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Endnotes: About Composite Economic Indexes

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ENDNOTES

ALAN CLAYTON-MATTHEWS

about composite economic indexes

An economic index is the equivalent of a weather report for the economy. It indicates how the economy is today, how it was yesterday, and in the case of a leading index, how it may be tomorrow.

Why Use an Index?

Just as there are different motivations for wanting to know the weather, there are different motivations for wanting to know current, past, and future economic conditions. A firm or a government agency whose revenues or tax receipts depend on the level of economic activity needs to be able to plan budgets accordingly. Others, such as the Federal Reserve System and financial analysts, need to make decisions based on the state of the economy. An economist needs to know the “facts” about the economy before explaining them.

Indexes can be used to track the level of economic activity, but their most important function is to indicate turning points in the business cycle: they identify the beginning of recessions and recoveries and, in the case of a leading index, may predict them months ahead of time. For optimal effectiveness, indexes should meet the following criteria:

Timeliness.

The index should be available shortly following the economic activity that it measures.

Frequency.

The index should be released frequently, so that turning points can be identified quickly. For example, the Conference Board's national current, leading, and lagging indexes are released monthly.

Smoothness.

The index should not be “noisy.” It should give a clear signal and not fluctuate up and down randomly from month to month.

Reliability.

The index should be coherent with the business cycle. It should grow or decline, rapidly or slowly, with the economy.

State Indexes

Unlike at the national level, where the Conference Board's leading economic index is closely watched and widely reported by the media, broad-based economic indexes are not widely available at the state level. Unfortunately, a national index cannot be used as a substitute for a state index. Regional business cycles are usually more volatile and often exhibit different timing than the national cycle, which is, after all, an average of fifty different state economies.

In the absence of a state index, local economists watch a number of data releases that match the above criteria as closely as possible. The most widely used data are the monthly employment data jointly released by the state Division of Employment and Training (DET) and the U.S. Bureau of Labor Statistics (BLS), which include establishment and household employment, the unemployment rate, and weekly hours and hourly earnings in manufacturing industries. Dozens of other monthly and quarterly data series related to the state's economic performance are available from government and private sources.

Each of these data series has its strengths and weaknesses. No single series has all four characteristics of a good index. And data series sometimes give conflicting signals in the short run. Composite economic indexes address this problem by extracting a clear signal of the economy from a number of disparate data series. Combining the series together by averaging them “solves” the problems of noise and incoherency. Random fluctuations tend to cancel each other out, leaving a clearer “signal” of a common, underlying trend.

A Coincident Index for Massachusetts

Economists at the Massachusetts Department of Revenue and the Federal Reserve Bank of Boston have developed a coincident index for Massachusetts. The index, currently maintained jointly by the Federal Reserve Bank of Boston and the University of Massachusetts, is considered experimental, and it has not been publicly released until now.

A coincident economic index is one member of the family of composite economic indexes. As the name suggests, the index is designed to reflect the current condition or direction of the economy. Much of the data on the current condition of the economy does not become available for many months after the fact, so it is sometimes unclear where we stand at the moment in terms of economic performance.

The data series from which the coincident index is composed have been selected because of their timeliness, monthly frequency, and because they appear to be reasonably coherent with current economic conditions. They consist of state-level employment, the unemployment rate, and weekly hours in manufacturing, all released by the Massachusetts Department of Employment and Training. The coincident index also includes two state tax revenue series, withholding and sales taxes, which are released monthly by the Massachusetts Department of Revenue. Its affinity to state income and product makes this index preferred for reporting purposes.

The research team is currently re-evaluating and revising the coincident index, and is constructing a leading index for the Massachusetts economy. The goal of this research is to create tools that will enable economy watchers to identify changes in business conditions in a timely manner. ▮

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