CBO TESTIMONY

Statement of
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Director

Economic Volatility

before the
Committee on Ways and Means
U.S. House of Representatives

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Note

Some of the figures in this testimony use shaded vertical bars to indicate periods of recession. (A recession extends from the peak of a business cycle to its trough.)

Mr. Chairman, Congressman McCrery, and Members of the Committee, I appreciate the invitation to participate in today's hearing. Since this is my first testimony before this Committee as Director of the Congressional Budget Office (CBO), I also want to take this opportunity to say that I am looking forward to working with all of you throughout my term to provide you with timely and high-quality analysis of economic and budget issues.

My testimony today makes four main points:

- First, macroeconomic volatility—the ups and downs of overall economic growth and inflation—has declined and is now relatively low. In particular, year-to-year fluctuations in the economy have become smaller than in the past.

- Second, despite the relatively modest volatility in the overall economy, workers and households still experience substantial variability in their earnings and income from year to year. CBO's analysis shows, for example, that between 2001 and 2002, one in four workers saw his or her earnings increase by at least 25 percent, while one in five saw his or her earnings decline by at least 25 percent. Some of that variability stems from voluntary actions, such as a decision to stay home and rear children, and some stems from involuntary events, such as the loss of a job. Earnings volatility is somewhat higher for people with less education.

- Third, although earnings and income volatility is substantial, more research is required to determine how and when that variability has changed over the past few decades. The evidence that exists suggests that earnings have tended to fluctuate more, on a percentage basis, over the past 25 years than they did during the 1970s. The number of studies on the topic is limited, however, so it is too early to reach firm conclusions about the precise timing or magnitude of any increase. Given their importance, trends in income volatility seem to warrant significant research attention.

- Finally, while the unemployment rate has been relatively low in recent years, the adverse consequences of losing one's job appear to have increased. In particular, a higher fraction of unemployed workers remain unemployed for very long periods, and the average reduction in earnings once they are reemployed appears to have grown.

