

# NDK\_GINI

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- [C/C++](#)
- [.Net](#)

```
int __stdcall NDK_GINI(double * X,  
                      size_t  N,  
                      double * retVal  
                      )
```

Returns the sample Gini coefficient, a measure of statistical dispersion.

## 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 input data sample (must be non-negative) (a one dimensional array of values).

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

[out] **retVal** is the calculated value of this function.

## Remarks

1. A low Gini coefficient indicates a more equal distribution, with 0 corresponding to complete equality. Higher Gini coefficients indicate more unequal distributions, with 1 corresponding to complete inequality.

2. The input data series may include missing values (NaN), but they will not be included in the calculations.

3. The values in the input data series must be non-negative.

4. The Gini coefficient is computed as follows:

$$\sqrt{G(S) = 1 - \frac{2}{n-1} \left( n - \frac{\sum_{i=1}^n y_i}{\sum_{i=1}^n y_i} \right)}$$

Where:

- $\backslash(h\backslash)$  is the input data series ( $\backslash(h\backslash)$ ) arranged in descending order, so that  $\backslash(y_i \leq y_{i+1}\backslash)$ .
- $\backslash(n\backslash)$  is the number of non-missing values in the input time series data sample.

NDK\_RMD().

7.  $\backslash(G(S)\backslash)$  is a consistent estimator of the population Gini coefficient, but is generally unbiased (except when the population mean is known).

8. Developed by the Italian statistician Corrado Gini in 1912, the Gini coefficient is commonly used as a measure of comparative income or wealth. Where zero (0) corresponds to complete

equality and one (1) to complete inequality.

## Requirements

<b>Header</b>	SFSDK.H
<b>Library</b>	SFSDK.LIB
<b>DLL</b>	SFSDK.DLL

## Examples

```
int NDK_GINI(double[] pData,  
             UIntPtr nSize,  
             ref double retVal  
            )
```

<b>Namespace:</b> NumXLAPI
<b>Class:</b> SFSDK
<b>Scope:</b> Public
<b>Lifetime:</b> Static

Returns the sample Gini coefficient, a measure of statistical dispersion.

## 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 input data sample (must be non-negative) (a one dimensional array of values).
- [in] **nSize** is the number of observations in pData.
- [out] **retVal** is the calculated value of this function.

## Remarks

1. A low Gini coefficient indicates a more equal distribution, with 0 corresponding to complete equality. Higher Gini coefficients indicate more unequal distributions, with 1 corresponding to complete inequality.
2. The input data series may include missing values (NaN), but they will not be included in the calculations.
3. The values in the input data series must be non-negative.

4. The Gini coefficient is computed as follows:

$$G(S) = 1 - \frac{2}{n-1} \left( n - \frac{\sum_{i=1}^n y_i}{\sum_{i=1}^n y_i} \right)$$

Where:

- $(h)$  is the input data series ( $(h)$ ) arranged in descending order, so that  $(y_i \leq y_{i+1})$ .
- $(n)$  is the number of non-missing values in the input time series data sample.

NDK\_RMD().

7.  $(G(S))$  is a consistent estimator of the population Gini coefficient, but is generally unbiased (except when the population mean is known).

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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

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")]