

ADVANCE & RUTGERS REPORT

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An Analysis of Economic,
Business & Demographic Trends

THIS ISSUE: **America's New Post-Recession Employment Arithmetic**

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The Second Decade of the New Millennium

The unfolding of the second decade of the new millennium is but a few months away. There is now a growing consensus among experts, including Federal Reserve Chairman Ben Bernanke, that the Great 2007–2009 Recession technically came to an end in the third quarter of this year. So, it is highly probable that the new decade will begin with the nation's aggregate economic output on an upward trajectory. However, we are not moving forward from a robust economic foundation—a condition that characterized the start of the current decade—but, instead, the nation is emerging from the depths of the worst recession since the Great Depression. Thus, it is vitally important to have a set of realistic economic expectations of what is to come. Consequently, the subject of this first *Advance & Rutgers Report* (formerly the *Rutgers Regional Report*) is developing the daunting arithmetic of employment recovery in the

United States. The implications and conclusions of this sobering arithmetic can be instrumental in shaping the economic, business, and real estate markets as the new decade evolves.



James W. Hughes

Joseph J. Seneca

We are grateful for the support of Advance Realty and for Peter Coccoziello's commitment to informing public debate and discussion of the economic challenges and opportunities facing the nation and New Jersey.

James W. Hughes, *Dean*

Joseph J. Seneca, *University Professor*

A Prosperous Tomorrow



Peter J. Coccoziello

During these challenging economic times, the need for thoughtful leadership has never been greater. In this highly complex marketplace, new insights, strategies, and ideas are vital for us as a nation, region, and industry to once again lead. There is little doubt that in the future, the pace of change will only accelerate.

As a company that has always prided itself on continually investing in the best ideas for tomorrow's workplace advancement, Advance Realty is proud to announce its sponsorship of the *Advance & Rutgers Report, An Analysis of Economic, Business & Demographic Trends*. A provocative and comprehensive dissection of the conditions affecting our national, regional, and state economies, this series of reports is researched and developed by a distinguished team of renowned thought leaders at Rutgers University's Edward J. Bloustein School of Planning and Public Policy. Intended not only

to shed light on the economic challenges we currently face, these reports aim to provide a foundation for the creation of solutions to these challenges.

Serving as one of the country's foremost centers for the theory and practice of planning and public policy and analysis, the Bloustein School and notably, Dean James W. Hughes and University Professor Joseph J. Seneca, have been at the forefront of today's discourse regarding the current state of our economy and what can be expected moving forward.

In celebrating our 30th anniversary in 2009, Advance Realty has used this year to reflect on the evolution of our company's past and the path we have developed and continue to forge for the future. Through our sponsorship of the *Advance & Rutgers Report*, we seek to expand this philosophy by leveraging a more thorough understanding of today's economic conditions to devise the most effective steps needed to achieve a sustainable and prosperous tomorrow.

Peter Coccoziello, *Founder and CEO—Advance Realty*

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RUTGERS

Edward J. Bloustein School
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America's New Post-Recession Employment Arithmetic

By James W. Hughes and Joseph J. Seneca

America faces a troubling arithmetic of employment recovery because of the extreme depth of the employment deficit it now faces. This deficit is measured as the sum of the heavy recessionary job losses that began in December 2007 *plus* the jobs needed to satisfy secular labor force growth both during the recession and in the future. As a result, it may take the nation until the second half of the next decade to return to the pre-recession labor market conditions of 2007.¹ Such a long road back is likely to be necessary even if the nation is able to achieve above-average annual employment growth for a sustained period of time.

It certainly wasn't supposed to be this way. America had high economic expectations for the new century/millennium. The strong economic advances of the 1990s—anchored by a remarkable increase of 19.2 million private-sector jobs during the decade—supposedly set in place a solid foundation for continued prosperity. New millennium optimism abounded. Unfortunately, the future turned out quite different—the first ten years of the new century will become The Lost Employment Decade, with the nation destined to exit the decade with fewer jobs than when it began. As a consequence, it now looks like the United States will have to spend a good portion of the second decade of the twenty-first century recovering from an unprecedented employment deficit.

This has significant public policy implications for states, since they will all have to compete ever harder for scarce jobs for their citizenry. There will be no easy job-growth lifts accruing to states simply because of strongly rising national employment tides. States

will be forced into ever greater competition based on costs, affordability, business climates, supporting infrastructure, labor force quality, and tax policies. Business as usual will no longer be a feasible option. Failure to respond effectively to the new challenges at hand will result in economic slow growth or stagnation.

