

The UNIVARIATE Procedure

Variable: IBC (IBC)

Moments

N	12	Sum Weights	12
Mean	0.07641667	Sum Observations	0.917
Std Deviation	0.05308734	Variance	0.00281827
Skewness	-1.5287517	Kurtosis	1.43207228
Uncorrected SS	0.101075	Corrected SS	0.03100092
Coeff Variation	69.4708857	Std Error Mean	0.01532499

Basic Statistical Measures

Location		Variability	
Mean	0.076417	Std Deviation	0.05309
Median	0.094000	Variance	0.00282
Mode	.	Range	0.16100
		Interquartile Range	0.05000

Tests for Location: Mu0=0

Test	-Statistic-	-----p Value-----	
Student's t	t 4.986408	Pr > t	0.0004
Sign	M 4	Pr >= M	0.0386
Signed Rank	S 36	Pr >= S	0.0024

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.120
99%	0.120
95%	0.120
90%	0.119
75% Q3	0.114
50% Median	0.094
25% Q1	0.064
10%	-0.016
5%	-0.041
1%	-0.041
0% Min	-0.041

The UNIVARIATE Procedure

Variable: IBC (IBC)

Extreme Observations

-----Lowest----		----Highest----	
Value	Obs	Value	Obs
-0.041	5	0.108	2
-0.016	4	0.112	1
0.060	11	0.116	3
0.068	7	0.119	8
0.083	10	0.120	9

The UNIVARIATE Procedure
Variable: NMC (NMC)

Moments

N	12	Sum Weights	12
Mean	0.13433333	Sum Observations	1.612
Std Deviation	0.05485573	Variance	0.00300915
Skewness	0.27911127	Kurtosis	-1.4955161
Uncorrected SS	0.249646	Corrected SS	0.03310067
Coeff Variation	40.8355337	Std Error Mean	0.01583549

Basic Statistical Measures

Location		Variability	
Mean	0.134333	Std Deviation	0.05486
Median	0.135000	Variance	0.00301
Mode	0.140000	Range	0.15400
		Interquartile Range	0.10250

Tests for Location: Mu0=0

Test	-Statistic-	-----p Value-----	
Student's t	t 8.483057	Pr > t	<.0001
Sign	M 6	Pr >= M	0.0005
Signed Rank	S 39	Pr >= S	0.0005

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.2200
99%	0.2200
95%	0.2200
90%	0.2050
75% Q3	0.1875
50% Median	0.1350
25% Q1	0.0850
10%	0.0740
5%	0.0660
1%	0.0660
0% Min	0.0660

The UNIVARIATE Procedure
Variable: NMC (NMC)

Extreme Observations

-----Lowest----		----Highest----	
Value	Obs	Value	Obs
0.066	3	0.140	10
0.074	5	0.185	4
0.080	1	0.190	11
0.090	12	0.205	9
0.092	2	0.220	7

The UNIVARIATE Procedure

Variable: NBS (NBS)

Moments

N	12	Sum Weights	12
Mean	0.1493333	Sum Observations	1.792
Std Deviation	0.20027769	Variance	0.04011115
Skewness	0.42869778	Kurtosis	-0.93829
Uncorrected SS	0.708828	Corrected SS	0.44122267
Coeff Variation	134.114522	Std Error Mean	0.05781519

Basic Statistical Measures

Location		Variability	
Mean	0.149333	Std Deviation	0.20028
Median	0.119000	Variance	0.04011
Mode	.	Range	0.60500
		Interquartile Range	0.32600

Tests for Location: Mu0=0

Test	-Statistic-	-----p Value-----	
Student's t	t 2.582943	Pr > t	0.0255
Sign	M 2	Pr >= M	0.3877
Signed Rank	S 27	Pr >= S	0.0342

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.4870
99%	0.4870
95%	0.4870
90%	0.4300
75% Q3	0.2995
50% Median	0.1190
25% Q1	-0.0265
10%	-0.0750
5%	-0.1180
1%	-0.1180
0% Min	-0.1180

The UNIVARIATE Procedure

Variable: NBS (NBS)

Extreme Observations

-----Lowest----		----Highest----	
Value	Obs	Value	Obs
-0.118	4	0.191	10
-0.075	6	0.220	2
-0.034	11	0.379	3
-0.019	9	0.430	12
0.093	7	0.487	8

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
IBC	IBC	12	0.0764167	0.0530873	-0.0410000	0.1200000
NMC	NMC	12	0.1343333	0.0548557	0.0660000	0.2200000
NBS	NBS	12	0.1493333	0.2002777	-0.1180000	0.4870000

The CORR Procedure

3 Variables: IBC NMC NBS

Covariance Matrix, DF = 11

		IBC	NMC	NBS
IBC	IBC	0.0028182652	-.0002750606	0.0048011212
NMC	NMC	-.0002750606	0.0030091515	-.0059145758
NBS	NBS	0.0048011212	-.0059145758	0.0401111515

Simple Statistics

Variable Label	N	Mean	Std Dev	Sum	Minimum	Maximum
IBC	12	0.07642	0.05309	0.91700	-0.04100	0.12000
IBC						
NMC	12	0.13433	0.05486	1.61200	0.06600	0.22000
NMC						
NBS	12	0.14933	0.20028	1.79200	-0.11800	0.48700
NBS						

Pearson Correlation Coefficients, N = 12

Prob > |r| under H0: Rho=0

	IBC	NMC	NBS
IBC	1.00000	-0.09445	0.45156
IBC		0.7703	0.1406
NMC	-0.09445	1.00000	-0.53836
NMC	0.7703		0.0710
NBS	0.45156	-0.53836	1.00000
NBS	0.1406	0.0710	

PROC NLP: Nonlinear Minimization

Gradient is computed using analytic formulas.

