The regional impact of a recession is determined largely by the industrial structure of the regional economy. National business cycles, which differ in their degree of severity, are transmitted through the region’s industrial structure to the overall regional economy. A region in which the industrial structure is weighted toward more cyclically sensitive industries usually experiences more severe recessions than the nation as a whole. In general, manufacturing industries are more cyclically sensitive than service industries; durable-goods industries, more than non-durable-goods industries; and producer-goods industries, more than consumer-goods industries. Regional business cycles, however, are more than simply the local manifestations of cyclical changes in industries at the national level. Factors unique to each region, such as differences in costs and other aspects of competitive advantage, influence the regional pattern of a recession, contributing additional structural drag (or downward pull) to regional employment (see inset). Ohio’s economy is highly vulnerable to cyclical economic fluctuations, ranking the (behind Michigan and Indiana) among the most cyclically sensitive state economies. Roughly 37 percent of Ohio’s total nonagricultural employment is concentrated in manufacturing, with the greatest job concentrations in cyclically sensitive industries—primary metals, fabricated metals, electrical equipment, nonelectrical machinery, transportation equipment, and rubber. The fact that these six industries account for 25 percent of the state’s nonagricultural employment, compared with 14 percent in the nation as a whole, denotes the degree of employment specialization in Ohio. Unfortunately, these six industries seem to be operating at a long-term competitive disadvantage, having grown more slowly over most of the post-World War II period in Ohio than in the nation as a whole. With unemployment (seasonally adjusted) in Ohio reaching 9.3 percent in May, compared with 7.8 percent in the nation, the current recession has already begun to have a serious impact on the state’s economy. As a means of interpreting the present recession, this Economic Commentary examines the influence of the industrial structure on employment in Ohio during the recessions in 1968-69, 1973-74, and 1974-75.

Cyclical Sensitivity of Recent Recessions

In virtually every instance (except transportation equipment in the 1968-70 recession), the major manufacturing industries in Ohio have experienced more severe peak-to-trough employment contractions than the national industries in each of the last three recessions, as measured by the number of quarters of decline times the average quarterly rate of decline (see table 1). With respect to timing, the turning points for these industries in Ohio were roughly coincident with cycles in the national industries, albeit slightly fewer than half of the industries at the state level coincided perfectly with the national industry cycles. State and national cycles in primary metals, for example, had identical turning points, except at the peak of the 1973-75 recession. When deviations from the timing of the national industry cycle did occur, as in primary metals, there was a pronounced tendency for employment in Ohio’s industries to peak prior to the national industries and to begin recovery later than the national industries.

Contractions in employment lasted longer in the state than in the nation. On average, Ohio’s industries experienced contractions that were one quarter longer in duration than contractions of their national counterparts. This was true for the total manufacturing sector in Ohio and for each of the major industrial groupings, except for fabricated metals in the 1969-70 recession. Ohio’s industries also tended to experience shorter and milder recovery periods. Despite contractions that were two quarters longer in both the 1968-69 and 1969-70 recessions, the recovery of Ohio’s electrical equipment took one fewer quarter than the national industry to go from the trough to the peak (1969:11-70:2) and two fewer quarters to go from the trough to the next peak (1973:4-74:1). As a result, the industry cycles in the state, on average, were not necessarily longer than the industry cycles in the nation; however, the contractions in employment for the state’s industry cycles tended to last longer than in national industry cycles, and the recovery tended to be shorter than in industry cycles for the nation.

To compensate for differences in turning points during the contraction phase, the relative severity of the industry cycles in Ohio can be examined by comparing their average decline rate of contraction with the industry changes at the national level. To begin with, the national cycle (represented by total employment in the nation) on average declined no more than 1 percent per quarter during the three recessions for which data exist; thus, the national cycle accounted for a relatively small portion of the total cyclical decline experienced either by the industries in Ohio or in the nation. Similarly, performance of industries nationally did not

---


4. The unemployment rate for Ohio was adjusted by using seasonal weights developed by the Federal Reserve Bank of Cleveland.
The sheer magnitude of the difference between the state and national industry contractions strongly suggests the extent to which competitive differences have influenced employment in Ohio. In over half of the cases examined, the rate of decline for the state industry during recessions exceeded the rate of decline for the national industry, and usually by a significant margin. In the 1969-70 recession, for example, fabricated metals experienced an average quarterly rate of decline of 3.59 percent in Ohio, slightly more than double the decline in the nation. Electrical equipment declined 2.24 percent per quarter over nine quarters in Ohio, compared with 1.99 percent over seven quarters in the nation. In some industries, the severity of the contraction was hidden by the longer time period over which the entire contraction occurred, as in the case of the rubber industry. The difference in rates of decline may be attributed in part to a set of factors that have placed Ohio industries at a competitive disadvantage compared with their national counterparts. In effect, these factors appear to have created within the state a reserve of marginally productive plant capacity that is normally the first to be cut back when demand weakens at the onset of a recession and the last to be brought back into production during a recovery.

Concluding Remarks

Competitive position is one of the most important phenomena determining regional economic performance. In the last three recessions, Ohio's industrial structure contributed to contractions that were more severe than would have been expected from the national cycle, even when adjusted for the greater cyclical sensitivity of the industries under consideration. The magnitude of the current recession is being affected by changes in demand for Ohio's industrial products. Increased consumer demand for fuel-efficient automobiles has drastically reduced employment in Ohio's automobile and tire industries and has had a spillover effect on the steel industry's employment. Yet, the continuing need to retool for smaller-sized automobiles will help sustain employment in the machinery industry, compared with past recessions. However, the existence of competitive disadvantages in Ohio increases the likelihood of greater employment cutbacks during this recession, even among industries with relative strength.

The views stated herein are those of the authors and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System.