

# Recession and Recovery Across the Nation: Lessons from History

*By Chad R. Wilkerson*

**T**he U.S. economy officially fell into recession in December 2007, but the timing of the downturn varied widely across regions of the country. In some regions, employment began to erode much earlier in 2007, while in other regions economic activity stayed strong well into the second half of 2008. Do regions typically vary this much in the timing and circumstances of their recessions? If so, perhaps past experience can also shed light on whether some regions can be expected to rebound earlier or stronger than others from this recession.

To explore these possibilities, this article looks at job growth trends across the 12 districts of the Federal Reserve System in recent business cycles. The article finds that the timing and depth of regional recessions typically vary widely, with several districts regularly outperforming others. The same generally holds true for the timing and strength of economic recoveries and expansions across the country. Some of these differences can be explained by the unique industrial structures of the districts, but other factors also play a role.

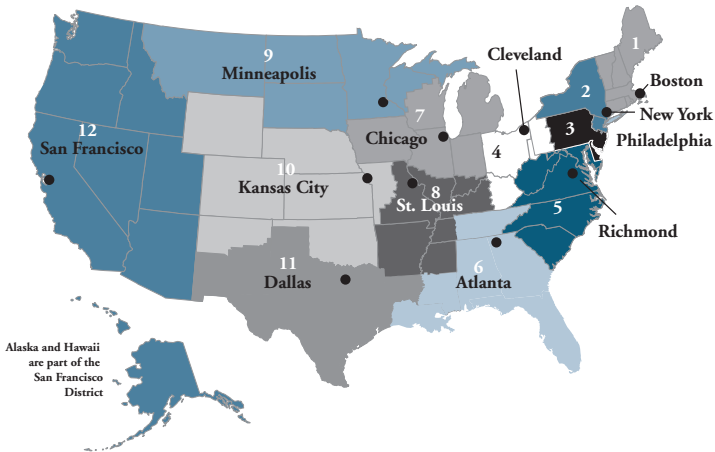
Depending on the district, the current recession has both similarities and differences with past recessions. Supplemented with other economic

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*Figure 1*

## FEDERAL RESERVE DISTRICTS



theory and analysis, these past experiences may provide some guide to the future regional pattern of recovery.

The first section of the article examines the timing of entry to the current recession by the Federal Reserve districts, as well as the wide range of job growth across districts since the 2001 recession. The second section compares this recent experience with U.S. business cycles over the past 50 years. The third section describes how historical trends and economic theory can contribute to understanding the future path of regional economic growth.

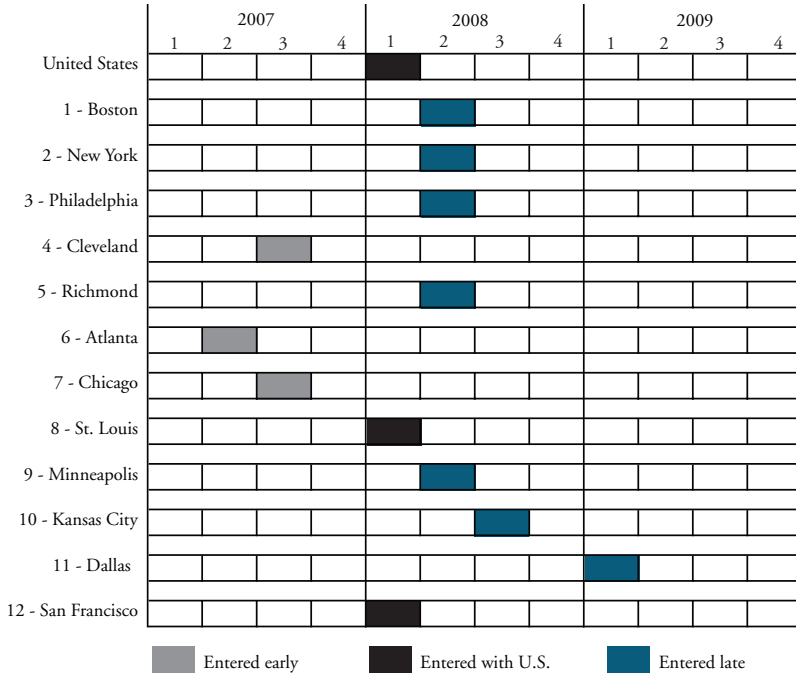
## I. THE TIMING AND CIRCUMSTANCES OF THE CURRENT RECESSION

The current U.S. recession ended a period of national economic expansion that officially started in late 2001. Since then, employment growth in the 12 Federal Reserve districts has varied considerably—both during the recovery and after the current recession began (Figure 1).

