

## May 2016 Comprehensive Benchmark Revisions to the China CEI and LEI

The May 24, 2016 release of *The Conference Board Coincident Economic Index*<sup>®</sup> (CEI) and *The Conference Board Leading Economic Index*<sup>®</sup> (LEI) for China incorporate comprehensive benchmark revisions to the composite indexes.

The Conference Board regular benchmark revisions bring the CEI and LEI up-to-date with revisions in the source data. The revisions do not change the cyclical properties of the indexes. The indexes are updated throughout the year, but only for the previous six months. Data revisions that fall outside of the moving six-month window are incorporated when the benchmark revision is made and the entire histories of the indexes are recomputed. As a result, the revised indexes and their month-over-month changes will no longer be directly comparable to those issued prior to the benchmark revision. The entire history of the indexes from 1986 to present has been revised.

**In addition to these regular annual revisions**, The Conference Board implemented comprehensive revisions to *The Conference Board Coincident Economic Index*<sup>®</sup> (CEI) and *The Conference Board Leading Economic Index*<sup>®</sup> (LEI) for China, effective with the May 24, 2016 release. The composition of the indexes has been changed, and the base year of the composite indexes was changed to 2010 = 100 from 2004 = 100. These comprehensive revisions are the result of an extensive reevaluation of existing components of the composite indexes for China.

Changes to the composition in *The Conference Board Coincident Economic Index*<sup>®</sup> (CEI) for China:

1. Added the “Railway Freight Traffic” series to the China CEI. This monthly series refers to the volume of freight transported by railway within a specific period of time and reflects the service of the transport industry towards national economic activity. Since transportation plays a critical role in facilitating economic activity between sectors and across regions, this series is a useful indicator to assess the conditions in the overall economy. In addition, most heavy machinery, raw materials used in the manufacturing and industry sectors, as well as capital goods are transported by rail. Thus, this series is also an important indicator to monitor the conditions in China’s other industries and is not as volatile as the *Total Volume of Passenger Traffic* series, nor does it seem to be as sensitive to holidays.
2. Eliminated the *Total Volume of Passenger Traffic* series. This monthly series refers to the volume of transported passengers multiplied by the transport distance, using passenger-kilometers in millions as units for measurement. The series was originally included in the China CEI because of the economic importance of service sectors relative to goods sectors which has steadily increased in recent years. Conceptually, passenger transportation activities should be closely and positively related to overall economic activity and income levels, and are affected when the state of the overall economy has changed whether due to unanticipated shocks. However, over the years this series has not

always proven to have a positive correlation with overall economic conditions. For example, when economic conditions worsen, migrant workers often have to travel longer distance from their hometown to find work. The series has also been extremely volatile and sensitive to non-economic shocks and seasonality. The series shows a sudden and short down-and-up movement due to the SARS outbreak between November 2002 and July 2003 (we treated this as an outlier when indexing in the previous version of the China CEI). There was also a large drop in the series in January 2014 due to a methodology adjustment by the data source, Ministry of Transportation. However, the adjusted statistical methodology and change of the scope and coverage (if any) were not disclosed by the source. Moreover, seasonal adjustment of this series is complicated and may not be adequate as passenger transportation is very sensitive to holidays (the seasonal adjustment is further complicated by use of the lunar calendar for these holidays and external shocks, e.g. SARS in 2003). For the abovementioned reasons, we have decided to drop the series from the China CEI.

3. Eliminated the *Manufacturing Employment* series. The manufacturing employment series covers 24 manufacturing sectors and refers to persons employed by all state-owned manufacturing enterprises as well as by non-state-owned enterprises with an annual sales income of over 5 million Yuan. The National Bureau of Statistics published this series in the quarterly frequency from January 2007 through December 2010, before publishing it monthly again from January 2011 to December 2013. The series was discontinued from Jan 2013 through Dec 2014, and it became available again on a monthly basis in Jan 2015. Due to the lack of consistency in data availability and coverage, we have decided to eliminate the series despite historical evidence that it could serve as a good cyclical coincident indicator.
4. All price deflators including the consumer price index, retail price index, and the producer price index, have been rebased from 2004=100 to 2010=100.