Executive Summary

- The Great 2007–2009 recession is the worst employment setback in the United States since the Great Depression. In the twenty months from December 2007 (the start of the recession) to August 2009 (the last month of available data as of this analysis), the nation lost more than 7.0 million private-sector jobs.
- The recession followed a very much-below-normal economic expansion (November 2001–December 2007) that was characterized by relatively weak private-sector employment growth of approximately 1 million jobs per year. This was less than one-half of the job-growth gains of the two preceding expansions (1982–1990 and 1991–2001), when average annual private-sector employment grew by 2.4 million jobs per year and 2.2 million jobs per year, respectively.
- This underperformance cannot be appreciably attributed to slower labor force growth, i.e., workforce shortfalls. In the preceding two expansions combined, private-sector employment growth per year was approximately 435,000 jobs *higher* than the annual growth in the number of people in the labor force. In contrast, in the

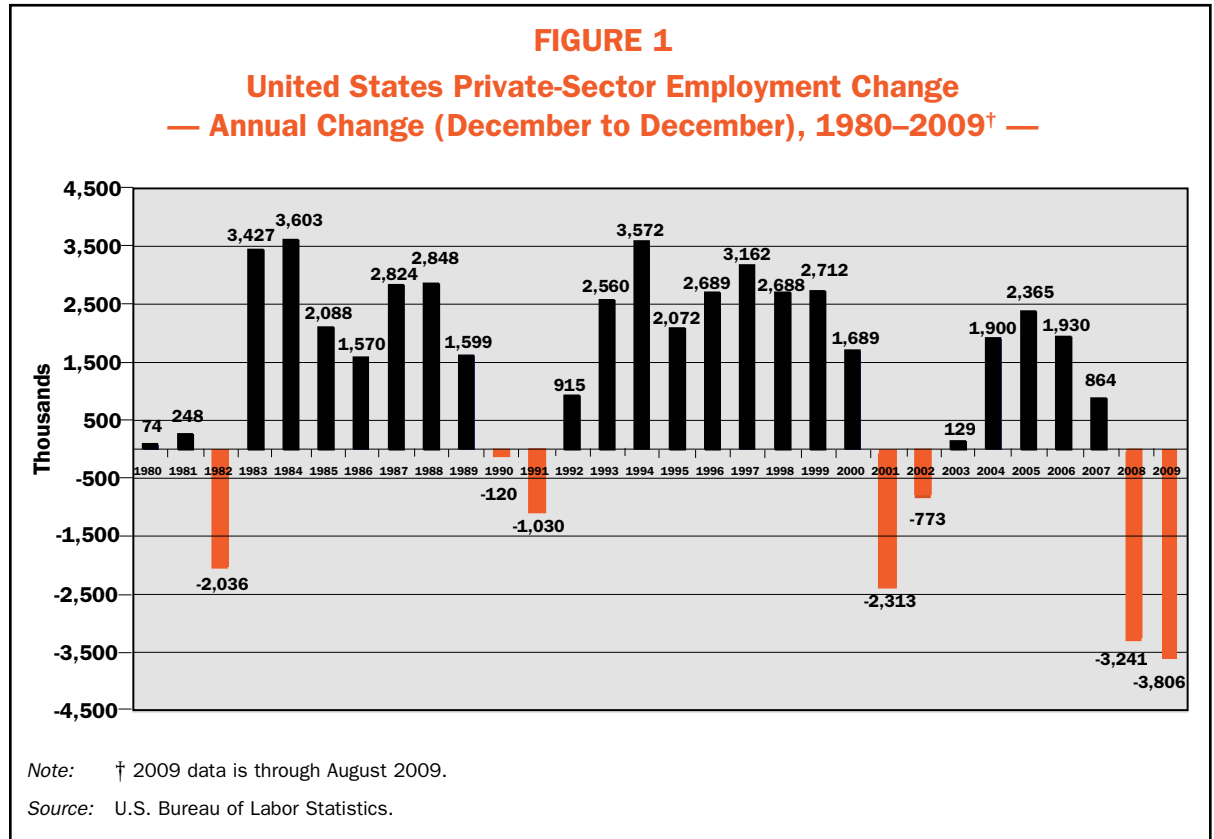
¹ A comparison of several key labor market indicators in December 2007 (the month the recession began) with August 2009 reveals the extent of the deterioration in national employment conditions. Between those dates, the nation's unemployment rate rose from 4.9 percent to 9.7 percent, the employment-to-population ratio declined from 62.7 percent to 59.2 percent, the percentage of the labor force unemployed 15 weeks or longer increased from 1.6 percent to 5.1 percent, and the number of discouraged workers more than doubled—from 363,000 to 758,000.

2001–2007 expansion, private-sector employment growth was 550,000 jobs *lower* than the growth in the number of people in the labor force.