### *When did the current recession begin in each district?*

The nation's arbiter of business cycle dating—the National Bureau of Economic Research (NBER)—considers trends in a number of economic indicators in declaring the start and end dates of recessions. These include employment, industrial production, sales, and real income.<sup>1</sup>

*Chart 1*  
**QUARTER OF ENTRY TO THE CURRENT JOBS RECESSION**



Source: Bureau of Labor Statistics

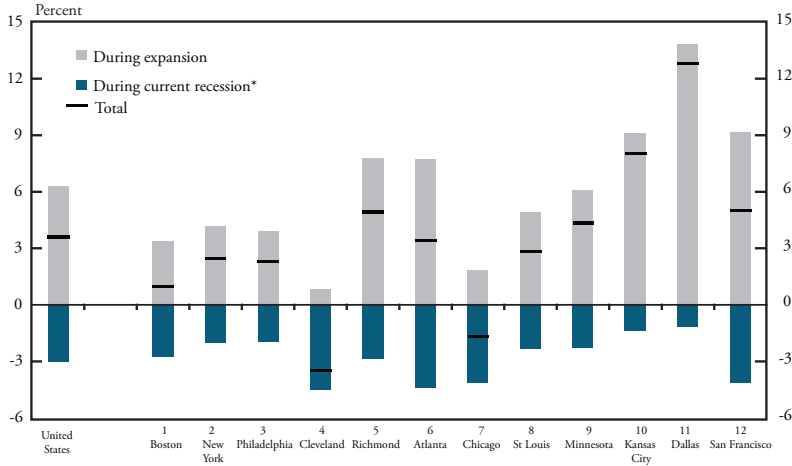
Based on the NBER’s analysis of this combination of data, it determined that the U.S. economy entered recession in December 2007.

To analyze the timing and depth of recessions across Federal Reserve districts over long periods, slightly different measures are necessary than those used by NBER. In this article, quarterly employment data are used to identify regional business cycle peaks and troughs.<sup>2</sup> Based on this measure, the U.S. economy entered the current recession in the first quarter of 2008.

By the first quarter of 2009, all 12 Federal Reserve districts had entered the current recession (Chart 1).<sup>3</sup> The Atlanta District was the first district to experience a downturn, with employment beginning to decline in the second quarter of 2007. The Cleveland and Chicago districts also entered early. Only two districts entered the recession in the same quarter as the nation, with five others joining in the following quarter. The Kansas City and Dallas districts entered last.

Chart 2

## EMPLOYMENT GROWTH SINCE THE END OF THE 2001 RECESSION



\* Through Q1 2009, estimated based upon preliminary state-level data. Expansion and recession size is based on actual district timing.

### *How has job growth varied across districts in recent years?*

Differences in overall job growth by the 12 districts have also been sizable during the recent economic expansion. While employment in several districts never returned to its pre-2001 recession level, jobs in other districts grew fairly rapidly.

District employment gains during the recovery ranged from less than 1 percent in the Cleveland District to nearly 14 percent in the Dallas District (Chart 2). In addition to Dallas, job growth exceeded 7.5 percent in the four other southern and western districts (Richmond, Atlanta, Kansas City, and San Francisco). In each of these districts, job levels exceeded their peaks before the 2001 recession by at least 5 percent.

By contrast, district employment gains were rather modest in New England and the Midwest. Indeed, the Boston, Cleveland, and Chicago districts never returned to their pre-2001 job peaks.

Since the current recession began, the steepest declines in employment have occurred in the Atlanta, San Francisco, Cleveland, and Chicago districts. In each of these districts, employment was already down nearly 5 percent from its recent peak as of the first quarter of 2009. The San Francisco District entered the recession about the same time as the

nation, but the three other districts entered earlier than the nation, so their steeper downturns likely come as no surprise.

With recent sharp declines in employment, many jobs gained during the expansion of the 2000s have been wiped out. In the nation as a whole, over half of the jobs created since the 2001 recession have been lost. In the Cleveland and Chicago districts, employment had fallen well below post-2001 recession levels by the start of 2009, and several other districts were soon to join them. By contrast, employment in the Kansas City and Dallas districts—the latest entrants to the current recession—was still considerably higher than a few years ago.

### *What explains the variation in job growth?*

Economists have long explored why some regions grow—or decline—faster than others. A number of factors contribute to the variation observed across cities, states, and regions—such as age and educational levels of residents; agglomeration and spillover effects of businesses locating close to one another; general long-term migration trends to places with better amenities or weather; state and local tax policy; and, consistently, industrial structure.<sup>4</sup>

The detailed data sets required to analyze the contributions of some of these factors are often available only with considerable lags. But data on one of the factors—industrial structure—are available on a timelier basis.

An analysis of employment data across Federal Reserve districts during the recent expansion suggests that industrial structure indeed played a significant role in the recent variation in job growth. Several alternative definitions of “industrial structure” confirmed this finding. One method in particular—an analysis of employment trends in the “defining industries” of regions—may be especially useful in explaining their differing performances.<sup>5</sup>

Defining industries are the sizable industries in a district that are much more heavily concentrated there than in the nation.<sup>6</sup> That is, they are the industries that make a region’s economy most different from that of the nation. Appendix 1 lists the defining industries of each Federal Reserve District as of 2000.

