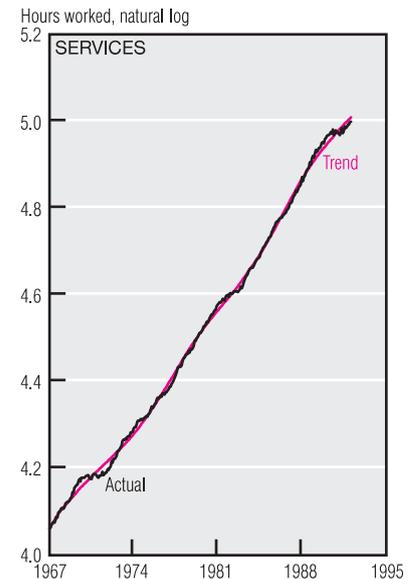
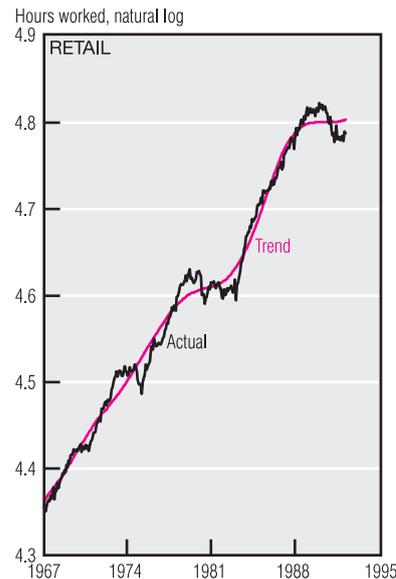
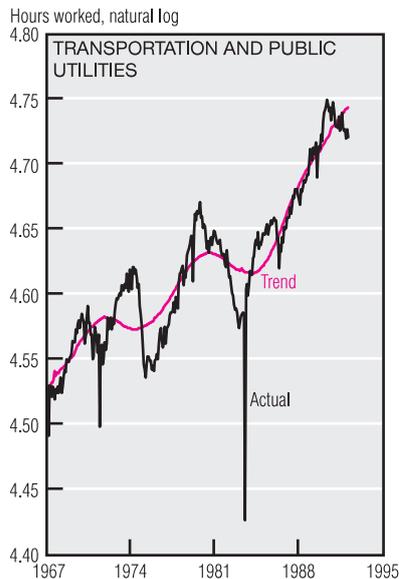
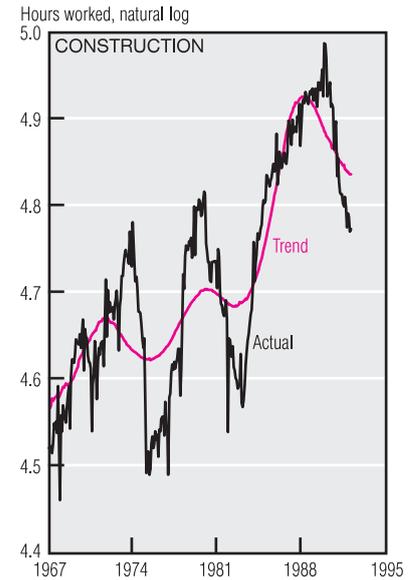
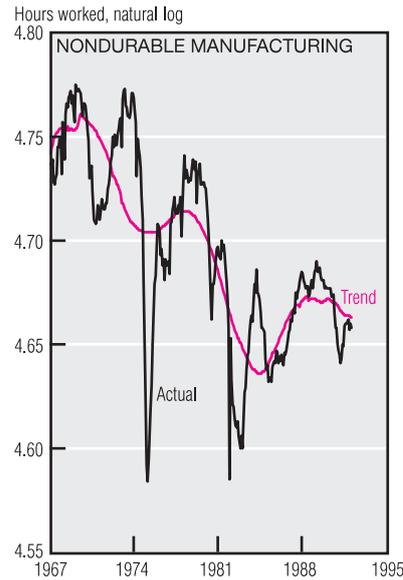
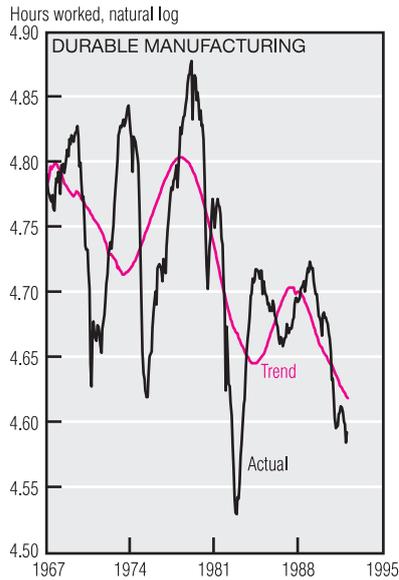


# The Business Cycle



NOTE: Data are monthly and seasonally adjusted indexes of hours worked. Cyclical components are computed using an approximation to a band pass filter. For more information on this method, see Christiano and Fitzgerald (1998).

SOURCES: Bureau of Labor Statistics; DRI/McGraw-Hill; and Lawrence J. Christiano and Terry J. Fitzgerald, "The Band Pass Filter: Optimal Approximations," 1998, manuscript available at <http://www.econ.nwu.edu/faculty/christiano/>.

It is widely recognized that most sectors of the economy move up and down together over the business cycle, a trait known as *comovement*. Such diverse economic activities as aircraft production in Washington State and rug-making in Dalton, Georgia typically experience prosperity and recession at the same time.

Comovement is, in fact, central to the official definition of the business cycle given by the National Bureau of Economic Research. According to this definition, "a recession is a recurring period of decline in total output, income, employment, and trade,

usually lasting from six months to a year, and *marked by widespread contractions in many sectors of the economy*" (italics added).

