The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: y

Number of Observations Read	72
Number of Observations Used	72

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	1749357	437339	5.39	0.0008
Error	67	5432562	81083		
Corrected Total	71	7181919			

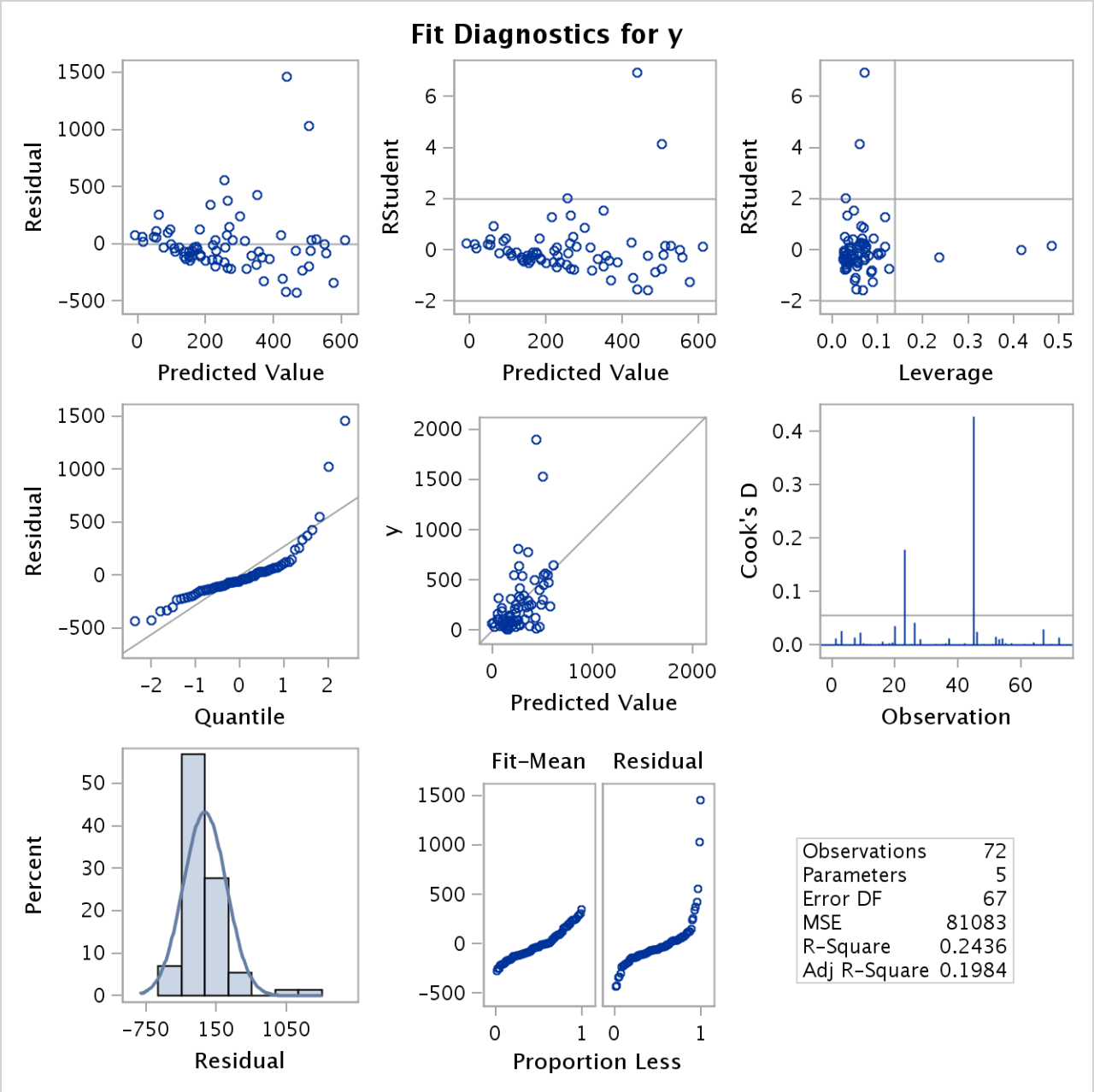
Root MSE	284.75080	**R-Square**	0.2436
Dependent Mean	262.53208	**Adj R-Sq**	0.1984
Coeff Var	108.46324		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	-237.14651	199.35166	-1.19	0.2384
Age	Age	1	-3.08181	5.51472	-0.56	0.5781
OwnRent	OwnRent	1	27.94091	82.92232	0.34	0.7372
Income	Income	1	234.34703	80.36595	2.92	0.0048
incomesq		1	-14.99684	7.46934	-2.01	0.0487

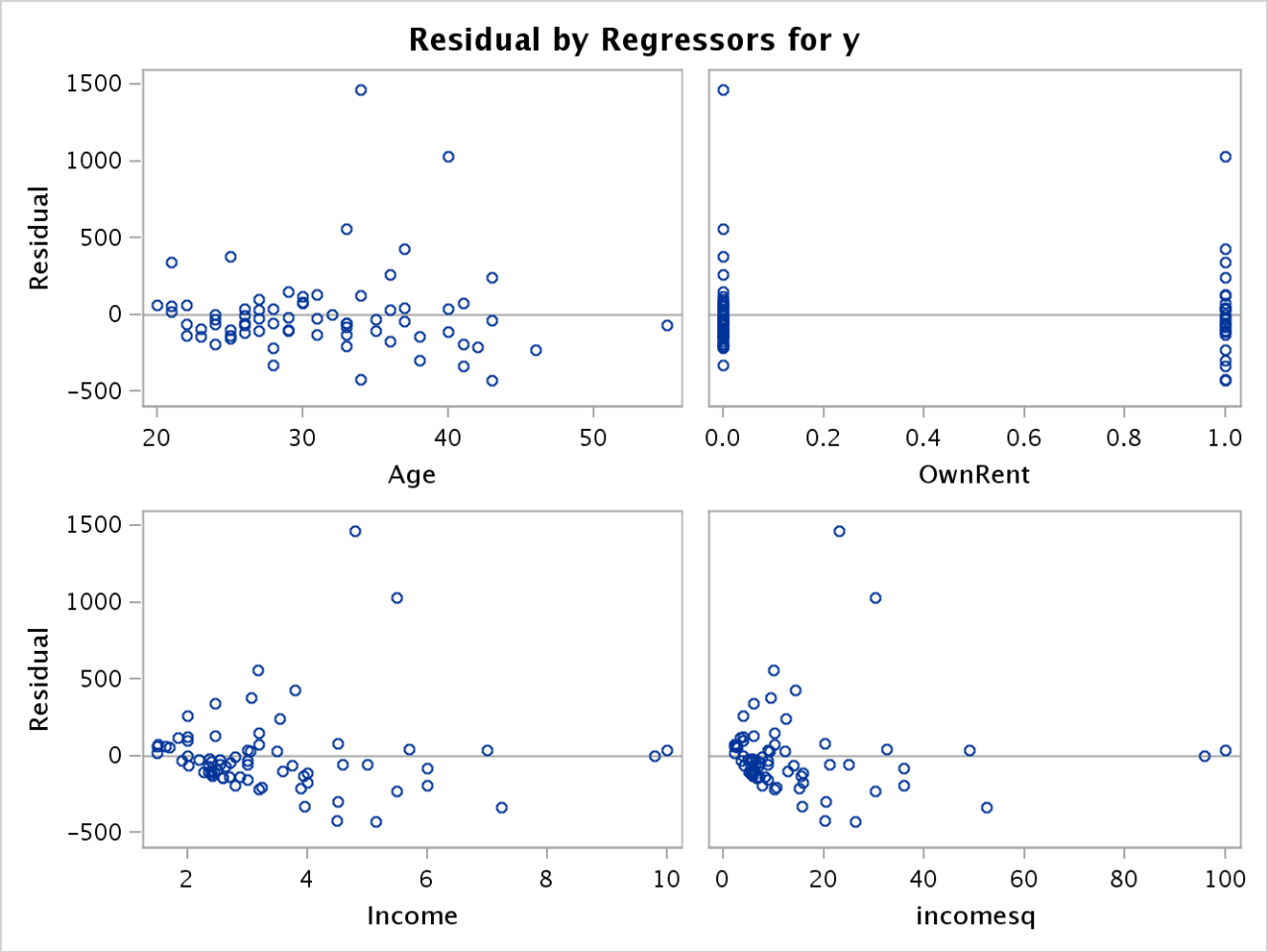
The SAS System

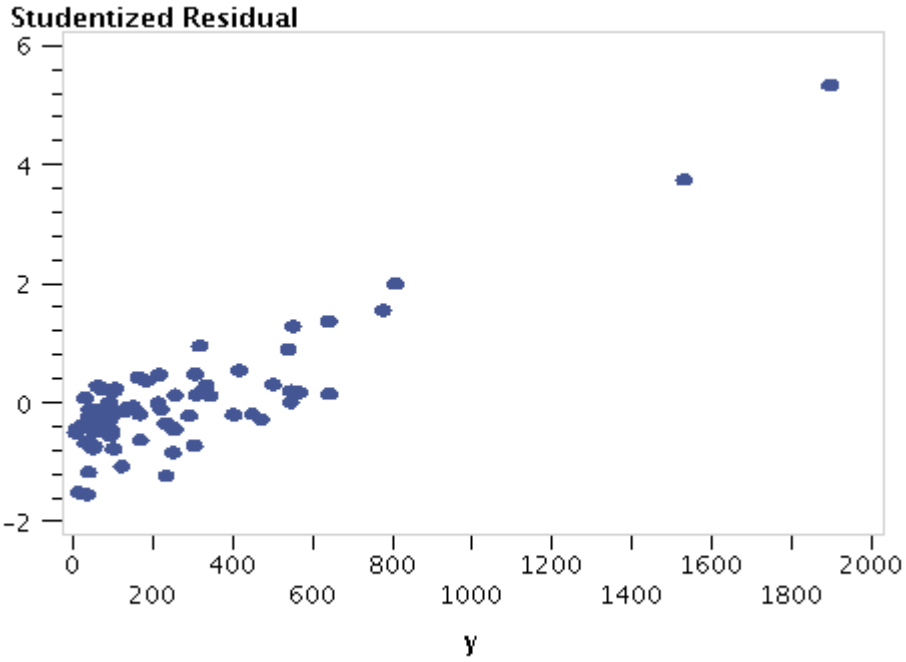
The REG Procedure
Model: MODEL1
Dependent Variable: y



The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: y




Studentized Residual
6
4
2
0
-2
0
200
400
600
800
1000
1200
1400
1600
1800
2000
y