During the recent expansion, districts that posted the most sluggish job growth were Cleveland and Chicago. Both districts are defined by manufacturing—more so than in any other district. This industry has experienced very little job growth in recent years.

The fastest growing districts this decade—at least until the current recession began—have been Dallas, San Francisco, and Kansas City. The Dallas and Kansas City districts clearly benefited from the energy boom of the middle part of the decade, while San Francisco benefited from heavy concentrations in several fast-growing service industries. By the middle of the decade, the construction sector had also become a defining industry in the San Francisco District, which experienced rapid job growth through 2005. In addition, job growth in most industries in these districts exceeded job growth in that same industry at the national level during the expansion, suggesting a general migration of workers to those regions.

Among districts with especially early or late entry dates into the recent downturn—or especially deep job losses—several key industries help explain these trends. In the Atlanta District, for example, the crisis in the housing sector began earlier and was sharper than in other districts, pushing down construction employment especially hard. Likewise, construction has fallen sharply in the San Francisco District. Meanwhile, employment in manufacturing began falling earlier and more sharply than in most other industries, creating special difficulties for the Cleveland and Chicago districts. By contrast, the Kansas City and Dallas districts continued to benefit from high commodity prices well after the nation entered recession.

## II. THE TIMING AND SIZE OF PAST RECESSIONS AND EXPANSIONS

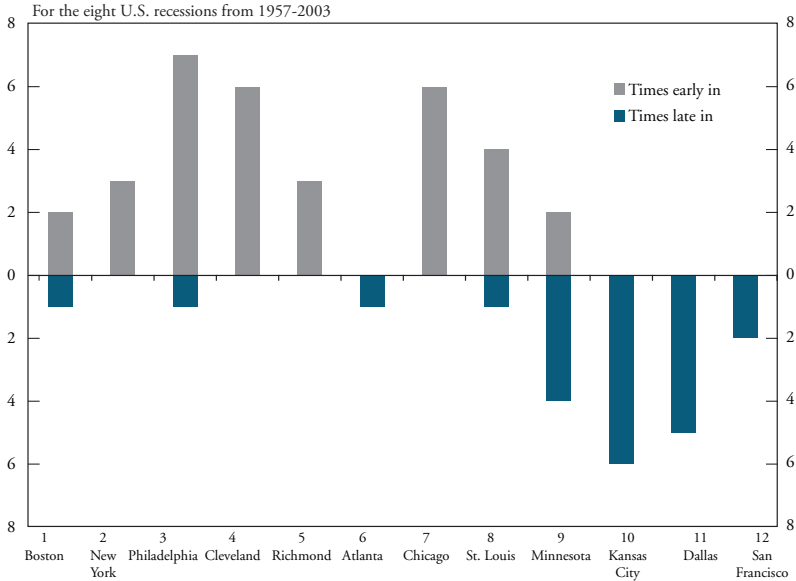
Just as the timing of districts entering the current recession has differed markedly, so have the levels of employment in the districts, both before and after the recession began. Have past U.S. business cycles been similar? If so, do clear regional patterns characterize business cycles, or does each recession have different regional patterns than others?

### *How have the timing and size of business cycles varied?*

Overall variability in regional employment has decreased somewhat over the past century. Still, even as regions have become somewhat more alike, differences in both the timing and size of recessions have remained fairly consistent for districts.<sup>7</sup> Employment data for the

Chart 3

## HISTORICAL TIMING OF ENTRY TO RECESSIONS BY FED DISTRICT



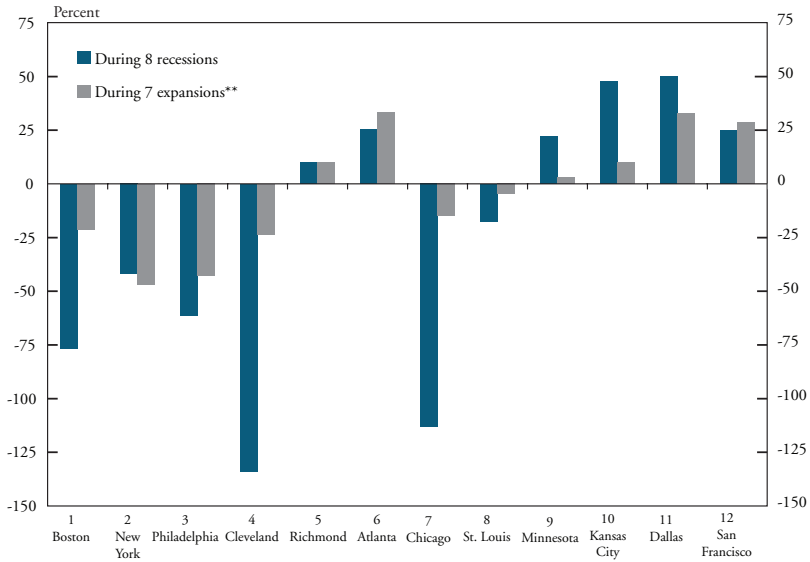
districts are available back to 1956, allowing for comparisons across many business cycles.<sup>8</sup>