- ❑ The combination of a weak economic expansion sandwiched between two recessions (2001, and 2007–2009) produced what will be a lost employment decade. As of August 2009, the nation had 1.3 million (1,256,000) fewer private-sector jobs than in December 1999. This is the first time since the Great Depression of the 1930s that America will have an absolute loss of jobs over the course of a decade.
- ❑ To put this new millennium experience into perspective, during the final two decades of the twentieth century, the nation gained a total of 35.5 million private-sector jobs. During the current decade, America appears destined to lose more than 1.7 million private-sector jobs.
- ❑ Because of the severity of the 2007–2009 recession employment losses (–7.0 million private-sector jobs as of August 2009), the United States faces a significant employment deficit as it confronts the realities of a post-recession future.
- ❑ Unfortunately, the job deficit is actually larger than the recession employment loss since long-term, demographically driven labor force growth has continued, even though the pace of this growth may have been temporarily muted by people discouraged from entering or returning to the labor force because of the depth and duration of recent job losses.
- ❑ The U.S. Bureau of Labor Statistics projects the nation's labor force to grow by approximately 1.3 million persons per year between 2006 and 2016. Therefore, the nation has to add 1.3 million total jobs per year—consisting of private-sector and government payroll employment as well as contract (non-payroll) employment—simply to accommodate a growing labor force.
- ❑ This 1.3 million annual increase in the labor force means that in terms of private-sector payroll employment, the nation has to create an estimated 920,000 jobs per year.² Adding this to the actual private-sector job losses accumulated during the 20 months (to date) of recession equates to an August 2009 employment deficit of 8.6 million jobs. Given conservative estimates of further employment declines (even if the recession ends in the third quarter of 2009) and the continued increase in the labor force, the nation's employment deficit could approach 9.4 million private-sector jobs by December 2009.
- ❑ Erasing this deficit will require substantial and sustained employment growth. Even if the nation could add 2.15 million private-sector jobs per year starting in January 2010, it would need to maintain this pace for more than 7 straight years (7.63 years), or until August 2017, to eliminate the jobs deficit!³ This is approximately 50 percent greater than the length of the average post-World War II expansion (58 months).
- ❑ Under these reasonable (and possibly even optimistic) conditions, it will take deep into the second decade of the new century for the labor market of the United States to return to where it was in December 2007, the start of the Great Recession. This basic post-recession arithmetic lesson is a very harsh one.
- ❑ The extensive economic damage across the country has brought down many of the former high-flying states, but it has also created an opportunity for New Jersey to become a more competitive economic player in the future. However, this will require enormous political will and an intense focus on policies to grow the economy.

² As detailed in this issue of the *Advance & Rutgers Report*, the U.S. Bureau of Labor Statistics (BLS) projects that 90 percent of total job growth in the 2006–2016 period will be payroll jobs. The authors estimate that 84 percent of these will be in the private sector and that 5 percent of the labor force growth will be unemployed.

³ This was the average annual private-sector job growth during the 10-year 1991–2001 national economic expansion, the longest expansion in the nation's history.



The Big Employment Picture: Recent Expansion Comparisons

The United States entered the Great 2007–2009 Recession following an economic expansion characterized by unprecedentedly weak employment growth. This is illustrated in figure 1, which presents annual private-sector employment growth for the 1980–2009 period. During the 92-month long economic expansion that started in November 1982 and lasted until July 1990, there were two years of private-sector employment growth greater than 3 million jobs (1983 and 1984), and three additional years of gains in excess of 2 million jobs.⁴ During the 120-month-long trans-millennial expansion, which started in March 1991 and ended in March

2001, there were also two years when private-sector employment growth exceeded 3 million jobs (1994 and 1997). There were *five* additional years when growth surpassed 2 million jobs.

In contrast, the 73-month expansion of the current decade (November 2001–December 2007) had only a single year (2005) when private-sector employment growth topped 2 million jobs! Thus, the expansion can be charitably labeled extremely modest in both the scale and duration of job growth. Measured precisely from the starting and end months, the 73-month November 2001–December 2007 expansion added just 6.2 million private-sector jobs, or just over *1.0 million jobs per year* (table 1). This compares to the 21.5 million private-sector job gain of the March 1991–March 2001 expansion (*2.15 million jobs per year*) and the 18.4 million private-sector job gain of the November 1982–July 1990 expansion (*2.4 million jobs per year*). Consequently,

⁴ The official starting and ending dates of recessions are determined by the National Bureau of Economic Research (NBER), and those dates are used throughout this report.

TABLE 1**U.S. Employment and Total Labor Force Growth, Last Three Economic Expansions:
November 1982–July 1990; March 1991–March 2001; November 2001–December 2007**

Expansion Period	Total Nonfarm Employment	Private-Sector Employment	Government Employment	Total Labor Force
1982–1990 Expansion (7.67 years)				
November 1982	88,770,000	72,793,000	15,977,000	111,050,000
July 1990	109,775,000	91,215,000	18,560,000	125,732,000
1982–1990 Growth				
Total	21,005,000	18,422,000	2,583,000	14,682,000
Per Year	2,738,592	2,401,825	336,767	1,914,211
1991–2001 Expansion (10.0 years)				
March 1991	108,535,000	90,047,000	18,488,000	126,238,000
March 2001	132,500,000	111,555,000	20,945,000	143,924,000
1991–2001 Growth				
Total	23,965,000	21,508,000	2,457,000	17,686,000
Per Year	2,396,500	2,150,800	245,700	1,768,600
2001–2007 Expansion (6.08 years)				
November 2001	130,901,000	109,575,000	21,326,000	144,240,000
December 2007	138,152,000	115,783,000	22,369,000	153,836,000
2001–2007 Growth				
Total	7,251,000	6,208,000	1,043,000	9,596,000
Per Year	1,192,599	1,020,549	171,461	1,577,511

Source: U.S. Bureau of Labor Statistics.

the annual private-sector employment growth of the 2001–2007 expansion was less than half that of the two preceding expansions. This was certainly not expected.

