

variance is computed summing across the resulting 150 replicates and multiplying the results by 1/2. Under the shortcut method, we created one replicate weight per stratum where a cluster was selected at random to have its contribution doubled, and the contribution of the remaining cluster was zeroed out. The sampling variance was computed summing across the 75 replicates and multiplying the results by 1.

In addition, when using plausible values, the full method will compute the sampling variance using each of the five plausible values in the analysis, and will use and report the average of these. Under the shortcut method the sampling variance for statistics involving plausible values was computed using only the first plausible value.

Should you want to replicate TIMSS and PIRLS variance estimates published prior to 2016, using the shortcut method, you will need to make the following changes to the code generated by the IDB Analyzer:

- From “JK2TYPE = FULL / ” to “JK2TYPE = HALF/ ”
- From “NRWGT = 150 / ” to “NRWGT = 75/ ”

If you are using plausible values in your analysis, you will also need to make the following change:

- From “SHRTCUT = N / ” to “SHRTCUT = Y / ”.

Appendix F: Analysis Notes for Specific Studies

OECD - PISA

Beginning in 2015, the OECD-PISA will be producing and using 10 plausible values for the analysis of its data. The IDB Analyzer provides the user the option to work with pre-2015 data, using 5 plausible values, or with 2015 data and beyond, using 10 plausible values. The user will need to make the corresponding selection using the “Analysis Type” drop-down menu within the Analysis Module.

U.S. NAEP

The U.S. National Assessment of Educational Progress (U.S.-NAEP) has been conducted since the 1960's and has a long list of published assessment data. Starting in 2013, the U.S.-NAEP started producing and using 10 plausible values for the proficiency scales. Prior to 2013 the U.S.-NAEP produced and used only 5 plausible values. Therefore, when working with the U.S.-NAEP data you will first need to specify whether you are using pre-2013 data or not, and then select the appropriate analysis type using the “Analysis Type” drop-down menu within the Analysis Module. You will notice that some assessment subjects and years have their own entry. Scan the list carefully to make sure to make the correct selection. You will have the following options:

NAEP

NAEP District
NAEP National
NAEP State

NAEP (pre-2013)

NAEP District (pre-2013)
NAEP National (Geography & History 2001)