In the eight U.S. recessions from 1957 to 2003, most districts have entered downturns at a different time than the nation. Four districts have entered recessions earlier than the nation at least five different times (Chart 3). Two other districts have entered recessions later than the nation five or more times. And Minneapolis has been early to a recession twice and late three times. New York and Richmond have never been late and have been early several times. Atlanta and San Francisco have been late, but never early (at least through the 2001 recession).

With such variation in the timing of entry into recessions, it is not surprising that some districts have performed much differently than others in terms of overall job growth relative to the nation. For example, in the recessions of the past 50 years, Cleveland and Chicago on average have shed over twice as many jobs as the nation (Chart 4). By contrast, the Kansas City and Dallas districts have done much better than the nation, shedding only about half as many jobs. Similarly, during the recoveries from past recessions many districts have added jobs differently than the nation, though the variability has been somewhat lower than in recessions.

Chart 4

### AVERAGE EMPLOYMENT CHANGE RELATIVE TO THE NATION DURING RECESSIONS AND EXPANSIONS, 1957-2003\*



\* Positive numbers represent better relative performance than the nation; negative numbers represent worse relative performance.

\*\* The brief expansion between the 1980 and 1981-82 recessions is excluded.

Interestingly, some districts have performed relatively better during recessions than in expansions, and vice versa. For example, while Cleveland and Chicago shed the most jobs during recessions, they have done relatively better than some other districts during expansions (although still worse than the nation). Likewise, Minneapolis and Kansas City typically do much better than the nation during recessions but only moderately better during expansions.

Past research suggests that industrial structure may be the cause of these performance differences in recessions versus expansions. Specifically, industrial structure has been found to be more important in explaining regional variability during recessions, while factors such as age and workforce education have mattered more during expansions.<sup>9</sup> The bigger impact of industrial structure during recessions may be due to the relative immobility of labor in the very short run.



*Exceptions to typical business cycle trends*

In recent decades, some fairly consistent trends are evident across the business cycles of districts. For example, in past recessions, Cleveland and Chicago have tended to enter earlier than the nation and suffer bigger job losses, while Dallas and Kansas City have tended to enter later and suffer smaller job losses. During expansions, the southern and western districts (Atlanta, Dallas, and San Francisco) have generally grown faster than other districts, while northeastern districts (New York and Philadelphia) have performed much worse on average. Meanwhile, other districts (especially Richmond, St. Louis, and Minneapolis) have tended to perform rather like the nation throughout the business cycle, although St. Louis tends to enter recessions earlier and Minneapolis later.

Despite these general trends, no district has entered recessions earlier or later than the nation in all cases, and relative job growth across districts has differed somewhat from business cycle to business cycle. Understanding the exceptions to the general trends could be important in analyzing how the current recession and recovery may unfold.

One way in which regional trends could differ during recessions is with regard to the depth or length of recession. In half of the eight recessions from 1957-2003, U.S. employment fell more than 2.5 percent or declined for more than a year—1957-58, 1974-75, 1981-82, and 2001-03. In the remaining four recessions, job losses lasted at most one year and were less than 1.5 percent.

Comparing regional patterns of recovery from deep recessions to patterns of recovery from mild recessions yields both similarities and differences (Appendix 2 shows the timing of entry and exit by district in all past recessions). First, the same districts tend to underperform (Cleveland and Chicago) and outperform (Kansas City and Dallas) the nation in both deep and mild recessions. These patterns suggest that similar factors—for example, industrial structure—may contribute to all recessions. Second, variation in the timing of entry to and exit from recessions is actually greater in milder recessions. Looking more specifically at individual recessions over the past 50-plus years reveals that some of the milder U.S. recessions, in particular, have been more regionalized than others. This was especially true in the 1990-91 recession, which persisted more than two years in the Boston, New York, and San Francisco

districts but only a quarter or less in three other districts. This recession involved considerable deterioration in real estate markets in each of the hardest-hit districts.<sup>10</sup> The 1969-70 recession also lasted much longer in northeastern districts than elsewhere.

In addition, a few districts have also experienced non-national recessions in the last 50 years—that is, more than one consecutive quarter of job losses at a time. Both Kansas City and Dallas experienced prolonged regional downturns in the 1980s related to difficulties in their defining farming and energy industries, while Cleveland and Chicago experienced mini-recessions in the earlier years of this decade, generally attributed to difficulties in the domestic automobile sector.

