2 (February 2004), pp. 37-57.



**Table 2.****Alternative Projections of the Labor Force**

(Millions)	CBO Summer 2004	CBO January 2004	BLS	SSA	MA	GI
2003	<b>146.5</b>	146.6	147.0	146.6	146.5	146.5
2004	<b>147.4</b>	148.6	148.9	148.5	147.5	147.4
2005	<b>150.0</b>	150.9	150.7	150.9	149.6	149.7
2006	<b>152.2</b>	152.9	152.7	152.9	151.5	152.1
2007	<b>154.0</b>	154.5	154.5	154.6	153.2	154.3
2008	<b>155.5</b>	155.9	156.2	156.1	154.7	156.3
2009	<b>157.0</b>	157.2	157.9	157.5	156.1	157.9
2010	<b>158.4</b>	158.2	159.4	158.8	157.4	159.3
2011	<b>159.1</b>	159.0	160.9	160.0	158.4	160.4
2012	<b>160.2</b>	159.9	162.3	161.0	159.2	161.3
2013	<b>161.2</b>	160.8	n.a.	162.0	159.9	162.1
2014	<b>162.2</b>	161.7	n.a.	162.8	160.6	162.8

Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics (BLS); Social Security Administration (SSA); Macroeconomic Advisers (MA); Global Insight (GI).

Notes: BLS's projections use actual figures from 2002 as their starting point.

n.a. = not applicable.

CBO's estimate incorporates the Census Bureau's published estimates of the civilian noninstitutional population, by age and sex, for the first half of 2004, whereas that information was not available when SSA produced its projections. CBO's figures show a higher total population than SSA's do, but differences in the age distribution make CBO's projection of the labor force level lower. Although the two forecasts apply common assumptions about population growth over the remainder of the 10-year projection period, the initial differences in the level and composition of the population persist. Finally, in contrast to CBO's projections, SSA's projections after 2010 are not adjusted to reflect the scheduled expiration of EGTRRA and JGTRRA.

CBO's forecast is below that of BLS primarily because BLS generally assumes higher labor force participation rates than does CBO within most demographic subgroups. In addition, CBO's forecast is lower in the near term because BLS's forecast uses 2002 rather than 2003 as a starting point and because BLS focuses on long-term trends rather than year-by-year outcomes. However, BLS's projections assume a lower rate of growth in the population than CBO's and SSA's projections assume.

## Population

The latest projections for the civilian noninstitutional population reflect the results of the 2000 census. Those results indicated that the growth of the population had been underestimated each year since the 1990 census. Incorporating the results from 2000 in the latest population estimates boosted the estimated level of the adult civilian noninstitutional population in 2000 by about 2.9 million, and the labor force by 1.7 million. Average annual growth in the population during the decade was revised upward from 1.04 percent to 1.17 percent, with a corresponding upward revision to the growth in the labor force.

Much of the upward revision in 2000 stemmed from a rate of net immigration during the 1990s that was higher than previously estimated. In that light, the projected rate of growth in the population beyond 2000 was probably also too low in the previous projections. Indeed, the Census Bureau now estimates that between 2000 and 2003, the total resident population grew at an annual rate of 1.01 percent, up from its 1990 census-based projection of 0.90 percent average growth. Those historical revisions indicate to some degree the uncertainty inherent in projecting the growth of the population.

The Census Bureau attributes a portion of the surge in net immigration in the 1990s to two temporary factors. In that agency's view, some of the unexpected increase in immigration during the 1990s reflects the influx of relatives sponsored by people who attained legal status under the Immigration Reform and Control Act (IRCA) of 1986. The Census Bureau assumes that that flow has peaked and that by 2010 legal immigration from Mexico (the most important source country for immigrants legalized under IRCA) will revert to its level of the early 1990s.<sup>6</sup> A second factor contributing to that surge was a temporary increase in the inflow of refugees. (Unauthorized immigration is not expected to change much from the rate the Census Bureau estimated during the 1990s.) In the Census Bureau's projection, net immigration declines gradually from just over 1 million in 2002 to below 800,000 by 2010. As a consequence of those factors, the Census Bureau's recently released population projections show an upward revision of only 0.05 percentage points to its projected 2000-2014 average annual growth rate.

The Census Bureau's population projections are the basis for BLS's projections for the adult civilian noninstitutional population, but SSA incorporates somewhat higher assumptions about total net immigration in its projections.<sup>7</sup> SSA estimates that legal immigration (net of emigration of legal residents) was about 800,000 in both 2001 and 2002 but declined to about 560,000 in 2003 (because of "a temporary slowdown in processing while increased security checks were introduced during the year"). Net legal immigration is assumed to rise to 750,000 by 2005, then to decline gradually to its ultimate level of 600,000 by 2011.

---

6. Frederick W. Hollmann, Tammany J. Mulder, and Jeffrey E. Kalian, "Methodology and Assumptions for the Population Projections of the United States: 1999 to 2100," U.S. Census Bureau, Population Division Working Paper No. 38 (2000). While the discussion in that paper refers to population projections that predated the 2000 census, the current projections show a higher rate of net immigration than the previous projections because they incorporate a small probability of much higher immigration.

7. Those projections also differ somewhat in their assumptions about rates of fertility and mortality. However, fertility assumptions do not affect projections of the adult civilian noninstitutional population in 2014, as anybody eligible to be counted as part of the labor force that year has already been born. Differences in mortality assumptions primarily affect projections of the size of the elderly population, whose labor force participation rate is very low.

At the same time, SSA puts other (primarily unauthorized) net immigration at an annual level of 400,000 in 2004; it projects that such immigration will remain at that level through 2010 and then decline to 350,000 per year by 2015. SSA's assumptions imply total net immigration of between 11 million and 12 million between 2004 and 2014, significantly higher than the roughly 9 million implied by the Census Bureau's projections.<sup>8</sup>

An alternative approach to projecting net immigration is presented in the report to the Social Security Advisory Board by the 2003 Technical Panel on Assumptions and Methods. That report concluded that as the total U.S. population rises, so should the expected number of immigrants, in part because the demand for immigrants along with other labor is expected to expand as the population grows. The technical panel also suggested that the momentum from past immigration may encourage future flows, as a higher foreign-born population expands the network of people supporting new immigrants. Under the panel's assumptions, instead of declining from its 2002 level, net immigration is projected to rise to about 1.3 million by 2014, with a total net inflow of at least 13 million between 2004 and 2014. That figure is roughly 1.5 million more than SSA's official projection.

CBO elected to adopt SSA's projections of growth in the civilian noninstitutional population for its latest projections, with the initial level adjusted to reflect the Census Bureau's official estimates by age group and sex for the first half of 2004. The level of net immigration implied by the Census Bureau/BLS projections appears to be too low; indeed, the assumed rate of net immigration underlying the Census Bureau's July 2003 population estimate is already higher than that incorporated in its projection for the same year. Consequently, SSA's assumption of higher immigration appears to be more plausible. The technical panel's approach is reasonable, but CBO cannot use the panel's population projections directly because the panel assumes that total net immigration—including components of legal immigration that are subject to numerical limits under current law—will increase with growth in the total U.S. population, whereas CBO's projections must follow current law. In addition, the techni-

---

8. That difference is greater than the difference in the population projections of SSA and the Census Bureau largely because the Census Bureau projects a significantly larger population of women ages 75 and older.

cal panel does not provide detailed projections by age and sex.

As the previous discussion illustrates, population projections represent a major source of uncertainty in projecting growth in the labor force.<sup>9</sup> As noted, projections of cumulative net immigration between 2004 and 2014 range from about 9 million to roughly 13 million. Adjusting for the number of children in the newly arriving immigrant population and assuming an overall participation rate of about two-thirds implies a range of more than 2 million (about 1.3 percent) between labor force projections for 2014 based solely on differences in assumptions about the level of immigration.