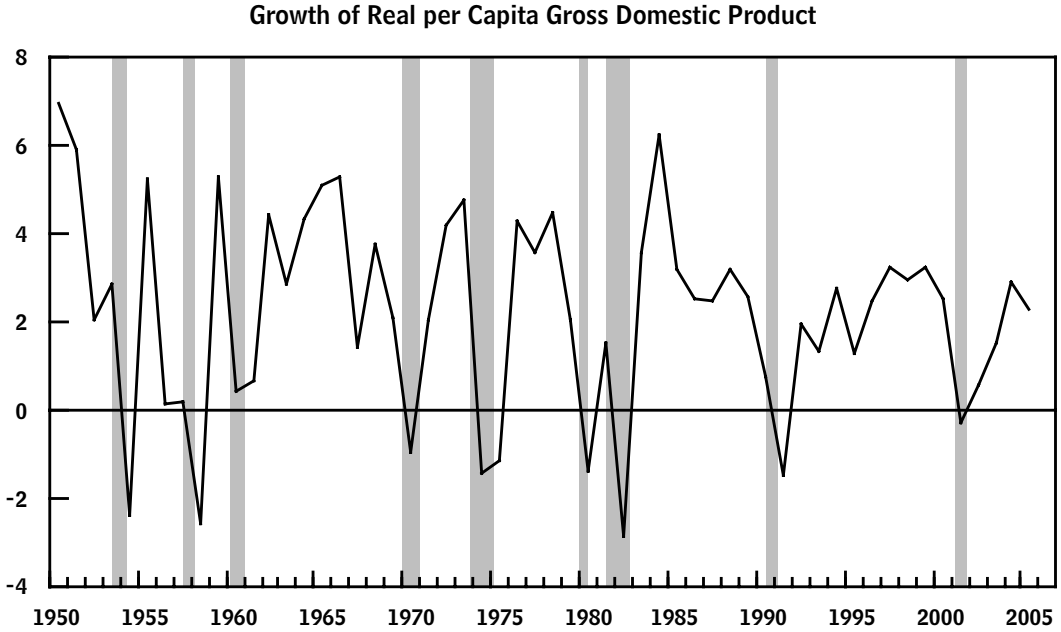
Macroeconomic Volatility

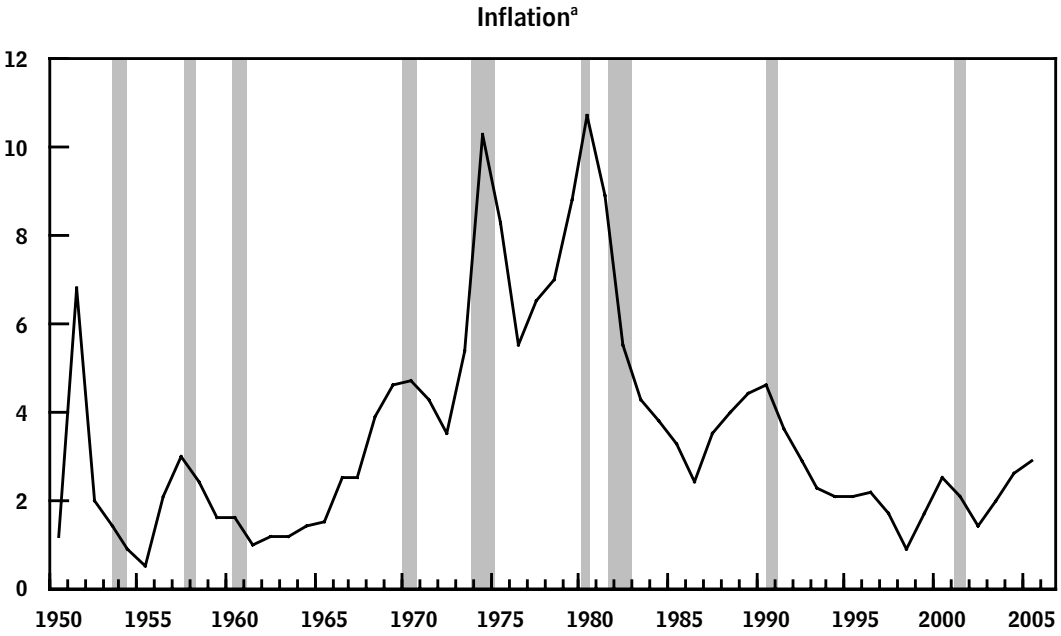
Macroeconomic volatility is now relatively low compared with that in previous periods and has declined significantly during the past 20 years. Although recessions can still be quite painful for particular sectors and workers, recessions have been less severe overall—in duration, frequency, and magnitude—than they were between 1950 and the mid-1980s, and recoveries from recessions similarly have been more tempered. The quarter-to-quarter fluctuations in gross domestic

Figure 1.

Macroeconomic Volatility

(Percent)





Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

a. Inflation as measured by the personal consumption expenditure chained price index.

Table 1.

Changes in Macroeconomic Volatility

(Standard deviation)

	Volatility	
	1950–1984	1985–2005
GDP Growth	3.1	1.4
Inflation	2.9	1.0

Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

Note: Standard deviations calculated using quarterly data to measure the change from the previous year in gross domestic product (GDP) per capita and in the personal consumption expenditure chained price index.

product (GDP) have become smaller (see the top panel of Figure 1), and the level and volatility of inflation over the past 20 years have also been relatively low (see the bottom panel of Figure 1). Volatility in more recent years has been less than half that of the previous period (see Table 1). The corresponding reduction in people's uncertainty about prices allows them to plan better for the future. Volatility has declined not only in the overall growth of GDP and inflation but also in virtually all of the major components of GDP and in aggregate unemployment, wages, and income.

Although there is no conclusive explanation for the decline in the volatility of GDP growth and inflation, numerous reasons have been advanced, many of which are closely interrelated. The proposed explanations fall into four broad categories.

