6. Predicting Period-by-Period Changes in FSP Caseloads

The assumption that unit-root non-stationarity processes generate the data implies that variables have both permanent and transitory components. Any shock will, thus in general, impart *both* permanent and transitory effects. If the variables are cointegrated, the relationship among permanent components identifies the long run equilibrium relationship among the variables whereas the relationship among the transitory components identifies the short run relationship. In this paper, we have concentrated only on identifying and estimating the (long-run) relationship between permanent components of the FSP caseload data.

To predict the short run (transitory) period-by-period response of FSP caseloads to changes in the regressors requires the estimation of the *error correction* form given in (8). This specification of the data uses information from the cointegrating regression (specifically, the estimated error term) in combination with a vector autoregression that captures the short run response. In error correction models, the short run response tracks the adjustment process from one steady state level (equilibrium) to another. A characteristic of cointegration theory is that the existence of a cointegrating relationship implies an error correction model and vice-versa. Hence, "long run" and "short run" are tied together using a "permanent" and "transitory" decomposition of the variables. If the variables are cointegrated, it is not necessary to explicitly decompose them into permanent and transitory components since this distinction is accounted for by the estimation procedure. We find in this paper evidence that the economy does have a permanent effect on FSP caseloads. Our findings indicate that a *permanent* lower rate of unemployment or greater employment growth result in *permanently* lower FSP caseloads. What we have not done in this paper is to provide the decomposition of changes in FSP caseloads into permanent and transitory components which would be available from the estimation of (8).

For data that is trend stationarity the long-run permanent levels are given by their time trends. Model estimates measure the affects of deviations from the time trends in the regressor variables on deviations in the regressand variable from its time trend. If the data are trend stationary then the pattern of period-by-period changes caused by a changes in a regressor variable is useful in summarizing the short-run transitory influences on, say, FSP caseloads. These changes in FSP caseload may occur over more than one period, however, their cumulative effect does not reflect a permanent change in the level of FSP caseloads. This pattern of period-by-period change in FSP caseloads for a unit change in, say, the economy is illustrated in Figure 1 by the plot of the impulse response function estimated from the distributed lag structure given in ZGF (2001). This function measures the year-by-year response in FSP caseloads from a unit change in a regressor variable. In the long-run the response vanishes and FSP caseloads return to their time trend.

A comparison between the stationary and integrated characterization of the FSP caseload data could be performed by evaluation predictions of the year-by-year changes in FSP caseloads. The error correction specification given in (8) implies that a correct characterization of period-by-period changes in FSP caseloads incorporates the connection between permanent components of FSP caseloads and the regressor variables. An implication of (8) is that knowledge of this connection will result in better predictions of the period-by-period changes in FSP caseloads than formulations that rely on the stationary components of the regressor variables.