Changes to the composition in ***The Conference Board Leading Economic Index®*** (LEI) for China include:

1. Added the *PBoC 5000 Industrial Enterprises Survey: Profitability* series. This business survey is conducted quarterly and covers the profitability of state-owned large and medium size industrial enterprises, collectively-owned enterprises, and joint venture, foreign-funded as well as share-holding industrial enterprises. Measured in percentages, the index ranges from 0 to 100. Profitability is improving when the diffusion index ascends, and vice versa. The surveyed enterprises cover 27 industries and the outcomes of the survey reflect business profitability across the majority of China's industry.
2. Added the *City Labor Market: Demand* series. This series is published on a quarterly basis, but the data is based on a monthly survey that covers about 100 of the largest cities in China, which represent more than 70 percent of China's economy. The survey reflects the number of monthly online job wanted ads in

these cities, and can provide an early signal of labor demand as well as overall expectations of economic conditions.

3. Added the *Imports: Machinery and Transport Equipment* series. The imports series is calculated at CIF, and refers to the real value of machinery and transport equipment imported across the border of China. This indicator is a useful measurement of capital investment, which leads activities in the manufacturing, industry, as well as transportation sectors in the economy.
4. Replaced the *Total Bank Loans by Financial Institutes series with Medium to Long-Term Bank Loans by Financial Institutes (after January 1999)*. The *Total Bank Loans by Financial Institutes* series is a sum of short, medium and long-term loans, loans to industrial sector, loans to commercial sector, loans to construction sector, loans to agricultural sector, and other loans. Short-term bank lending since 2007 has been associated with real estate and stock market speculation, and is often used to refinance existing debt. Therefore, we chose to replace the total loans series with medium to long-term loans which represent about 55 percent of total loans, and tend to be a better measure of lending that is related to real economic activity.
5. Replaced the inverted *PMI Manufactory Index: Supply Deliveries Sub Index* series with the *Logistics Prosperity Index* series. The Supplier deliveries sub-index asks purchasing managers about how long it takes for companies to receive shipments from their suppliers. As demand for manufacturing supplies increases, delivery times tend to slowdown. When the proportion of supplier managers reporting slower deliveries rises, this sub-index rises and vice versa. However, this series tends to coincide with current economic conditions, and has been highly volatile. After careful evaluation, we have chosen to replace this series with the *Logistics Prosperity Index (LPI)* series, which is a monthly survey that covers over 300 logistics enterprises all over China. The data are compiled from enterprises' responses about their logistics activities and inventory situations, and therefore provides a broader and earlier indication of logistics activities. The series is useful as a leading indicator of economic and business conditions in China.
6. Eliminated the *PBoC 5000 Industrial Enterprise Diffusion Index: the Raw Materials Supply sub-index* series which was discontinued in 2013.

In addition to these major changes to the composition, The Conference Board has implemented changes in the methodology and procedures used in the calculation process. These modifications include: 1) contributions of components based on diffusion indexes will be calculated from normalized levels of the indicator rather than their monthly changes. The indicators affected by this change are Consumer Expectations Index, PM Manufacturing: New Export Order, PBoC 5000 Industrial Enterprises Survey: Profitability, and the Logistics Prosperity Index; 2) when component data are missing in the most recent month due to publication delays, auto-regressions in log differences instead of levels will be used to calculate the statistical imputation of the missing months.

As a result of these changes, the history of the revised indexes and their month-over-month changes will no longer be directly comparable to those issued prior to the comprehensive benchmark revision. The composition changes in the new China CEI and China LEI address partly structural changes that have occurred in China's economy in the last several decades as well as advances in the available statistics for China's economy. The Conference Board research shows that the new indexes provide a more consistent measure of China's business and growth cycles, and show better performance in predicting cyclical downturns. A working paper detailing the methodology and selection of components in the China CEI and LEI will be posted on The Conference Board website in the coming months.

For more information, please visit our website at <http://www.conference-board.org/data/bci.cfm> or contact [indicators@conference-board.org](mailto:indicators@conference-board.org).