- **A More "Flexible" Economy.** Improvements in production processes and investments in information technologies (such as those that facilitate just-in-time inventory management), increases in temporary and flexible work arrangements, and the deregulation of many industries (especially in the transportation sector) have made it possible for the economy to adjust much more smoothly to changes in the availability of goods and services. The economy can more easily adapt to shocks, such as the energy price shock of 2004 and 2005, without large changes in output or large jumps in inflation.[1]

1. See Congressional Budget Office, *The Economic Effects of Recent Increases in Energy Prices* (July 2006). See also Lawrence F. Katz and Alan B. Krueger, "The High Pressure U.S. Labor Market of the 1990s," *Brookings Papers on Economic Activity*, no. 1 (1999).

- **Improvements in Financial Markets and Institutions.** Financial innovations since the 1970s—such as securitization, credit derivatives, and interest-rate swaps[2]—have provided alternatives to lending by banks, broadened the opportunities for financial intermediation between borrowers and lenders, and enhanced risk management. Those innovations, together with changes in financial regulation that allowed more diversification in banking and housing financing, appear to have provided a more stable source of financing for both businesses and households and improved the resiliency of the financial system by spreading the risk of default more widely and efficiently.

- **Management of Monetary Policy.** Three episodes of aggressive efforts to reduce or contain inflationary pressures—in 1981 and 1982, 1988 and 1989, and 1994—and the Federal Reserve's role in keeping inflation low seem to have lessened firms' and households' expectations of future inflation. As a result, the Federal Reserve may not have to respond as forcefully as it had to in the past to dampen such expectations, and the result may be reduced short-term macroeconomic volatility.

- **Fewer Shocks to the Economy.** This explanation—that fewer shocks to the economy, particularly the worldwide economy, have occurred—was proposed before the rapid rise in oil prices from 2004 to mid-2006. Given the mild effect of that oil price shock on economies worldwide, the explanation now seems less persuasive. Moreover, overall U.S. economic growth was little affected by other major shocks during the past 20 years, such as the Asian currency crisis of 1997, the Russian debt crisis of 1998, and the terrorist attacks of September 11, 2001.

Workers' Earnings and Households' Incomes

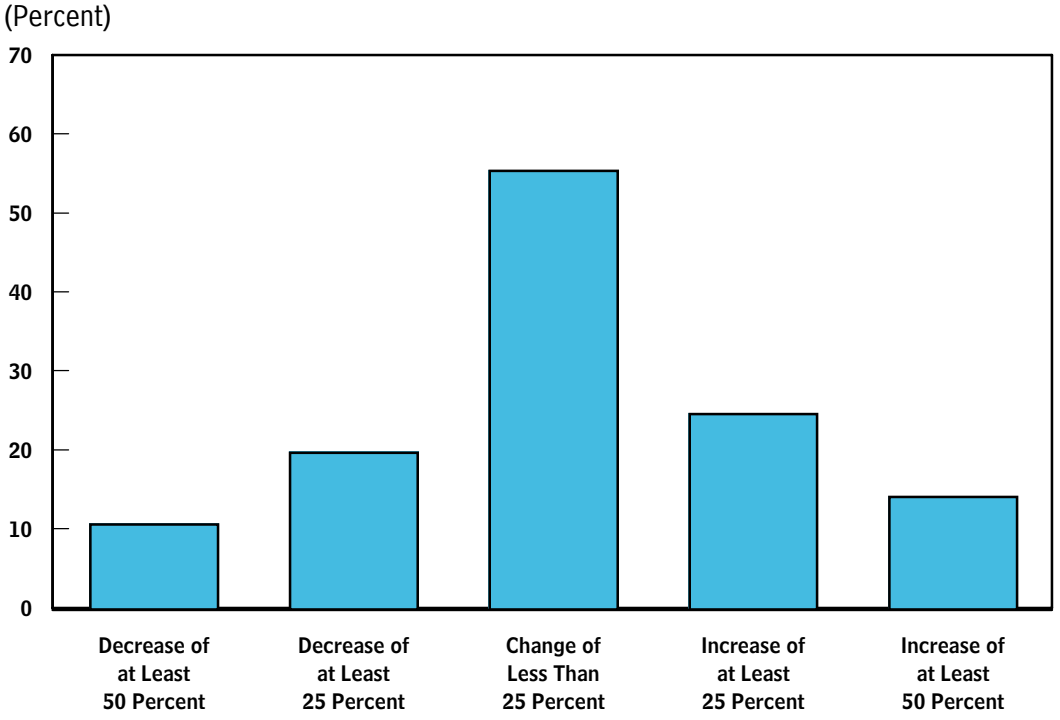
The story at the level of the individual worker or household is different from the story at the macroeconomic level. Individual earnings tend to rise over time, but the data suggest that workers and families experience substantial volatility year to year around that underlying trend.