An Emerging Disconnect

There was also an emerging disconnect between labor force and employment growth (table 1). During the 1982–1990 expansion, the labor force grew by 1.9

million persons per year, far slower than the annual growth in private-sector employment (2.4 million jobs per year) or in total employment (2.7 million jobs per year). Thus, job increases far exceeded labor force increases. The same pattern was evident during the 1991–2001 expansion, when both total employment growth (2.4 million jobs per year) and private-sector employment growth (2.2 million jobs per year) were considerably in excess of the increase in the labor force (1.8 million persons per year).

However, there was a stunning reversal of this relationship during the 2001–2007 expansion when labor force growth was far greater than employment growth. While the labor force grew by 1.6 million persons per year, total employment grew by only 1.2 million jobs per year and private-sector employment grew by only 1 million jobs per year. On an annual basis, labor force growth (persons working or looking for work) was approximately 557,000 higher than private-sector employment growth. In the 1991–2001 expansion, the annual labor force increase was nearly 400,000 less than private-sector job growth, and in the 1982–1990 expansion, it was nearly 500,000 less. Thus, economic opportunity during the current decade, defined by job growth availability relative to the labor force, ratcheted down considerably.

No Singular Explanation

There are no simple or singular explanations for this underperformance. On the positive side, corporate America may have been much more disciplined in its hiring in reaction to the excesses of the preceding 10-year expansion, when robust job creation may have been partially due to overstaffing. This would suggest a much more efficient economy. Or, perhaps productivity gains enabled economic output to grow with fewer staffing additions, again suggesting a more efficient overall economy.⁵ On the negative side, outsourcing of economic functions to lower-cost nations may have finally taken its toll, reducing job opportunities for Americans. Or, soaring health-care costs may have become a much more significant inhibitor to job creation. Whatever the reasons, the weakness of job growth during the most recent expansion does not portend that the nation will have a robust employment bounce when the current recession comes to an end.

Moreover, as noted previously, the United States did not go on an undisciplined overstaffing binge during the 2001–2007 expansion. Thus, not having to correct such excesses should have moderated the

employment consequences of the current economic downturn. That was certainly not the case, since the nation has just experienced the worst employment losses since the Great Depression. And the recent pattern of jobless and job-loss economic recoveries, as discussed below, raises questions about the timing of a post-recession employment rebound.

Ominous Precedents I and II

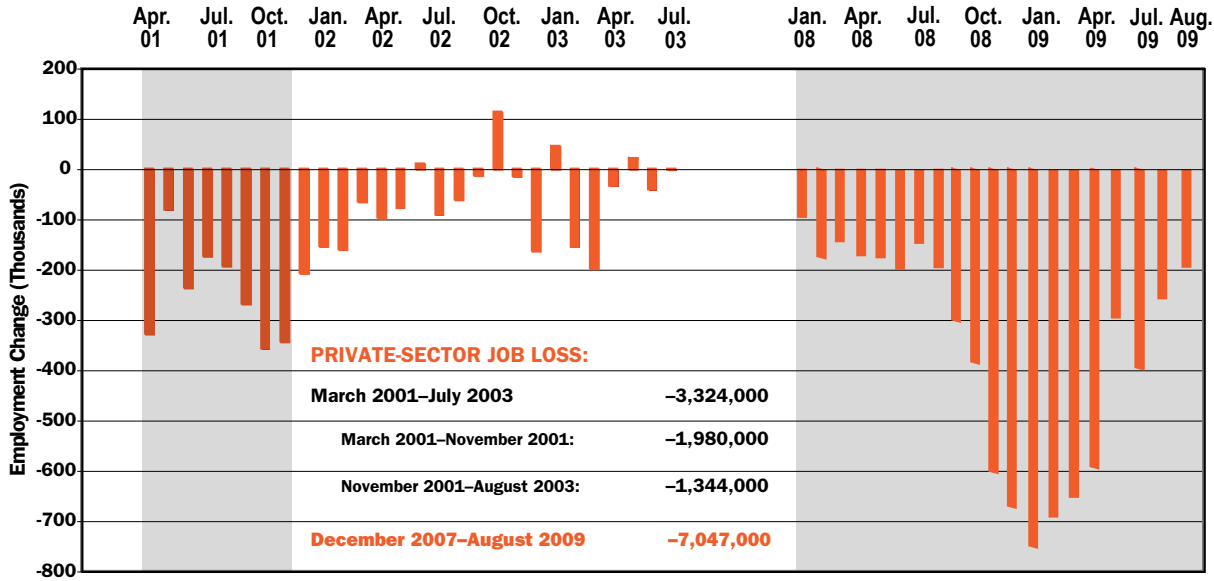
Historically, employment recoveries in the United States were coterminous with, or began within a few months of, the official end of an economic downturn (Appendix A and table A-1). However, a new pattern emerged during the expansion that followed the July 1990–March 1991 recession: namely, *jobless economic growth*. While post-recession (post-March 1991) economic output (Gross Domestic Product, or GDP) increased, private-sector employment growth did not resume until 11 months later (February 1992). This was an entirely new post-World War II phenomenon. National economic output increased for almost a year into the expansion with no accompanying increase in private-sector jobs.