## Projecting Labor Force Participation Rates

Participation in the labor force depends on various factors that are difficult to forecast, lending uncertainty to projections of participation. In principle, people choose whether to participate by weighing the advantages of working (primarily their expected after-tax wages and benefits) against the attractiveness of available alternatives (such as retiring, caring for children, or attending school). The higher the after-tax wage rate, the more likely a person is to choose to work. Changes in the supply of and demand for skills can also influence participation rates through their effects on both wages and perceived opportunities to work. In addition, wealth and nonlabor income tend to reduce participation in the labor force. Increases in income available from sources as diverse as welfare and disability payments, retirement income, stock market investments, and earnings of other household members also will tend to reduce participation in the labor force. Moreover, changing preferences for work relative to other activities can affect participation.

Because those factors are difficult to forecast, CBO assesses the most likely path for the overall rate of labor force participation by examining participation rates by

age and sex and by tracking the behavior of cohorts (groups born during specific intervals). Its projections take into account historical patterns for particular age and sex groups, patterns for specific cohorts relative to those of their predecessors (the cohort effect), and other known or predictable influences on participation. Although the discussion below is presented for fairly broad categories, CBO conducted its analysis at a detailed level (for ages 16-17, ages 18-19, and five-year age groups up to and including ages 70 to 74), as exemplified by an assessment of the participation rate for women ages 50 to 54. Because their participation was considerably higher in 2003 than it had been 10 years earlier, the projection incorporates the expectation that as the women in that cohort age, their participation rate in 2013 at ages 60 to 64 will be higher than their counterparts' was in 2003.

At the same time, however, labor force participation rates follow fairly predictable patterns over people's lifetimes: participation typically peaks between the ages of 25 and 54, then falls off sharply after the age of 55. Therefore, the overall participation rate depends on the composition of the adult population as well as on patterns within subgroups. The average age of the population has been increasing for a number of years, and that increase is expected to continue as the large baby-boom generation approaches typical retirement ages. In 2003, 12.5 percent of the adult civilian noninstitutional population was between the ages of 55 and 64, and 15.5 percent was 65 or older. On the basis of its population projections, CBO expects those shares to rise to 16.1 percent and 16.9 percent, respectively, by 2014, during which time it expects the percentage of the population ages 25 to 54 to decline from 55.7 percent in 2003 to 51.2 percent in 2014. Thus, over the next decade and beyond, the shifting composition of the population will dampen the overall labor force participation rate. Holding group-specific participation rates constant at their 2000 levels, CBO expects that demographic effect to reduce the overall participation rate by 0.7 percentage points by 2009 and a further 1.0 percentage point by 2014 (see Figure 3).

Before adjusting for the effects of policy on labor force participation, CBO estimates a rate of labor force participation over all age and sex categories. In 2014, that overall rate is projected to be 66.0 percent—below both the actual 66.3 percent rate in 2003 and the 67.1 percent rate observed when the economy was at or above full employment during the late 1990s (see Table 1). Given the pop-

9. According to the Social Security Board of Trustees, "[T]here is a very wide range of opinion about the future course of immigration for the United States. Some, like the 2003 Technical Panel ... believe that immigration will increase substantially in the future. Others believe that potential immigrants may be attracted to other countries or that the U.S. borders could be tightened in the future." See *The 2004 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (March 2004), p. 75.

ulation projections adopted in this analysis, that implies a 2014 labor force of 163.3 million.

In addition, the latest projections incorporate the effects of EGTRRA and JGTRRA, the movement of households into higher marginal tax brackets as their real income rises, and increased exposure to the alternative minimum tax (AMT) under current law. The scheduled expiration of EGTRRA and JGTRRA in 2010 is expected to dampen labor force participation rates in subsequent years. Furthermore, the historical trends used to assess the likely path of the labor force participation rate within groups were adjusted to account for the impact of past changes in marginal tax rates. Once those policy effects are taken into account, the participation rate in 2014 falls to 65.6 percent and the labor force projection is reduced by more than 1 million relative to its unadjusted level, to 162.2 million.

### People Under 25

Labor force participation rates among teens and young adults—both male and female—have declined sharply since 2000. That drop appears to predominantly reflect two factors: weak demand for labor during the past several years of recession and slow recovery, and a long-term increase in school enrollment rates (particularly increases in school attendance by teens during the summer months).<sup>10</sup>

For teens, the labor force participation rate declined from 52.0 percent in 2000 to 44.5 percent in 2003 and an average of 43.6 percent (seasonally adjusted) during the first half of 2004 (see Figure 4). The teen participation rate will rebound only partially as the economy returns to full employment, CBO assumes, leveling off at 47.7 percent by 2010. By comparison, BLS forecasts less of a rebound, with a rate of 46.5 percent projected for 2012, while SSA projects that teen participation will reach 50.9 percent in 2010 and then level off.

10. Data from the Census Bureau's Current Population Survey indicate that the school enrollment rate in October among teens ages 16 to 19 increased from 69 percent in 1979 to 77 percent in 2000. That increase would tend to reduce the teen participation rate because students are much less likely to participate than non-students. In July, the teen enrollment rate rose from 10 percent in 1985 (the first year for which data are available) to 33 percent in 2003.

Among people ages 20 to 24, the labor force participation rate declined between 2000 and 2003 from 73.1 percent to 70.8 percent for women and from 82.6 percent to 80.0 percent for men. As with teens, CBO assumes a partial rebound, with the participation rate reaching 81.0 percent for men and 72.0 percent for women by 2010 (see Table 1).

### Men Ages 25 to 54

In 2003, 90.6 percent of men ages 25 to 54 participated in the labor force, down 1 percentage point from 2000 and more than 3 percentage points from that group's participation rate in the late 1970s. Weak labor demand has probably contributed to the short-term decline. The long-term decline in part reflects a shifting age mix, as the number of 45- to 54-year-olds—the age group in which participation falls off as workers begin to retire—has grown as a share of the entire category. Nonetheless, the downward trend has occurred within each of the age groups (see Figure 5).

In projecting labor force participation rates for men ages 25 to 54, forecasters face two key questions: whether and at what rate the long-term downward trend will persist, and how much of the more recent sharp decline represents cyclical factors that should reverse themselves in the short run. CBO projects that the participation rate for men ages 25 to 54 will rebound only slightly from its recent decline, reaching 90.8 percent by 2007, before falling to 90.5 percent by 2012. The decrease after 2008 in part reflects a continuing shift in the age mix. To project rates of participation for men who will be in the oldest subgroup—ages 50 to 54—in 2014, CBO compares the participation rate of men in that age group today with their rate 10 years earlier, when the same cohort was ages 40 to 44. CBO assumes that the ratio between those two rates will be roughly constant for men in the 50-54 age group (see Figure 6).

CBO's projection for men ages 25 to 54 is fairly similar to those of both BLS and SSA. SSA's forecast also includes a rebound to 90.8 percent, followed by a gradual decline to 90.5 percent; the only differences are at a more detailed level. BLS has the overall labor force participation rate leveling off at a somewhat higher 91.0 percent. Even so, the gap between CBO's and BLS's expected participation rates translates to a difference of only about 300,000 in the projected level of the labor force in 2014.

### Women Ages 25 to 54

The labor force participation rate among women ages 25 to 54 surged from just over 40 percent at the end of the 1950s to 74 percent at the end of the 1980s. That rate continued to rise in the 1990s, although at a much slower pace, and has declined since 2000 (see Figure 7). Much of the historical increase reflects a generational shift, as women of the baby-boom generation participated in the labor force at significantly higher rates than their predecessors did. (That effect, however, has largely run its course for women of prime working age: only the 50-54 age group continued to show a rapid increase in participation, and only that group had a higher participation rate in 2003 than in 2000.) In addition, women's wages relative to those of men have risen despite the increased supply of women in the workforce. That increase in wages has encouraged higher participation among women.

BLS and SSA differ widely in their labor force projections for women ages 25 to 54. For the age category as a whole and within each subgroup, BLS expects that participation rates will rise by 0.3 to 0.4 percentage points per year, pushing the participation rate up to 79.3 percent in 2012. SSA projects modest increases among women ages 25 to 34, but only a partial rebound from the decline since 2000 for women ages 35 to 44, and an outright decline among women ages 45 to 54. As a result, BLS's projection of the size of the female labor force ages 25 to 54 in 2012 exceeds SSA's by 1.1 million people—or 1.7 million on an equivalent-population basis.

