Chapter Six: Effects of More Frequent Recertification

Short certification periods are frequently used to control error, especially among cases with earnings. Such periods may unintentionally reduce program participation.

Using the Model to Test Alternative Scenarios

One can use the derived transition matrix for each year to examine the effects of alternative scenarios regarding more frequent recertification. In doing so, we make use of the formulas provided at the end of Chapter Three for the projected long-term aggregate participation rate and case error rate. To recall, the steady-state distribution expresses the eventual outcome that would be obtained if the pattern of monthly transitions, as estimated for a given "base year," were continued uninterrupted. As explained in this chapter, changes in the frequency of recertification can be evaluated in terms of the shift in the long-term distribution of households according to their participation and error status.

The alternative scenario examined here is one that increases by 5 percentage points the "recertification rate" for cases with earnings. ***We define the recertification rate as the percentage of current-month active cases that are expiring cases (i.e., cases in the final month of their certification period).*** For these cases, their next-month status will be a result of the recertification process. The remaining balance of current-month active cases consists of ongoing cases, whose next-month status will be subject to the interim action process.

In the terms of the basic transition matrix (Exhibit 6), the recertification rate is measured as the share of the current-month caseload comprised by expiring correct cases (the fourth-row total) and expiring error cases (the fifth-row total), as follows:

$$\text{Recertification rate} = (R_4 + R_5)/(R_2 + R_3 + R_4 + R_5)$$

One can carry this logic further to specify the recertification rate separately for current-month correct cases as $R_4/(R_2+R_4)$ and for current-month error cases as $R_5/(R_3+R_5)$.

Note that the recertification rate will approximately equal the inverse of the average length of certification period. For cases with earnings, whose average certification length is about 7 months (as shown in Exhibit A-2), the recertification rate will thus be about 1/7 or 14.3 percent. An increase of 5 percentage points in the recertification rate, to 19.3 percent, corresponds to a reduction in the average certification length from 7 months to about 5.2 months (1/0.193).

In understanding how the model is used to test such an alternative scenario, it is useful to regard the five-group model as reducible to a three-group equivalent (as shown in Exhibit 4 of Chapter Two), whose groups consist of nonparticipating households, correct cases, and error cases. The transition probabilities for correct cases (the second-row entries of the three-group transition matrix) can be viewed as weighted averages of the probabilities specific to ongoing correct cases (i.e., those subject to interim action) and expiring correct cases (i.e., those subject to recertification). The weights reflect the recertification rates for correct cases. A similar logic applies to the transition probabilities for error cases (the third-row entries of the three-group matrix).

In using the model to simulate an assumed increase in the recertification rate, one allows the next-month status of current-month cases to reflect more heavily the transition probabilities specific to recertifications. Thus, the probabilities specific to interim actions are reflected less heavily. The model does this separately for current-month correct cases and current-month error cases. Specifically, we assume that the increase of 5 percentage points in the overall recertification rate occurs through a 5-percentage-point increase in the recertification rate for both current-month correct cases and current-month error cases.

To explain further, the "alternative scenario" is simulated by modifying the transition matrix for the "base scenario" in the following manner. We first convert the 5-by-5 matrix of cell counts (previously estimated for the chosen base year) into an equivalent 3-by-3 matrix of cell counts. This reconfigured matrix maintains nonparticipating households as one group and establishes participating correct cases and participating error cases as the other two groups. (Thus, the distinction between correct cases and error cases is maintained in the new matrix, but the explicit distinction between ongoing cases and expiring cases is removed.) The higher recertification rate under the alternative scenario can then be translated into a recomputed set of transition probabilities along the newly defined second row (current-month correct cases) and the newly defined third row (current-month error cases). Within each of these rows, the modified pattern of next-month outcomes under the alternative scenario can be represented through a re-weighting of the component transition probabilities specific to ongoing cases and expiring cases. In each row, the assumed 5-percentage-point increase in the recertification rate implies a reduction in the weights specific to ongoing cases and a corresponding increase in the weights specific to expiring cases.

The alternative scenario is assumed to have no effect on the rate of case openings and the accuracy of initial certifications (i.e., the first-row matrix entries). The alternative scenario is also assumed to cause no behavioral response among cases during interim months. For example, the simulation assumes no change in the likelihood that an ongoing error case voluntarily withdraws from the program.

Having recalculated the transition matrix through such a re-weighting, one can than apply the formulas shown at the end of Chapter Three to re-compute the long-term values for the

aggregate participation rate and the case error rate. (The formulas, developed in the context of a 5-by-5 matrix, are also applicable to the reconfigured 3-by-3 framework described above.) The effect of the alternative scenario is assessed by comparing these long-term values with those corresponding to the base scenario.

