



ROLLING RECESSIONS

REGIONAL ECONOMIES ARE growing across the nation, leading some to observe that this shared national expansion differs considerably from the traditional seesaw of regional downturns and upswings. However, this perception about the past is based on the relatively recent experience of the 1980s and early 1990s, in which some regions contracted while others expanded. Before then, regional economies tended to move together. What contributed to this out-of-sync behavior? Does the situation differ today?

A continuation of this pattern of regional disparities could have significant implications for the national business cycle. Just as the nation is composed of regions, the national business cycle can be thought of as the sum of regional business cycles. If parts of the nation expand while others contract, the nation as a whole may have less severe recessions and less volatile business cycles. The current U.S. expansion, along with the expansion of the 1980s, has been exceptionally long, far exceeding the four-year average for post-World War II expansions. One contributor to this phenomenon may be diverging regional business cycles.

Many factors can cause regional business cycles to differ. For example, national shocks may affect regions differently, due to differing tax and regulatory environments or combinations of labor and

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capital. Regional cycles are also influenced by shocks specific to the region, such as droughts or regional regulatory changes.

One particular explanation for diverging regional cycles gained prominence in the 1980s—"rolling recessions." Analysts coined this term to describe a phenomenon in which some industries experienced downturns in reaction to shocks, or changes in the national economy, while others continued to do well. These rolling recessions may have led to divergent regional cycles as regions with varying output mixes reacted differently to each industry downturn.

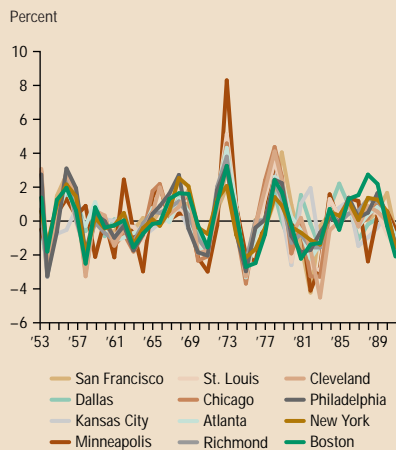
While industry downturns may have influenced the regional economic differences of the 1980s and early 1990s, other factors were also at work, such as differences in taxes, local construction cycles and labor costs. These factors may become relatively more important in future regional differences, as increasingly similar regional output mixes should lead to more similar responses to industry shocks.

Business Cycles

There are two basic ways of looking at the business cycle. The one underlying most media discussion focuses on absolute increases and decreases in economic activity. For example, an increase in many indicators, such as employment and gross domestic product, over many months is considered an expansion. Conversely, a decline in these indicators over many months is regarded as a contraction.

An alternative definition of the business cycle, which this article uses, is grounded not in terms of absolute increases and decreases in economic activity but in terms of fluctuations around a trend. When economists look at economic indicators, they first exclude the seasonal patterns, such as the increase in holiday retail sales, to get a more accurate picture of how the economy is doing relative to other times of the year. When looking at business cycles, economists go a step further, eliminating not only these short-term changes but also the trends—changes that occur over a long horizon, such as

Chart 1
Cyclical Components of Real Personal Income of 12 Federal Reserve Districts, 1953–91



a decade or more. For example, over a long period, employment numbers will trend upward with a growing population. Elimination of both the short-term ups and downs and the long-term trends leaves the cyclical components, which show where the economy is relative to where it would be if it grew at a nice, steady pace over the years.

There are a number of ways to divide the nation for the purpose of studying regional cycles, such as at the state or census-region level. One interesting approach is to look at regions that form or encompass clusters of economic activity, which was the basis for how the country was divided when the Federal Reserve districts were delineated in 1913. One might expect to find, within each area of concentrated economic activity, a common business cycle that could differ from that of another location. Although the economy has evolved since 1913, this division seems reasonable for an analysis of regional business cycles.

Do Regional Cycles Just Reflect National Industry Cycles?