PROC NLP: Nonlinear Minimization

Optimization Start				
Parameter Estimates				
N Parameter	Estimate	Gradient Objective Function	Lower Bound Constraint	Upper Bound Constraint
1 p1	0.300000	0.005367	0	1.000000
2 p2	0.300000	-0.003091	0	1.000000
3 p3	0.400000	0.031421	0	1.000000

Value of Objective Function = 0.0066255117

Linear Constraints

1	0 : ACT	1.0000	==	+	1.0000 * p1	+	1.0000 * p2	+	1.0000 * p3
2	0.00296 :	0.1200	<=	+	0.0764 * p1	+	0.1343 * p2	+	0.1493 * p3

PROC NLP: Nonlinear Minimization

Conjugate-Gradient Optimization

Automatic Restart Update (Powell, 1977; Beale, 1972)

Parameter Estimates	3
Lower Bounds	3
Upper Bounds	3
Linear Constraints	2

Optimization Start

Active Constraints	1	Objective Function
0.0066255117		
Max Abs Gradient Element	0.024726	

Iter	Restarts	Function Calls	Active Constraints	Objective Function	Objective Function Change	Max Abs Gradient Element	Step Size	Slope of Search Direction
1	0	5	2	0.00406	0.00257	0.0164	4.604	-0.0006
2	1	8	2	0.00122	0.00284	1.46E-17	21.173	-0.0003

Optimization Results

Iterations	2	Function Calls
9		
Gradient Calls	9	Active Constraints
2		
Objective Function	0.0012182258	Max Abs Gradient Element
17		1.462201E-
Slope of Search Direction	-0.000267964	

ABSGCONV convergence criterion satisfied.

PROC NLP: Nonlinear Minimization

Optimization Results

Parameter Estimates

N	Parameter	Estimate	Gradient Objective Function
1	p1	0.271884	0.002088
2	p2	0.633898	0.002551
3	p3	0.094219	0.002671

Value of Objective Function = 0.0012182258

Linear Constraints Evaluated at Solution

1 ACT 2.7756E-17 = -1.0000 + 1.0000 * p1 + 1.0000 * p2 + 1.0000 * p3
 2 ACT 3.6541E-18 = -0.1200 + 0.0764 * p1 + 0.1343 * p2 + 0.1493 * p3

PROC NLP: Nonlinear Maximization

Gradient is computed using analytic formulas.

PROC NLP: Nonlinear Maximization

Optimization Start Parameter Estimates				
N Parameter	Estimate	Gradient Objective Function	Lower Bound Constraint	Upper Bound Constraint
1 p1	0.300000	0.035525	0	1.000000
2 p2	0.300000	0.135879	0	1.000000
3 p3	0.400000	0.133623	0	1.000000

Value of Objective Function = 0.1081830591

Linear Constraints

1 0 : ACT 1.0000 == + 1.0000 * p1 + 1.0000 * p2 + 1.0000 * p3

PROC NLP: Nonlinear Maximization

Conjugate-Gradient Optimization

Automatic Restart Update (Powell, 1977; Beale, 1972)

Parameter Estimates	3
Lower Bounds	3
Upper Bounds	3
Linear Constraints	1

Optimization Start

Active Constraints 1 Objective Function
0.1081830591
Max Abs Gradient Element 0.0709609677

Iter	Restarts	Function Calls	Active Constraints	Objective Function	Objective Function Change	Max Abs Gradient Element	Step Size	Slope of Search Direction
1	0	5	2	0.13771	0.0295	0.00425	4.535	-0.0066
2	1	8	2	0.13804	0.000329	5.5E-15	36.397	-181E-7

Optimization Results

Iterations 2 Function Calls 9
Gradient Calls 9 Active Constraints 2
Objective Function 0.1380366443 Max Abs Gradient Element 5.495326E-15
Slope of Search Direction -0.000018104

ABSGCONV convergence criterion satisfied.

PROC NLP: Nonlinear Maximization

Optimization Results

Parameter Estimates

N	Parameter	Estimate	Gradient Objective Function	Active Bound Constraint
1	p1	-1.81875E-17	0.036273	Lower BC
2	p2	0.564623	0.135209	
3	p3	0.435377	0.135209	

Value of Objective Function = 0.1380366443

Linear Constraints Evaluated at Solution

1 ACT 3.7297E-17 = -1.0000 + 1.0000 * p1 + 1.0000 * p2 + 1.0000 * p3