



What's New in the 2010 Update

Changes to the Innovation Index

The Innovation Index has undergone several changes since it was first released in the fall of 2009. Those who have used the index since its first release in 2009 may note that the index value (or the relative innovation performance ranking) has changed—sometimes considerably—with this update. The change can be the result of several factors.

The first factor is common sense—the Innovation Index has been updated with the most recent data available for all the measures used to gauge innovation at the county level. The data used to calculate the index are updated annually. The source data for the various measures, however, are released over the course of the year and at the time of the update, the index reflects the most recent year available from those data sources at the time of the update. Also, the user is cautioned that the most recent year available may not be the same across all data series. For example, per capita personal income may be from 2009 while gross domestic product per worker may be from 2008. The unbalanced collection of time series data used to construct the index is one reason that the researchers who developed the index discourage comparing changes in the index, or the changes in the index rankings, for a particular region from one year to the next. As the [documentation](#) of the methodology states, the goal is to measure innovation capacity and performance of regions across America. The index is not intended to be used to chart year-to-year changes.

The second factor that affects changes in the Innovation Index is changes in data sources. These changes influence the Economic Dynamics sub-index, the Productivity and Employment sub-index, and the overall index. Decision Data Resources–IE360, from whom venture capital and patent data are purchased, changed its data sources. In the original 2009 release, the data source for venture capital was Thomson Financial's VentureXpert. The data source for the 2010 release is VentureDeal. The data source for patents for the original release in 2009 was 1790 Analytics, but the data source for the 2010 update is Patents360. More information about Decision Data Resources can be found at www.decisiondata.net.

The third factor that affects changes in the Innovation Index values is methodological, resulting from changes in certain data series either based on the original concept (i.e., definition) or measure (e.g., geographic boundary). There are two significant changes with this update.

1. The Federal Communications Commission (FCC) now collects broadband data on more finely grained Census tract and county levels rather than its previous method of collecting ZIP code data (which we then aggregated to county level). This is a significant improvement. In addition, and more importantly, the FCC collects data on high-speed residential Internet connection counts. Rather than using only the number of service providers as a proxy for high-speed Internet adoption, the index now includes data that more closely align with household adoption of broadband services. This change is a major step forward. That said, the new data do not conform to the old time series. The Innovation Index now includes both the current number of residential fixed high-speed connections

and the average change in the number of broadband holding companies in its Economic Development sub-index. The average change measure includes as its base year ZIP code level data that has been aggregated to counties.

2. The original methodology included private expenditures on research and development (R&D) by county, but Decision Data Resources no longer reports this data. R&D expenditures, especially private expenditures, are universally considered an important indicator of innovative activity and a driver of economic growth. Since these data are no longer available at the county level, this metric has been removed from the calculation of the index and the Economic Dynamics sub-index. A ghost of this measure remains, however. The National Science Foundation (NSF) does report private R&D by state. Private R&D by state (divided by state worker compensation) is provided as a measure within the State Context sub-index. An additional measure for R&D intensity that NSF reports—total R&D expenditures (that includes government grants and laboratories) divided by state GDP—is also provided as an innovation metric within State Context. At this time, State Context measures are not used to calculate the Innovation Index but are provided as additional information on innovation resources and activities in the state. The index researchers will explore the viability of incorporating the state context measures into the index in future updates.

Industry Cluster Definition Updates

The industry cluster definitions have been slightly revised with this annual update. The definitional changes in the composition of industry clusters reflect the changes in the North America Industry Classification System (NAICS) from the year 2002 (the then current NAICS version used to construct the industry clusters) and the year 2007 (the most recent NAICS vintage). The NAICS is updated every five years to reflect changes in the economy and the emergence or decline of industries. These changes are computationally inconsequential because the method to cluster industries together is the same as the original release, but the names and detail of the industries that compose the clusters in this update will not match the cluster-industry descriptions in the original methodology.

Timeline

The Indiana Business Research Center at Indiana University will continue to update the Innovation Index each year, optimally in the fall when the majority of data sources have released new data. Updating the Index this first time proved time-consuming because of the data changes and we implemented significant validation procedures to ensure the accuracy of the resulting indexes. More information on the research behind the index can be obtained by emailing us at ibrc@iupui.edu.