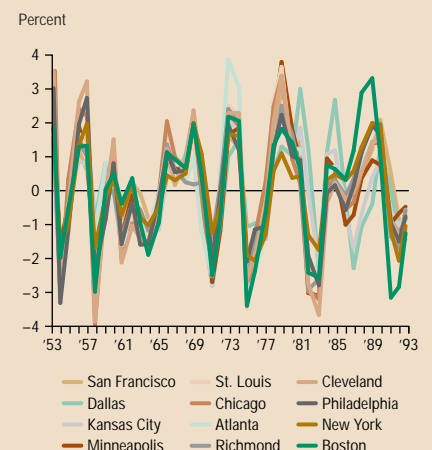
As already noted, one can think of the business cycle in terms of fluctuations in economic activity around the trend. At the national level, economists typically focus on such indicators of

economic activity as gross domestic product or the unemployment rate. At the state or Federal Reserve district level, a narrower range of indicators is available, such as personal income and employment.

The cyclical components of personal income in the 12 Federal Reserve districts are shown in Chart 1. The picture reveals that the cyclical components of personal income tend to move together, increasing and decreasing at about the same time, although not perfectly and not at all times. To the extent the cycles are similar, this suggests that regional cycles are responses to changes in the national economy, rather than region-specific changes. As can be seen in Chart 1, the degree of correlation of economic activity among the 12 Federal Reserve districts was strongest for the cycle associated with the run-up to the oil price shock of 1974.

During the 1980s, however, there were signs that the districts' cycles were becoming less synchronized, to a degree not seen in earlier postwar decades. While there were a few years before the 1980s in which some regions diverged, the disparities were not as pronounced or as frequent. Chart 2 shows the same pattern for employment. It is difficult to say how close the regional cycles are today. While regions across the country are growing in terms

Chart 2
Cyclical Components of Nonfarm Employment Of 12 Federal Reserve Districts, 1953–93



of absolute measures, they may still differ in terms of movement around their trends. Unfortunately, the econometric techniques used to obtain cyclical components do not allow reliable estimates for more recent years.

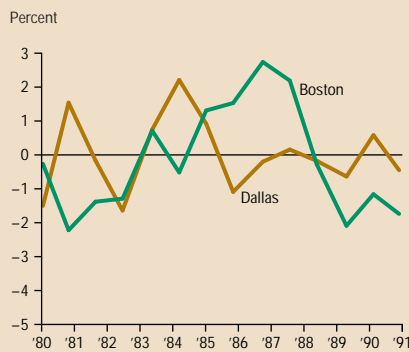
The divergence in regional cycles in the 1980s may have been caused by a series of changes in the national economy that had varying effects on regions due to their differing regional output mixes. This is consistent with the notion of rolling recessions—different industries experiencing downturns at different times—that permeated U.S. policy discussions in the 1980s. For example, a manufacturing downturn hit the Midwest in the early 1980s. Then the oil price drop of 1986 hurt the oil patch, and defense cuts stung California and New England in the early 1990s. In addition, these downturns caused some migration of workers, which in turn helped fuel other regions' expansions, such as those of Texas and California in the early 1980s.

Studies of rolling recessions' effect on regional economies in the 1980s centered on absolute increases or decreases in regional indicators such as employment, gross state product or personal income. However, looking at fluctuations around the trend, the same patterns appear. In 1985, personal income in the Midwestern districts decreased toward their trends with the decline of the manufacturing sector, while personal income in the Dallas and Kansas City districts continued to increase. This decline in certain national manufacturing industries affected the Midwest to a greater extent because of the region's larger concentration of these industries.

The following year, the oil industry plummeted with the oil price shock of 1986. Oil price changes, although national shocks, affect the cycles of energy-producing and energy-consuming regions differently. In 1986, when oil prices dropped by half, Texas' personal income plunged below trend. But while the oil price drop had a large negative impact on the Texas economy, it spurred growth in other parts of the country, such as New England, as energy costs fell (*Chart 3*).