Descriptive Statistics using Proc Means

Obs	MDR	Acc	Age	Income	AvgExp	OwnRent	SelfEmpl	incomesq	y
1	0	1	38	4.52	124.98	1	0	20.430	124.98
2	0	1	33	2.42	9.85	0	0	5.856	9.85
3	0	1	34	4.5	15	1	0	20.250	15.00
4	0	1	31	2.54	137.87	0	0	6.452	137.87
5	0	1	32	9.79	546.5	1	0	95.844	546.50
6	0	1	23	2.5	92	0	0	6.250	92.00
7	0	1	28	3.96	40.83	0	0	15.682	40.83
8	0	1	29	2.37	150.79	1	0	5.617	150.79
9	0	1	37	3.8	777.82	1	0	14.440	777.82
10	0	1	28	3.2	52.58	0	0	10.240	52.58
11	0	1	31	3.95	256.66	1	0	15.603	256.66
12	0	1	29	2.45	78.87	1	0	6.003	78.87
13	0	1	35	1.91	42.62	1	0	3.648	42.62
14	0	1	41	3.2	335.43	1	0	10.240	335.43
15	0	1	40	4	248.72	1	0	16.000	248.72
16	0	1	40	10	548.03	1	1	100.000	548.03
17	0	1	35	2.35	43.34	1	0	5.523	43.34
18	0	1	34	2	218.52	1	0	4.000	218.52
19	1	1	36	4	170.64	0	0	16.000	170.64
20	0	1	43	5.14	37.58	1	0	26.420	37.58
21	0	1	30	4.51	502.2	0	0	20.340	502.20
22	0	1	22	1.5	73.18	0	0	2.250	73.18
23	0	1	40	5.5	1532.77	1	0	30.250	1532.77
24	0	1	22	2.03	42.69	0	0	4.121	42.69
25	1	1	29	3.2	417.83	0	0	10.240	417.83
26	0	1	21	2.47	552.72	1	0	6.101	552.72
27	0	1	24	3	222.54	0	0	9.000	222.54
28	0	1	43	3.54	541.3	1	0	12.532	541.30
29	0	1	37	5.7	568.77	1	0	32.490	568.77
30	0	1	27	3.5	344.47	0	0	12.250	344.47
31	0	1	28	4.6	405.35	1	0	21.160	405.35
32	0	1	26	3	310.94	1	0	9.000	310.94
33	0	1	23	2.59	53.65	0	0	6.708	53.65
34	0	1	30	1.51	63.92	0	0	2.280	63.92
35	0	1	30	1.85	165.85	0	0	3.423	165.85
36	0	1	38	2.6	9.58	0	0	6.760	9.58
37	0	1	36	2	319.49	0	0	4.000	319.49
38	0	1	26	2.35	83.08	0	0	5.523	83.08
39	0	1	28	7	644.83	1	0	49.000	644.83
40	0	1	24	2	93.2	0	0	4.000	93.20
41	0	1	21	1.7	105.04	0	0	2.890	105.04
42	0	1	24	2.8	34.13	0	0	7.840	34.13
43	0	1	26	2.4	41.19	0	0	5.760	41.19
44	1	1	33	3	169.89	0	0	9.000	169.89
45	0	1	34	4.8	1898.03	0	0	23.040	1898.03
46	0	1	33	3.18	810.39	0	0	10.112	810.39
47	0	1	21	1.5	32.78	0	0	2.250	32.78

Descriptive Statistics using Proc Means

Obs	MDR	Acc	Age	Income	AvgExp	OwnRent	SelfEmpl	incomesq	y
48	2	1	25	3	95.8	0	0	9.000	95.80
49	0	1	27	2.28	27.78	0	0	5.198	27.78
50	0	1	26	2.8	215.07	0	0	7.840	215.07
51	0	1	22	2.7	79.51	0	0	7.290	79.51
52	0	1	41	6	306.03	0	1	36.000	306.03
53	0	1	42	3.9	104.54	0	0	15.210	104.54
54	0	1	25	3.07	642.47	0	0	9.425	642.47
55	0	1	31	2.46	308.05	1	0	6.052	308.05
56	0	1	27	2	186.35	0	0	4.000	186.35
57	0	1	33	3.25	56.15	0	0	10.563	56.15
58	0	1	37	2.72	129.37	0	0	7.398	129.37
59	0	1	27	2.2	93.11	0	0	4.840	93.11
60	0	1	24	3.75	292.66	0	0	14.063	292.66
61	0	1	25	2.88	98.46	0	0	8.294	98.46
62	0	1	36	3.05	258.55	0	0	9.303	258.55
63	0	1	33	2.55	101.68	0	0	6.503	101.68
64	1	1	55	2.64	65.25	1	0	6.970	65.25
65	0	1	20	1.65	108.61	0	0	2.723	108.61
66	0	1	29	2.4	49.56	0	0	5.760	49.56
67	0	1	41	7.24	235.57	1	0	52.418	235.57
68	0	1	43	2.4	68.38	0	0	5.760	68.38
69	1	1	33	6	474.15	1	0	36.000	474.15
70	1	1	25	3.6	234.05	0	0	12.960	234.05
71	0	1	26	5	451.2	1	0	25.000	451.20
72	0	1	46	5.5	251.52	1	0	30.250	251.52

Descriptive Statistics using Proc Means

The MEANS Procedure

Analysis Variable : Age Age							
N	N Miss	Minimum	Maximum	Median	Mean	Variance	Std Dev
72	0	20.000	55.000	30.000	31.278	51.161	7.153

Descriptive Statistics using Proc Means

The MEANS Procedure

Analysis Variable : Income Income							
N	N Miss	Minimum	Maximum	Median	Mean	Variance	Std Dev
72	0	1.500	10.000	3.000	3.437	2.888	1.699

Descriptive Statistics using Proc Means

The MEANS Procedure

Analysis Variable : incomesq							
N	N Miss	Minimum	Maximum	Median	Mean	Variance	Std Dev
72	0	2.250	100.000	9.000	14.662	311.344	17.645

Descriptive Statistics using Proc Means

The MEANS Procedure

Analysis Variable : y							
N	N Miss	Minimum	Maximum	Median	Mean	Variance	Std Dev
72	0	9.580	1898.030	158.320	262.532	101153.787	318.047

Descriptive Statistics using Proc Means

The MEANS Procedure

Analysis Variable : OwnRent OwnRent							
N	N Miss	Minimum	Maximum	Median	Mean	Variance	Std Dev
72	0	0.000	1.000	0.000	0.375	0.238	0.488

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: y

Moments			
N	72	**Sum Weights**	72
Mean	262.532083	**Sum Observations**	18902.31
Std Deviation	318.046831	**Variance**	101153.787
Skewness	3.02172005	**Kurtosis**	11.9426981
Uncorrected SS	12144381.7	**Corrected SS**	7181918.87
Coeff Variation	121.145891	**Std Error Mean**	37.4821785

Basic Statistical Measures			
Location		**Variability**	
Mean	262.5321	**Std Deviation**	318.04683
Median	158.3200	**Variance**	101154
Mode	.	**Range**	1888
		Interquartile Range	260.64500

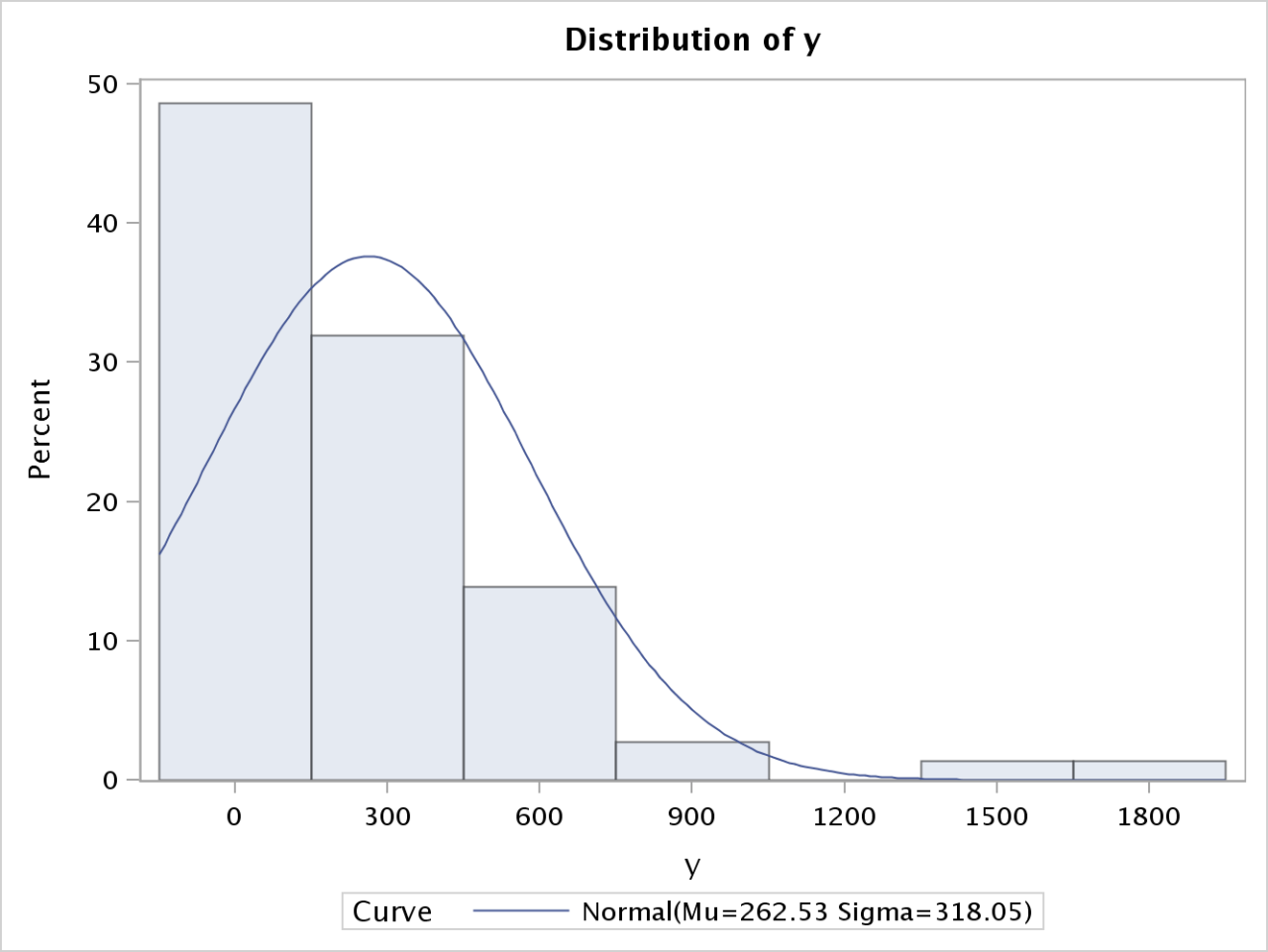
Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	7.004184	**Pr > |t|**	<.0001
Sign	**M**	36	**Pr >= |M|**	<.0001
Signed Rank	**S**	1314	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	1898.030
99%	1898.030
95%	777.820
90%	552.720
75% Q3	327.460
50% Median	158.320
25% Q1	66.815
10%	40.830
5%	27.780
1%	9.580
0% Min	9.580