For women ages 25 to 54, CBO assumes a participation rate in 2014 of 77.3 percent—above SSA's figure but well below that of BLS. For the younger age groups, CBO believes that continued shifts in the demand for labor, more flexible parental-leave policies, and perhaps greater telecommuting opportunities will combine to raise participation rates slightly. For women between the ages of 35 and 50, CBO assumes a flat to very slow upward trend, plus at least a partial rebound from the declines since 2000.

For women ages 50 to 54, CBO projects that the labor force participation rate in 2014 will be 72.9 percent. Under that projection, the ratio of that group's participation to the participation rate of women in the same cohort 10 years earlier will be comparable to its level during the late 1990s (see Figure 8). Although that ratio declined substantially during the 1990s, it appears to have leveled off in the past several years. Nevertheless, BLS's projection

for that age group implies a sharp reversal of that fall. The difference between CBO's projection and that of SSA primarily reflects different starting points, as the actual participation rate over the first eight months of 2004 has been higher than SSA had anticipated.

### People 55 and Older

The key issues in projecting labor force participation for people over 55 relate to retirement and, to a lesser extent, disability. The long-standing trend toward declining participation among men of that age halted in the mid-1990s and has since reversed modestly. Meanwhile, consistent with the trend toward higher participation among younger women, participation by women ages 55 to 64 rose from between 41 percent and 43 percent throughout the 1970s and early 1980s to 51.9 percent in 2000, surging to 56.6 percent in 2003. In recent years, participation rates also have been rising for both men and women ages 65 to 69.

The projections of labor force participation rates among older workers rely heavily on cohort analysis. In recent years, about 85 percent of men between the ages of 45 and 49 who were in the labor force remained working 10 years later; CBO projects that that percentage will remain essentially constant, but because participation among 45- to 49-year-olds has declined, the actual participation rate is projected to slip from 77.6 percent in 2003 to 77.1 percent by 2010.

Among 60- to 64-year-old men, participation rates have risen in recent years, both absolutely and when measured relative to the same cohort's participation at ages 50 to 54. CBO assumes that by 2014, about two-thirds of the men who had been in the labor force between the ages of 50 and 54 will still be there at ages 60 to 64, up slightly from the recent average of 65 percent but up substantially from the low of about 60 percent in 1994 and 1995. As a result, the actual participation rate for 60- to 64-year-old men rises from its 2003 level of 57.2 percent to 58.3 percent in 2010, then declines to around 57 percent by 2014. SSA's assumption for that group is quite similar to CBO's. BLS, in contrast, projects that by 2012, 70 percent of the men who had been in the labor force between the ages of 50 and 54 will be there at ages 60 to 64. As a result, the actual participation rate that BLS projects for 60- to 64-year-old men rises above 60 percent. Among men over 65, CBO assumes that the participation rate will rise by about 0.1 percentage point annually, on average.

Projections of women's rates of labor force participation also rely heavily on cohort analysis. Throughout their adult lives, women in the baby-boom generation have exhibited significantly higher participation rates than earlier cohorts, and CBO assumes that this will continue to be the case as that generation ages. Among 55- to 59-year-olds, the participation rate surged from 55.3 percent in 1990 to 65.5 percent in 2003; because that group is already predominantly from the baby-boom generation, CBO expects little further increase. By contrast, SSA has that rate falling over the next decade, while BLS projects that the rate will continue rising at a steady pace, reaching 70 percent by 2012. CBO's projection reflects the assumption that about 85 percent of women in the labor force between the ages of 45 and 49 will remain in the labor force at ages 55 to 59, an assumption that is consistent with the average of the past several years.

Among women ages 60 to 64, the labor force participation rate has similarly jumped, from 36 percent in 1990 to 45 percent in 2003. CBO expects that as the baby-boom generation enters that age group, the participation rate will continue to rise, reaching 48.8 percent by 2014 (see Figure 9). As with the 55- to 59-year-old group, CBO assumes a roughly constant participation rate relative to the same cohort's participation at ages 50 to 54. SSA, by contrast, has the participation rate declining to as low as 42 percent, as in its view a higher rate of attrition into retirement or disability will more than offset the cohort effect. BLS assumes that the rate of attrition will continue to decline and, consequently, that the participation rate will rise to 50 percent by 2012. For women ages 65 and older, CBO assumes similar modest increases in participation, as it does for men.

### The Effect of Changing Marginal Tax Rates on the Projections

As noted above, changes in tax policy can induce changes in the labor force. CBO's projections reflect the scheduled expiration of EGTRRA and JGTRRA, taxpayers' increased exposure to the AMT under current law, and the effect of rising real incomes pushing households into higher marginal tax brackets.

To estimate those effects, CBO uses a microsimulation model that takes into account the actual distribution of household income and anticipated changes in the average marginal tax rate on wages. The average marginal rate is estimated to be 22.6 percent in 2003 following full im-

**Table 3.**  
**Estimates of the Effects of Marginal Tax Rates on Labor Supply**

(Millions)	Marginal Tax Rate	Estimated Effect on
	on Wages (Percent)	Labor Supply (Percentage change relative to 2000)
2000 (Base year)	25.6	0
2003	22.6	0.77
2004	22.7	0.72
2005	23.8	0.49
2006	23.9	0.48
2007	24.2	0.43 <sup>a</sup>
2008	24.5	0.38
2009	24.9	0.33 <sup>a</sup>
2010	25.1	0.27
2011	27.3	-0.08
2012	27.6	-0.12
2013	27.8	-0.16 <sup>a</sup>
2014	28.0	-0.20

Source: Congressional Budget Office.

Note: The estimated effect on labor supply is expressed relative to 2000 to capture the effects of not only the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 but also real bracket creep and the alternative minimum tax. The right-hand column predicts an increase in labor supply between 2000 and 2003 as a result of the effects of the tax cuts. Because the participation rate actually fell between 2000 and 2003, CBO adjusted its estimate of the labor supply downward for 2004 to 2006.

a. Percentage changes are interpolated to replace missing values in 2007, 2009, and 2013.

plementation of EGTRRA and JGTRRA. It is projected to rise to 23.8 percent in 2005 with the expiration of temporary relief from the AMT, and to 25.1 percent by 2010 as a result of real bracket creep and increased exposure to the AMT. It jumps to 27.3 percent with the expiration of EGTRRA and JGTRRA after 2010, before continuing to drift upward by about 0.3 percentage points per year for the next two years (see Table 3).

The microsimulation model estimates the percentage change in the labor input consistent with the upward drift in the marginal rate. CBO applied estimated labor supply elasticities averaging 0.07 for men and 0.5 for women, which implies an elasticity of 0.15 for the total

labor force.<sup>11</sup> The model allowed for the elasticity of supply for primary earners to vary on the basis of their position in the earnings distribution, with elasticities ranging from 0.03 for those in the top 40 percent of the earnings distribution to 0.17 for those in the bottom decile of that distribution.<sup>12</sup> That model would imply that there

- 
11. The elasticity of supply is defined as the percentage change in labor supply in response to a 1 percent change in the after-tax wage rate. These estimated elasticities represent the midpoint of estimated empirical ranges reported in Congressional Budget Office, *Labor Supply and Taxes* (July 1996).
12. The elasticities for primary earners are based on results reported in Chinhui Juhn, Kevin M. Murphy, and Robert H. Topel, "Current Employment, Historically Contemplated," *Brookings Papers on Economic Activity*, no. 1 (2002), pp. 79-136.

