



Services Survey Methodology

May 25, 2023

The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, encompassing the western third of Missouri; all of Kansas, Colorado, Nebraska, Oklahoma, and Wyoming; and the northern half of New Mexico. As part of the nation's central bank, the Bank participates in setting national monetary policy, supervising and regulating numerous commercial banks and bank holding companies, and providing financial services to depository institutions.

The Services Survey is a web-based survey open for a five-day period, from the third Wednesday to the following Monday each month, and includes responses from firms in Colorado, Kansas, Nebraska, Oklahoma, Wyoming, northern New Mexico, and western Missouri. The Services Survey results provide information on several indicators of activity including sales, revenue, employment, and capital spending, while identifying changes in prices of input materials and selling prices. The accumulated results help trace longer term trends. Survey participants represent a variety of industries, including retail and wholesale trade, automobile dealers, transportation, information, high-tech and professional services, real estate, education, restaurants, health services, tourism. And other services firms.

Composite Index - The composite index is an average of the revenue/sales, employment, and inventory indexes.

The composite index weight is modeled after the ISM Services PMI. The Services PMI is a composite index based on the diffusion indexes for four of the indicators with equal weights: Business Activity (seasonally adjusted), New Orders (seasonally adjusted), Employment (seasonally adjusted) and Supplier Deliveries.

Federal Reserve Bank of Kansas City Services Survey Composite Index Weighted Average:

Composite Index	Weight
General Revenue/Sales	0.5
Number of Employees	0.3
Inventory Levels	0.2

Source: [February 2024 ISM Services PMI \(ismworld.org\)](https://ismworld.org)

Diffusion Index- The diffusion index is calculated as the percentage of total respondents reporting increases minus the percentage reporting declines.

Seasonally Adjusted Diffusion Index - The seasonally adjusted index is calculated as the diffusion index plus or minus the new seasonal factors.

The seasonal adjustment factors for the services survey indexes must be re-calculated annually to regulate cyclicity. The month vs. month and expected-in-six-months diffusion indexes are seasonally adjusted using Census X-13 ARIMA-SEATS, so historical indexes differ slightly from previously released numbers. The seasonal adjustment calculation is typically performed in the first two weeks of January, before the release of results for the January services survey. The new seasonal factors will be used throughout that year.

An annual survey sample update process is conducted each summer to increase the number of survey contacts and ensure that our survey sample is statistically representative of the various industries and states.
