

```
861 0 OUTPUT ACTIVATE MAPEOutput.  
861 0 M> OUTPUT ACTIVATE MAPEOutput.  
862 0 TITLE 'MAPE'.  
862 0 M> TITLE 'MAPE'.
```

MAPE

```
863 0 GET DATA /TYPE=TXT /FILE='D:\DATA ANALYSIS\N Time Series Tests and Fo
recasting\MAPE\dataset.csv' /ENCODING='UTF8' /DELCA
      LINE /DELIMITERS=', ' /QUALIFIER='"' /ARRANGEMENT=DELIMITED /FIRSTC
ASE=2
863 0 M> GET DATA /TYPE=TXT /FILE='D:\DATA ANALYSIS\N Time Series Tests and
Forecasting\MAPE\dataset.csv' /ENCODING='UTF8' /DELCA
      SE=LINE /DELIMITERS=', ' /QUALIFIER='"' /ARRANGEMENT=DELIMITED /
FIRSTCASE=2
864 0 /VARIABLES=school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A
8 Medu F8.0 Fedu F8.0 Mjob A16 Fjob A16 reason A16 gua
      rdian A16 traveltime F8.0 studytime F8.0 failures F8.0 schoolsup A
8 famsup A8 paid A8 activities A8 nursery A8 higher A8
      internet A8 romantic A8 famrel F8.0 freetime F8.0 goout F8.0 Dalc
F8.0 Walc F8.0 health F8.0 absences F8.0 G1 F8.0 G2 F
      8.0 G3 F8.0.
864 0 M> /VARIABLES=school A8 sex A8 age F8.0 address A8 famsize A8 Pstatu
s A8 Medu F8.0 Fedu F8.0 Mjob A16 Fjob A16 reason A16
      guardian A16 traveltime F8.0 studytime F8.0 failures F8.0 schoo
lsup A8 famsup A8 paid A8 activities A8 nursery A8 hig
      her A8 internet A8 romantic A8 famrel F8.0 freetime F8.0 goout
F8.0 Dalc F8.0 Walc F8.0 health F8.0 absences F8.0 G1
      F8.0 G2 F8.0 G3 F8.0.
865 0 DATASET NAME MAPEData.
865 0 M> DATASET NAME MAPEData.
866 0 COMPUTE time_index=$CASENUM.
866 0 M> COMPUTE time_index=$CASENUM.
867 0 EXECUTE.
867 0 M> EXECUTE.
868 0 * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
868 0 M> * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
869 0 COMPUTE forecast=LAG(G3).
869 0 M> COMPUTE forecast=LAG(G3).
870 0 IF(G3<>0) absolute_percentage_error=100*ABS((G3-forecast)/G3).
870 0 M> IF(G3<>0) absolute_percentage_error=100*ABS((G3-forecast)/G3).
871 0 DESCRIPTIVES VARIABLES=absolute_percentage_error /STATISTICS=MEAN STD
DEV MIN MAX.
871 0 M> DESCRIPTIVES VARIABLES=absolute_percentage_error /STATISTICS=MEAN
STDDEV MIN MAX.
```

Descriptives

MAPE

Notes

Output Created		18-JUL-2026 15:53:16
Comments		
Input	Data	D:\DATA ANALYSIS\N Time Series Tests and Forecasting\MAPE\dataset.csv
	Active Dataset	MAPEData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=absolute_percentage_error /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.06

[MAPEData]

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
absolute_percentage_error	633	.00	1000.00	25.1688	44.85363
Valid N (listwise)	633				

```

872  0  * END METHOD-SPECIFIC SPSS WORKFLOW.
872  0 M> * END METHOD-SPECIFIC SPSS WORKFLOW.
873  0  SAVE OUTFILE='D:\DATA ANALYSIS\N Time Series Tests and Forecasting\MAPE\SPSS_Output\sav\mape_spss_ready_data.sav' /COMPRESS
      ED.

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MAPE

```
873 0 M> SAVE OUTFILE='D:\DATA ANALYSIS\N Time Series Tests and Forecasting
\MAPE\SPSS_Output\sav\mape_spss_ready_data.sav' /COMPR
      ESSED.
874 0 ECHO 'MAPE'.
874 0 M> ECHO 'MAPE'.
MAPE
875 0 ECHO 'Method type: forecast_accuracy_metric'.
875 0 M> ECHO 'Method type: forecast_accuracy_metric'.
Method type: forecast_accuracy_metric
876 0 ECHO 'Design: Mean absolute percentage error for nonzero G3 actuals u
nder a one-step naive forecast.'.
876 0 M> ECHO 'Design: Mean absolute percentage error for nonzero G3 actual
s under a one-step naive forecast.'.
Design: Mean absolute percentage error for nonzero G3 actuals under a one-step
naive forecast.
877 0 ECHO 'Formula: MAPE=(100/n_nonzero)*sum(|(y_t-yhat_t)/y_t|)'.
877 0 M> ECHO 'Formula: MAPE=(100/n_nonzero)*sum(|(y_t-yhat_t)/y_t|)'.
Formula: MAPE=(100/n_nonzero)*sum(|(y_t-yhat_t)/y_t|)
878 0 ECHO 'Series order: source-row order'.
878 0 M> ECHO 'Series order: source-row order'.
Series order: source-row order
879 0 ECHO 'mape = 25.16879545695225'.
879 0 M> ECHO 'mape = 25.16879545695225'.
mape = 25.16879545695225
880 0 ECHO 'evaluated_nonzero_actuals = 633'.
880 0 M> ECHO 'evaluated_nonzero_actuals = 633'.
evaluated_nonzero_actuals = 633
881 0 ECHO 'zero_actuals_excluded = 15'.
881 0 M> ECHO 'zero_actuals_excluded = 15'.
zero_actuals_excluded = 15
882 0 ECHO 'median_ape = 18.181818181818183'.
882 0 M> ECHO 'median_ape = 18.181818181818183'.
median_ape = 18.181818181818183
883 0 ECHO 'maximum_ape = 1000.0'.
883 0 M> ECHO 'maximum_ape = 1000.0'.
maximum_ape = 1000.0
884 0 ECHO 'Cross-check status: pass'.
884 0 M> ECHO 'Cross-check status: pass'.
Cross-check status: pass
```

MAPE

```
885  0  OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\N Time Series Tests and Forecas
ting\MAPE\SPSS_Output\spv\mape_spss_output.spv'.
```

```
885  0 M> OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\N Time Series Tests and Fore
casting\MAPE\SPSS_Output\spv\mape_spss_output.spv'.
```

```
886  0  OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRI
NTSETTING /PDF DOCUMENTFILE='D:\DATA ANALYSIS\N Time S
eries Tests and Forecasting\MAPE\SPSS_Output\pdf\mape_spss_output.
pdf'.
```

```
886  0 M> OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=
PRINTSETTING /PDF DOCUMENTFILE='D:\DATA ANALYSIS\N Tim
e Series Tests and Forecasting\MAPE\SPSS_Output\pdf\mape_spss_o
utput.pdf'.
```