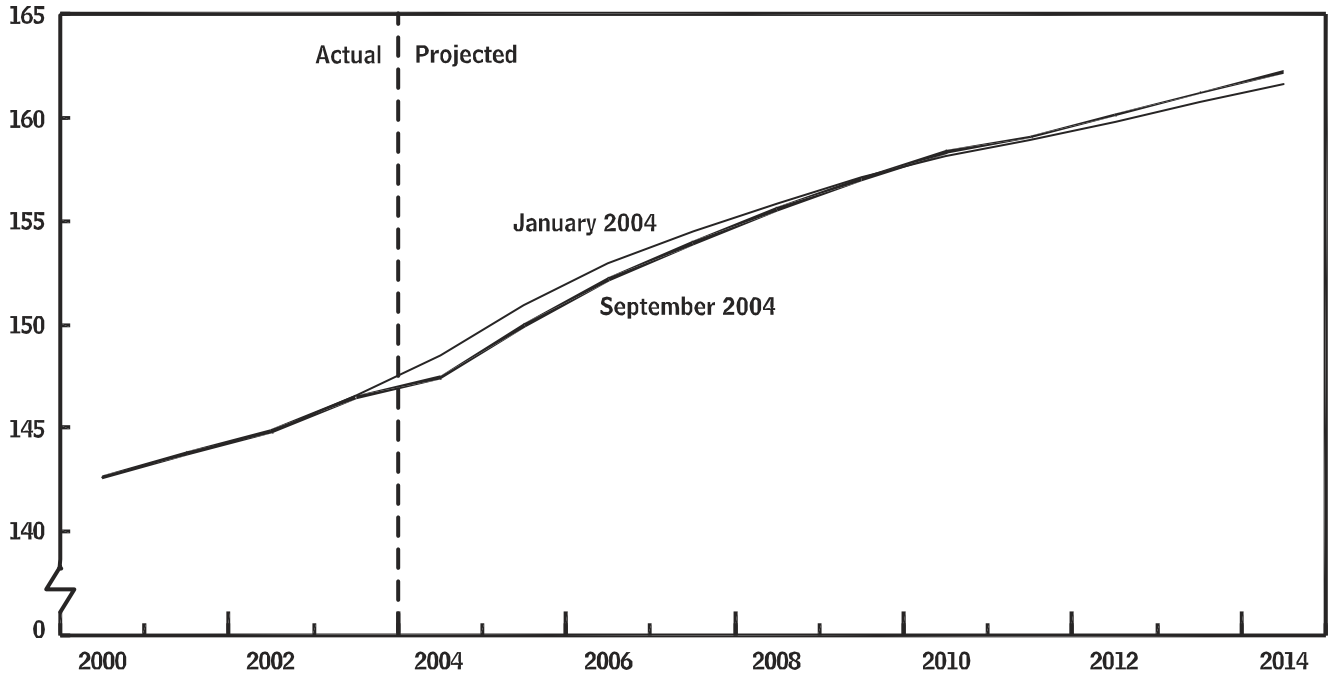
should have been a substantial increase in the labor force participation rate between 2000 and 2003. Because participation actually fell during that period, however, CBO adjusted downward its projections of the labor force between 2004 and 2006. Some recent evidence suggests that the labor supply response to changes in after-tax wage rates might be smaller than in the past, particularly among married women, although that has not yet become a consensus view.<sup>13</sup> CBO continues to investigate that issue.

- 
13. Bradley T. Heim, "The Incredible Shrinking Elasticities: Married Female Labor Supply, 1979-2003" (draft, Duke University, June 2004), available at [www.econ.duke.edu/~bheim/files/HeimFemLS.pdf](http://www.econ.duke.edu/~bheim/files/HeimFemLS.pdf).

**Figure 1.**

**Comparison of CBO's September 2004 and January 2004 Labor Force Projections**

(Millions)



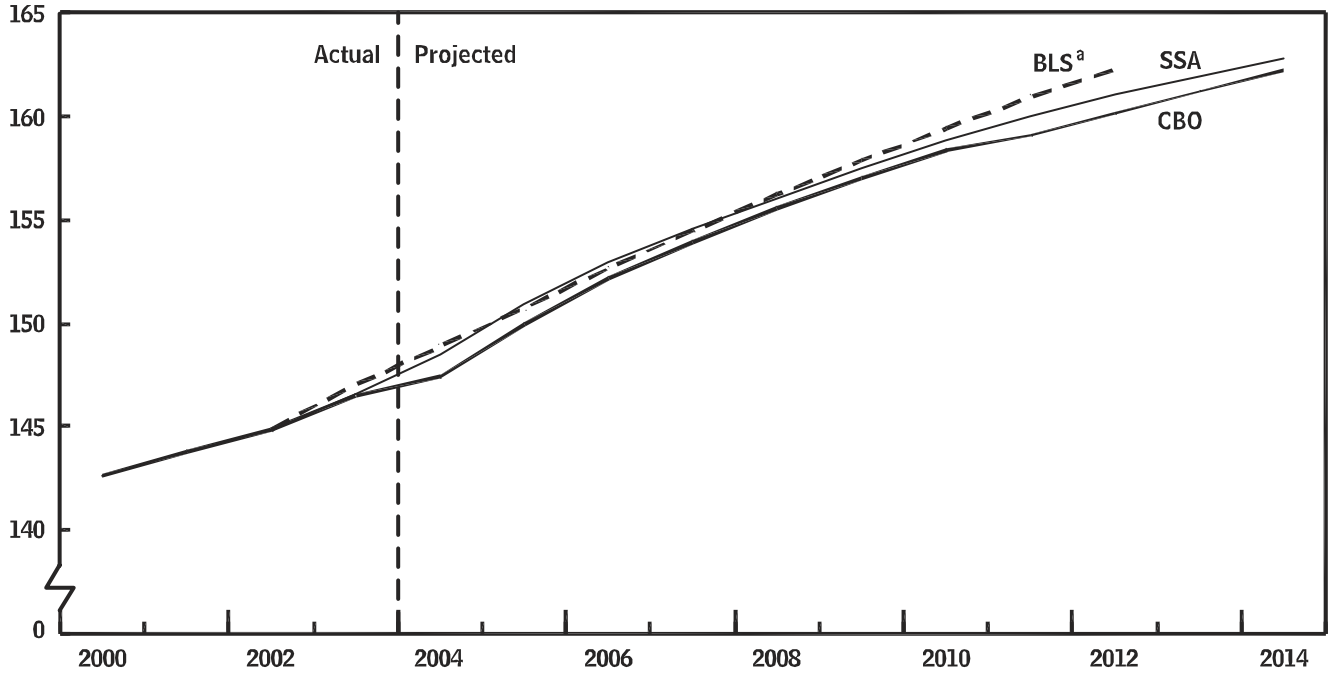
Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics.



**Figure 2.**

**Alternative Projections of the Size of the Labor Force Through 2014**

(Millions)



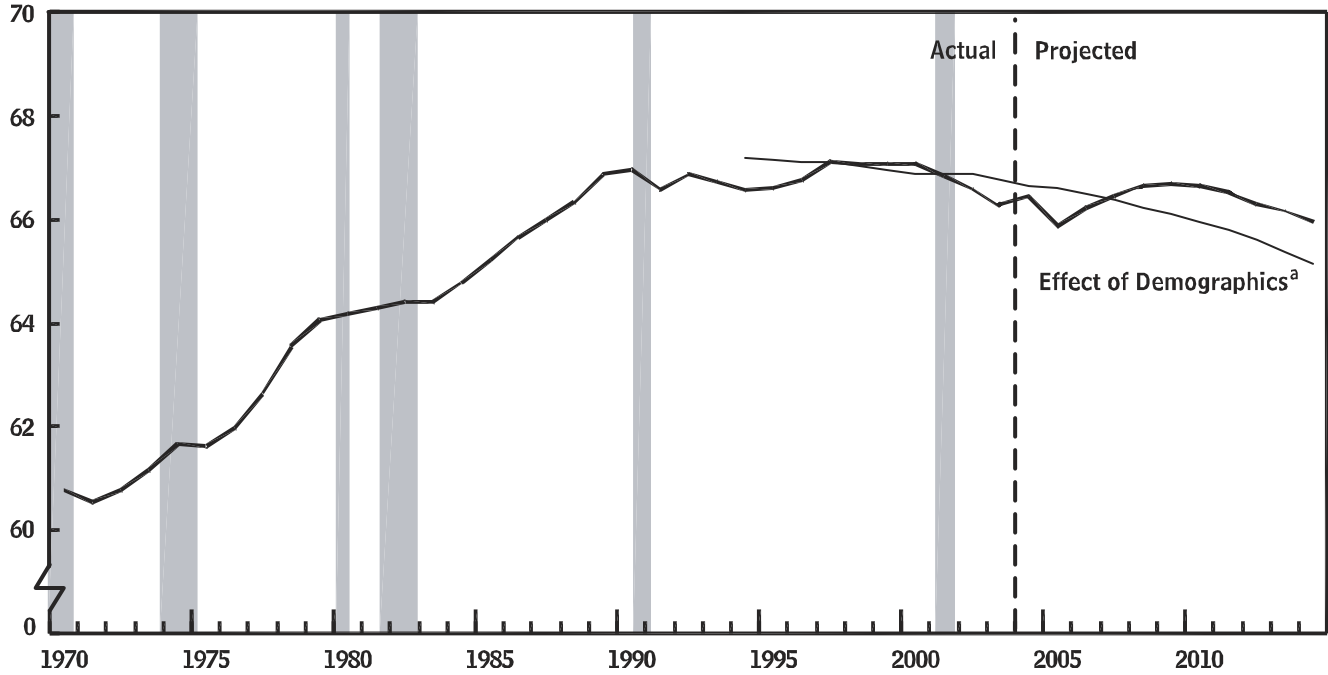
Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