Then, another even more-ominous change emerged following the next recession (March 2001–November 2001): namely, large *job-loss economic growth*. This job-loss dynamic is detailed in figure 2, along with the employment losses accompanying the current downturn. During the 8-month 2001 recession (shaded grey in the figure), 1,980,000 private-sector jobs were lost. Then, in the first 19 months (November 2001–July 2003) of the economic expansion that followed, private-sector employment declined by another 1,344,000 jobs. This was a *second* entirely new post-World War II expansion phenomenon. While the economic output of the United States increased during the

⁵ There is some evidence that this was a contributing factor. From 1991 to 2000, the increase in non-farm business productivity averaged 2.1 percent per year. From 2001 to 2007, the average increase was 2.6 percent.

FIGURE 2
United States Private-Sector Monthly Job Losses

Employment Downturn Comparisons: March 2001–July 2003 and December 2007–August 2009



Note: Shaded areas = NBER recessions (March 2001–November 2001 and December 2007–August 2009).

Source: U.S. Bureau of Labor Statistics.

first 19 months of the expansion (i.e., for more than a year and a half), the nation continued to shed an additional 1,344,000 private-sector jobs. Thus, a total of 3,324,000 private-sector jobs were lost, consisting of 1,980,000 jobs during the official recession (March 2001–November 2001), and 1,344,000 additional jobs (or 40 percent of the total loss) during the extended employment downturn period (March 2001 to July 2003). A key question is whether this pattern will now be the model for the coming expansion after the official end of the current recession.

During the 20 months of the current economic downturn (December 2007–August 2009), the nation lost 7,047,000 private-sector jobs (table 2), more than double the loss of March 2001–July 2003 (3,324,000 private-sector jobs). Even if the recession ends in the third quarter of 2009 as growth in real

GDP rebounds, employment losses could continue for some time. Given the enormity of the employment losses that have already occurred through August 2009, an additional 500,000 jobs could easily be lost before sustained employment growth resumes. This is a very optimistic assumption.

Ominous Precedent III

A third, distinctly different, new business-cycle development raises further questions about the nature of the employment recovery that will follow the current recession. In post-World War II recessions through the 1990s, the service sector accounted for a relatively small share of the employment losses.

TABLE 2
U.S. Service Sector Cyclical Exposure Trend

Recession	Private-Sector Employment Losses (Seasonally adjusted; numbers in thousands)				
	Total	Goods-Producing ^a		Private Service-Providing ^b	
		(#)	(%)	(#)	(%)
December 2007 – August 2009	-7,047	-3,474	49.3	-3,573	50.7
March 2001 – August 2003	-3,289	-2,704	82.2	-585	17.8
July 1990 – March 1991	-1,168	-965	82.6	-203	17.4
July 1981 – November 1982	-2,626	-2,566	97.7	-60	2.3

Notes: a. **Goods-Producing sectors:**
Natural Resources and Mining; Construction; Manufacturing

b. **Private Service-Providing sectors:**
Trade, Transportation, and Utilities; Information; Financial Activities; Professional and Business Services;
Education and Health Services; Leisure and Hospitality; Other Services

Source: U.S. Bureau of Labor Statistics.

This was true even as the service sector became increasingly larger as a share of total national employment.⁶ Most recession employment losses tended to be concentrated in construction and manufacturing. In the current recession, these sectors have continued to have a large share (approximately 50 percent) of the total decline in jobs, but this is markedly less than prior experience.

In this recession, the service sector has become increasingly vulnerable to job losses. Table 2 lists the total private-sector employment loss in each of the last four recessions, the decline in jobs in the goods-producing and in the private service-providing sectors, and the share of each in the total loss.

In the current recession, the share of the job loss accounted for by the private service-providing sector is dramatically higher than in previous recessions. The private service-providing sector accounts for 50.7 percent of the total private-sector losses of 7,047,000 jobs thus far during the current recession. In the previous two recessions, this sector accounted only for approximately 17 percent of total private-sector job losses; in the recession of the early 1980s, the sector had only a negligible share (2.3 percent) of the total job loss. The increase in its share of the job losses from 2.3 percent to 50.7 percent is extraordinary over the three decades of recession history.

⁶ In 1980, services represented 73.2 percent of total national employment. By 2000, services' share had increased to 81.3 percent.

The implication is that private service-providing employment, the dominant job component of the economy, has become increasingly vulnerable to job losses over time. The reasons may be both *cyclical* (e.g., the housing and stock market busts that initiated the current recession sharply affected the finance and real estate sector) and *structural* (the increasing exposure of many components of the service sector to international competition). These changing dynamics suggest that more-modest job growth may occur in many private service-providing businesses when employment gains resume.⁷

The Lost Employment Decade

The result of the deep employment losses of the two recessions of the 2000s, coupled with the weak job expansion that occurred between them, is a decade that will surely end with the nation having fewer private-sector jobs than when it began.⁸ As of August 2009, there were 1.3 million (1,256,000) fewer private-sector jobs than in December 1999. To put this in perspective, during the decade of the 1980s, the United States added 16.2 million (16,245,000) private-sector jobs, and during the decade of the 1990s there was a further gain of 19.3 million (19,258,000) private-sector jobs. Together, during the final two decades of the twentieth century, the nation gained 35.5 million private-sector jobs.