To examine earnings and income volatility, CBO analyzed recent data from the Survey of Income and Program Participation (a data set collected by the U.S. Census Bureau). The analysis focused on workers who were 25 to 55 years old and

2. Securitization involves the conversion of cash flows into securities; credit derivatives are financial instruments designed to transfer credit risk from one party to another; and interest-rate swaps are an exchange of a series of payments based on different interest rates, which entities undertake to manage their exposure to changes in those rates.

Figure 2.

Distribution of Changes in Workers' Annual Earnings from 2001 to 2002



Source: Congressional Budget Office based on data from the 2001 panel of the Bureau of the Census's Survey of Income and Program Participation.

Note: The sample consists of individuals ages 25 to 55 who had positive earnings in 2001 and were not enrolled in school that year or in 2002. Earnings are inflated to 2002 dollars using the research series of the consumer price index for urban consumers.

not in school and therefore does not capture changes in earnings associated with graduating from school or leaving work for school.[3] Even so, the analysis shows substantial variation in workers' earnings from 2001 to 2002. After an adjustment for inflation, one in four workers saw his or her earnings increase by at least 25 percent, while one in five saw his or her earnings decline by at least 25 percent. A substantial portion of workers, 11 percent, saw their earnings decline by at least half (see Figure 2).

Workers with less education tend to experience more volatility in their earnings than do workers with more education (see Table 2). For example, from 2001 to 2002, 16 percent of workers without a high school education had their earnings

3. For a discussion of wage trends in low-wage labor markets, see Congressional Budget Office, *Changes in Low-Wage Labor Markets Between 1979 and 2005* (December 2006).

Table 2.

Distribution of Changes in Workers' Annual Earnings from 2001 to 2002, by Educational Attainment and Age

(Percent)

	Decrease in Earnings of at Least		Changes in Earnings of Less Than	Increases in Earnings of at Least	
	50 Percent	25 Percent	25 Percent	25 Percent	50 Percent
All Workers	10.7	19.8	55.5	24.7	14.2
Educational Attainment					
Less than high school	15.6	26.0	47.9	26.0	16.4
High school	11.6	19.8	55.0	25.2	14.8
More than high school	9.5	18.8	57.0	24.2	13.6
Age					
25 to 30	11.4	20.0	53.8	26.2	14.6
31 to 40	10.7	19.8	54.5	25.7	14.9
41 to 55	10.5	19.7	56.7	23.6	13.7

Source: Congressional Budget Office based on data from the 2001 panel of the Bureau of the Census's Survey of Income and Program Participation.

Note: The sample consists of individuals ages 25 to 55 in 2001 who had positive earnings in 2001 and were not enrolled in school that year or in 2002. Earnings are inflated to 2002 dollars using the research series of the consumer price index for urban consumers.

decline by 50 percent or more, compared with 10 percent of workers with more than a high school education.

Such fluctuations in earnings can result from many sources, including job changes, job losses, job gains, voluntary exits from the labor force for reasons such as to care for children or other family members, changes in the number of hours worked per year, or changes in the wage rate received by workers. Most workers who experienced at least a 50 percent drop in earnings were not working at least one month and were typically not working eight months in 2002. When those surveyed were asked why they were not working, the most common responses were that they were caring for a child or other family member or were pregnant; were not able to find work or had been laid off; were unable to work because of disability, illness, or injury; or were not interested in working or were retired.[4] The responses appear to be split evenly between those suggesting that the departure from the labor force was voluntary and those suggesting that it was not.