a. BLS's projections are based on actual values in 2002 and extend only through 2012.

**Figure 3.**

**The Overall Labor Force Participation Rate**

(Percent)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics.

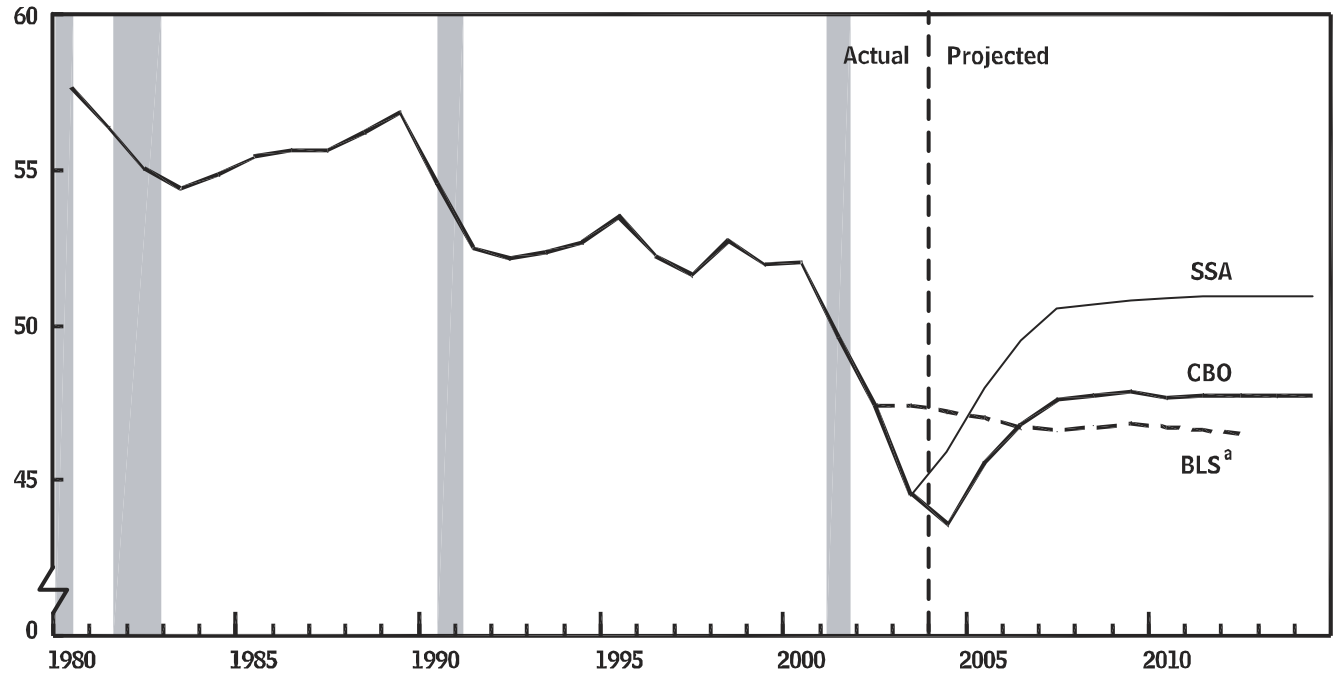
Note: The figures for 1993 and earlier years are adjusted for the redesign of the Current Population Survey (CPS) based on estimates from Anne Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues*, NBER Studies in Income and Wealth (Cambridge, Mass.: National Bureau of Economic Research, 1999), pp. 249-286.

a. Based on actual and projected population by age and sex, holding labor force participation rates within demographic subgroups constant at 2000 levels.

**Figure 4.**

**Alternative Projections of Labor Force Participation Rates for People Ages 16 to 19**

(Percent)



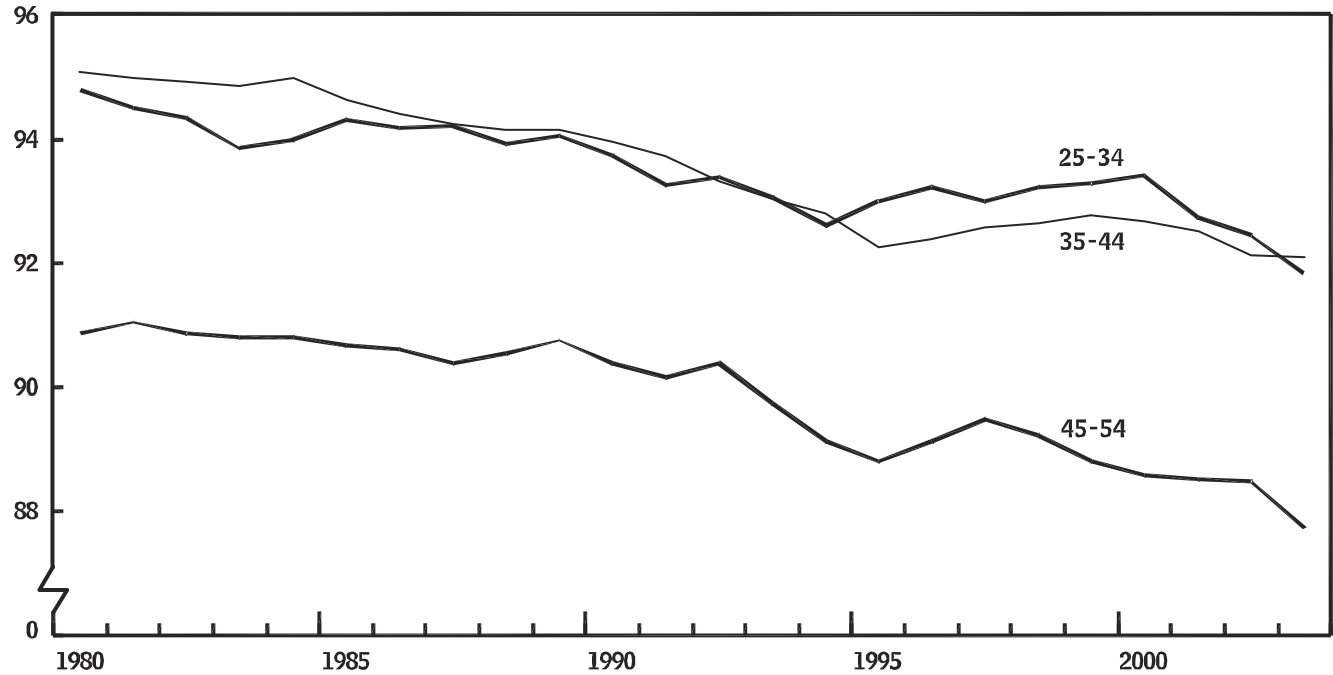
Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

a. BLS's projections are based on actual values in 2002 and extend only through 2012.