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
9.58	36	644.83	39
9.85	2	777.82	9
15.00	3	810.39	46
27.78	49	1532.77	23
32.78	47	1898.03	45

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Fitted Normal Distribution for y

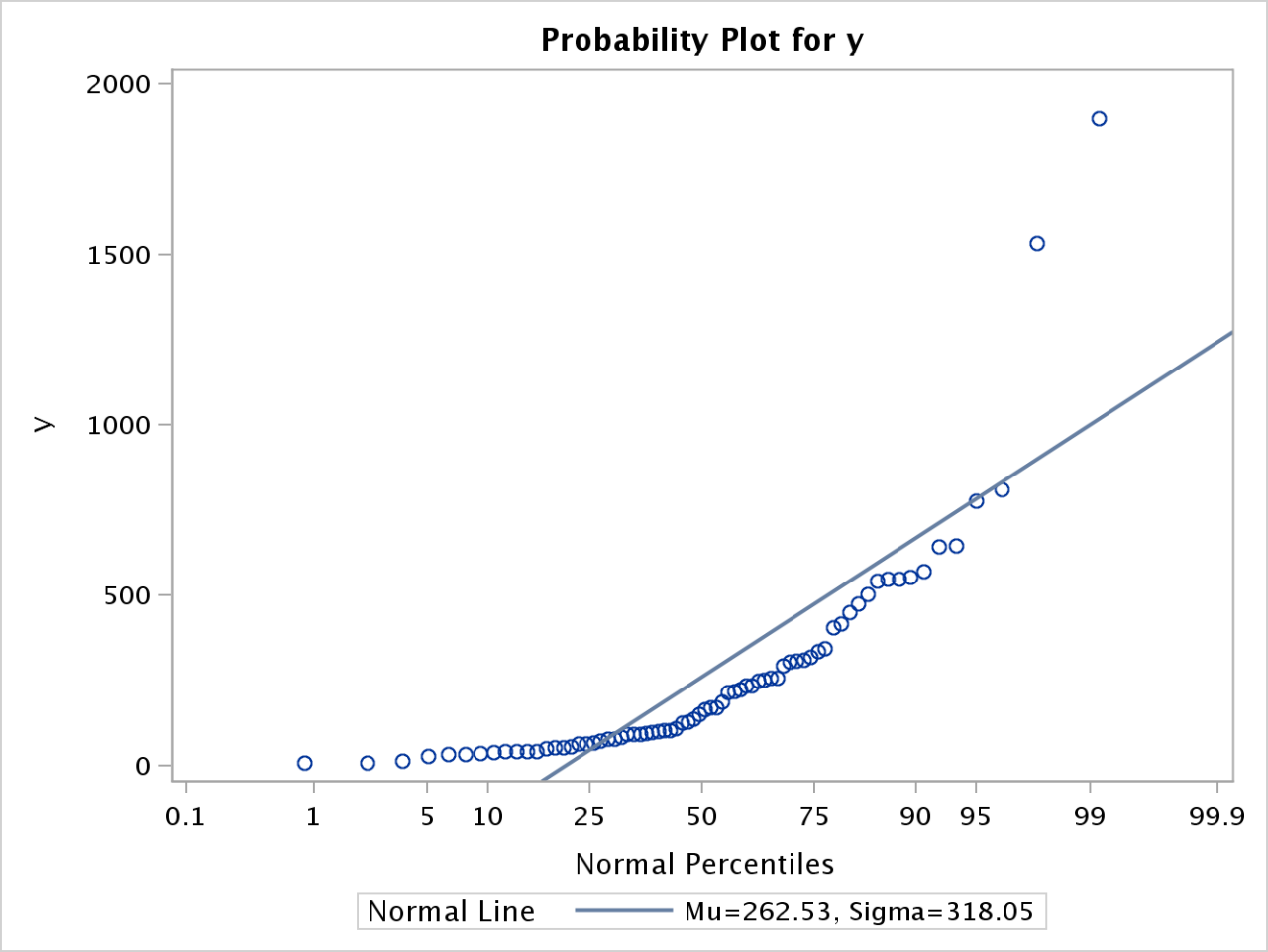
Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	262.5321
Std Dev	Sigma	318.0468

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.21321088	**Pr > D**	<0.010
Cramer-von Mises	**W-Sq**	0.96767853	**Pr > W-Sq**	<0.005
Anderson-Darling	**A-Sq**	5.62995438	**Pr > A-Sq**	<0.005

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	9.58000	-477.3555
5.0	27.78000	-260.6084
10.0	40.83000	-145.0613
25.0	66.81500	48.0128
50.0	158.32000	262.5321
75.0	327.46000	477.0514
90.0	552.72000	670.1255
95.0	777.82000	785.6726
99.0	1898.03000	1002.4197

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: Age (Age)

Moments			
N	72	**Sum Weights**	72
Mean	31.2777778	**Sum Observations**	2252
Std Deviation	7.15270504	**Variance**	51.1611894
Skewness	0.67447985	**Kurtosis**	0.332986
Uncorrected SS	74070	**Corrected SS**	3632.44444
Coeff Variation	22.8683287	**Std Error Mean**	0.84295437

Basic Statistical Measures			
Location		**Variability**	
Mean	31.27778	**Std Deviation**	7.15271
Median	30.00000	**Variance**	51.16119
Mode	33.00000	**Range**	35.00000
		Interquartile Range	10.00000

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	37.10495	**Pr > |t|**	<.0001
Sign	**M**	36	**Pr >= |M|**	<.0001
Signed Rank	**S**	1314	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	55
99%	55
95%	43
90%	41
75% Q3	36
50% Median	30
25% Q1	26
10%	23
5%	21
1%	20
0% Min	20

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
20	65	43	20
21	47	43	28
21	41	43	68

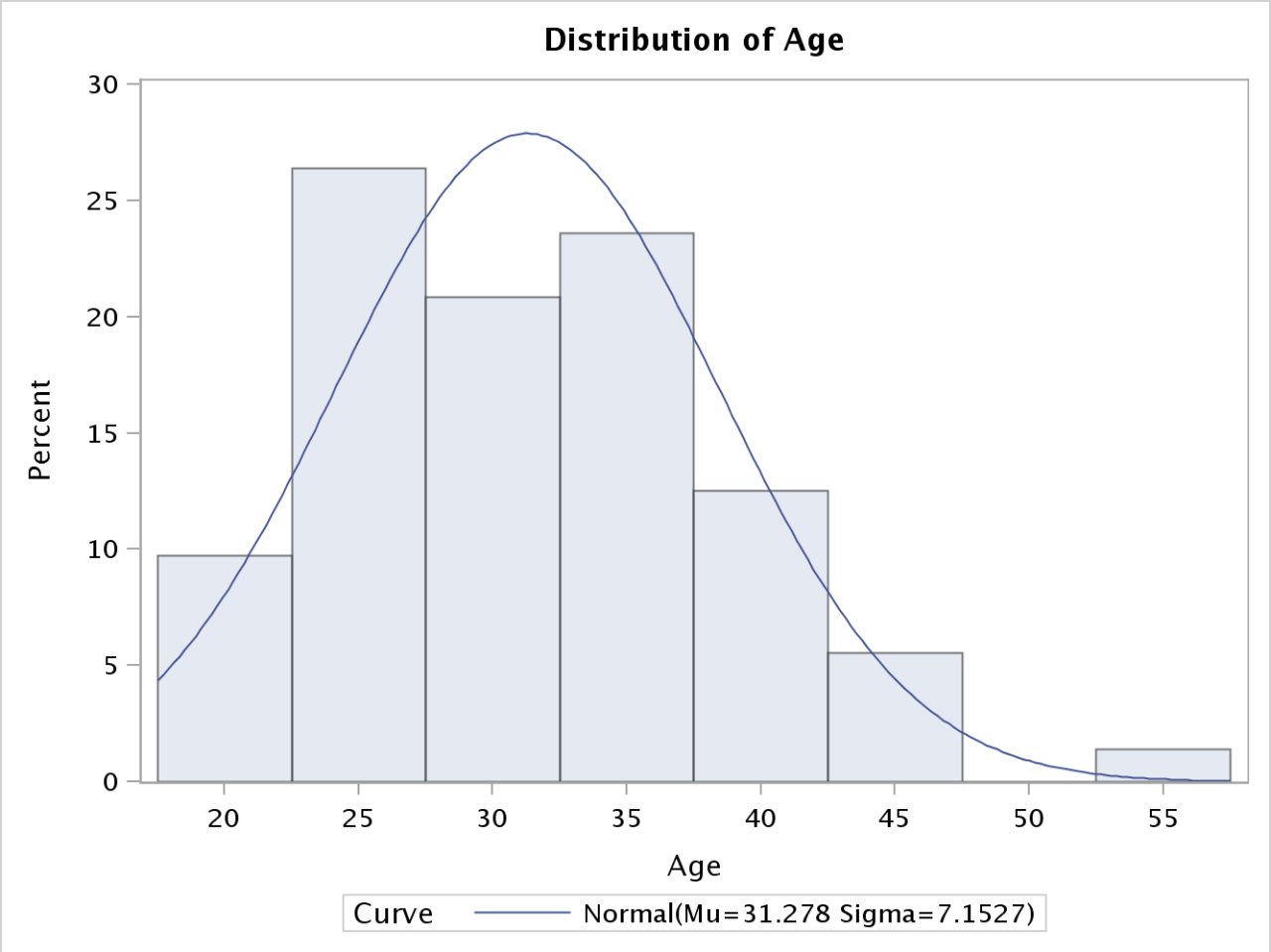
Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: Age (Age)

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
21	26	46	72
22	51	55	64

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Fitted Normal Distribution for Age (Age)