Household income consists primarily of the earnings of household members but also includes other sources of cash income such as unemployment insurance or

4. Only those individuals who had at least four consecutive months without a job responded to the question.

retirement income and nonlabor income like dividends and interest. It thus represents a broader measure than do earnings of the economic resources available to individuals.[5] Like workers' earnings, household income can vary from year to year, though it tends to be less variable than individual earnings. First, if an individual worker in a household with multiple earners loses a job, the earnings of the other members can partially mitigate the consequences of the job loss. Second, a loss in earned income can be mitigated by an increase in other sources of income, like unemployment insurance, payments from a retirement plan, or disability insurance. Neither the mitigating effects of the presence of other earners in the household nor the potential for increases in unearned income is captured in the more narrow measure of individual earnings.

To be sure, households are not fixed entities. They often evolve, as couples marry, separate, or divorce and working children move in or out of the house. Thus, changes in household composition can also affect household income and its variability from year to year.

According to CBO's analysis, the growth of income varied substantially among households between 2001 and 2002 (see Figure 3). Nearly one in four households experienced an increase in income of at least 25 percent, virtually identical to the number of individuals who experienced a similar increase in earnings. Fewer households, one in seven, experienced a decrease in income of at least 25 percent. And 1 in 25 households experienced a decrease in income of at least 50 percent—compared with 11 percent of individuals who experienced such a decline in earnings. Unlike the variability of earnings, however, the variability of household income seems similar across education levels (see Table 3).

For another point of comparison, CBO conducted a similar analysis using data from 1997 to 1998—a period of relatively rapid economic growth, in contrast to the relatively slow growth from 2001 to 2002—and found similar results.[6] Thus, substantial variability in workers' earnings and income can occur in periods of both strong and weak economic growth. A potentially important question is whether, over longer periods of time, earnings and income volatility has risen. According to most studies on the topic, earnings have tended to fluctuate more, on

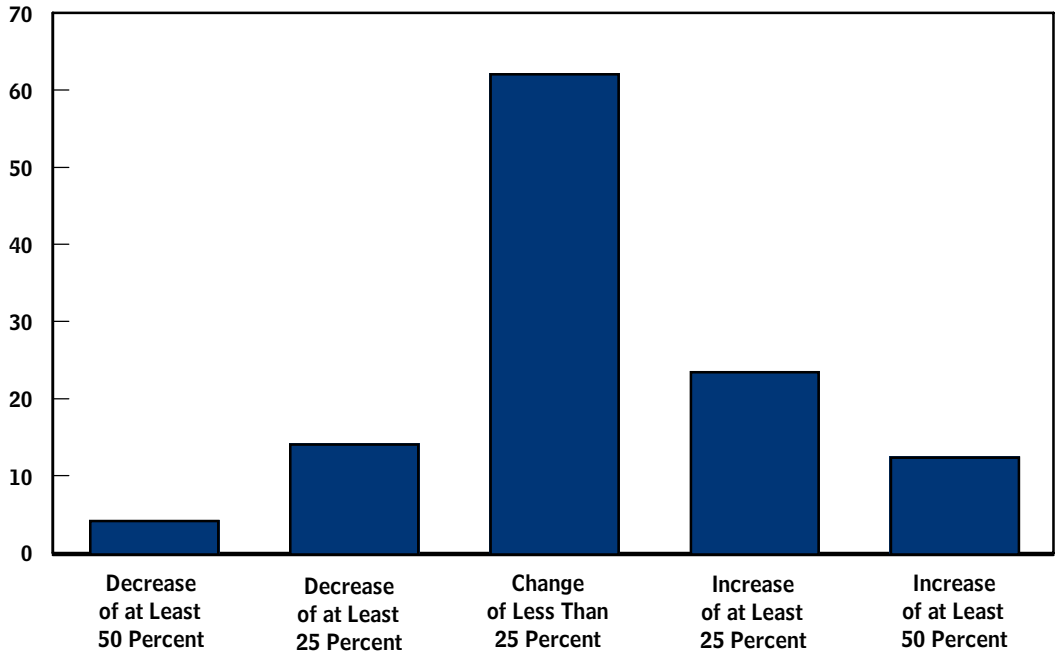
5. Household income, as reported here, is before-tax income and excludes capital gains and losses.

