

## 5. Economy versus Policy

One of the original objectives of estimating the FSP caseload equation was to obtain measures of the relative importance of the economic versus policy variables for explaining movements in FSP caseloads during the 1990's. Most of the previous studies have provided a comparison of these two influences by calculating the percentage of the actual change in FSP caseloads predicted by these two types of variables. Wallace and Blank report this measure of variable importance over the entire decade up to 1998 (1990-94, 1994-96, and 1996-98). Other studies have concentrated on the time period around the passage of PRWORA. ZGF (2001) and Kornfeld report these measures of variable contribution for the periods 1994-99 and 1996-99. FGZ report this measure but for only the 1994-99 period.

A similar measure of variable importance is calculated here for the time period 1994-98 for each type of regressor variable use in the estimation of the cointegrated FSP caseload equation. The percentage reduction in the log of per capita FSP caseloads during 1994-98 attributed to the trend, dummy, the economic variables, the log of per capita AFDC/TANF caseloads, and the residuals are reported in table 5. The contribution of the economic variables to the reduction in per capital FSP caseload is about one and one-half times that of the intervention policy variables (16 versus 10 percent). In this time period the effect of the policy dummy variables reflect the effect of the dummy variable that signals the enactment of PRWORA in 1996 and the any waiver variable. The contribution of both the intervention policy and economic variables, however, pales by comparison to the effect attributed the AFDC/TANF caseloads. Table 5 indicates that the reduction in the log of per capita AFDC/TANF caseloads predicts roughly 80% of the actual reduction in the log of per capita FSP caseloads during this period.

Of the previous studies, only Wallace and Blank and ZGF (2001) report specifications of the FSP caseload equation that include AFDC/TANF caseloads as a regressor, however, only ZGF (2001) use estimates of this specification to calculate measures of variable contribution. Wallace and Blank are concerned about the endogeneity problems and included estimates of the FSP caseload equation only "as a comparison", (p.15) with their preferred specifications that do not account for AFDC/TANF caseloads.

Adding the contemporaneous log of per capita AFDC/TANF caseload as a regressor in the specification estimated by these author is not, however, sufficient to insure cointegration. In a recent paper Pesaran and Shin (1997) showed that it is possible to estimate cointegrating relationships using an autoregressive-distributed-lag (*ARDL*) specification such as used by ZGF (2001) and Wallace and Blank. The method proposed by Pesaran and Shin requires tests of the regression residual to make sure that all variables enter with the correct number of lags to insure that the residuals are stationary. In particular, since ZGF (2001) provide no information on the nature of their residuals, it is not possible for us to determine whether the specification that includes AFDC/TANF caseloads is in fact cointegrated.

Having stated this qualification, we can proceed to compare the measures of variable contribution that are reported in table 5 with the measures reported by ZGF (2001) for their specification that includes the log of per capita AFDC/TANF caseloads as a regressor. ZGF

(2001) report that for this specification the economic variables predicted 23 percent, their policy variables predicted 7 percent, and AFDC/TANF caseloads predicted 32 percent of the reduction in caseloads during 1994-99. The predicted effects of the economic and policy variables are similar in magnitude to the effects given in table 5, however, the predicted effect of AFDC/TANF caseloads is substantially lower than what we calculate. There appear to be two possible reasons for ZGF (2001) finding AFDC/TANF caseloads during this period to be less important than we do. One, ZGF (2001) did not include the effects of lagged AFDC/TANF caseloads in their estimated specification of the FSP caseload equation. Two, annual effects or the state-specific time trends employed by ZGF (2001, 2003) control for effects that may be, in fact, associated with changes in AFDC/TANF caseloads.

The requirement that the effect of AFDC/TANF caseloads be included in the FSP caseload equation to achieve cointegration means that measures of the contribution of the economy and policy calculated using just the FSP caseload equation are only partial measures conditional on the level of AFDC/TANF caseloads. Since changes in AFDC/TANF caseloads themselves reflect both effects of economy and policy, it is not possible conceptually to measure the total effect of either economy or policy using the estimated FSP caseload equation alone.<sup>26, 27</sup>

ZGF (2001) handle this problem by assuming a recursive structural system in which AFDC/TANF caseloads affects FSP caseloads but not visa versa. Their structural AFDC/TANF caseload equation is based on previous work by Figlio and Ziliak, and specifies AFDC/TANF caseloads as a function of only the economic variables and a set of policy indicators defined for the AFDC/TANF program. The empirical results presented in section 5.3 suggest, however, FSP caseloads, AFDC/TANF caseloads plus the economic and policy variables are all needed to define a cointegrated relationship. Regressions involving subsets of any of these variables would be spurious. In this case, ZGF (2001) attempt to identify the impact of the economy on AFDC/TANF caseloads from an equation that *excludes* FSP caseloads would be invalid for the same reason that the FSP caseload equation without AFDC/TANF caseloads is invalid.

This suggests that in order to calculate the *total* effect of the economy on either FSP or AFDC/TANF caseloads a full simultaneous equation system for the two programs must be estimated. Such a system would consist of long-run structural equations in which there are two potentially cointegrating relationships connecting the caseload data. This system would define a reduced form specification from which the total impact of economy on both ADFC/TANF and FSP caseloads could be determined.

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<sup>26</sup> This can also be a problem with other variables, for example, ZGF (2001, p.12) recognize that their “policy” variable ABAWD also reflect economy effects.

<sup>27</sup> The impact of the economy on AFDC/TANF caseloads is probably the reason why excluding this variable from the FSP caseload equation results in both economic variables having a greater absolute affect. CCR estimates of the FSP caseload equation (10<sup>7</sup>), without and with the inclusion of the log of per capita AFDC/TANF caseloads are given in columns 2 and 3 of table 4.