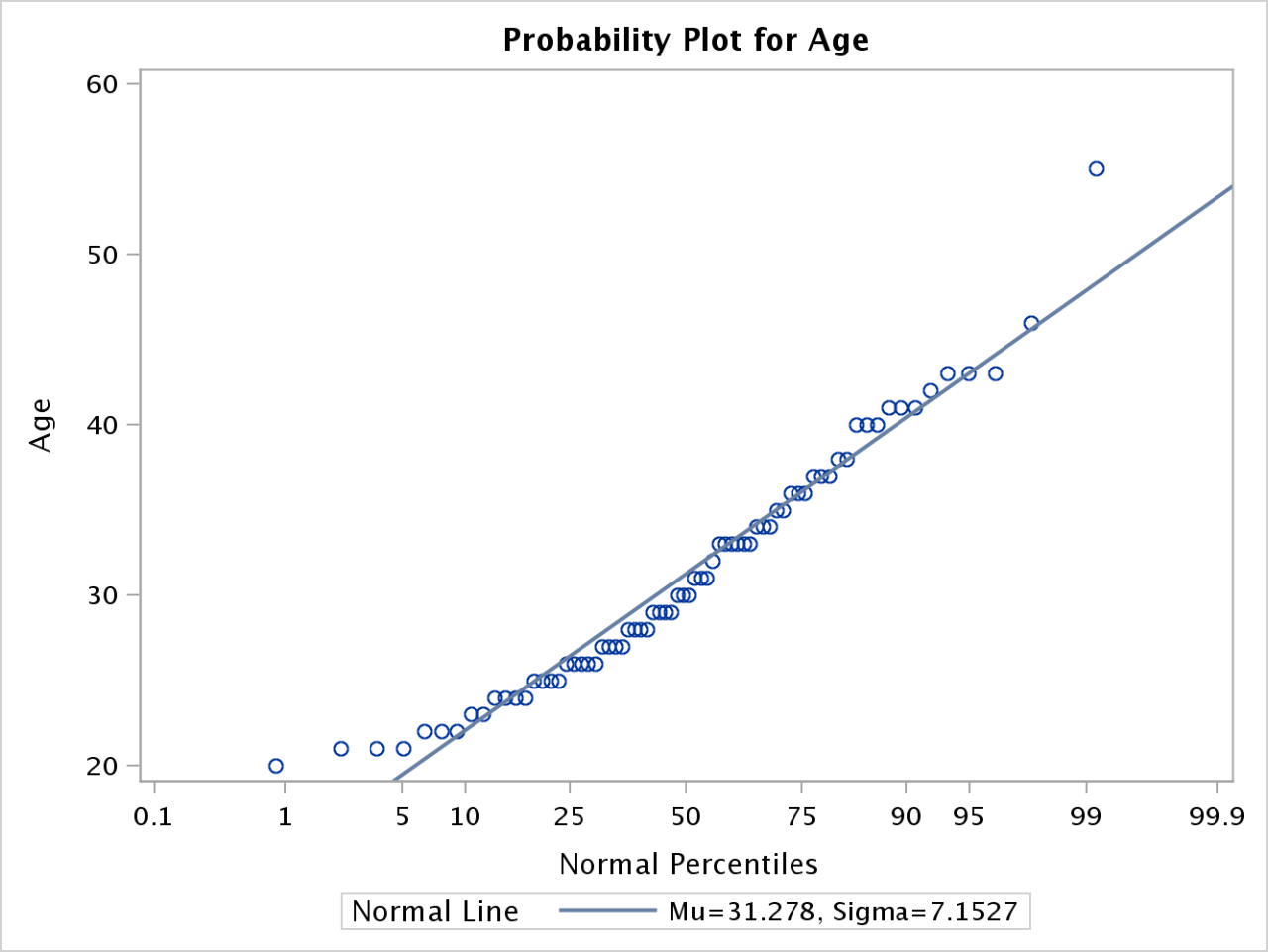
Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	31.27778
Std Dev	Sigma	7.152705

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.09715035	**Pr > D**	0.091
Cramer-von Mises	**W-Sq**	0.11291651	**Pr > W-Sq**	0.078
Anderson-Darling	**A-Sq**	0.73459553	**Pr > A-Sq**	0.054

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	20.0000	14.6381
5.0	21.0000	19.5126
10.0	23.0000	22.1112
25.0	26.0000	26.4534
50.0	30.0000	31.2778
75.0	36.0000	36.1022
90.0	41.0000	40.4443
95.0	43.0000	43.0429
99.0	55.0000	47.9175

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: Income (Income)

Moments			
N	72	**Sum Weights**	72
Mean	3.43708333	**Sum Observations**	247.47
Std Deviation	1.69945181	**Variance**	2.88813644
Skewness	1.90172346	**Kurtosis**	4.47839367
Uncorrected SS	1055.6327	**Corrected SS**	205.057688
Coeff Variation	49.4445913	**Std Error Mean**	0.20028232

Basic Statistical Measures			
Location		**Variability**	
Mean	3.437083	**Std Deviation**	1.69945
Median	3.000000	**Variance**	2.88814
Mode	2.000000	**Range**	8.50000
		Interquartile Range	1.58000

Note: The mode displayed is the smallest of 2 modes with a count of 4.

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	17.16119	**Pr > |t|**	<.0001
Sign	**M**	36	**Pr >= |M|**	<.0001
Signed Rank	**S**	1314	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	10.00
99%	10.00
95%	7.00
90%	5.50
75% Q3	3.98
50% Median	3.00
25% Q1	2.40
10%	2.00
5%	1.65
1%	1.50
0% Min	1.50

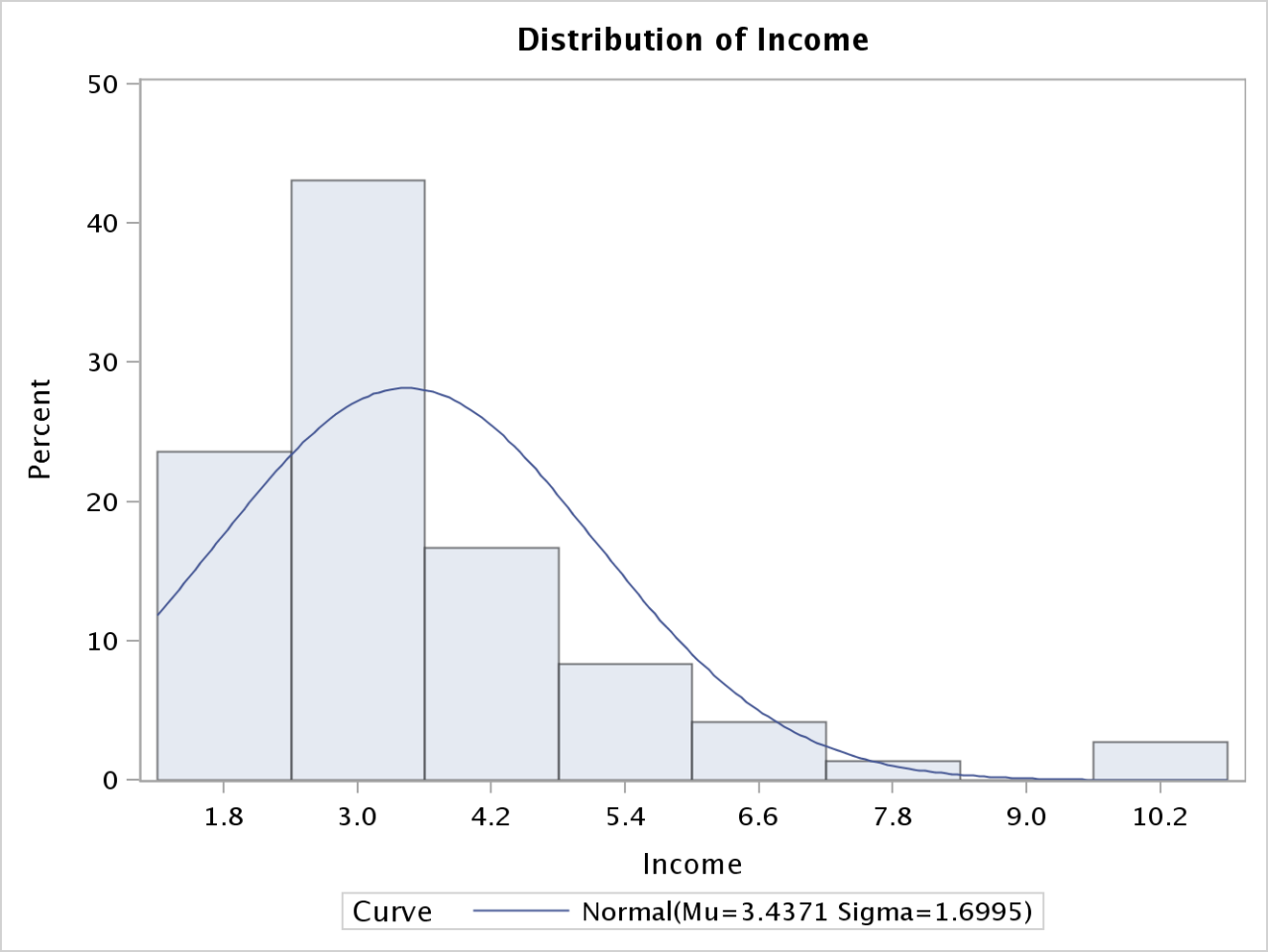
Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: Income (Income)

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
1.50	47	6.00	69
1.50	22	7.00	39
1.51	34	7.24	67
1.65	65	9.79	5
1.70	41	10.00	16

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Fitted Normal Distribution for Income (Income)

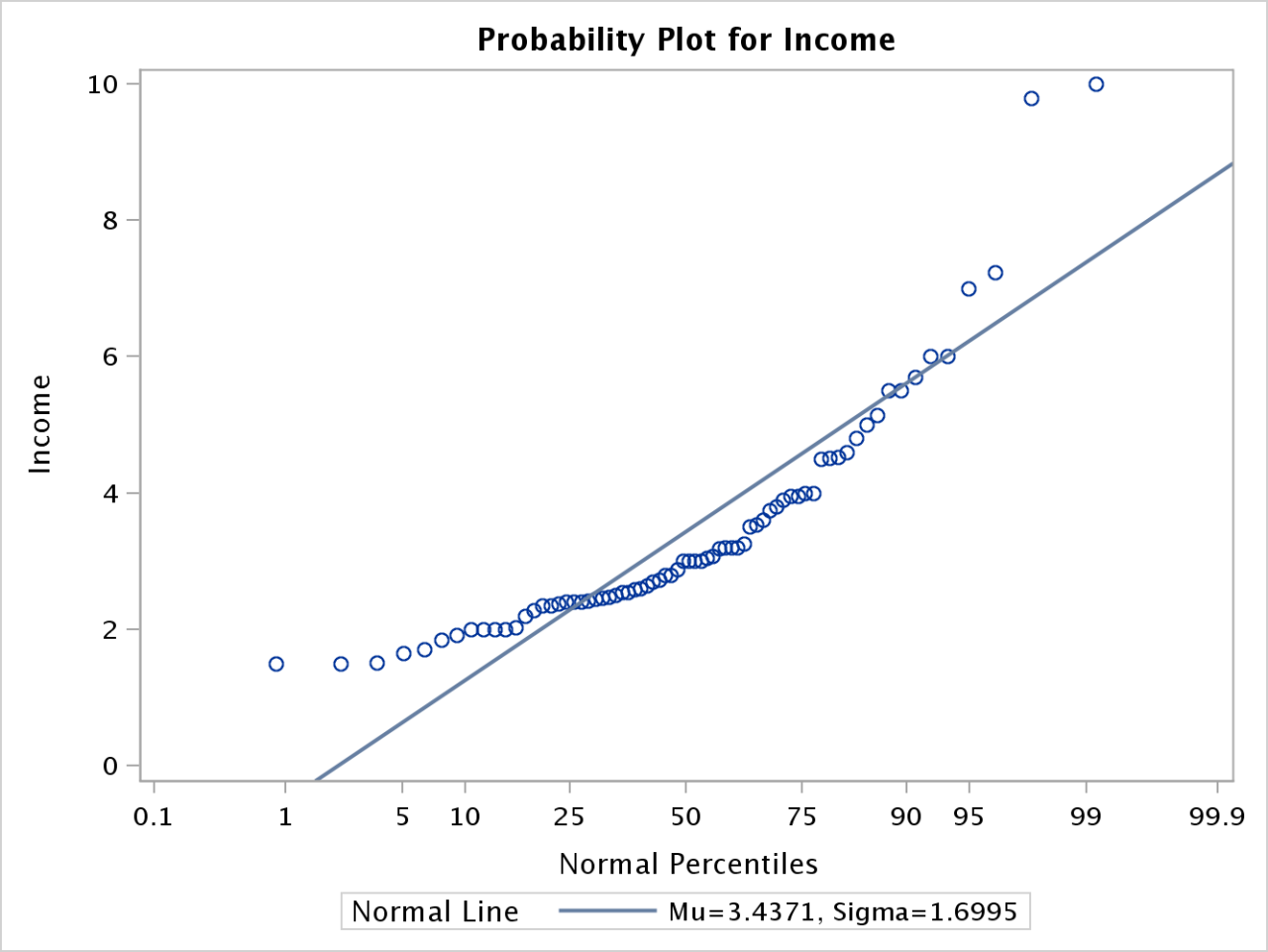
Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	3.437083
Std Dev	Sigma	1.699452