### III. LESSONS FOR THE CURRENT RECESSION AND RECOVERY

With some notable exceptions, some districts typically have long and deep recessions, while others often have shorter and shallower downturns. Currently, all 12 Federal Reserve districts are in a jobs recession. Is the current regional pattern of recessions similar to past episodes? If so, what might this say about the future jobs recovery, and will other factors play a role in the regional variability of the recovery?

#### *Are patterns different than in the past?*

Compared with the average recession and recovery path of districts over the past half century, the current regional pattern has certain similarities. For example, the Dallas and Kansas City districts expanded considerably longer than the nation, as they have often done in the past. Likewise, the Cleveland and Chicago districts each entered this recession early and have shed more jobs. Industrial structure likely plays its typical role in each of these cases. Historically, mining—a key defining industry in Dallas and Kansas City—has done better than other industries in the early stages of a recession when energy prices often remain temporarily high. Similarly, manufacturing—the key defining industry in Cleveland and Chicago—has always entered recessions earlier than other industries.

At the same time, however, a number of differences distinguish the current pattern of recession from previous cases. For example, the Atlanta District entered this recession early and, along with the San Francisco

District, has witnessed some of the biggest job losses to date. These two districts typically shed far fewer jobs than the nation during recession. However, in both districts the construction industry grew very large by the mid-2000s before experiencing sharp job losses in recent years.

Another difference from past recession patterns, which is perhaps less striking, is that the three northeastern districts—Boston, New York, and Philadelphia—each have entered the recession and have, so far, slightly outperformed the nation. Typically, these districts do much worse than the nation in recessions. In each of these districts, however, the education and healthcare industries are major defining industries, now making up a larger share of employment than in past decades. These two industries have so far withstood the recession better than other major industries, and thus they have likely helped support the economies of the districts more than usual.

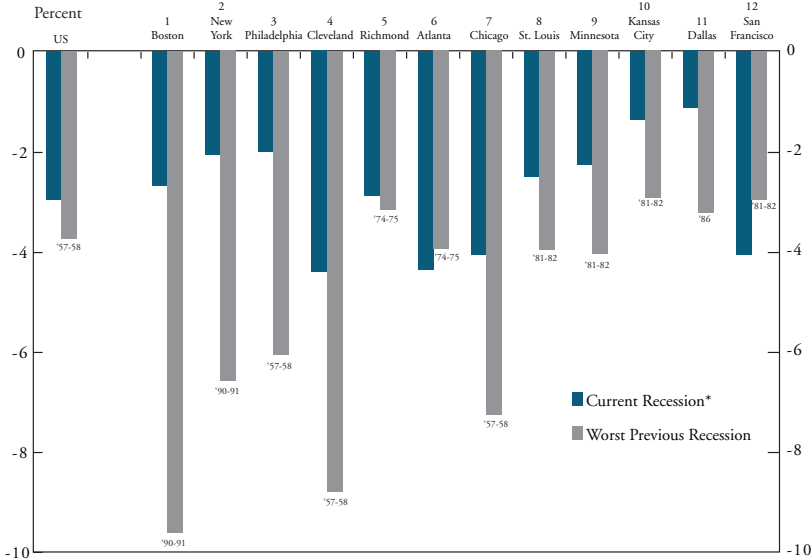
Another way to compare current and past recessions in the districts is to look at current job losses alongside those in their worst previous recession. This is especially important since, for the nation as a whole, job losses through the first quarter of 2009 were larger than in any recent recession except 1957-58 and were quickly approaching that level (Chart 5). The Atlanta and San Francisco districts were already in their worst recessions in more than 50 years, and the Richmond District was near that level. By contrast, while the recession in the remaining districts is fairly deep and getting deeper, it is still well within the bounds of other deep recessions in these districts over the past 50 years. Thus, while painful, the depth of the current recession is not without precedent in these regions—at least so far.

### *Which districts are likely to rebound first, and why?*

Regional variability in the exit timing from recessions has historically been smaller than in the entry timing. While more than half of the districts have, on average, entered recessions in different quarters than the nation, only two districts have exited recessions in different quarters than the nation more than half the time (Chart 6). Specifically, Kansas City has exited five recessions earlier than the nation.<sup>11</sup> Dallas has also exited at a different time than the nation more than half the time—three times earlier and twice later.

