

NDK_ACFTEST

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- C/C++
- .Net

```
int __stdcall NDK_ACFTEST(double * X,  
                           size_t  N,  
                           int      K,  
                           double  target,  
                           double  alpha,  
                           WORD  method,  
                           WORD  retType,  
                           double * retVal  
                           )
```

Calculates the p-value of the statistical test for the population autocorrelation function.

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 univariate time series data (a one dimensional array).

[in] **N** is the number of observations in X.

[in] **K** is the lag order (e.g. k=0 (no lag), k=1 (1st lag), etc.).

[in] **target** is the assumed autocorrelation function value. If missing, the default of zero is assumed.

[in] **alpha** is the statistical significance level. If missing, a default of 5% is assumed.

[in] **method** is the type of test: parametric or non-parametric.

[in] **retType** is a switch to select the return output:

Method	Value	Description
TEST_PVALUE	1	P-Value
TEST_SCORE	2	Test statistics (aka score)
TEST_CRITICALVALUE	3	Critical value.

[out] **retVal** is the calculated test statistics.

Remarks

- The time series is homogeneous or equally spaced.
- The time series may include missing values (NaN) at either end.
- The lag order (k) must be less than the time series size, or an error value (#VALUE!) is

returned.

- This is a two-sides (i.e. two-tails) test, so the computed p-value should be compared with half of the significance level (i.e. $\frac{\alpha}{2}$).

Requirements

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

Examples

```
int NDK_ACFTEST(double[] pData,
                UIntPtr nSize,
                int nLag,
                double target,
                double alpha,
                UInt16 method,
                UInt16 retType,
                out double * retVal
                )
```

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

Calculates the p-value of the statistical test for the population autocorrelation function.

Return Value

a value from [NDK_RETCODE](#) enumeration for the status of the call.

NDK_SUCCESS operation successful
Error Error Code

Parameters

- [in] **pData** is the univariate time series data (a one dimensional array).
- [in] **nSize** is the number of observations in pData.
- [in] **nLag** is the lag order (e.g. k=0 (no lag), k=1 (1st lag), etc.).
- [in] **targetVal** is the assumed autocorrelation function value. If missing, the default of zero is

assumed.

[in] **alpha** is the statistical significance level. If missing, a default of 5% is assumed.

[in] **method** is the type of test: parametric or non-parametric.

[in] **retType** is a switch to select the return output:

Method	Value	Description
TEST_PVALUE	1	P-Value
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Remarks

- The time series is homogeneous or equally spaced.
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Exceptions

Exception Type	Condition
None	N/A

Requirements

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

Examples

References

Hull, John C.; [Options, Futures and Other Derivatives](#) Financial Times/ Prentice Hall (2011), ISBN 978-

0132777421

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")]
