Correction

Cohen, Joel E. 1986. Population Forecasts and Confidence Intervals for Sweden: A Comparison of Model-Based and Empirical Approaches. Vol. 23, No. 1, pp. 105–126.

Stephen M. Stigler pointed out a typographical error in equation (3) on page 108: in the last term, $|W(2 + j) - W(1) - j \log L|$ should be $|W(2 + j) - W(2) - j \log L|$. The numerical calculations in the paper used the correct form of equation (3), so the reported values of s do not require modification.

Thus corrected, s in equation (3) differs slightly from D_3 on page 144 of the cited paper by Heyde and Cohen, because $\log L = [W(T) - W(1)]/(T - 1)$ in the last term of s is replaced by $[W(T) - W(2)]/(T - 2)$ in the last term of D_3. The formula for s retains $\log L$ because it seems preferable to estimate the long-run growth rate $\log \lambda$ by using all of the available data. According to Stigler's calculations based on the Swedish data, the values of s and D_3 differ only very slightly, as might be expected.

Stigler also carried out a Monte Carlo comparison between equation (3) and an autoregressive integrated moving average (ARIMA) method of measuring the variability of increments in the logarithm of population size, namely, the sample standard deviation of the increments. He generated artificial time series of durations $T = 50$, 100, and 250, using standard normally distributed increments, so that the assumptions of the ARIMA estimator were valid. He found s to be four to seven times more variable (from one simulated time series to another) than the sample standard deviation. He suggested that if the ARIMA assumptions hold approximately, it would be more efficient to estimate the variability of increments in the logarithm of population size by using an ARIMA method than by using equation (3).

The behavior of the two estimators has not been compared, by Monte Carlo or analytical methods, when the ARIMA assumptions fail. The estimator s can be used under more general conditions, which are spelled out by Heyde and Cohen.