Chart 5

## JOB DECLINES IN CURRENT RECESSION AND WORST PREVIOUS RECESSION SINCE 1957



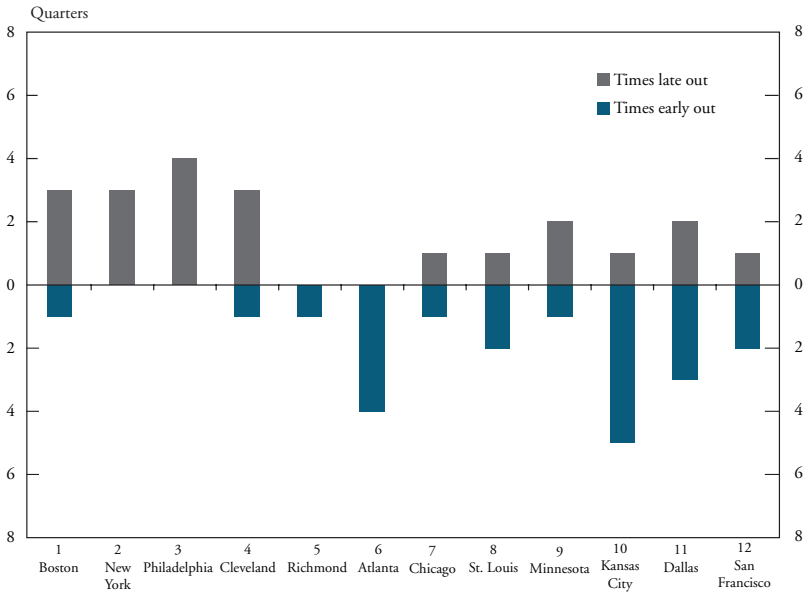
\*Through first quarter 2009

To be sure, several other districts have exited recessions earlier than the nation more than once, while other regions have entered downturns earlier than the nation multiple times. But overall, the timing of exit from U.S. recessions has been fairly simultaneous across regions—especially from deep recessions, which the current recession is clearly shaping up to be. One possible explanation could be the sizable monetary and, sometimes, fiscal policy responses to deep national recessions, which reach all parts of the country at about the same time.<sup>12</sup> A recent San Francisco District study found that the fiscal stimulus package passed by Congress in February 2009 is being distributed across states fairly broadly, but also to some degree in line with states' need for assistance.<sup>13</sup> As such, initial recovery from this deep recession could also be fairly national in its timing.

However, the differences between this recession and past recessions may be cause for some potential differences in the regional pattern of recovery timing. For example, the deep recessions in the Atlanta and San Francisco districts appear due in large part to acute difficulties in

Chart 6

## HISTORICAL TIMING OF EXIT FROM RECESSIONS BY FED DISTRICT FOR THE EIGHT U.S. RECESSIONS 1957-2003



their housing markets. In past recessions where real estate played a major role, such as in 1990-91, the districts most affected took considerably longer than other districts to rebound. In addition, recent data on layoffs in the current recession have shown the job losses to be more permanent than in the deep recessions of 1974-75 and 1981-82, for example.<sup>14</sup> As such, the quick rebounds in employment following those recessions may not be forthcoming in hard-hit manufacturing areas this time around.

*Which districts are likely to have the strongest ultimate rebounds, and why?*

The strength of the overall recovery could be more variable in the intermediate and longer term than in the initial stage of recovery. If past expansion patterns hold, the strongest future regional job growth would be in the Sunbelt districts of Atlanta, Dallas, and San Francisco. An October 2008 study by the Pew Research Center lends some support to this possibility. Asked if they would like to live in or near 30 large U.S.

cities, which together make up nearly half of the U.S. population, survey respondents favored the Sunbelt. Among the 10 cities scoring highest in the survey, nine were located in the three Sunbelt districts.<sup>15</sup>

If past patterns of expansion hold, the New York and Philadelphia districts would post the weakest job growth heading forward. In the recent Pew Survey, however, the New York and Philadelphia metropolitan areas ranked in the middle of the rankings of desirable places to live—not at the bottom. The seven least desirable large cities were all located in the industrial Midwest, especially in the Cleveland District. In the recoveries and expansions of the past 50 years, this region has outperformed only New York and Philadelphia in job growth relative to the nation. However, some cities in the Chicago, St. Louis, Minneapolis, and Kansas City districts—districts that have typically added jobs similarly to the nation in recent expansions—also ranked near the bottom of the Pew Survey.

Urban theorist Richard Florida suggested recently in *The Atlantic Monthly* that the strongest growth in the future is likely to occur in innovative mega-regions, such as in several northeastern and northwestern metro areas. Some such mega-regions are located in the Sunbelt, but Florida argues that cities such as Phoenix and Las Vegas boomed in the past decade primarily because of real estate and are unlikely to grow much bigger in the near term. The Pew Study ranked these two cities 7<sup>th</sup> and 19<sup>th</sup>, respectively, as desirable places to live. Florida believes the weakest activity is likely to occur in old, industrial cities, which also ranked lowest in the Pew Study.