A few years later, cuts in national

Chart 3
Cyclical Components of Real Personal Income Of the Dallas and Boston Districts, 1980–91



defense spending caused the defense industry to decline. This national shock was clearly a source of weakness for New England and some other areas of the country, such as California. Dallas Fed economist Lori Taylor studied employment sensitivity to defense spending by state, based on each state's industrial mix and each industry's sensitivity to defense spending.¹ She found that Connecticut was the most defense-sensitive state because of its high concentration of transportation equipment manufacturing, particularly shipbuilding. For example, as *Chart 4* shows, transportation equipment manufacturing fell much further than the national average in states with a high concentration of defense-related transportation manufacturing, such as Connecticut and California. In addition to Connecticut, other New England states had above-average sensitivities, due in part to high concentrations of electronics manufacturing.

If these rolling recessions were to recur, the regional responses might be less disparate since there is evidence that over the decades regions have become more similar in terms of industry mix.² For example, Dallas Fed economists Steve Brown and Mine Yücel found that because state economies are becoming more similar in their composition, the variation across states in the response to changing oil prices is narrowing.³ However, industry mix does not seem to be the only determinant of regional response to an industry downturn. The industry shocks that occurred

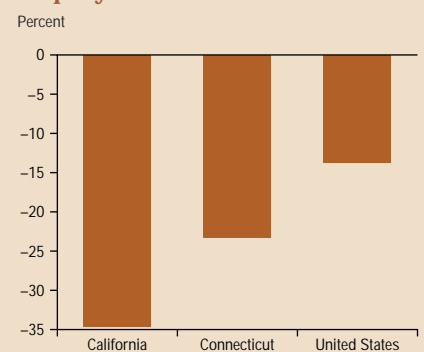
before the 1980s, such as the oil price changes and defense cuts of the 1970s, were not accompanied by widely varying regional responses, in spite of a greater degree of regional industry concentration. The cause of this increased responsiveness to industry shocks in the 1980s is still unknown.⁴

Other Regional Influences

The series of national shocks to the manufacturing, energy and defense industries is clearly reflected in movements in Federal Reserve districts' personal income and employment. Regions responded differently to these shocks because they had differing degrees of dependence on these industries. However, other region-specific factors also influence regional cycles.

For example, a change in federal tax laws affects states differently, depending on state tax structure. States may choose from a variety of levies to raise revenue, such as sales, income, property and business taxes. Since some of these taxes are not deductible against federal income taxes, sensitivity to changes in federal income taxes will depend on the state tax structure. In addition, these differences in taxes, or in government services and quality of life, can lead to various combinations of labor and capital across regions. Differing capital-labor mixes in turn contribute to varying regional responses to national shocks, such as changes in minimum wage laws or capital gains taxation.⁵

Chart 4
Change in Transportation Equipment Manufacturing Employment, 1988–93



Implications for the Economic and Monetary Union

Business cycles at the Federal Reserve district level may shed light on what Europeans can expect under the Economic and Monetary Union (EMU), scheduled to go into effect January 1, 1999.¹ In discussions of EMU's likely implications for Europe, the United States is often cited as an example of an enduring monetary union, while the U.S. central bank, the Federal Reserve, is cited as a model of how a central bank would function in a monetary union. Thus, at least in principle, the business-cycle experience of the U.S. regions holds useful lessons for what Europe can expect under EMU.

Dallas Fed economists Mark Wynne and Jahyeong Koo found a greater similarity among Federal Reserve district business cycles than among those of prospective EMU members. Insofar as the United States can be a model of what might occur in Europe with a credible monetary union, these patterns suggest the possibility of greater synchronization of business cycles across EMU countries than has been the case in the past. However, important differences remain between the Federal Reserve System and EMU, such as the degree to which each region or EMU country can influence economic policy. Policy differences, such as those that affect the cost of doing business, influence economic activity within the United States. The policy differences between the EMU countries are likely to be even more important than those of regions with much less autonomy.

¹ Mark A. Wynne and Jahyeong Koo, "Business Cycles Under Monetary Union: EU and U.S. Business Cycles Compared," Federal Reserve Bank of Dallas Working Paper no. 7, 1997.