**Figure 5.**

**Labor Force Participation Rates for Men Ages 25 to 54, by Age Group, 1980 to 2003**

(Percent)



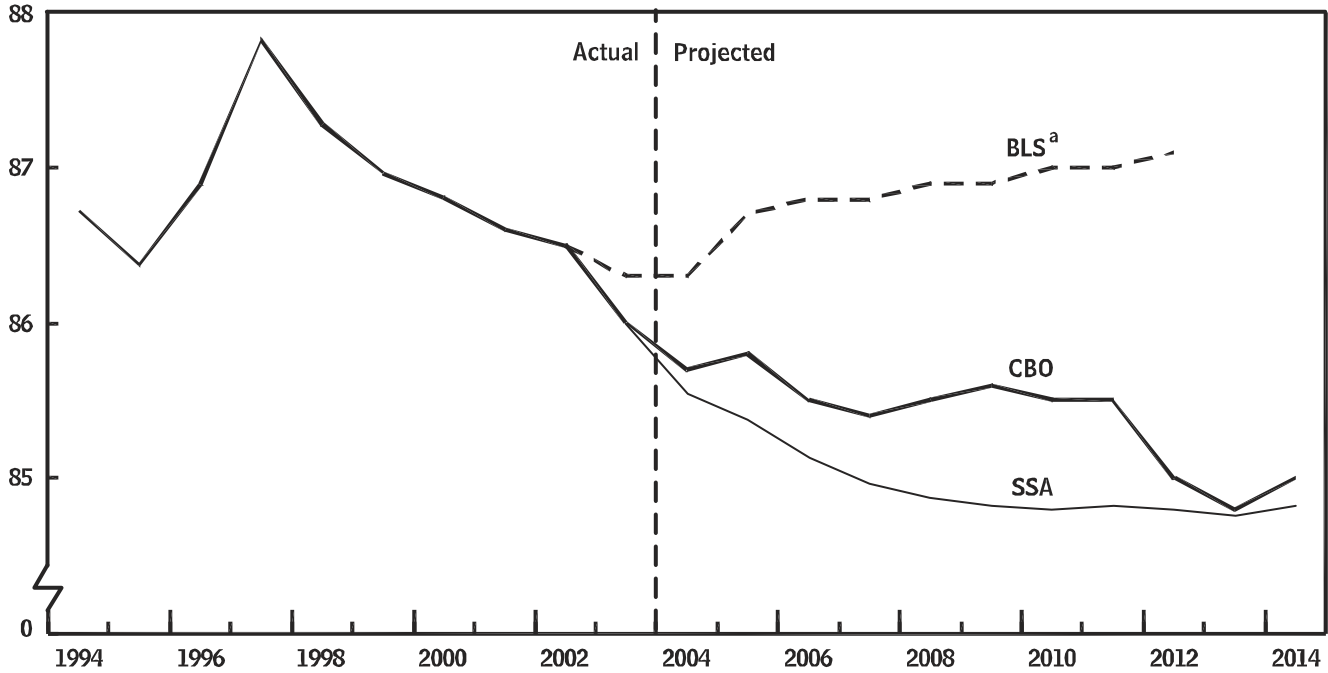
Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics.

Note: The figures for 1993 and earlier years are adjusted for the redesign of the Current Population Survey (CPS) based on estimates from Anne Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues*, NBER Studies in Income and Wealth (Cambridge, Mass.: National Bureau of Economic Research, 1999), pp. 249-286.

**Figure 6A.**

**Alternative Projections of Labor Force Participation Rates for Men Ages 50 to 54**

(Percent)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

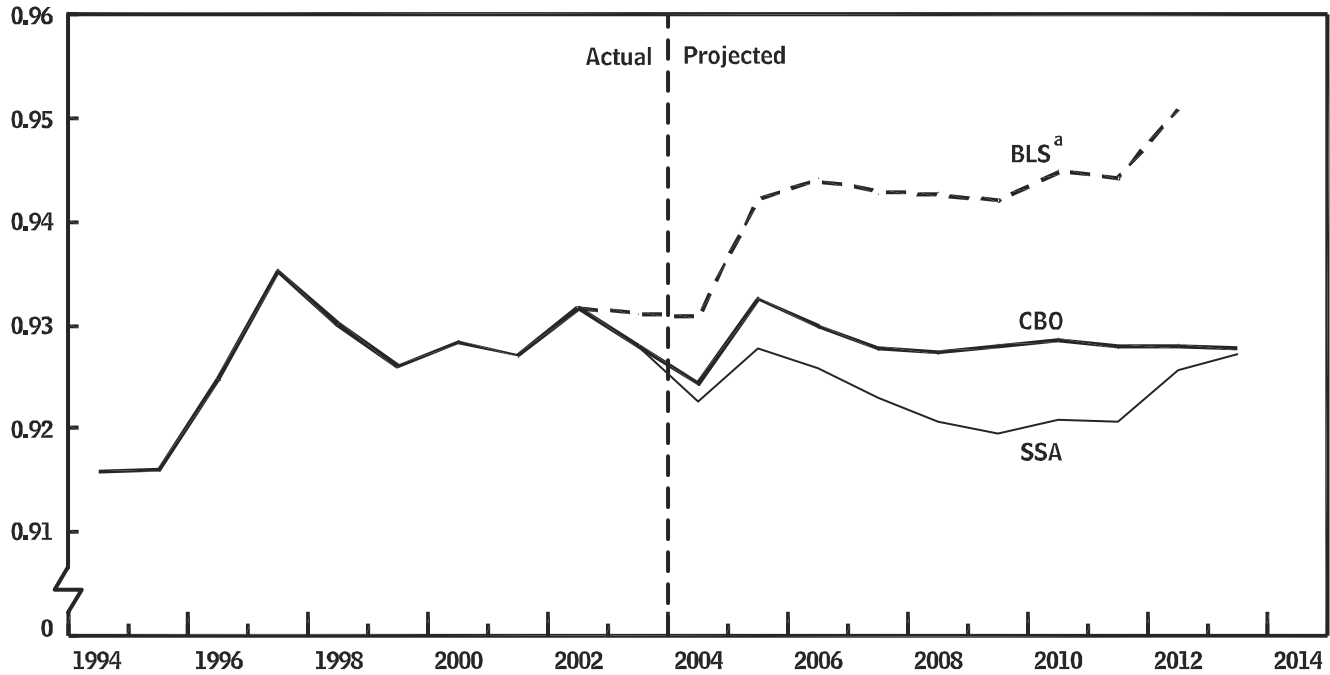
a. BLS's projections are based on actual values in 2002 and extend only through 2012.

Continued

**Figure 6B.**

**Participation Rate Relative to That of the Same Cohort at Ages 40 to 44**

(Ratio)