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.18271772	**Pr > D**	<0.010
Cramer-von Mises	**W-Sq**	0.59903880	**Pr > W-Sq**	<0.005
Anderson-Darling	**A-Sq**	3.45065365	**Pr > A-Sq**	<0.005

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	1.50000	-0.51643
5.0	1.65000	0.64173
10.0	2.00000	1.25915
25.0	2.40000	2.29082
50.0	3.00000	3.43708
75.0	3.98000	4.58335
90.0	5.50000	5.61502
95.0	7.00000	6.23243
99.0	10.00000	7.39060

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: incomesq

Moments			
N	72	**Sum Weights**	72
Mean	14.6615653	**Sum Observations**	1055.6327
Std Deviation	17.644929	**Variance**	311.343518
Skewness	3.30887251	**Kurtosis**	12.8224545
Uncorrected SS	37582.6175	**Corrected SS**	22105.3898
Coeff Variation	120.348194	**Std Error Mean**	2.07947482

Basic Statistical Measures			
Location		**Variability**	
Mean	14.66157	**Std Deviation**	17.64493
Median	9.00000	**Variance**	311.34352
Mode	4.00000	**Range**	97.75000
		Interquartile Range	10.08080

Note: The mode displayed is the smallest of 2 modes with a count of 4.

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	7.05061	**Pr > |t|**	<.0001
Sign	**M**	36	**Pr >= |M|**	<.0001
Signed Rank	**S**	1314	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	100.0000
99%	100.0000
95%	49.0000
90%	30.2500
75% Q3	15.8408
50% Median	9.0000
25% Q1	5.7600
10%	4.0000
5%	2.7225
1%	2.2500
0% Min	2.2500

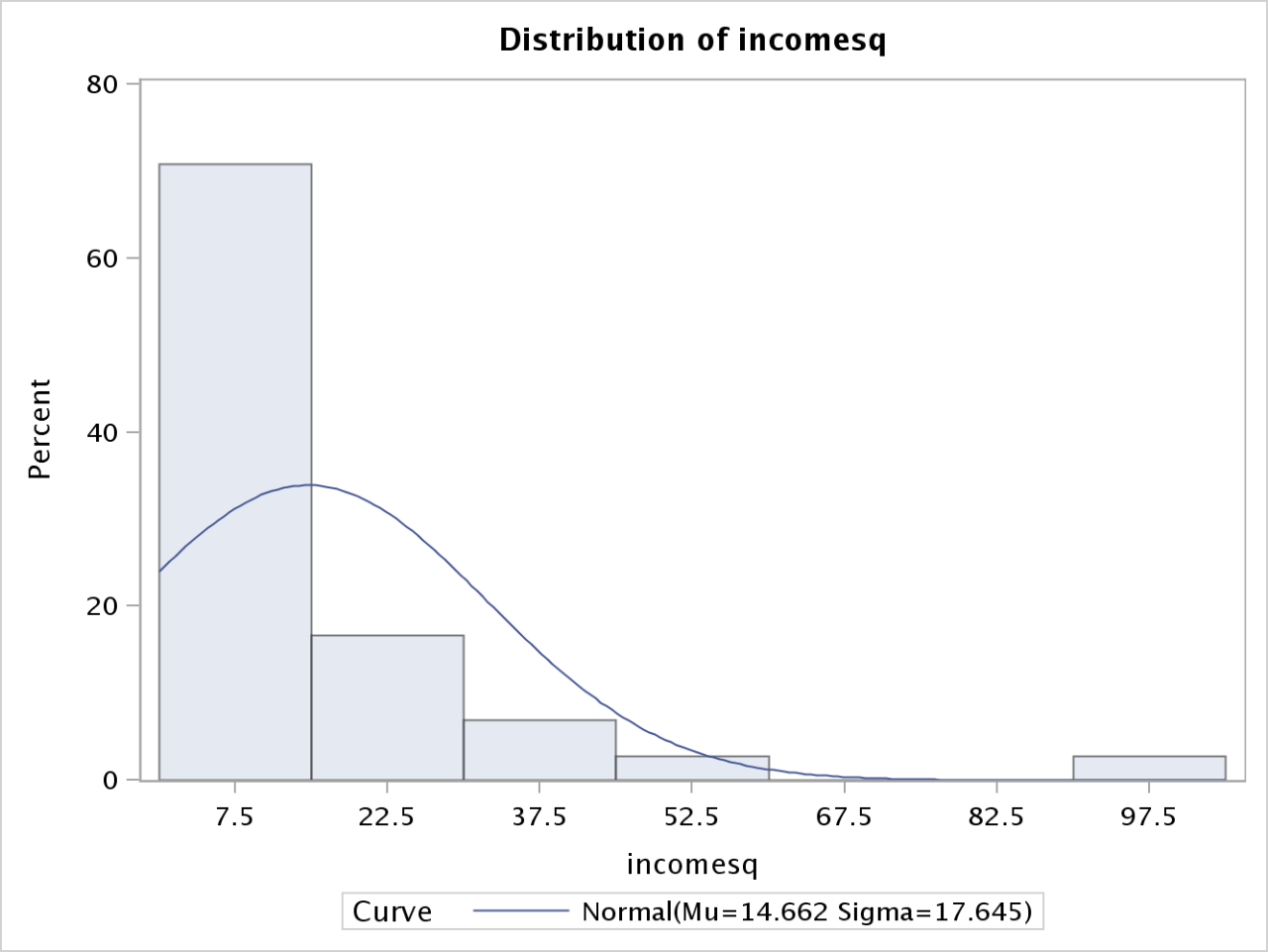
Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: incomesq

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
2.2500	47	36.0000	69
2.2500	22	49.0000	39
2.2801	34	52.4176	67
2.7225	65	95.8441	5
2.8900	41	100.0000	16

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Fitted Normal Distribution for incomesq

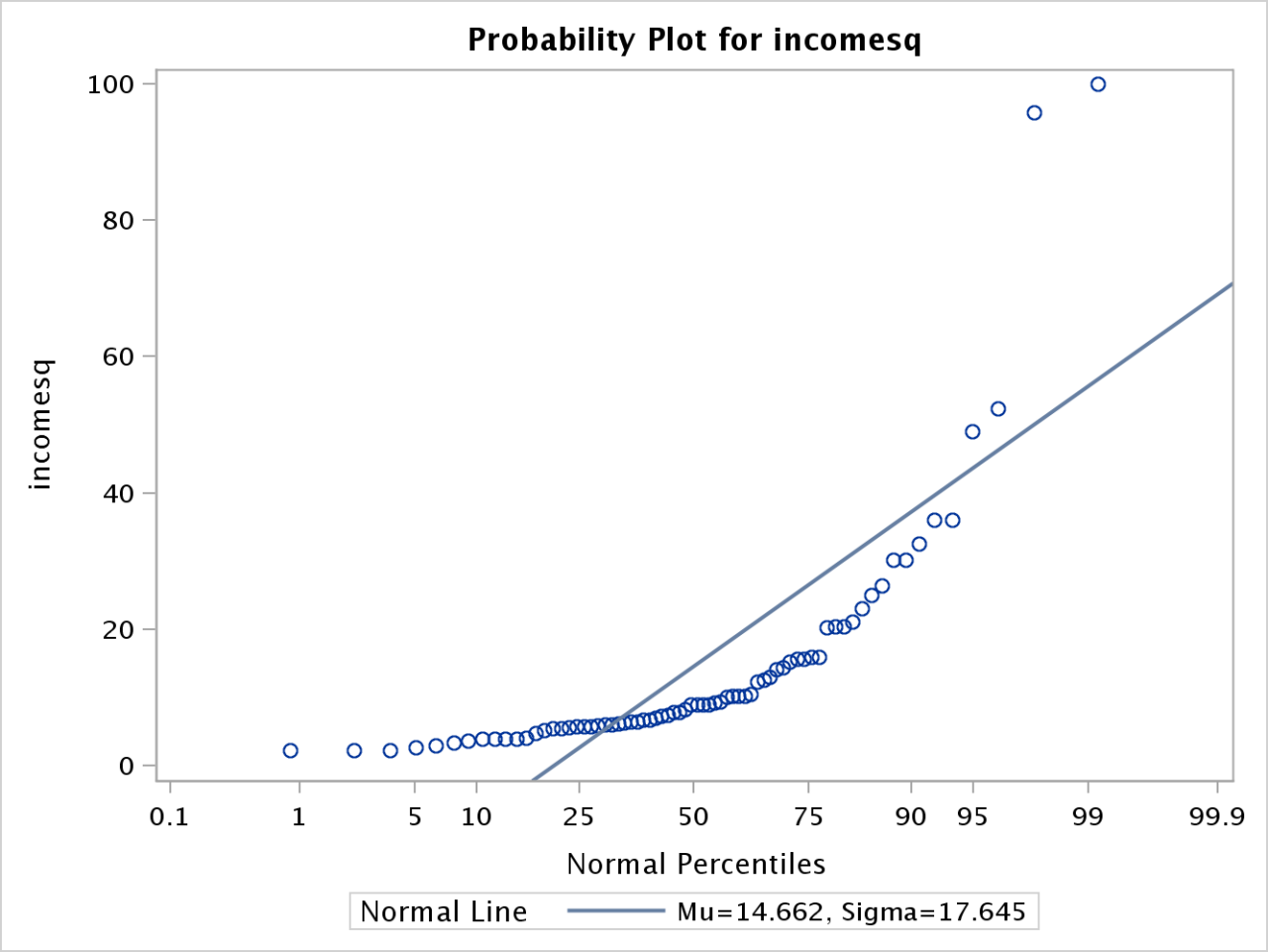
Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	14.66157
Std Dev	Sigma	17.64493