The construction sector, although influenced by national factors such as interest rate and tax law changes, also responds to local characteristics. For instance, changes in a region's industry mix or demographic characteristics may trigger a change in construction activity. This response to local characteristics may lead construction activity to diverge from economic activity that is more dependent on national demand. For example, in the 1980s, both New England and Texas experienced construction booms as other parts of their economies slowed. Although oil prices fell in 1982 and the Texas economy slowed, Texas construction activity surged throughout the mid-1980s. This boom was due in part to Texas banking institutions' increased interest in real estate investments following losses in energy-related lending and Texas thrifts' ability to fund commercial construction projects following deregulation. Similarly, in the mid-1980s, New England construction thrived, largely because of strong demand from locally oriented industries, masking employment declines in the region's export-related manufacturing sector.⁶

This out-of-sync behavior within the Texas and New England economies led Dallas Fed economists to study the influences of the construction sector, oil prices and the national business cycle on the Texas business cycle of the late 1970s and 1980s.⁷ They found that

while the U.S. economy and oil prices had the largest effect, the construction sector also had a significant impact.

Another example of region-specific influences can be found in New England's late-1980s downturn. Although defense cuts and nationally declining manufacturing industries certainly contributed to the downturn, a loss of market share to competitors in other regions was also to blame. Edward Moskovitch, in a Boston Fed article, reported that a wide range of durable goods industries lost market share in the mid-1980s.⁸ Moskovitch cited the high cost of doing business in the region, compared with other regions, as the reason for the decline across so many New England industries. Thus, New England's downturn was fed by local characteristics as well as national influences.

However, regional factors that greatly influenced regional economies in the past may not be as important in the future. Some of these regional characteristics may be changing, possibly becoming more alike across regions, as lower transportation costs, better communications options, and access to national and international capital markets allow firms to locate in places not previously considered. On the other hand, this may just mean that other characteristics, such as local taxes or quality of life, will become more important influences on business formation.

Conclusion

The concept of the rolling recession emerged in the 1980s in response to shocks in the economy that affected some industries more than others. By extension, the downturns in these industries, in combination with other economic influences, affected some regions more than others, causing some areas of the country to experience slowing of their economies while others saw their economies expand. Whether the divergence of the 1980s represents just a temporary phenomenon unlikely to be repeated or a fundamental change in the characteristics of the national economy cannot be determined without further study and a longer period of observation. Therefore, it is too soon to tell if the regional business cycles are currently in sync or not.

— Sheila Dolmas
Mark A. Wynne
Jahyeong Koo

Notes

- ¹ Lori Taylor in *Defense Spending & Economic Growth*, James A. Payne and Anandi P. Sahu, editors (Oxford: Westview Press, 1993), pp. 203–20.
- ² Sukkoo Kim, "Expansion of Markets and the Geographic Distribution of Economic Activities: The Trends in U.S. Regional Manufacturing Structure, 1860–1987," *Quarterly Journal of Economics* 110 (November 1995): pp. 881–908.
- ³ Stephen P. A. Brown and Mine K. Yücel, "Energy Prices and State Economic Performance," Federal Reserve Bank of Dallas *Economic Review*, Second Quarter, 1995, pp. 13–23.
- ⁴ There are many opinions about why the 1980s were different. Some speculate that the Federal Reserve adopted a more forward-looking, low inflation policy in the early 1980s. See Ken Emery and Nathan Balke, "Inflation and Monetary Restraint: Too Little, Too Late?" Federal Reserve Bank of Dallas *Southwest Economy*, Issue 1, 1995, pp. 3–5, for a description of how monetary policy may have changed course. Such a policy change could potentially influence regional business cycles as well.
- ⁵ See Lori Taylor and Mine Yücel, "The Policy Sensitivity of Industries and Regions," Federal Reserve Bank of Dallas Working Paper no. 12, 1996.
- ⁶ For more detail, see Lynne E. Browne, "Why New England Went the Way of Texas Rather than California," *New England Economic Review*, January/February 1992, pp. 23–41.
- ⁷ D'Ann Petersen, Keith Phillips and Mine Yücel, "The Texas Construction Sector: The Tail that Wagged the Dog," Federal Reserve Bank of Dallas *Economic Review*, Second Quarter, 1994, pp. 23–33.
- ⁸ Edward Moskovitch, "The Downturn in the New England Economy: What Lies Behind It?" *New England Economic Review*, July/August 1990, pp. 53–65.