During the first decade of the new millennium (through nine years and eight months as this report goes to press), the United States lost 1.3 million private-sector jobs with little chance of erasing that number during the decade's final four months (September through December 2009). This dismal employment performance is unprecedented since the Great Depression.

The Harsh Arithmetic of the Employment Deficit

During the past 20 months (December 2007–August 2009), the United States lost 7,047,000 private-sector payroll jobs. This total represents the base private-sector employment deficit as a result of the recession. However, the employment chasm is actually deeper than this because of the nation's underlying demographics and the continuing growth in the labor force that occurs even during an economic downturn.

The U.S. Bureau of Labor Statistics (BLS) projected that the nation's labor force would grow at 1.28 million persons per year during the 2006–2016 period (figure 3).⁹ Thus, the United States needs to add approximately 1.3 million jobs per year during this period simply to accommodate labor force growth and hold the unemployment rate constant.

⁷ Even the cyclical aspects of the private service-providing sector employment loss may significantly affect its future job growth potential. Most observers, for example, expect that the housing and finance industries will be more closely regulated and more cost-disciplined for many years going forward as a result of the many aftereffects of the severe busts suffered in this recession.

⁸ The decade of the 1980s is measured from December 1979 to December 1989 and the decade of the 1990s from December 1989 to December 1999. The current decade will be measured from December 1999 to December 2009. Currently (September 2009) that period is just four months shy of a full 10-year decade.

⁹ Mitra Toossi, "Labor force projections to 2016: more workers in their golden years," *Monthly Labor Review* (November 2007, pp. 33–52). It is useful to note that long-term projections of labor force growth are subject to myriad factors affecting employment and population trends. Nonetheless, the Bureau of Labor Statistics (BLS) has a successful projection track record. For example, in 1991 the BLS projected that from 1990 to 2005 the nation's labor force would grow by 1.73 million people per year (Howard N. Fullerton, "Outlook: 1990–2005 labor force projections: the baby boom moves on," *Monthly Labor Review* [November 1991, pp. 31–44]). The actual labor force growth rate over this time turned out to be 1.56 million people per year, or about 10 percent lower than forecast. This difference is modest given the many factors affecting such estimates in complex, interdependent ways.

FIGURE 3

**Full Employment Recovery: United States Baseline Estimate
Private-Sector Employment**

PRIVATE-SECTOR JOB GROWTH NECESSARY TO ACCOMMODATE LABOR FORCE GROWTH

Labor Force Growth Projection (Demographic Full Employment Need)	⇒	1.28 million per year	2006–2016 BLS Projection
Payroll Job Share (90%)	⇒	1.15 million per year	BLS Employment Projection
Private-Sector Share (84%)	⇒	0.97 million per year	Current Share
Assume 5 Percent Unemployment	⇒	0.92 million per year	Authors' Current Share Calculation

CURRENT EMPLOYMENT DEFICIT

December 2007–August 2009 Private-Sector	JOB LOSS	⇒	7.047 million	
December 2007–August 2009 Labor Force	JOB NEED	⇒	1.534 million	1.667 years x 0.92 million per year
TOTAL AUGUST 2009 DEFICIT		⇒	8.581 million	

ADDITIONAL EMPLOYMENT DEFICIT (August 2009–December 2009)

August 2009–Dec. 2009 Private-Sector	JOB LOSS	⇒	0.50 million	
August 2009–Dec. 2009 Labor Force Growth	JOB NEED	⇒	0.31 million	Authors' Estimate:
				0.333 years x 0.92 million per year
August 2009–Dec. 2009	Additional Employment Deficit	⇒	0.81 million	

**TOTAL DECEMBER 2009 PRIVATE-SECTOR
EMPLOYMENT DEFICIT**

⇒	9.39 million	8.581M + 0.81M
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AUTHORS' PRIVATE-SECTOR JOB LOSS/RECOVERY CALCULATION:

Private-Sector Job-Growth Projection	⇒	2.15 million per year	1991–2001 Expansion Average
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Private-Sector Job-Growth Projection Minus Labor Force Growth (Jobs Available to Reduce December 2009 Deficit)	⇒	1.23 million per year	2.15 million minus 0.92 million
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**CONSECUTIVE YEARS OF SUSTAINED GROWTH
NEEDED TO ERASE EMPLOYMENT DEFICIT:**

⇒	7.63 YEARS = AUGUST 2017
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Sources: U.S. Bureau of Labor Statistics data; Authors' calculations.

To identify the job-growth need in terms of *private-sector* payroll employment requires an adjustment for non-payroll employment and for public-sector employment. According to BLS employment projections, 90 percent of total job growth in the 2006–2016 period will be payroll jobs (nonagricultural wage and salary employment), and 91.2 percent of this payroll growth will be in the private sector (8.8 percent will be public-sector jobs). However, to make the present analysis more conservative, the authors assume that only 84 percent of future payroll employment growth will be in the private sector, therefore reducing the need for future private-sector jobs below that projected by BLS. The lower percentage (84 percent) used in this analysis is the private-sector's actual share of total payroll employment in 2006, the base year for BLS's projections.¹⁰ In addition, this analysis also assumes a 5 percent unemployment rate, further reducing the private-sector annual employment need.

