Special School Weights for Analysis of Non-Certification Errors.

In addition to the general school weights, we will construct eight sets of special school weights for analysis of (a) four types of non-certification error: meal claiming error, aggregation error, school-to-SFA report aggregation error, and SFA-to-State-agency meal claim aggregation error, crossed by (b) two meal types (breakfast and lunch). The eight sets of weights to be constructed are indicated in Table B2-1.

Table B2-1. School-level weights to be constructed for analysis of non-certification errors

Type of non-certification error	Meal Type	
	Lunch	Breakfast
Meal claiming error	$w_{\square}^{sch,11}$	$w_{\square}^{sch,12}$
POS aggregation error	$w_{\square}^{sch,21}$	$w_{\square}^{sch,22}$
School-to-SFA report aggregation error	$w_{\square}^{sch,31}$	$w_{\square}^{sch,32}$
SFA-to-State meal claiming aggregation error	$w_{\square}^{sch,41}$	$w_{\square}^{sch,42}$

The basic steps for constructing a particular set of special school weights corresponding to row *e* (type of error) and column m (meal type) of Table B2-1 say w_{hij}^{em}, are as follows. The starting point is the set of general weights given by equation (8). Thus, each responding school *j* in SFA *i* in stratum *h* in the sample is first assigned a preliminary weight,

$$w_{hij}^{prelim} = w_{hij}^{gen}. \tag{9}$$

For analyses of school characteristics (i.e., non-certification errors) that are unrelated to student meal program participation, a school-level nonresponse

adjustment factor will be computed to account for responding schools that did not provide the data necessary to calculate the required error rate. That is, within the following nine cells defined by FNS region and CEP-status: (a) seven cells consisting of non-CEP schools in non-CEP SFAs in each of the seven FNS regions; (b) one cell defined by non-CEP schools in CEP SFAs, and (c) one cell defined by CEP schools in CEP SFAs, a nonresponse adjustment factor will be computed as:

$$F_k^{em} = \sum_{i=1}^{b} w_{kij}^{prelim} \; / \; \sum_{i=1}^{b_r} w_{kij}^{prelim} \;, \tag{10}$$

where the summation in the numerator extends over all of the *b* sampled schools in weighting cell *k*, whereas the summation in the denominator extends over all of the b_r schools in the weighting cell with complete data required to calculate error type *e* for meal type *m*. The nonresponse-adjusted school weight, w_{kij}^{em}, for school *j* in SFA *i* in weighting cell *k* will then be computed as:

$$w_{kij}^{em} = F_k^{em} \, w_{kij}^{prelim} \;. \tag{11}$$

For analyses of school characteristics (i.e., non-certification errors) that are related to student meal program participation (e.g., reimbursements and improper payments), an additional post stratification adjustment will be implemented to align the weighted counts of students in the sampled schools to the corresponding national student counts within nine categories of schools defined by cross-classifying three enrollment size classes (under

500, 500 to 999, and 1,000+) and three levels of the percent of students eligible for free meals (low, medium, and high). The control totals required for post stratification will be derived from NCES data sources (e.g., the CCD for public schools, and Private School Survey) if they are not available from FNS administrative files. Let S_g denote the national count of students in poststratum *g*. The poststratification adjustment factor for poststratum g will be computed as:

$$H_g^{PS,em} = S_g \,/\, \sum_{i=1}^{c_r} w_{gij}^{em} s_{ghi} \qquad (12)$$

where s_{ghi}= the number of students reported in the survey by school *j* in SFA *i* in sampling stratum *h*, and where the summation in the denominator extends over all of the c_r responding schools corresponding to error type *e* and meal type *m* in poststratum *g*. The poststratified school weight, $w_{gij}^{PS,em}$, for school *j* in SFA *i* in poststratum *g* will then be computed as:

$$w_{gij}^{PS,em} = H_g^{PS,em}\, w_{gij}^{em} \,. \qquad (13)$$

The final step will be to "calibrate" the school weights given by (13) so that sample-based weighted estimates of reimbursements equal known reimbursement totals from FNS administrative files. This adjustment will be applied to each of the eight sets of school weights, $w_{gij}^{PS,em}$. Let R_c^m = the total annual reimbursement amount derived from FNS administrative files for meal type *m* (breakfast or lunch) and type-of-school *c* (CEP vs. non-CEP). The

final calibrated weight to be used for analysis of payment errors for school *j* in school-type *c* and meal type *m* will be computed as:

$$w_{cmj}^{cal,em} = w_{cmj}^{PS,em} \{ R_c^m / \sum_{j=1}^{c} w_{cmj}^{PS,em} R_{cmj} \} \quad (13a)$$

where R_{cmj}= the total annual reimbursement reported by responding school *j* in school-type *c* for meal type *m*.