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.24754549	**Pr > D**	<0.010
Cramer-von Mises	**W-Sq**	1.52074960	**Pr > W-Sq**	<0.005
Anderson-Darling	**A-Sq**	8.24782734	**Pr > A-Sq**	<0.005

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	2.25000	-26.38668
5.0	2.72250	-14.36176
10.0	4.00000	-7.95132
25.0	5.76000	2.76024
50.0	9.00000	14.66157
75.0	15.84080	26.56289
90.0	30.25000	37.27445
95.0	49.00000	43.68489
99.0	100.00000	55.70981

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: OwnRent (OwnRent)

Moments			
N	72	**Sum Weights**	72
Mean	0.375	**Sum Observations**	27
Std Deviation	0.48752031	**Variance**	0.23767606
Skewness	0.52745055	**Kurtosis**	-1.771815
Uncorrected SS	27	**Corrected SS**	16.875
Coeff Variation	130.005417	**Std Error Mean**	0.05745482

Basic Statistical Measures			
Location		**Variability**	
Mean	0.375000	**Std Deviation**	0.48752
Median	0.000000	**Variance**	0.23768
Mode	0.000000	**Range**	1.00000
		Interquartile Range	1.00000

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	6.526868	**Pr > |t|**	<.0001
Sign	**M**	13.5	**Pr >= |M|**	<.0001
Signed Rank	**S**	189	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Quantile	**Estimate**
100% Max	1
99%	1
95%	1
90%	1
75% Q3	1
50% Median	0
25% Q1	0
10%	0
5%	0
1%	0
0% Min	0

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
0	70	1	64
0	68	1	67
0	66	1	69

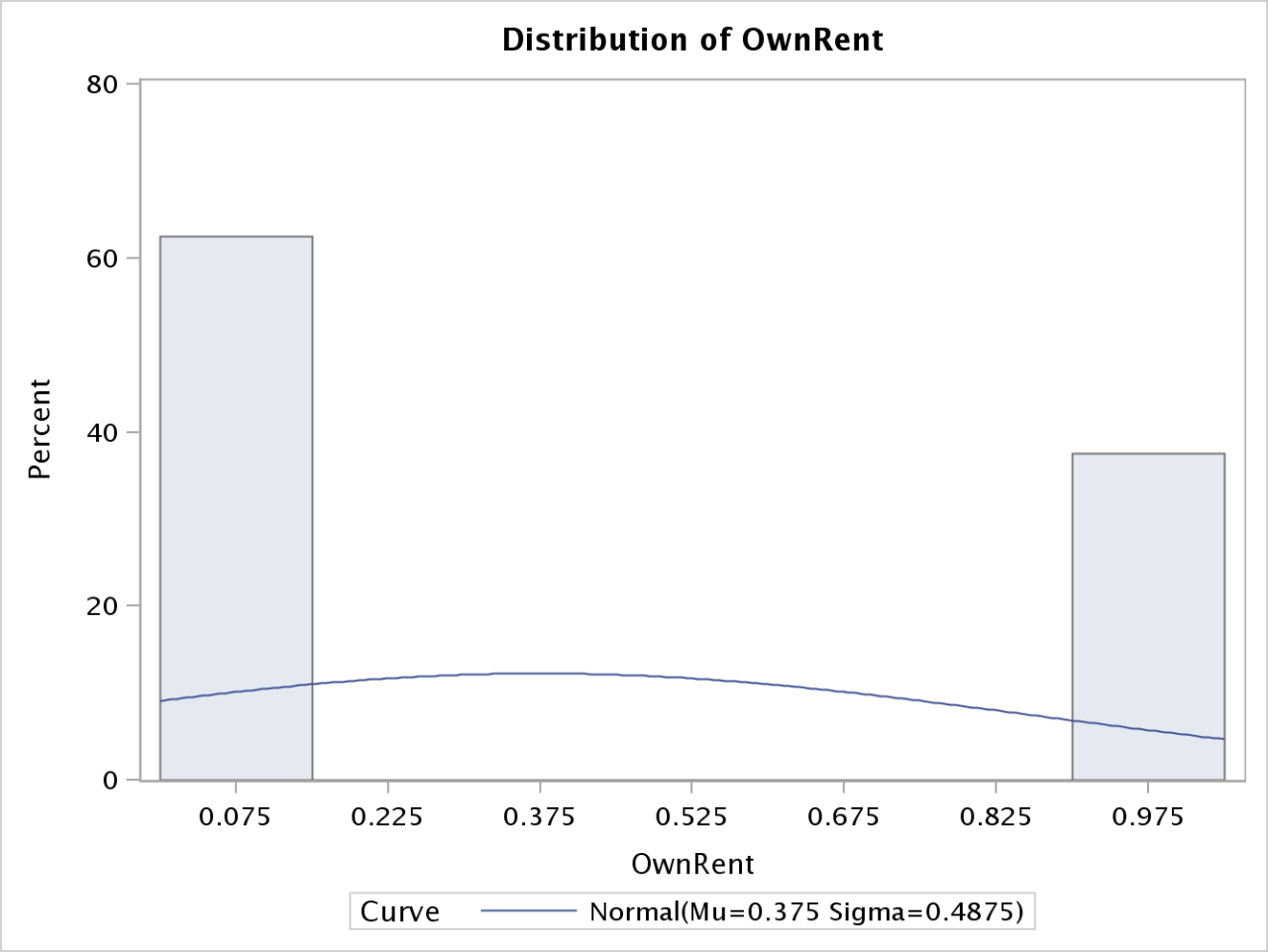
Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Variable: OwnRent (OwnRent)

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	65	1	71
0	63	1	72

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure
Fitted Normal Distribution for OwnRent (OwnRent)

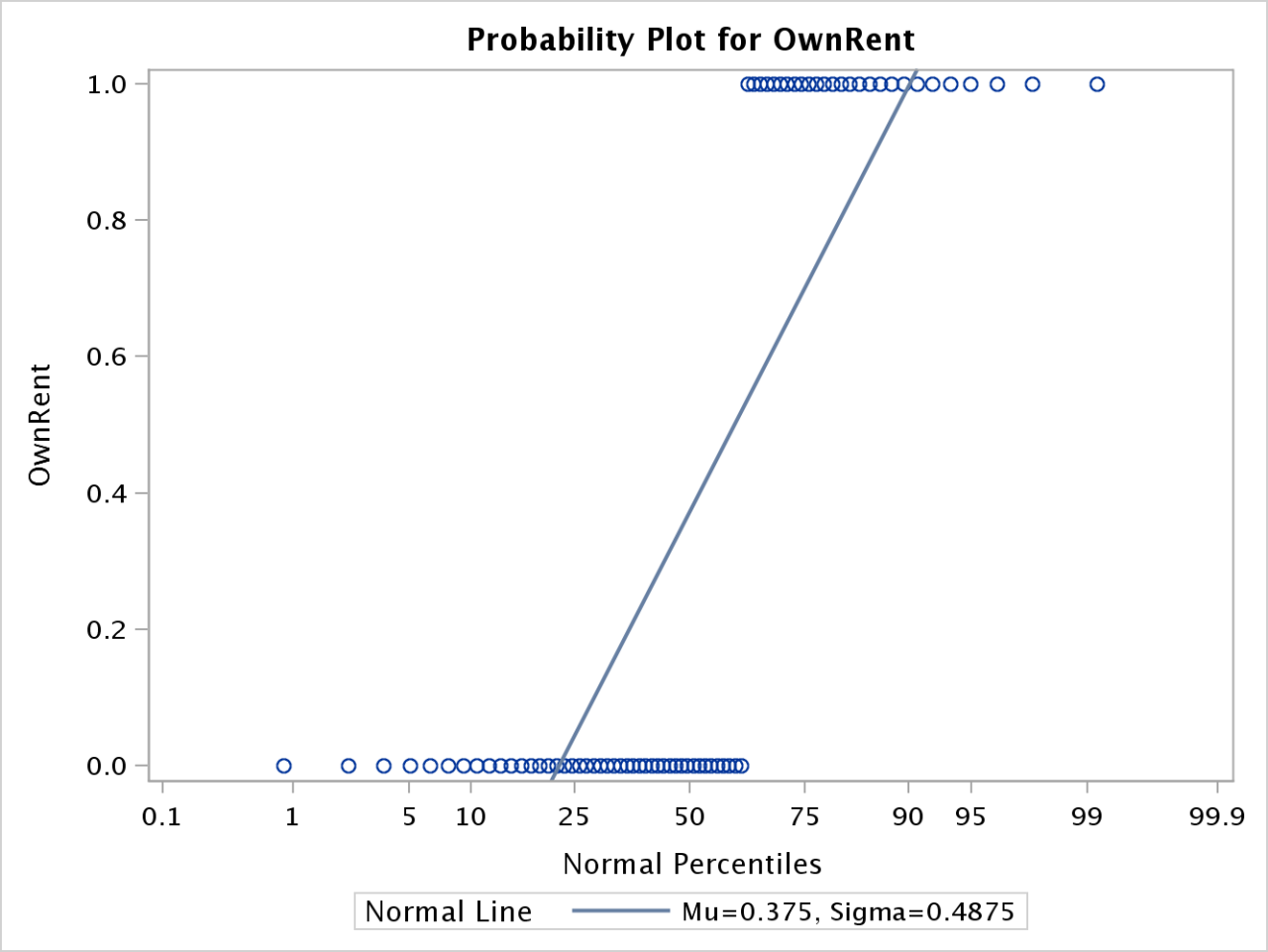
Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	0.375
Std Dev	Sigma	0.48752

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.4041123	**Pr > D**	<0.010
Cramer-von Mises	**W-Sq**	2.3660157	**Pr > W-Sq**	<0.005
Anderson-Darling	**A-Sq**	13.8560736	**Pr > A-Sq**	<0.005

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	0.00000	-0.75914
5.0	0.00000	-0.42690
10.0	0.00000	-0.24978
25.0	0.00000	0.04617
50.0	0.00000	0.37500
75.0	1.00000	0.70383
90.0	1.00000	0.99978
95.0	1.00000	1.17690
99.0	1.00000	1.50914