Note that such a shift could either increase or decrease the case error rate, depending on whether the reduction in error cases (the numerator of the case error rate) falls short of or exceeds the reduction in active cases (the denominator). Although in principle the effect on the aggregate participation rate (and thus on the size of the caseload) could also be either upward or downward, one expects a downward change. The reason is that a case termination is more likely when a case is subject to a recertification than when it is subject to the interim action process. If recertifications occur more frequently, the higher resulting rate of monthly case closure (along with an unchanged case opening rate) will expectedly reduce the aggregate participation rate.

To see whether the results are sensitive to the particular base year, we tested the alternative scenario using both 2000 and 2001 as base years.

Findings

Exhibit 23 shows the estimated long-term effect on participation and error for cases with earnings of the assumed 5 percentage point increase in the recertification rate for such cases. Using 2000 as the base year, the alternative scenario implies an increase in the recertification rate from 15.50 to 20.50 percent, roughly equivalent to a reduction in the average certification length from 6.5 to 4.9 months. With 2001 as the base year, the implied increase in the recertification rate is from 13.53 to 18.53 percent.

Under both sets of estimates, the results are consistent with respect to the direction of change in the components of the aggregate participation rate and the aggregate error rate, both of which are expressed in terms of the total population of households with earnings.

- ***Aggregate participation rate***: Under both sets of estimates, the alternative scenario was found to increase the case closure rate (b). In conjunction with an unchanged case opening rate (a), this leads to a lower aggregate participation rate (a/(a+b)). In proportional terms, the estimated effect on the eventual size of the caseload for earnings cases is a 6.5 percent reduction for the 2000-based estimates, versus only a 0.7 percent reduction for the 2001-based estimates. The difference appears attributable to the lower rate of case closure for expiring correct cases in the 2001 matrix (4.9 percent) that in the 2000 matrix (15.4 percent), as shown in Exhibits C-7 and C-8.

Exhibit 23: Estimated Effects of More Frequent Recertification, Households with Earnings

		Long-term outcome			
		Base scenario	Alternative scenario	Absolute change	Proportional change
		Households with earnings: base year 2000			
Recertification rate (%)		15.50	20.50	5.00	
Case opening rate (%)	a	0.24	0.24		
Case closure rate (%)	b	10.29	11.02		
Aggregate participation rate (%)	p* = a/(a+b)	2.31	2.16	-0.15	-6.5%
Error opening rate (%)	c	0.33	0.33		
Error closure rate (%)	d	64.97	66.54		
Aggregate error rate (%)	e* = c/(c+d)	0.51	0.49	-0.02	-3.3%
Case error rate (%)	r* = e*/p*	21.92	22.68	0.76	3.5%
		Households with earnings: base year 2001			
Recertification rate (%)		13.53	18.53	5.00	
Case opening rate (%)	a	0.26	0.26		
Case closure rate (%)	b	11.02	11.09		
Aggregate participation rate (%)	p* = a/(a+b)	2.33	2.32	-0.02	-0.7%
Error opening rate (%)	c	0.30	0.30		
Error closure rate (%)	d	65.81	67.36		
Aggregate error rate (%)	e* = c/(c+d)	0.45	0.44	-0.01	-1.7%
Case error rate (%)	r* = e*/p*	19.19	18.99	-0.20	-1.0%

Note: All outcomes pertain to households with earnings. See Chapter Three for the formulas used to compute each long-term outcome measure.

- ***Aggregate error rate***: Under both sets of estimates, the alternative scenario was found to increase the error closure rate (d), with no change in the error opening rate (c). This implies a lower aggregate error rate (c/(c+d)). Stated otherwise, the alternative scenario leads to a very slight long-term reduction in the average monthly number of error cases among households with earnings. The projected

reduction is more pronounced in the 2000-based estimates (3.3 percent) than in the 2001-based estimates (1.7 percent).

- ***Case error rate***: The effect on the case error rate will depend on whether the effect on the aggregate error rate is proportionally greater than or less than the effect on the aggregate participation rate. Here, the two sets of estimates differ. The 2000-based estimates imply an *increase* in the case error rate, as the estimated reduction in participation (6.5 percent) is greater proportionally that the reduction in error (3.3 percent). In contrast, the 2001-based estimates show a *decrease* in the case error rate, as the estimated drop in participation (0.7 percent) is smaller than the reduction in error (1.7 percent).