6. The data are from the 1996 and 2001 panels of the Survey of Income and Program Participation, conducted by the U.S. Census Bureau.

Figure 3.

Distribution of Changes in Households' Annual Income from 2001 to 2002

(Percent)



Source: Congressional Budget Office based on data from the 2001 panel of the Bureau of the Census's Survey of Income and Program Participation.

Note: The sample consists of households in January 2001 that were surveyed for all of that year and 2002. Income includes earnings, unemployment compensation, workers' compensation, Social Security benefits, Supplemental Security Income, public assistance, veterans' payments, survivor benefits, disability benefits, pension or retirement income, interest, dividends, rents, royalties, income from estates or trusts, alimony, child support, financial assistance from outside the household, and other cash income. Income is inflated to 2002 dollars using the research series of the consumer price index for urban consumers.

a percentage basis, over the past 25 years than they did during the 1970s.[7] Relative to other topics, however, the trend in earnings and income volatility has received relatively little research attention. Furthermore, using surveys to measure the year-to-year variability in earnings and income is complicated by the fact that individuals' responses are often in error (which could either overstate or understate the

7. See, for example, Peter Gottschalk and Robert Moffitt, "The Growth of Earnings Instability in the U.S. Labor Market," *Brookings Papers on Economic Activity,* no. 2 (1994); Costas Meghir and Luigi Pistaferri, "Income Variance Dynamics and Heterogeneity," *Econometrica*, vol. 72, no. 1 (2004), pp. 1–32; Maury Gittleman and Mary Joyce, "Earnings Mobility in the United States, 1967–91," vol. 118, no. 9 (September 1995), pp. 3–13; and Peter Gottschalk and Robert Moffitt, "Trends in the Transitory Variance of Earnings in the United States," *Economic Journal*, vol. 112, no. 478 (2002), pp. 68–73.

Table 3.

Distribution of Changes in Households' Annual Income from 2001 to 2002, by Educational Attainment and Age of the Head of the Household

(Percent)

	Decrease in Income of at Least		Changes in Income of Less Than	Increases in Income of at Least	
	50 Percent	25 Percent	25 Percent	25 Percent	50 Percent
All Households	4.3	14.2	62.2	23.6	12.5
Educational Attainment of the Head of the Household					
Less than high school	4.3	14.6	62.1	23.3	12.6
High school	4.2	13.8	61.9	24.2	12.6
More than high school	4.3	14.3	62.3	23.3	12.4
Age of the Head of the Household					
25 to 30	4.2	14.8	59.3	26.0	13.8
31 to 40	4.3	14.7	59.6	25.7	13.6
41 to 55	4.8	15.1	61.2	23.7	12.1

Source: Congressional Budget Office based on data from the 2001 panel of the Bureau of the Census's Survey of Income and Program Participation.

Note: The sample consists of households in January 2001 that were surveyed for all of that year and 2002. Income includes earnings, unemployment compensation, workers' compensation, Social Security benefits, Supplemental Security Income, public assistance, veterans' payments, survivor benefits, disability benefits, pension or retirement income, interest, dividends, rents, royalties, income from estates or trusts, alimony, child support, financial assistance from outside the household, and other cash income. Income is inflated to 2002 dollars using the research series of the consumer price index for urban consumers.

actual changes in earnings or income).[8] In addition, while the surveys are intended to be nationally representative, they may not capture undocumented workers and can be subject to biases because some people either refuse to respond at all or drop out of the surveys before their completion. More research is therefore needed before firm conclusions about the precise time trend in earnings and income volatility can be reached.