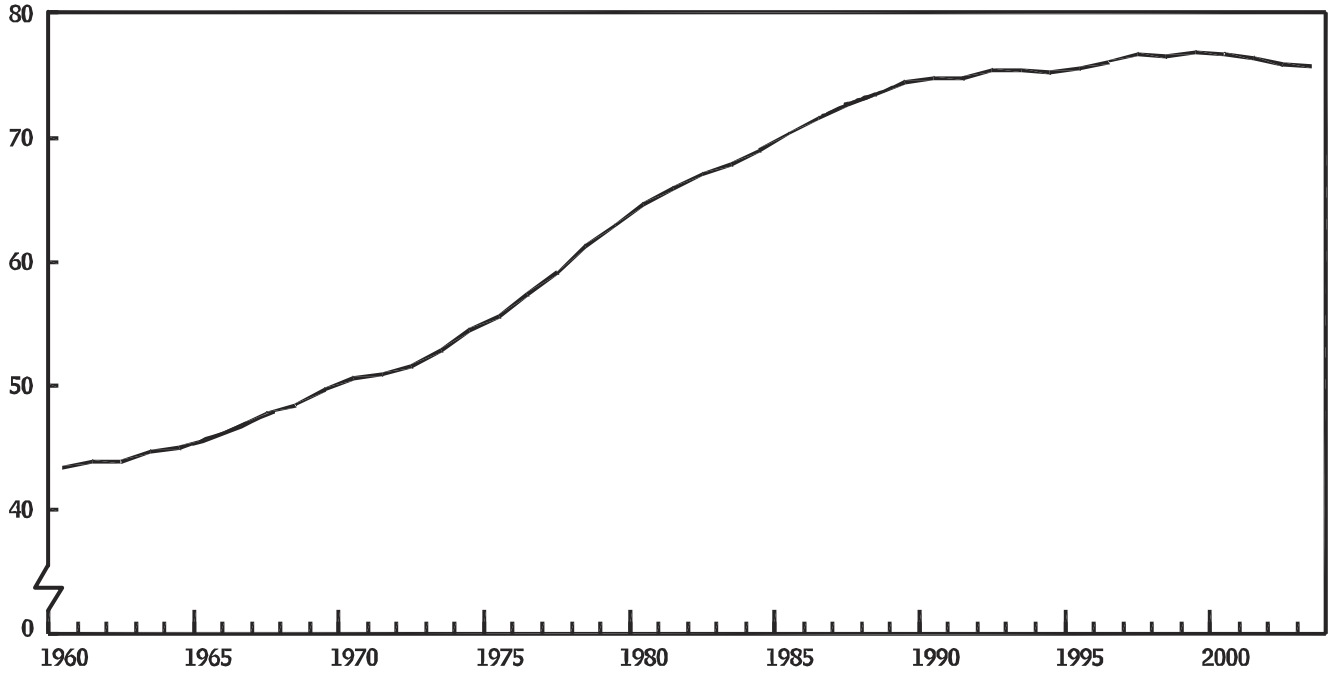
Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

Note: The participation rates for the cohort at ages 40 to 44 used to calculate the historical ratios in Figure 6B are adjusted for the redesign of the Current Population Survey (CPS) based on estimates from Anne Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues*, NBER Studies in Income and Wealth (Cambridge, Mass.: National Bureau of Economic Research, 1999), pp. 249-286.

a. BLS's projections are based on actual values in 2002 and extend only through 2012.

**Figure 7.****Labor Force Participation Rate for Women Ages 25 to 54, 1960 to 2003**

(Percent)



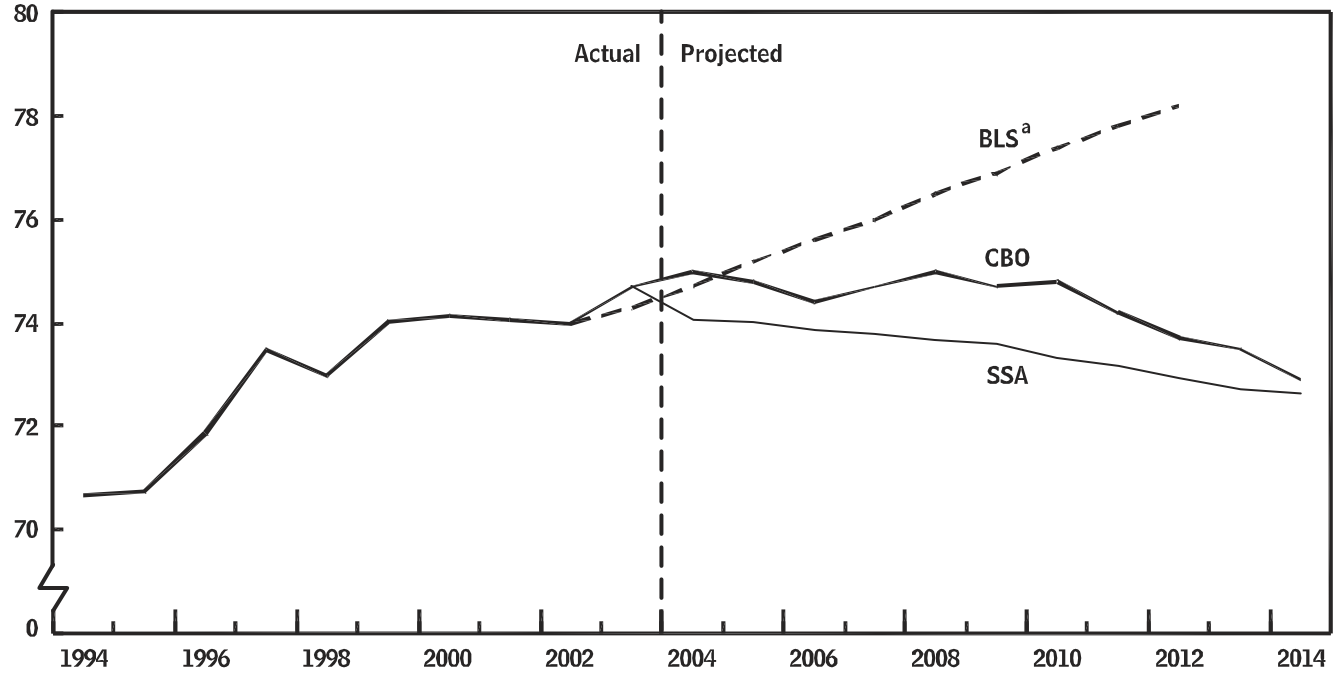
Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics.

Note: The figures for 1993 and earlier years are adjusted for the redesign of the Current Population Survey (CPS) based on estimates from Anne Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues*, NBER Studies in Income and Wealth (Cambridge, Mass.: National Bureau of Economic Research, 1999), pp. 249-286.

**Figure 8A.**

**Alternative Projections of Labor Force Participation Rates for Women Ages 50 to 54**

(Percent)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

a. BLS's projections are based on actual values in 2002 and extend only through 2012.