Florida's theories are somewhat consistent with past studies of expected growth of U.S. states and regions based on the outlooks for their key industries and occupations. For example, a 2005 study found that states with the most favorable industrial structures for job growth through 2012 were generally located in the Mountain West, Northeast, and Mid-Atlantic regions. These regions are more highly concentrated in industries requiring highly skilled workers, which are expected to grow fastest in the intermediate term.<sup>16</sup>

While industrial structure cannot explain all past variation in job growth across Federal Reserve districts, it does appear to have played a sizable role. In the future, economic growth may thus depend on factors such as industry outlook and agglomeration effects such as those Florida

describes. But long-term migration preferences like those previewed in the Pew Study may also offer a glimpse into which regions are likely to grow fastest in the future.

#### IV. SUMMARY AND CONCLUSIONS

In the recessions and expansions of the past 50-plus years, the pattern of job growth has varied widely across Federal Reserve districts. But despite some exceptions, several districts consistently suffer longer and deeper recessions, while others almost invariably enjoy stronger recoveries and expansions. Many of the differences—especially during recessions—are explained by the differing industrial structures of the districts.

The current U.S. recession exhibits some of the traits of previous deep postwar recessions and thus—while painful—has so far been rather typical for some regions, especially for districts in the Northeast and upper Midwest. As such, recovery in these districts may resemble their recoveries from past deep recessions, although the reported permanency of some recent layoffs may make for a more gradual recovery in some areas.

For some other districts—primarily in the Southeast and West—this recession is already the worst in the last half century. These districts are thus in more uncharted territory, and it remains to be seen how and when they recover from this recession.

One key difference between deep and mild recessions in the United States, though, is that the different regions of the country have tended to recover more uniformly from deep than from mild recessions, perhaps due to greater national policy responses to deep recessions. This would suggest a fairly simultaneous timing of recovery from this deep recession across the nation.

Once the recovery does begin, history would suggest that the strongest growth in the ensuing expansion would occur in Southern and Western districts, where the U.S. population has gradually been migrating. Recent surveys and research lend some support for this view. But some research and theory also point to favorable long-term prospects for regions with sizable concentrations of industries with highly skilled workers, such as in the Northeast, Mid-Atlantic, and Mountain West.