These findings suggest that the long-term effects of more frequent recertification for earnings cases will be to reduce both the monthly number of participating households and the monthly number of error cases among households with earnings. The effect will be to reduce the case error rate (the percentage of participating cases in error) only if the proportional reduction in error cases exceeds the reduction in participating households. This relationship was found in the 2000-based estimates but not in the 2001-based estimates.

The findings should be interpreted with some caution, however, as they are based on assumptions about the recertification process. These assumptions, as noted earlier, are necessitated by the limitations of the QC data in providing retrospective detail on the status of correct cases. Specifically (with respect to cell Q_{52} in Exhibit 6), the model assumes that among cases currently in error, the percentage that emerge the following month as correctly paid active cases is the same for those subject to recertification as for those subject to interim action. Under this assumption, the effect of more frequent recertification on the error rate occurs through the higher closure of error cases at recertification. Such case closures reduce both the numerator and denominator of the case error rate, thus moderating the change in the measured case error rate.

Another key modeling assumption (pertaining to cells Q_{32} and Q_{34} in Exhibit 6) is that ongoing or expiring cases that are correct in one month were in error the prior month only if an interim change has just occurred. The interim change is thus assumed to have corrected an error.

Estimates based on the matrix for 2000 show a participation effect for cases with earnings similar to that found in the earlier-mentioned studies by Kabbani-Wilde and Kornfeld. These previous studies estimated the effect of an increase of 10 percentage points in the proportion of earnings cases subject to a short certification period. The alternative scenarios tested here represent upward shifts twice as large, increases of 18 to 22 percentage points in the

proportion of earnings cases with a short certification period.[24] Scaling back the 2000-based finding here by a factor of 2, the estimated caseload reduction amounts to 3.2 percent (6.5 percent divided by 2). This compares to the 2.6 percent caseload decline estimated by Kabbani-Wilde (for cases with earnings) and the 2.3 to 2.4 percent caseload decline estimated by Kornfeld (for cases consisting of multiple adults with children or cases with adults only). The estimated proportional decrease in participation is much smaller here (0.3 percent) if one instead uses 2001 as the base year.

In contrast, the model-estimated effect on the error rate for cases with earnings is negligible compared to the effect found in the Kabbani-Wilde study. The findings here, again scaled back to reflect an increase of 10 percentage points in the proportion of earnings cases subject to a short certification period, range from an error rate increase of 0.4 percentage points for the 2000-based estimate to an error rate decrease of 0.1 percentage point for the 2001-based estimate. The corresponding effect on the *dollar* error rate would be even smaller, as dollar error rates are consistently smaller than case error rates.[25] The Kabbani-Wilde study found a reduction of 0.8 percentage points in the dollar error rate for earnings cases.

As to why the model developed here yields a smaller effect on error than found by Kabbani-Wilde, one can only speculate. One possible explanation is that, although the Kabbani-Wilde estimating equation included many covariates (plus state-specific and year-specific fixed effects), the estimated coefficient on the short-certification variable may have captured the influence of other excluded variables that are correlated with the use of more frequent recertification. One indication of this is that, in the Kabbani-Wilde error rate equation for households *without* earnings, the short-certification variable was again strongly significant, although somewhat smaller than for earnings cases.

In comparison to the more conventional multivariate econometric approaches used by Kabbani-Wilde and Kornfeld, one seeming advantage of the model developed here is that it constitutes a more direct operational representation of the administrative processes and

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[24] Using 2000 as the base year, the increase of 5 percentage points in the recertification rate for earnings cases (from 15.5 to 20.5 percent) is roughly equivalent to a 1.6-month reduction in the average certification length, from 6.5 months (1/0.155) to 4.9 months (1/0.205). It is reasonable to assume that any increase in the proportion of earnings cases subject to a short certification period is achieved by shortening to 3 months the certification period of those with annual recertification. For every additional 10 percent of earnings cases assigned to a 3-month certification, the reduction in the average certification length is thus 0.9 months. To achieve a reduction of 1.6 months in the average certification length, the implied increase in the proportion of earnings cases subject to a short certification period would be 18 percentage points (1.6/0.9). Using 2001 as the base year, the corresponding estimate is 22 percentage points. These estimates, ranging from 18 to 22 percent, are approximately twice as large as the 10 percent assumed in the Kabbani-Wilde and Kornfeld studies.

[25] The dollar error rate is the product of the case error rate and the following ratio: the average error amount divided by the average payment amount. Because the latter ratio is typically less than one, the dollar error rate is typically less than the case error rate.

events that underlie food stamp error and participation. The simplifying assumptions of the model, as necessary to overcome the limitations of QC data, can be explicitly considered and tested. Indeed, the issues raised in this exploratory research suggest that the modeling assumptions should be further scrutinized before undertaking any future applications of the model.