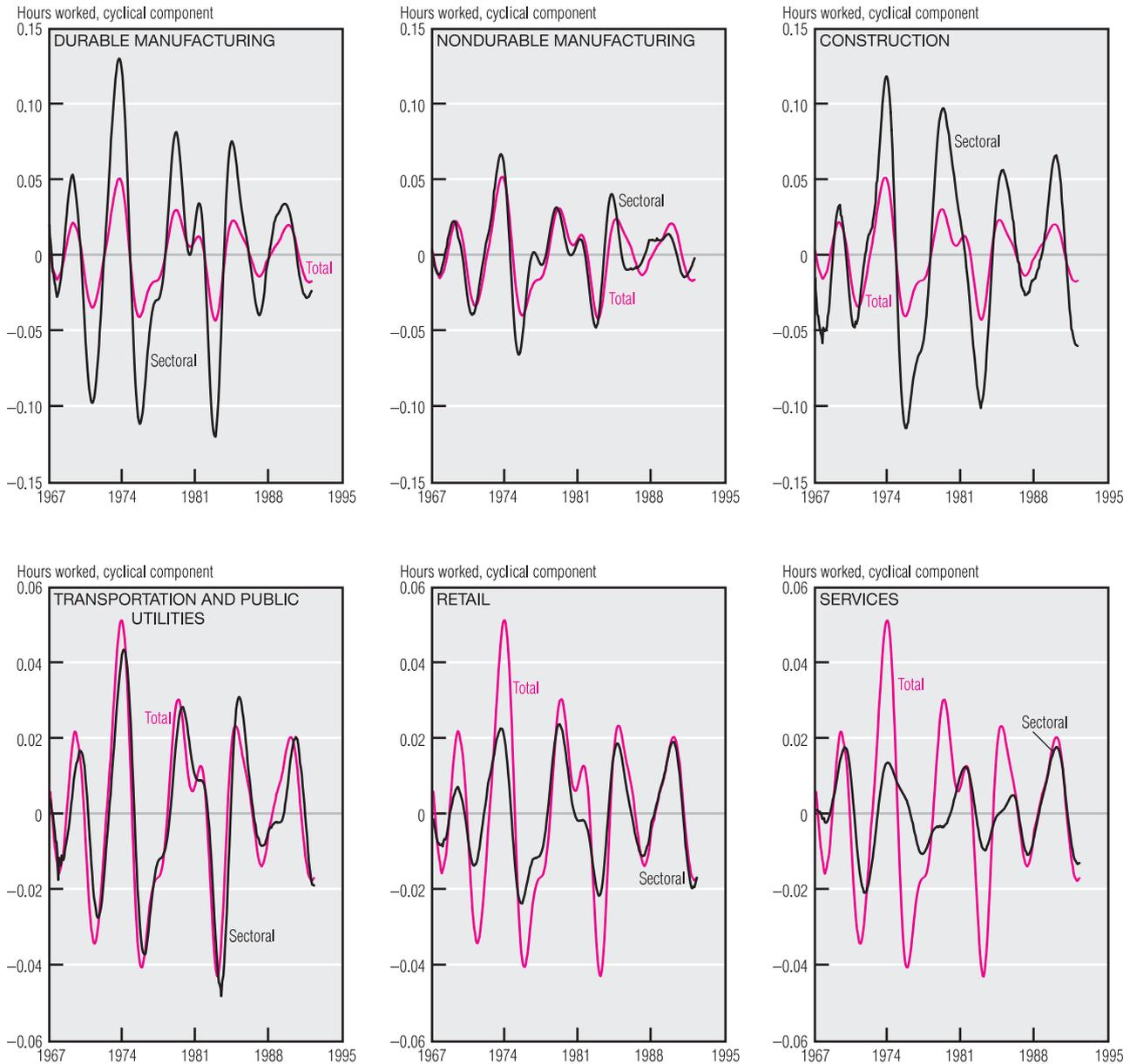
One way to see comovement is to compare economic activity across sectors by measuring the number of hours worked in each. To do this, we must first separate the business-cycle component of hours worked in each sector from its underlying long-run trend and from very short-term fluctuations.

Despite substantial differences among sectors in the trend growth of hours, the business-cycle compo-

nents in most sectors move together closely. To show this, we can compare the fluctuations in the business-cycle component of hours worked in each sector with the cyclical movements in total hours for all sectors. Charts of these data illustrate the striking similarity of the cyclical movements in each sector with the fluctuations in total hours.

This similarity between the cyclical movements of hours worked in broadly defined sectors and total hours worked continues to hold for  
(continued on next page)

## The Business Cycle (cont.)



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more narrowly defined subsectors of manufacturing. Moreover, cyclical hours worked in different subsectors tend to move with one another in addition to moving with total hours. As subsectors are more and more narrowly defined, though, one would expect to find less comovement. The reason is that the relative importance of specific events and shocks increases. For example, while we would expect that a hurricane hitting the coast of Florida would have a major impact on construction jobs in that area, we would not expect that

change to be closely associated with manufacturing employment fluctuations in Cleveland.

While the comovement in output and employment across sectors during the business cycle is widely recognized, this fact alone provides little guidance either to the current state of the economy or to the appropriate conduct of monetary policy. One problem is that we cannot identify the business-cycle component of data clearly until long *after* a given business cycle has occurred. A hot topic of debate today is where we are in the *current* business cycle.

But even if we could pinpoint our present position, there is no clear consensus on exactly what the best policy would be.

As knowledge about it improves, comovement may become more useful to economists in understanding the workings of the economy and thereby contribute to the design of good fiscal and monetary policies. In particular, the tendency of most economic sectors to move together over the business cycle provides a clue for research into the source of these fluctuations.