## Appendix 1

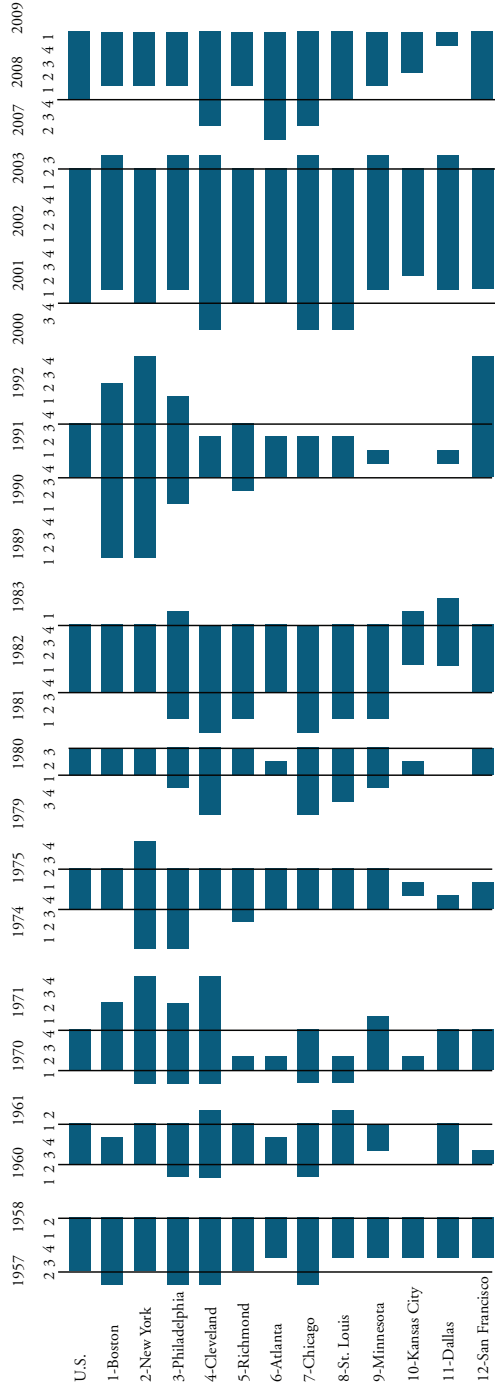
## MAJOR DEFINING INDUSTRIES IN FEDERAL RESERVE DISTRICTS\*

<b>First District - Boston</b>	<b>Tenth District - Kansas City</b>
Educational services	Mining
Management of companies	Farming
Health care and social assistance	Military
Finance and insurance	Information
Professional and technical services	Federal government, civilian
<b>Second District - New York</b>	<b>Eleventh District - Dallas</b>
Educational services	Mining
Finance and insurance	Farming
Information	Construction
Health care and social assistance	Utilities
Professional and technical services	Transportation and warehousing
Management of companies	Wholesale trade
Arts, entertainment, and recreation	<b>Twelfth District - San Francisco</b>
Wholesale trade	Forestry and fishing
<b>Third District - Philadelphia</b>	Real estate and rental and leasing
Educational services	Management of companies
Utilities	Information
Health care and social assistance	Arts, entertainment, and recreation
Manufacturing	Military
Finance and insurance	Professional and technical services
<b>Fourth District - Cleveland</b>	Accommodation and food services
Manufacturing	
Management of companies	
Health care and social assistance	
<b>Fifth District - Richmond</b>	
Federal government, civilian	
Military	
Professional and technical services	
Construction	
<b>Sixth District - Atlanta</b>	
Administrative and waste services	
Forestry and fishing	
Arts, entertainment, and recreation	
<b>Seventh District - Chicago</b>	
Manufacturing	
Farming	
<b>Eighth District - St. Louis</b>	
Farming	
Management of companies	
Transportation and warehousing	
Manufacturing	
Military	
Forestry and fishing	
<b>Ninth District - Minneapolis</b>	
Farming	
Management of companies	
Utilities	
Health care and social assistance	

\* Two-digit NAICS industries with location quotients over 1.1 in 2000



*Appendix 2*  
**RECESSIONS BY FEDERAL RESERVE DISTRICT, 1957-PRESENT**  
*Measured from employment peak to employment trough*



## ENDNOTES

<sup>1</sup>For a full review of business cycle dating, see Davig (2008).

<sup>2</sup>Each state is assigned to one Federal Reserve district based upon the district that contains the largest share of that state's employment. Quarterly employment is used for several reasons. First, some of the other types of data used by the NBER, such as industrial production and sales, are often not available on a timely and high-frequency basis (the state coincident indexes produced by the Federal Reserve Bank of Philadelphia would potentially be a good substitute for these measures, and thus a supplement to just using employment data. However, the historical time series for these indexes, while fairly extensive, is much shorter than for just employment). Second, some other potential state level measures, such as personal income, often include considerable transfers across states or regions and thus may not accurately reflect overall regional economic fundamentals (see Partridge and Rickman 2005 for a similar argument in choosing employment as a measure of analysis for variations in regional economic growth). Finally, using quarterly rather than monthly employment data helps to smooth out what can often be sizable month-to-month variability in sub-national areas.

<sup>3</sup>Q1 2009 state employment data are preliminary.

<sup>4</sup>See, for example, Owyang, Rapach, and Wall (2009); Porter (2003); Partridge and Rickman (1996); and Garcia-Mila and McGuire (1993).

<sup>5</sup>For example, an analysis of how employment would have grown in each Fed district from 2002 to 2007 if *all* of their two-digit NAICS industries had grown at the national rate suggests that nearly 40 percent of the recent variation in job growth across districts is explainable by industrial structure alone. The analysis done using only the specific defining industries of each region, as described in the text, found slightly higher explanatory power, while an analysis using just key industries that generally vary in location across the nation—such as manufacturing or high-tech services—showed slightly less explanatory power.

<sup>6</sup>Specifically for this analysis, defining industries are those two-digit NAICS industries with location quotients greater than 1.1 in 2000. For more detailed description and analysis of defining industries, see Wilkerson and Williams (2007).

<sup>7</sup>For a recent summary of research on convergence of regional growth rates, see Carlino (2007), though note that regional variability, as measured by the standard deviation in job growth rates across Fed districts, has increased since the time of that study to the highest levels in more than a decade. For a longer-term view of regional economic convergence in the United States, see Kim (2000).

<sup>8</sup>Data for Alaska and Hawaii are not available prior to 1960, so they are excluded from the analysis in this section. Data for other states also begin to become unavailable from the BLS prior to 1956. The only post-World War II recessions excluded by beginning the analysis in 1956 are 1948-49 and 1953-54, both of which lasted less than a year and may have been associated with winding down of defense spending associated with World War II and the Korean War, respectively.

<sup>9</sup>See Owyang, Piger, and Wall (2005).

<sup>10</sup>For a detailed description of the recession in the Boston District, for example, see Katz (1999).

<sup>11</sup>Based on state-level data, which excludes the Missouri portion of the Kansas City District, that district did not experience the 1960-61 or 1990-91 recessions. In those cases, the slowest job growth quarter is used to date the business cycle trough. Kansas City also exited one recession *later* than the nation.

<sup>12</sup>See Carlino and Defina (1998) and Fratantoni and Schuh (2003), however, for evidence of some variation in monetary policy effects across U.S. regions in recent decades.

<sup>13</sup>See Wilson (2009).

<sup>14</sup>According to the March 2009 Current Population Survey, over 50 percent of the unemployed in the United States were “permanently laid off.” By contrast, this share peaked at 42 percent in 1981-82 and 38 percent in 1974-75.

<sup>15</sup>The exception was Denver, located in the Kansas City District.

<sup>16</sup>See Wilkerson (2005).

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