To the extent that earnings and income variability has increased, the phenomenon may be consistent with—and indeed perhaps part of the explanation of—the decreased macroeconomic volatility described earlier. For example, more-flexible labor markets could enable the economy to adjust to changes in the economic

8. See John Bound and Alan Krueger, "The Extent of Measurement Error in Longitudinal Surveys: Do Two Wrongs Make a Right?" *Journal of Labor Economics*, vol. 9, no. 1 (January 1991), pp. 1–24.

environment more quickly but also could mean that individuals change jobs and have their wages change more frequently.

A final point is that these figures are for before-tax income. The tax system can help to smooth fluctuations in income, so after-tax income can vary less from year to year than before-tax income does. That potential role of the tax system in smoothing income can be quite important.

Job Transitions

One reason for volatility at the worker and household levels involves job transitions. Each year, millions of people become unemployed and find a new job, and many others change jobs without any intervening unemployment. Recent estimates from a survey of businesses demonstrate the extent to which workers move in and out of jobs: Over the 12 months ending in November 2006, an average of 4.9 million workers were hired by firms each month, and 4.5 million workers per month quit, were laid off, or for other reasons left their job.[9] That is, in an average month, employers were hiring over 3 percent of their workers (either to expand their workforce or to replace workers who left), while almost as many workers were leaving. The flexibility of the labor market suggested by those statistics is generally considered a source of strength of the American economy.

For many workers, such transitions are smooth; for some, however, they are more difficult and sometimes even traumatic. Some of those who become unemployed remain jobless for many months, and over the past several decades, the percentage of the unemployed who remain out of work for long periods has increased. About one in six of the workers who were unemployed in late 2006 had been unemployed for 27 weeks or longer, even though the overall unemployment rate was low, at less than 5 percent of the labor force (see Figure 4). In several earlier periods with low unemployment rates (such as before the 1975 recession), the percentage who had been unemployed for 27 weeks or longer was lower.

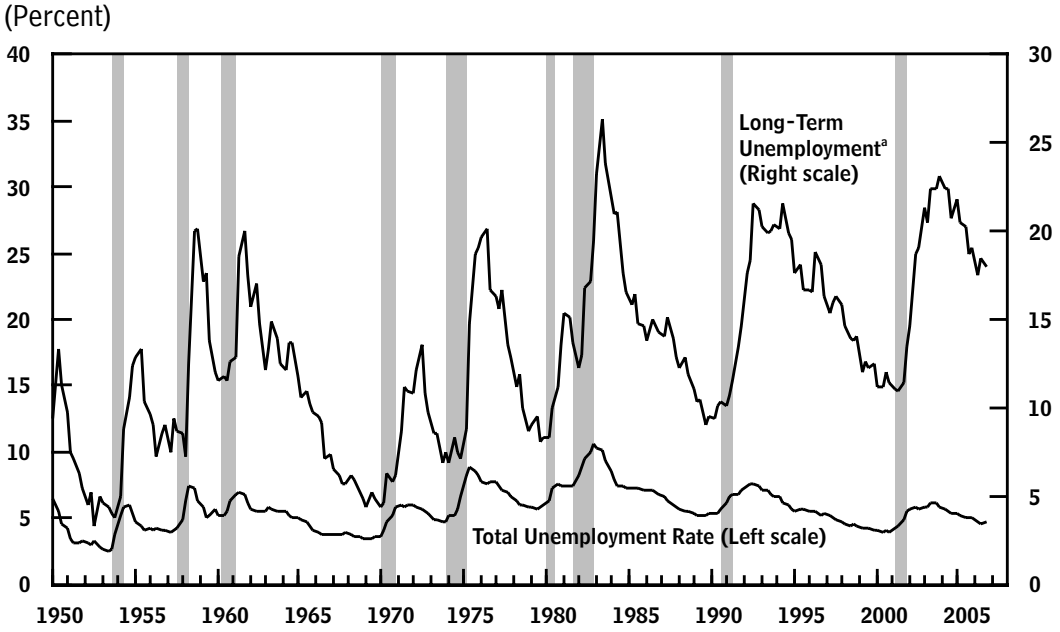
Many workers who lose their job are eligible for unemployment insurance benefits for up to 26 weeks.[10] In the years immediately following the 2001 recession, over 40 percent of the recipients of unemployment insurance benefits exhausted

9. Department of Labor, Bureau of Labor Statistics, "Job Openings and Labor Turnover: November 2006," USDL 07-0020 (January 10, 2007).