Descriptive Statistics using Proc Univariate

The UNIVARIATE Procedure



Descriptive Statistics using Proc Univariate

Obs	MDR	Acc	Age	Income	AvgExp	OwnRent	SelfEmpl	incomesq	incomefth	age_or	age_inc
1	0	1	38	4.52	124.98	1	0	20.430	417.40	38	171.76
2	0	1	33	2.42	9.85	0	0	5.856	34.30	0	79.86
3	0	1	34	4.5	15	1	0	20.250	410.06	34	153.00
4	0	1	31	2.54	137.87	0	0	6.452	41.62	0	78.74
5	0	1	32	9.79	546.5	1	0	95.844	9186.09	32	313.28
6	0	1	23	2.5	92	0	0	6.250	39.06	0	57.50
7	0	1	28	3.96	40.83	0	0	15.682	245.91	0	110.88
8	0	1	29	2.37	150.79	1	0	5.617	31.55	29	68.73
9	0	1	37	3.8	777.82	1	0	14.440	208.51	37	140.60
10	0	1	28	3.2	52.58	0	0	10.240	104.86	0	89.60
11	0	1	31	3.95	256.66	1	0	15.603	243.44	31	122.45
12	0	1	29	2.45	78.87	1	0	6.003	36.03	29	71.05
13	0	1	35	1.91	42.62	1	0	3.648	13.31	35	66.85
14	0	1	41	3.2	335.43	1	0	10.240	104.86	41	131.20
15	0	1	40	4	248.72	1	0	16.000	256.00	40	160.00
16	0	1	40	10	548.03	1	1	100.000	10000.00	40	400.00
17	0	1	35	2.35	43.34	1	0	5.523	30.50	35	82.25
18	0	1	34	2	218.52	1	0	4.000	16.00	34	68.00
19	1	1	36	4	170.64	0	0	16.000	256.00	0	144.00
20	0	1	43	5.14	37.58	1	0	26.420	698.00	43	221.02
21	0	1	30	4.51	502.2	0	0	20.340	413.72	0	135.30
22	0	1	22	1.5	73.18	0	0	2.250	5.06	0	33.00
23	0	1	40	5.5	1532.77	1	0	30.250	915.06	40	220.00
24	0	1	22	2.03	42.69	0	0	4.121	16.98	0	44.66
25	1	1	29	3.2	417.83	0	0	10.240	104.86	0	92.80
26	0	1	21	2.47	552.72	1	0	6.101	37.22	21	51.87
27	0	1	24	3	222.54	0	0	9.000	81.00	0	72.00
28	0	1	43	3.54	541.3	1	0	12.532	157.04	43	152.22
29	0	1	37	5.7	568.77	1	0	32.490	1055.60	37	210.90
30	0	1	27	3.5	344.47	0	0	12.250	150.06	0	94.50
31	0	1	28	4.6	405.35	1	0	21.160	447.75	28	128.80
32	0	1	26	3	310.94	1	0	9.000	81.00	26	78.00
33	0	1	23	2.59	53.65	0	0	6.708	45.00	0	59.57
34	0	1	30	1.51	63.92	0	0	2.280	5.20	0	45.30
35	0	1	30	1.85	165.85	0	0	3.423	11.71	0	55.50
36	0	1	38	2.6	9.58	0	0	6.760	45.70	0	98.80
37	0	1	36	2	319.49	0	0	4.000	16.00	0	72.00
38	0	1	26	2.35	83.08	0	0	5.523	30.50	0	61.10
39	0	1	28	7	644.83	1	0	49.000	2401.00	28	196.00
40	0	1	24	2	93.2	0	0	4.000	16.00	0	48.00
41	0	1	21	1.7	105.04	0	0	2.890	8.35	0	35.70
42	0	1	24	2.8	34.13	0	0	7.840	61.47	0	67.20
43	0	1	26	2.4	41.19	0	0	5.760	33.18	0	62.40
44	1	1	33	3	169.89	0	0	9.000	81.00	0	99.00
45	0	1	34	4.8	1898.03	0	0	23.040	530.84	0	163.20
46	0	1	33	3.18	810.39	0	0	10.112	102.26	0	104.94
47	0	1	21	1.5	32.78	0	0	2.250	5.06	0	31.50

Descriptive Statistics using Proc Univariate

Obs	MDR	Acc	Age	Income	AvgExp	OwnRent	SelfEmpl	incomesq	incomefth	age_or	age_inc
48	2	1	25	3	95.8	0	0	9.000	81.00	0	75.00
49	0	1	27	2.28	27.78	0	0	5.198	27.02	0	61.56
50	0	1	26	2.8	215.07	0	0	7.840	61.47	0	72.80
51	0	1	22	2.7	79.51	0	0	7.290	53.14	0	59.40
52	0	1	41	6	306.03	0	1	36.000	1296.00	0	246.00
53	0	1	42	3.9	104.54	0	0	15.210	231.34	0	163.80
54	0	1	25	3.07	642.47	0	0	9.425	88.83	0	76.75
55	0	1	31	2.46	308.05	1	0	6.052	36.62	31	76.26
56	0	1	27	2	186.35	0	0	4.000	16.00	0	54.00
57	0	1	33	3.25	56.15	0	0	10.563	111.57	0	107.25
58	0	1	37	2.72	129.37	0	0	7.398	54.74	0	100.64
59	0	1	27	2.2	93.11	0	0	4.840	23.43	0	59.40
60	0	1	24	3.75	292.66	0	0	14.063	197.75	0	90.00
61	0	1	25	2.88	98.46	0	0	8.294	68.80	0	72.00
62	0	1	36	3.05	258.55	0	0	9.303	86.54	0	109.80
63	0	1	33	2.55	101.68	0	0	6.503	42.28	0	84.15
64	1	1	55	2.64	65.25	1	0	6.970	48.58	55	145.20
65	0	1	20	1.65	108.61	0	0	2.723	7.41	0	33.00
66	0	1	29	2.4	49.56	0	0	5.760	33.18	0	69.60
67	0	1	41	7.24	235.57	1	0	52.418	2747.60	41	296.84
68	0	1	43	2.4	68.38	0	0	5.760	33.18	0	103.20
69	1	1	33	6	474.15	1	0	36.000	1296.00	33	198.00
70	1	1	25	3.6	234.05	0	0	12.960	167.96	0	90.00
71	0	1	26	5	451.2	1	0	25.000	625.00	26	130.00
72	0	1	46	5.5	251.52	1	0	30.250	915.06	46	253.00

Obs	age_incsq	or_income	or_incomesq	incomecube	y
1	776.36	4.52	20.430	92.35	124.98
2	193.26	0.00	0.000	14.17	9.85
3	688.50	4.50	20.250	91.13	15.00
4	200.00	0.00	0.000	16.39	137.87
5	3067.01	9.79	95.844	938.31	546.50
6	143.75	0.00	0.000	15.63	92.00
7	439.08	0.00	0.000	62.10	40.83
8	162.89	2.37	5.617	13.31	150.79
9	534.28	3.80	14.440	54.87	777.82
10	286.72	0.00	0.000	32.77	52.58
11	483.68	3.95	15.603	61.63	256.66
12	174.07	2.45	6.003	14.71	78.87
13	127.68	1.91	3.648	6.97	42.62
14	419.84	3.20	10.240	32.77	335.43
15	640.00	4.00	16.000	64.00	248.72
16	4000.00	10.00	100.000	1000.00	548.03
17	193.29	2.35	5.523	12.98	43.34
18	136.00	2.00	4.000	8.00	218.52
19	576.00	0.00	0.000	64.00	170.64
20	1136.04	5.14	26.420	135.80	37.58

Descriptive Statistics using Proc Univariate

Obs	age_incsq	or_income	or_incomesq	incomecube	y
21	610.20	0.00	0.000	91.73	502.20
22	49.50	0.00	0.000	3.38	73.18
23	1210.00	5.50	30.250	166.38	1532.77
24	90.66	0.00	0.000	8.37	42.69
25	296.96	0.00	0.000	32.77	417.83
26	128.12	2.47	6.101	15.07	552.72
27	216.00	0.00	0.000	27.00	222.54
28	538.86	3.54	12.532	44.36	541.30
29	1202.13	5.70	32.490	185.19	568.77
30	330.75	0.00	0.000	42.88	344.47
31	592.48	4.60	21.160	97.34	405.35
32	234.00	3.00	9.000	27.00	310.94
33	154.29	0.00	0.000	17.37	53.65
34	68.40	0.00	0.000	3.44	63.92
35	102.68	0.00	0.000	6.33	165.85
36	256.88	0.00	0.000	17.58	9.58
37	144.00	0.00	0.000	8.00	319.49
38	143.59	0.00	0.000	12.98	83.08
39	1372.00	7.00	49.000	343.00	644.83
40	96.00	0.00	0.000	8.00	93.20
41	60.69	0.00	0.000	4.91	105.04
42	188.16	0.00	0.000	21.95	34.13
43	149.76	0.00	0.000	13.82	41.19
44	297.00	0.00	0.000	27.00	169.89
45	783.36	0.00	0.000	110.59	1898.03
46	333.71	0.00	0.000	32.16	810.39
47	47.25	0.00	0.000	3.38	32.78
48	225.00	0.00	0.000	27.00	95.80
49	140.36	0.00	0.000	11.85	27.78
50	203.84	0.00	0.000	21.95	215.07
51	160.38	0.00	0.000	19.68	79.51
52	1476.00	0.00	0.000	216.00	306.03
53	638.82	0.00	0.000	59.32	104.54
54	235.62	0.00	0.000	28.93	642.47
55	187.60	2.46	6.052	14.89	308.05
56	108.00	0.00	0.000	8.00	186.35
57	348.56	0.00	0.000	34.33	56.15
58	273.74	0.00	0.000	20.12	129.37
59	130.68	0.00	0.000	10.65	93.11
60	337.50	0.00	0.000	52.73	292.66
61	207.36	0.00	0.000	23.89	98.46
62	334.89	0.00	0.000	28.37	258.55
63	214.58	0.00	0.000	16.58	101.68
64	383.33	2.64	6.970	18.40	65.25
65	54.45	0.00	0.000	4.49	108.61
66	167.04	0.00	0.000	13.82	49.56
67	2149.12	7.24	52.418	379.50	235.57

Descriptive Statistics using Proc Univariate

Obs	age_incsq	or_income	or_incomesq	incomecube	y
68	247.68	0.00	0.000	13.82	68.38
69	1188.00	6.00	36.000	216.00	474.15
70	324.00	0.00	0.000	46.66	234.05
71	650.00	5.00	25.000	125.00	451.20
72	1391.50	5.50	30.250	166.38	251.52

Descriptive Statistics using Proc Univariate

The MODEL Procedure

Model Summary	
Model Variables	1
Parameters	5
Equations	1
Number of Statements	2

Model Variables	y
Parameters	Const C_Age C_OwnRent C_Income C_IncomeSq
Equations	y

The Equation to Estimate is	
y =	F(Const(1), C_Age(Age), C_OwnRent(OwnRent), C_Income(Income), C_IncomeSq)

NOTE: At OLS Iteration 1 CONVERGE=0.001 Criteria Met.

