



Latest Release: SAS® Econometrics 8.5

SAS® Cloud Analytic Services: Econometrics and Time Series

Overview

SAS Econometrics procedures, which run on SAS® Viya®, provide a new, resilient, distributed, and scriptable method of conducting advanced econometric modeling and time series analysis. They also provide a programming entry point for econometricians in government, academics, and industry (especially banking, insurance, and other financial services). SAS Econometrics leverages the speed, scalability, and elasticity of the SAS in-memory environment. Key features include:

- compound distribution models
- copula model fitting and simulations
- count and limited dependant variable models
- data access engine
- economic capital models
- hidden Markov models
- panel data models
- severity models
- spatial regression models
- time series models, analysis, and utility packages

New SASEMOOD Interface Access Engine

The SASEMOOD interface engine enables SAS users to retrieve time series data from the Moody's Analytics Data Buffet (Economy.com) website. This website offers access to over 600 sources of global historical statistical data at the regional, national, and subnational level, in addition to 40 forecast database offerings. Over 220 million time series are updated promptly after release, on topics such as housing, labor, demographics, finance, industry, housing prices, and consumer credit performance forecasts. Time series are offered in yearly, semiannual, quarterly, monthly, semimonthly, biweekly, weekly, workday (business), daily, and indexed frequencies.

New TSINFO Procedure

The TSINFO procedure evaluates a variable in an input data table for its suitability as a time ID variable in SAS procedures and solutions that are used for time series analysis. PROC TSINFO assesses how well a time interval specification fits SAS date values, SAS datetime

values, or observation numbers that are used to index a time series. The time interval used in this analysis can be either specified explicitly as input or inferred based on values of the time ID variable. The TSINFO procedure produces diagnostic information in the form of data tables and ODS tables. These diagnostic results summarize characteristics of the time ID variable that can help determine its use as an index in other time series procedures and solutions.

The HMM Procedure

The HMM procedure estimates hidden Markov models (HMMs), which have been widely applied in economics, finance, science, and engineering. This model has many well-known aliases, such as the general state space model, regime-switching model, Markov-switching model, Markov regime-switching model, and so on. PROC HMM estimates the Gaussian HMM, Gaussian mixture HMM, regression HMM, and autoregressive HMMs in both standard and mean-adjusted forms. PROC HMM includes these features:

- support for cross-sectional time series
- estimation by the maximum likelihood method and the maximum a posteriori method
- various nonlinear optimization algorithms and stochastic gradient descent algorithm
- specification of initial parameter values and prior hyperparameter values
- multiple starting points for optimization
- state-independent constraints on parameters
- statements for obtaining filtering, smoothing, decoding, and forecasting results
- multistep forecasts after each observation
- the analytic store technology (ASTORE). You can even apply HMMs to new data on a platform that does not support the HMM procedure. For example, you can use the HMM ASTORE in the SAS Event Stream Processing Studio.

For More Information

For more information, ask your organization's SAS representative to contact SAS at 1.800.727.0025.