10. Many unemployed workers do not qualify for unemployment insurance benefits. About half of the people who are unemployed are new entrants to the labor force, reentrants, or workers who quit their last job; generally, they do not qualify for benefits. In addition, some workers who have lost their job do not qualify—for example, because they had not worked long enough to meet their state's eligibility criteria or because they are searching for part-time work—or do not apply for benefits. In December 2006, 3.2 million of the 6.8 million people who were unemployed became so because they had lost their job or completed a temporary job; in recent months, roughly 2.5 million people have been receiving unemployment insurance benefits.

Figure 4.

Long-Term Unemployment and the Total Unemployment Rate



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

a. The percentage of unemployed people who have been so for 27 weeks or longer.

them—an exhaustion rate that was higher than at any time in recent history.[11] Since then, the exhaustion rate has fallen to about 35 percent, as the labor market has strengthened. Although it is not surprising that the exhaustion rate would climb as job opportunities declined and fall as opportunities increased, the gradual long-term rise in the rate is hard to explain. But one part of the explanation for that rise, as well as for the rise in long-term unemployment, may be that an increasing share of job losses are permanent separations rather than temporary layoffs. According to research based on data from surveys conducted by the Census Bureau for the Department of Labor, the percentage of workers who are displaced seems to have risen somewhat over the past two decades (adjusted for overall economic conditions).[12]

11. Temporary extensions beyond the 26 weeks of regular benefits were available for part of that period as well as in earlier periods with high unemployment; however, comparable information about exhaustion rates for those temporary programs is not available.

12. Henry S. Farber, "What Do We Know About Job Loss in the United States? Evidence from the Displaced Worker Survey, 1984–2004," *Economic Perspectives* (Federal Reserve Bank of Chicago), vol. 29, no. 2 (2005), pp. 13–28.

Moreover, research based on the same surveys indicates that the adverse consequences of losing a job because of slack work, a plant closing, or a position being abolished have increased, which may be one factor contributing to volatility in earnings and income at the household level. One study found that, on average, workers who lost a full-time job from 2001 to 2003 and found a new job by the time they were interviewed in 2004 earned about 17 percent less than they would have earned had they not been displaced.[13] That amount was roughly double the average loss in earnings incurred by workers who were displaced in the late 1990s. The increase in the size of the average loss in earnings was especially large for better educated workers. Finally, as the author of that study points out, his estimates understate the total economic losses incurred by workers in that the estimates do not take into account workers' forgone earnings while they were unemployed and any losses in fringe benefits.

A previous CBO study also underscores the difficulties associated with job transitions.[14] Examining unemployment insurance benefits provided to people who lost their job in the 2001 recession, the study found that the former recipients of unemployment insurance benefits who went back to work within three months after their benefits ended were earning about 15 percent less than they had earned before they lost their job. About 30 percent of them lacked health insurance; 20 percent of them had been uninsured before they lost their job.

Furthermore, former recipients of unemployment insurance benefits who did *not* find work soon after their benefits ended generally incurred substantial losses of income. Their average family income after their benefits ended was about half of what it had been before they lost their job. About 40 percent of them lacked health insurance—more than double the number before they became unemployed.

Conclusion

The U.S. economy has become less volatile: Macroeconomic fluctuations are now much milder than they were in the past. At the same time, however, households continue to experience substantial variability in their earnings and income, and that variability may now be much higher than in the past—perhaps contributing to anxiety among workers and families. The topic seems worthy of more attention from both policymakers and analysts.

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13. Ibid.

14. Congressional Budget Office, *Family Income of Unemployment Insurance Recipients* (March 2004).