Adjustments to Data

Edits/other adjustments:

The reported data is reviewed by subject matter analysts. These edits refer to reported data from similar units in either the current or prior cycles of the data. Common adjustments are reconciling internal inconsistencies in the reported data such as details not equating to reported totals, reporting data in the wrong units, or misunderstandings in the definitions or in the questions.

Tabulation units from the ACE-1 frame that were chosen during the probability sampling portion have a sampling weight. This weight is a multiplier that allows the response data for statistical inference to similar units that were not selected in the sample. In some cases, the response data is both correct but not representative of other similar units that were not selected in the sample. Some of these units may have their sampling weight reduced marginally as outliers. This will improve the representativeness of the sample and improve the quality of this portion of the estimate.

Tabulation units in the ACE-2 frame from the 3C and 3F component are companies without employees that were removed from the ACE-1 frame for cause. Using updated administrative data prior to publication, some of these cases will be found to have employees in the survey period. They will be grouped separately from the others in the substrata, a process called poststratification. This will improve the representativeness of the sample and improve the quality of this portion of the estimate.

Nonresponse and Imputation:

Capital expenditures have low correlation with administrative or collected data. There is not a reliable model for predicting capital expenditures from nonresponse based on the administrative or collected data. If a sampled company does not report, called unit nonresponse, the assumption is that the company has capital expenditures in direct proportion to its payroll measured against other reporting companies in the same ACES specific industry and payroll group. ACES will use a weight adjustment to reporting companies to account for companies that do not report. If a company reports capital expenditures sufficiently to be a respondent to the survey, but does not answer a particular question, called item nonresponse, then either a survey analyst will estimate the missing data or no correction will be made.

Nonresponse adjustment:

Capital expenditures have low correlation with administrative or collected data. There is not a reliable model for predicting capital expenditures from nonresponse based on the administrative or collected data. If a sampled company does not report, called unit nonresponse, the assumption is that the company has capital expenditures in direct proportion to its payroll measured against other reporting companies in the same ACES specific industry and payroll group. ACES will use a weight adjustment to reporting companies to account for companies that do not report.

If a company reports capital expenditures sufficiently to be a respondent to the survey, but does not answer a particular question, called item nonresponse, then either a survey analyst will estimate the missing data or no correction will be made.

The weighting adjustment differs between the two samples. Every company in the ACE-1 sample has payroll. If a company fails to respond to the survey, and that company is still considered to have been active and in scope during the survey cycle, then its payroll is added to other companies in that ACES industry group and substrata that also did not report. Each ACES industry has at least one to as many as five substrata. Each substratum should have sufficient number sampled to ensure there is at least one respondent in the substrata, or separate action has to be taken. The fraction of the sum of the payroll of all sampled companies over the sum of payroll of just responding companies is calculated for each substratum. This value, which must be greater than or equal to one, is multiplied to the sampling weight of each responding company to compute a nonresponse adjusted weight.

Companies in the ACE-2 sample do not have payroll. The compensating fraction will be the number of sampled but still eligible cases over the number of eligible reporting cases. This value, which must be greater than or equal to one, is multiplied to the sampling weight of each responding company to compute a nonresponse adjusted weight.

The nonresponse adjusted weights for both the ACE-1 and ACE-2 samples will be used in estimation. This assumes companies that do not report are not different from those that do with respect to capital expenditures. It also provides enough influence to responding companies for adequate inference to the population. The increase in weight will also increase the sampling variability, which should be the case with larger non observation due not just to sampling but to lower than total response.

Imputation:

This survey does not use imputation other than that provided by the survey analysts.

Other macro-level adjustments:

Tabulation units from the ACE-1 frame that were chosen during the probability sampling portion have a sampling weight. This weight is a multiplier that allows the response data for statistical inference to similar units that were not selected in the sample. In some cases, the response data is both correct but not representative of other similar units that were not selected in the sample. Some of these units may have their sampling weight reduced marginally as outliers. This will improve the representativeness of the sample and improve the quality of this portion of the estimate.

Outlier detection is done initially through calculating the Mahalanobis distance between investment in structures and equipment. While ACES is primarily concerned with total capital expenditures, the lack of a reliable covariate makes outlier detection on total capital expenditures difficult. The focus is then on the relative values of structures and equipment investment. This is examined by ACES specific industry. The reporting companies with the largest Mahalanobis distance for each ACES specific industry are identified. These are then reviewed as potential outliers by the survey analysts to double check the validity or representativeness of the reported data. Based on the survey analysts' review and recommendation, select companies are inspected against similar companies as well as their impact on the estimates of structures or equipment expenditures in that ACES industry. A company passing those tests is considered an outlier. Its nonresponse adjusted weight will be reduced in a manner to reduce the sampling variation. .

Tabulation units in the ACE-2 frame from the 3C and 3F component are companies without employees that were removed from the ACE-1 frame for cause. Using updated administrative data prior to publication, some of these cases will be found to have employees in the survey period. They will be grouped separately from the others in substrata, a process called poststratification. This will improve the representativeness of the sample and improve the quality of this portion of the estimate.

Updated administrative data comes from using the final BR datasets available about 12 months after the frame was first created. The data is inspected to see which reporting cases did have payroll in the survey year, as well as inspecting the reference period frame. Post-strata of both the frame and the sample are created, and new sampling weights are calculated. This implies new nonresponse adjusted weights as well.