The details of the calculation of private-sector employment need are given in figure 3. The nation's overall demographic employment need because of labor force growth is 1.28 million total jobs per year. Payroll employment's share would be 1.15 million jobs per year (90 percent of total employment growth), and 84 percent of that would be in the private sector (approximately 970,000 jobs). Assuming a 5 percent unemployment rate, the United States must create 920,000 private-sector jobs per year to accommodate the employment needs arising from projected labor force growth.

As noted above, the nation's August 2009 private-sector employment deficit is 7,047,000 jobs simply because of employment losses directly caused by the recession. In addition, during the 20-month recession to date, another 1,534,000 private-sector jobs were needed, but were not added, to accommodate labor force growth.¹¹ This raises the August 2009 private-sector employment deficit to 8,581,000 jobs. It is further assumed that employment losses (totaling 500,000 private-sector jobs) will continue to December 2009, an assumption that could be optimistic.¹² Labor force growth during this four-month period (September through December) will require an additional 310,000 jobs. Therefore, between August 2009 and December 2009, the employment deficit could grow by an additional 810,000 private-sector jobs, bringing the total December 2009 employment deficit to just under 10 million (9,390,000) private-sector jobs. Thus, the nation is confronting an extraordinarily long and difficult recovery period.

Just how long this recovery could take is estimated in figure 3. Assume that employment losses finally end in December 2009, and that subsequent annual private-sector payroll employment growth returns to the pace of the 1991–2001 expansion (2.15 million private-sector jobs per year). This latter assumption will likely turn out to be generous since such an annual job increase in the coming expansion would be double the actual annual private-sector job growth of the 2001–2007 expansion.¹³

¹⁰ In 2006, the total employment of the United States (average annual) was 136,086,000 jobs. Private-sector employment was 114,114,000 jobs, or 83.9 percent of total.

¹¹ The overall total BLS projected labor force growth during this period is 1.28 million persons per year multiplied by 1 year and 7 months (1.58), or approximately 2 million persons. The actual labor force growth during the 19 months was only 668,000 persons, in part because of would-be workers discouraged by the deep recession. From December 2007 through August 2009 the BLS reported that the number of discouraged workers rose by 396,000. Most of these individuals are only temporarily out of the labor force and will return. Accordingly, this report assumes the labor force will grow by 1.28 million persons per year. If not all of these discouraged workers (and others who would have entered the labor force) return to (or join) the labor force going forward, the time needed to erase the job deficit will be less. If there is a surge in the labor force above this level, the employment deficit will be larger, and the time needed to eliminate the deficit will increase.

¹² Most forecasts for the national economy indicate that weak labor markets will continue into 2010. It is possible, however, that sustained employment growth will resume earlier. To the extent it does, the cumulative job deficit would be smaller, and the time needed to recover less.

¹³ During the 1991–2001 expansion, the average annual real GDP growth rate was 4.3 percent, yielding the 2.15 million annual average gain in private-sector employment. Forecasts for real GDP growth over the next several years are significantly lower (e.g., Global Insight projects an average annual real GDP growth rate of 2.8 percent from 2010 through 2014). Such a rate is much less likely to yield employment growth comparable to 1990s expansion, assuming no large differences in productivity growth.

Given these assumptions, the bottom line is that it could take until late in 2017 (August) to erase the employment deficit and return to the labor market conditions existing at the end of the last expansion (December 2007). The details of figure 3 indicate that 920,000 of the 2.15 million private-sector jobs created each year are needed to meet labor force growth, leaving 1.23 million jobs per year to eliminate the December 2009 employment deficit (9.39 million jobs). This would require approximately more than 7 consecutive years ($9.39 \text{ million} \div 1.23 \text{ million}$), or 92 months, of sustained growth of 2.15 million jobs per year. Not until August 2017, or well into the second half of the next decade, would this be achieved.¹⁴

A recovery of this duration, and one with this level of sustained annual job growth, would be comparable only to the two longest expansions in the nation's history—the then record-long expansion of 1961–1969 (106 months) and the now new record-long expansion of 1991–2001 (120 months). Given that the average length of the 11 economic expansions of the post–World War II era is 58.5 months, or 4.9 years, sustaining an expansion from late 2009 through 2017 (i.e., for nearly eight years) will be a daunting task indeed. Even eliminating the first four post–World War II expansions in this calculation, because these were of short duration, yields an average length of 71 months (nearly six years). Thus, the United States faces challenging economic times ahead.¹⁵

Conclusions and Implications

The above arithmetic yields several sobering conclusions. First, a long period of job growth will be needed just to eliminate a ballooning employment deficit stemming from a deep, lengthy recession as well as the jobs required to accommodate the secular increase in the labor force. Second, several new business-cycle dynamics imply that the employment recovery may be delayed significantly even after the recession ends. Third, the once recession-resistant services sector may now be much more vulnerable to job losses and global competition and thus may be a less vibrant source of employment growth going forward.