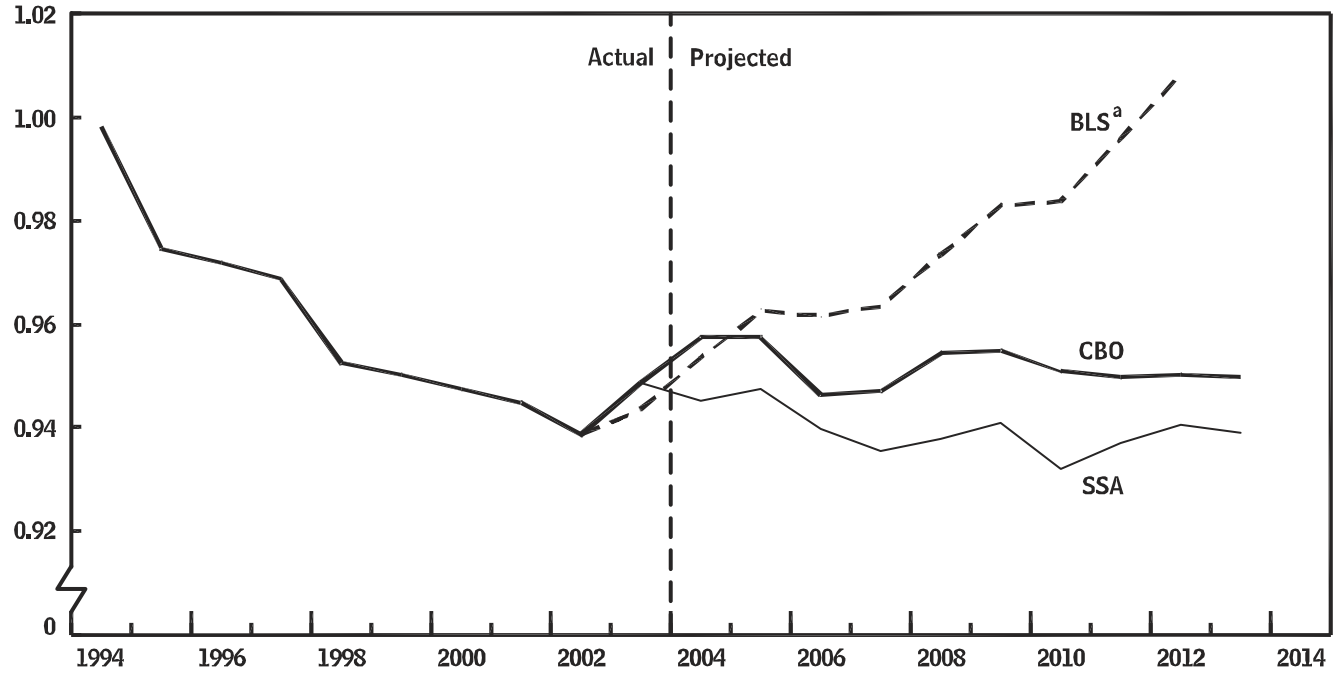
Continued



**Figure 8B.**

**Participation Rate Relative to That of the Same Cohort at Ages 40 to 44**

(Ratio)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

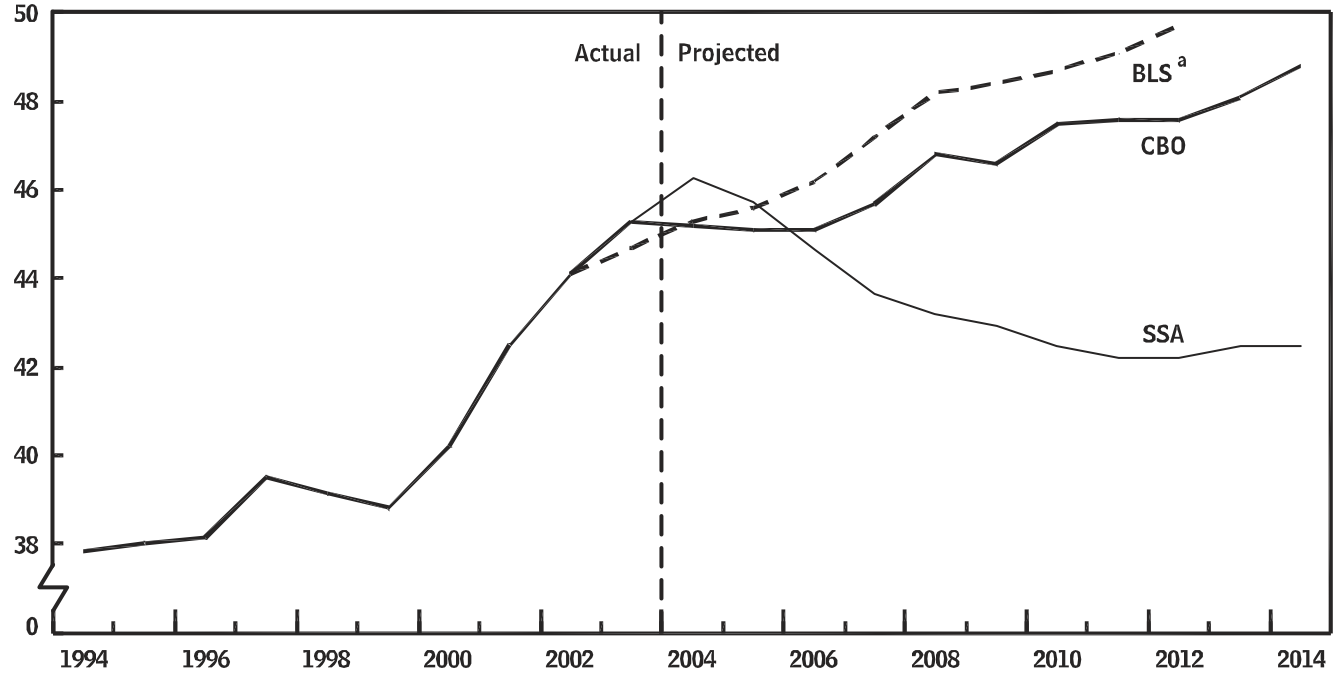
Note: The participation rates for the cohort at ages 40 to 44 used to calculate the historical ratios in Figure 8B are adjusted for the redesign of the Current Population Survey (CPS) based on estimates from Anne Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues*, NBER Studies in Income and Wealth (Cambridge, Mass.: National Bureau of Economic Research, 1999), pp. 249-286.

a. BLS's projections are based on actual values in 2002 and extend only through 2012.

**Figure 9A.**

**Alternative Projections of Labor Force Participation Rates for Women Ages 60 to 64**

(Percent)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

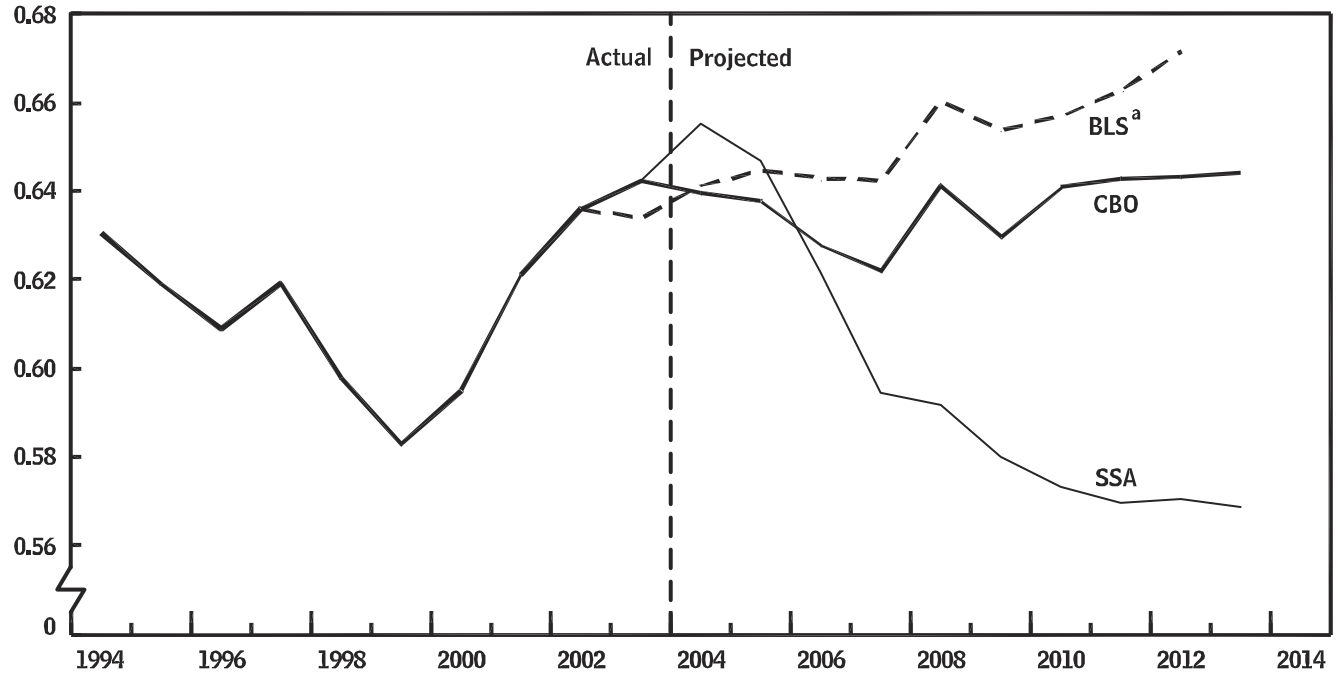
a. BLS's projections are based on actual values in 2002 and extend only through 2012.

Continued

**Figure 9B.**

**Participation Rate Relative to That of the Same Cohort at Ages 50 to 54**

(Ratio)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Social Security Administration.

Note: The participation rates for the cohort at ages 50 to 54 used to calculate the historical ratios in Figure 9B are adjusted for the redesign of the Current Population Survey (CPS) based on estimates from Anne Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," in John Haltiwanger, Marilyn Manser, and Robert Topel, eds., *Labor Statistics Measurement Issues*, NBER Studies in Income and Wealth (Cambridge, Mass.: National Bureau of Economic Research, 1999), pp. 249-286.

a. BLS's projections are based on actual values in 2002 and extend only through 2012.



