

## Monthly Wholesale Trade Survey – Imputation Methods

A potential source of bias in the estimates is nonresponse. Nonresponse is defined as the inability to obtain all the intended measurements or responses about all selected units. Two types of nonresponse are often distinguished. Unit nonresponse is used to describe the inability to obtain any of the substantive measurements about a sampled unit. In most cases of unit nonresponse, the questionnaire was never returned to the Census Bureau after several attempts to elicit a response. Item nonresponse occurs either when a question is unanswered or the response to the question fails computer or analyst edits.

For both unit and item nonresponse, a missing value is replaced by a predicted value obtained from an appropriate model for nonresponse. This procedure is called **imputation** and uses survey data and administrative data as input. In any given month, imputed data amounts to approximately 30 percent for both the total monthly wholesale sales estimate and the total wholesale end-of-month inventory estimate.