NDK_MLR_FORE

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- C/C++
- .Net

```
int __stdcall NDK_MLR_FORE(double ** X,
                           size_t    nXSize,
                           size_t    nXVars,
                           LPBYTE mask,
                           size_t    nMaskLen,
                           double * Y,
                           size_t    nYSize,
                           double    intercept,
                           double * target,
                           double    alpha,
                           WORD      nRetType,
                           double * retVal
                           )
```

Calculates the forecast mean, error and confidence interval.

Returns

status code of the operation

Return values

NDK_SUCCESS Operation successful
NDK_FAILED   Operation unsuccessful. See **Macros** for full list.

Parameters

[in] **X**   is the independent (explanatory) variables data matrix, such that each column represents one variable.
[in] **nXSize**   is the number of observations (rows) in X.
[in] **nXVars**   is the number of independent (explanatory) variables (columns) in X.
[in] **mask**   is the boolean array to choose the explanatory variables in the model. If missing, all variables in X are included.
[in] **nMaskLen**is the number of elements in the "mask."
[in] **Y**   is the response or the dependent variable data array (one dimensional array of cells).
[in] **nYSize**   is the number of observations in Y.
[in] **intercept** is the constant or intercept value to fix (e.g. zero). If missing (i.e. NaN), an intercept will not be fixed and is computed normally.
[in] **target**   is the value of the explanatory variables (a one dimensional array).
[in] **alpha**   is the statistical significance of the test (i.e. alpha). If missing or omitted, an alpha value of 5% is assumed.

[in] **nRetType** is a switch to select the return output (1=forecast (default), 2=error, 3=upper limit, 4=lower limit):

1. Forecast (mean)
2. Std error
3. Upper limit of the confidence interval
4. Lower limit of the conficence interval

[out] **retVal**   is the computed forecast statistics.

Remarks

1. The underlying model is described **here**.
2. The sample data may include missing values.
3. Each column in the input matrix corresponds to a separate variable.
4. Each row in the input matrix corresponds to an observation.
5. Observations (i.e. row) with missing values in X or Y are removed.
6. The number of rows of the response variable (Y) must be equal to the number of rows of the explanatory variables (X).
7. The MLR_FORE function is available starting with version 1.60 APACHE.

Requirements

Header	SFSDK.H
Library	SFSDK.LIB
DLL	SFSDK.DLL

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int NDK_MLR_FORE(double[]   pXData,
                   size_t   nXSize,
                   UIntPtr   nXVars,
                   byte[]   mask,
                   UIntPtr   nMaskLen,
                   double[]   pYData,
                   UIntPtr   nYSize,
                   double   intercept,
                   double   target,
                   double   alpha,
                   short   nRetType,
                   ref double retVal
)

Namespace: NumXLAPI
Class: SFSDK
Scope: Public
Lifetime: Static

Calculates the forecast mean, error and confidence interval.

Return Value

a value from **NDK_RETCODE** enumeration for the status of the call.

NDK_SUCCESS operation successful
Error   Error Code

Parameters

[in] **pXData**   is the independent (explanatory) variables data matrix, such that each column represents one variable.

[in] **nXSize**   is the number of observations (rows) in pXData.

[in] **nXVars**   is the number of independent (explanatory) variables (columns) in pXData.

[in] **mask**   is the boolean array to choose the explanatory variables in the model. If missing, all variables in X are included.

[in] **nMaskLen**   is the number of elements in the "mask."

[in] **pYData**   is the response or the dependent variable data array (one dimensional array of cells).

[in] **nYSize**   is the number of observations in pYData.

[in] **intercept**   is the constant or intercept value to fix (e.g. zero). If missing (i.e. NaN), an intercept will not be fixed and is computed normally.

[in] **target**   is the value of the explanatory variables (a one dimensional array).

[in] **alpha**   is the statistical significance of the test (i.e. alpha). If missing or omitted, an alpha value of 5% is assumed.

[in] **nRetType**   is a switch to select the return output (1=forecast (default), 2=error, 3=upper limit, 4=lower limit):

1. Forecast (mean)
2. Std error
3. Upper limit of the confidence interval
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[out] **retVal**   is the computed forecast statistics.

Remarks

1. The underlying model is described **here**.
2. The sample data may include missing values.
3. Each column in the input matrix corresponds to a separate variable.
4. Each row in the input matrix corresponds to an observation.
5. Observations (i.e. row) with missing values in X or Y are removed.
6. The number of rows of the response variable (Y) must be equal to the number of rows of the explanatory variables (X).
7. The MLR_FORE function is available starting with version 1.60 APACHE.

Exceptions

Exception Type	Condition

None	N/A

Requirements

Namespace	NumXLAPI
Class	SFSDK
Scope	Public
Lifetime	Static
Package	NumXLAPI.DLL

Examples

References

Hamilton, J .D.; Time Series Analysis , Princeton University Press (1994), ISBN 0-691-04289-6

Tsay, Ruey S.; Analysis of Financial Time Series John Wiley & SONS. (2005), ISBN 0-471-690740

See Also

[template("related")]