- $M1$ measures the contribution of the irregular component to the total variance. When it is above 1 some changes in outlier correction should be considered.
- $M2$, which is a very similar to $M1$, is calculated on the basis of the contribution of the irregular component to the stationary portion of the variance. When it is above 1, some changes in an outlier correction should be considered.
- $M3$ compares the irregular to the trend taken from a preliminary estimate of the seasonally adjusted series. If this ratio is too large, it is difficult to separate the two components from each other. When it is above 1 some changes in outlier correction should be considered.
- $M4$ tests the randomness of the irregular component. A value above 1 denotes a correlation in the irregular component. In such case a shorter seasonal moving average filter should be considered.
- $M5$ is used to compare the significance of changes in the trend with that in the irregular. When it is above 1 some changes in outlier correction should be considered.
- $M6$ checks the SI (seasonal – irregular components ratio). If annual changes in the irregular component are too small in relation to the annual changes in the seasonal component, the 3×5 seasonal filter used for the estimation of the seasonal component is not flexible enough to follow the seasonal movement. In such case a longer seasonal moving average filter should be considered. It should be stressed that $M6$ is calculated only if the 3×5 filter has been applied in the model.
- $M7$ is the combined test for the presence of an identifiable seasonality. The test compares the relative contribution of stable and moving seasonality[138].
- $M8$ to $M11$ measure if the movements due to the short-term quasi-random variations and movements due to the long-term changes are not changing too much over the years. If the changes are too strong then the seasonal factors could be erroneous. In such case a correction for a seasonal break or the change of the seasonal filter should be considered.

The Q statistic is a composite indicator calculated from the M statistics.

$$Q = \frac{10M1 + 11M2 + 10M3 + 8M4 + 11M5 + 10M6 + 18M7 + 7M8 + 7M9 + 4M10 + 4M11}{100} \quad [5.25]$$

$Q = Q - M2$ (also called $Q2$) is the Q statistic for which the $M2$ statistics was excluded from the formula, i.e.:

$$Q - M2 = \frac{10M1 + 10M3 + 8M4 + 11M5 + 10M6 + 18M7 + 7M8 + 7M9 + 4M10 + 4M11}{89} \quad [5.26]$$

If a time series does not cover at least 6 years, the $M8$, $M9$, $M10$ and $M11$ statistics cannot be calculated. In this case the Q statistic is computed as:

[138] See 7.6.3.6.