The return of United States economic growth—and the eventual job creation that will follow—obviously offers opportunities and challenges for the states. The basic opportunities stem from a national economy that soon will finally be creating employment; thus, the states will be able to compete for a growing total of new jobs. Perhaps the economic playing field will now be more level than in the recent past, since former high-flying states such as Arizona, California, Florida, Georgia and North Carolina have been deeply damaged by the recession. Similarly, the financial-sector meltdown and ensuing

¹⁴ It is useful to review the recovery from the previous most severe post–World War II recession (July 1981–December 1982). In that 18-month recession, the nation lost 2.64 million private sector jobs. At the time, BLS projected labor force growth of 1.8 million workers per year (Howard N. Fullerton and John Tschetter, “The 1995 labor force: a second look,” *Monthly Labor Review* (November 1983). Thus, the recession, plus normal labor force growth (1.46 million x 1.5 years, or 2.2 million persons), created a 4.83 million private-sector job deficit. (The 1.8 million total labor force annual growth is adjusted for payroll's share—0.9 million, and the private-sector's share—0.9 million, to yield the 1.46 million). The recession ended in December 1982, and by April 1984 (i.e., 17 months later), the actual increase in private-sector employment had erased that deficit. No similar relatively rapid elimination of the job deficit is likely in the current situation. It should also be noted that the actual labor force growth during the July 1981–December 1982 recession was only 1.5 million persons, not the 2.7 million indicated by the BLS annualized projection.

A similar pattern is present in the current recession due to discouraged workers, reduced immigration flows, and other economically related factors that lower labor force growth. As noted, if actual labor force growth is lower than forecast, the time to recover the employment deficit would be somewhat less than eight years.

¹⁵ This analysis focuses on the number of jobs needed to eliminate the employment deficit. It does not address an accompanying critical issue of the type of jobs that are created. Serious concerns have been raised about the ability of the American economy to generate high-value-added jobs without major changes in the nation's research policy. See Adrian Slywotzky, “How science can create millions of new jobs,” *Business Week* (September 7, 2009).

tightening of federal oversight promise a more muted future for profits, jobs, and income growth in New York and other financial centers. Thus, the winners of the post-Great Recession period of the second decade of the twenty-first century have yet to be determined. The once clear-cut state favorites have been wounded and are no longer the front-runners that they were.

Accordingly, states that can focus intensely on growing their economy may emerge first from the deep job chasm described above. But given the renewed sensitivity of corporate America to minimize costs in an increasingly competitive global economy, businesses may pay even greater attention to cost control when employment location decisions are made.

New Jersey still has its market location advantage, strong consumer base, high-quality labor force, and balanced profile of business sectors, giving it the potential to emerge as a viable candidate. However, the state must regain a competitive business-cost position. This will require enormous political will to restore fiscal discipline, eliminate structural budgetary deficits, revive business competitiveness in all its complex dimensions (taxation, regulation, land-use controls, and other publicly imposed costs) and re-balance the use of its resources between income redistribution and economic growth. This is certainly an imposing set of tasks. But, because the economic damage of the Great Recession has been so great elsewhere in the nation, New Jersey and other states that had been virtually relegated to the rear of the economic train in this decade now have an opportunity to emerge as competitive players. ■

Appendix A

Table A-1 lists the starting and ending points of the 10 post–World War II recessions in the United States (prior to the current one) as determined by the Dating Committee of the National Bureau of Economic Research. The table also lists the months when total and private-sector employment reached their low points (troughs) in each downturn. In four of the first eight recessions, the employment troughs were in the exact month when the recession ended. In two others, the trough occurred one month later. Of the remaining two (of the first eight recessions), one had its employment trough two months later, while the other’s was three months later. Thus, employment lows generally occurred at, or near, the recessions’ official ending dates.

That pattern changed markedly during the last two recessions. Private-sector employment reached its trough (February 1992) 11 months after the end of the July 1990–March 1991 recession. This timing disconnect increased substantially in the next recession of March 2001–November 2001. Total employment reached its nadir 21 months after the recession ended (August 2003), while the trough in private-sector employment occurred 20 months later (July 2003). These extended delays in the resumption of employment growth following the end of the last two recessions raise important questions about how soon employment will rebound following the end of the current recession. ■

APPENDIX TABLE A-1

NBER Recession Dates and Total Nonfarm and Private-Sector Employment Troughs

NBER RECESSION		EMPLOYMENT TROUGHS			
Start	End	TOTAL NONFARM		PRIVATE-SECTOR	
		Date	Differential	Date	Differential
November 1948	October 1949	October 1949	None	October 1949	None
July 1953	May 1954	August 1954	3 Months	August 1954	3 Months
August 1957	April 1958	June 1958	2 Months	June 1958	2 Months
April 1960	February 1961	February 1961	None	February 1961	None
December 1969	November 1970	November 1970	None	November 1970	None
November 1973	March 1975	April 1975	1 Month	April 1975	1 Month
January 1980	July 1980	July 1980	None	July 1980	None
July 1981	November 1982	December 1982	1 Month	December 1982	1 Month
July 1990	March 1991	May 1991	2 Months	February 1992	11 Months
March 2001	November 2001	August 2003	21 Months	July 2003	20 Months

Source: U.S. Bureau of Labor Statistics; National Bureau of Economic Research.

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