Descriptive Statistics using Proc Univariate

The MODEL Procedure
OLS Estimation Summary

Data Set Options	
DATA=	EXPENSE

Minimization Summary	
Parameters Estimated	5
Method	Gauss
Iterations	1

Final Convergence Criteria	
R	0
PPC	0
RPC(Const)	2347986
Object	0.55266
Trace(S)	81083.02
Objective Value	75452.25

Observations Processed	
Read	72
Solved	72

Descriptive Statistics using Proc Univariate

The MODEL Procedure

Nonlinear OLS Summary of Residual Errors							
Equation	DF Model	DF Error	SSE	MSE	Root MSE	R-Square	Adj R-Sq
y	5	67	5432562	81083.0	284.8	0.2436	0.1984

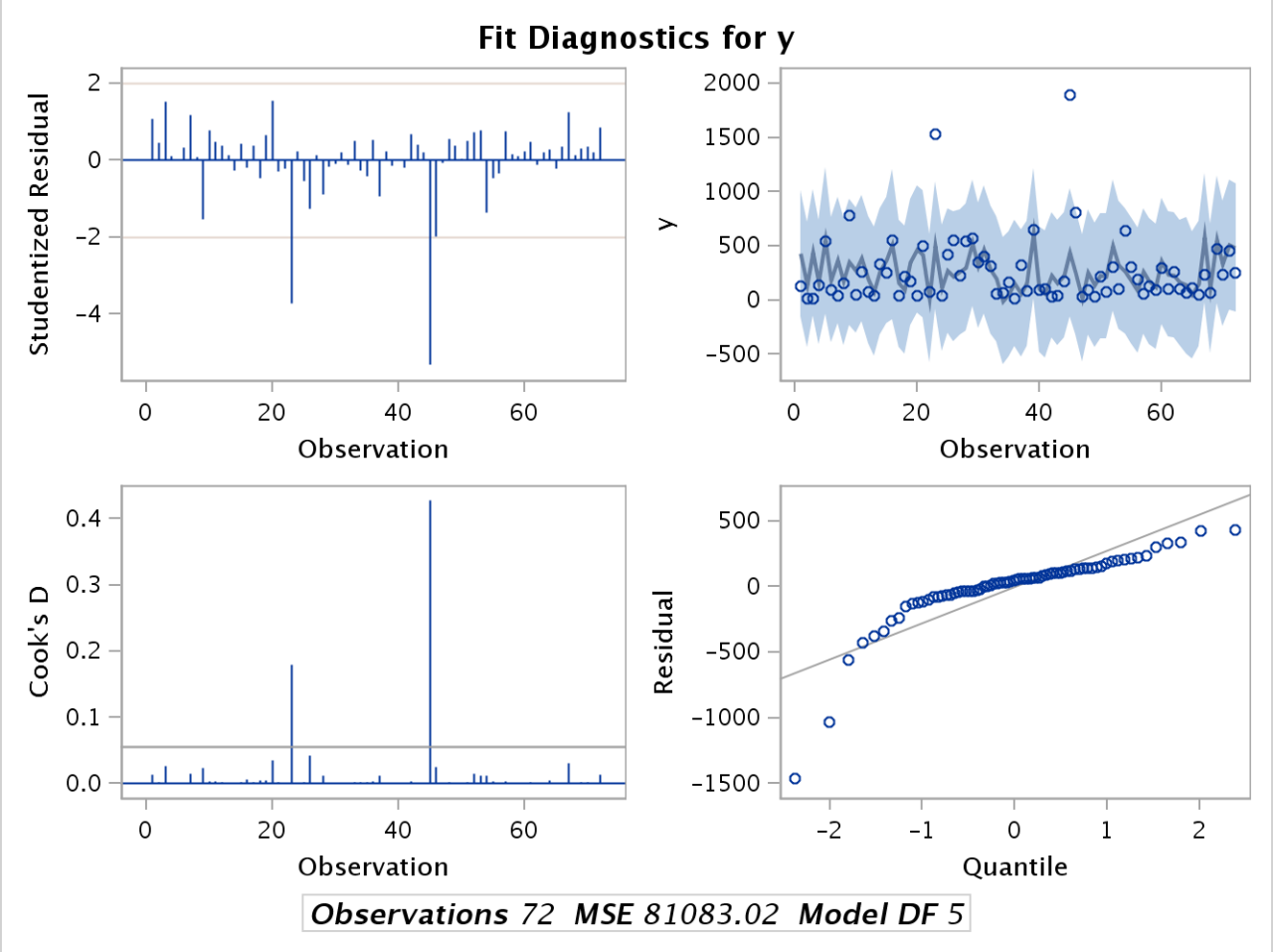
Nonlinear OLS Parameter Estimates				
Parameter	Estimate	Approx Std Err	t Value	Approx Pr > |t|
Const	-237.147	199.4	-1.19	0.2384
C_Age	-3.08181	5.5147	-0.56	0.5781
C_OwnRent	27.94091	82.9223	0.34	0.7372
C_Income	234.347	80.3660	2.92	0.0048
C_IncomeSq	-14.9968	7.4693	-2.01	0.0487

Number of Observations		Statistics for System	
Used	72	Objective	75452
Missing	0	Objective*N	5432562

Heteroscedasticity Test					
Equation	Test	Statistic	DF	Pr > ChiSq	Variables
y	White's Test	14.33	12	0.2802	Cross of all vars
	Breusch-Pagan	6.19	2	0.0453	1, Income, income_sq

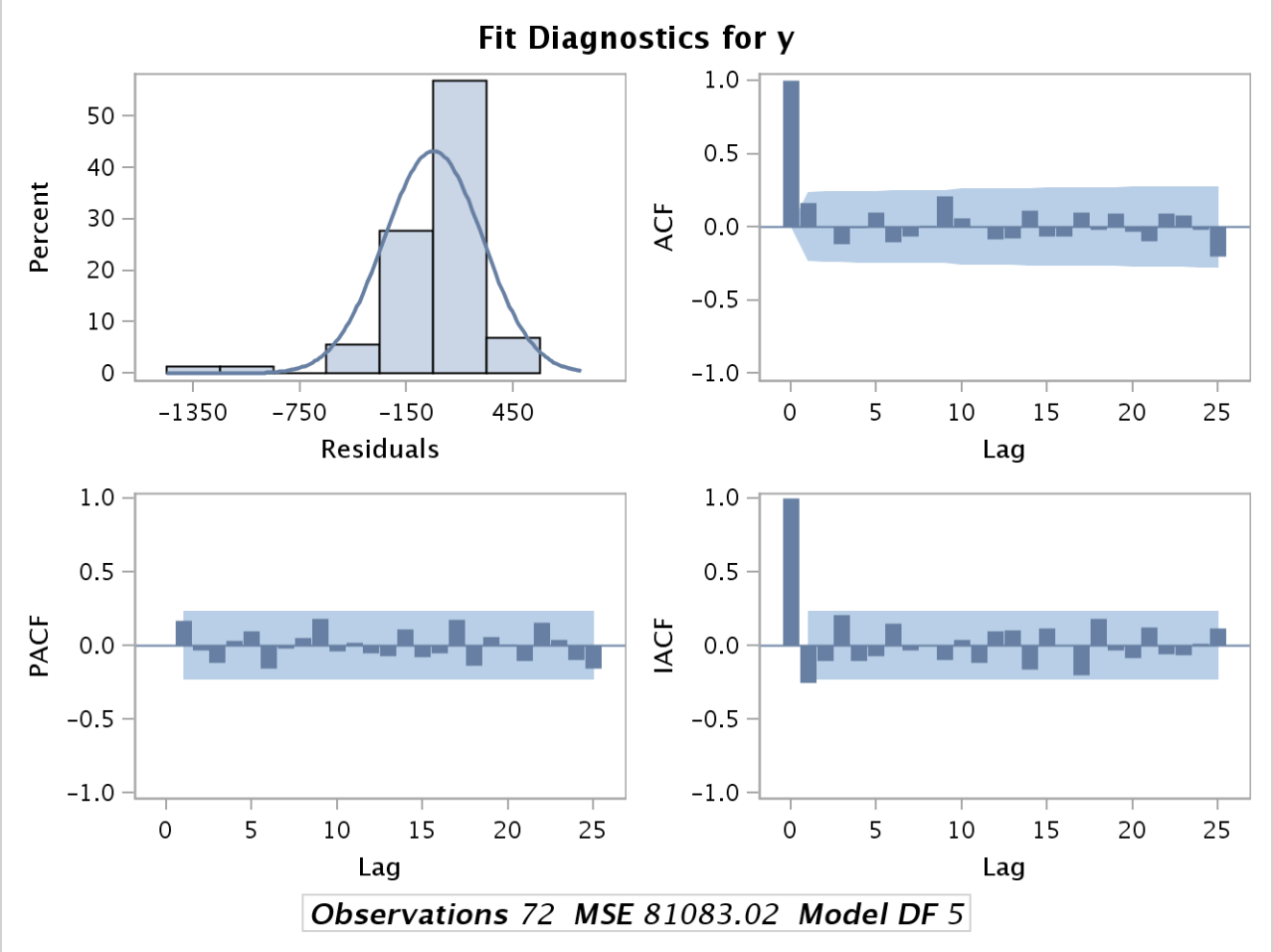
Descriptive Statistics using Proc Univariate

The MODEL Procedure



Descriptive Statistics using Proc Univariate

The MODEL Procedure



Descriptive Statistics using Proc Univariate

Obs	MDR	Acc	Age	Income	AvgExp	OwnRent	SelfEmpl	incomesq	y
1	0	1	22	1.5	73.18	0	0	2.250	73.18
2	0	1	21	1.5	32.78	0	0	2.250	32.78
3	0	1	30	1.51	63.92	0	0	2.280	63.92
4	0	1	20	1.65	108.61	0	0	2.723	108.61
5	0	1	21	1.7	105.04	0	0	2.890	105.04
6	0	1	30	1.85	165.85	0	0	3.423	165.85
7	0	1	35	1.91	42.62	1	0	3.648	42.62
8	0	1	34	2	218.52	1	0	4.000	218.52
9	0	1	36	2	319.49	0	0	4.000	319.49
10	0	1	24	2	93.2	0	0	4.000	93.20
11	0	1	27	2	186.35	0	0	4.000	186.35
12	0	1	22	2.03	42.69	0	0	4.121	42.69
13	0	1	27	2.2	93.11	0	0	4.840	93.11
14	0	1	27	2.28	27.78	0	0	5.198	27.78
15	0	1	35	2.35	43.34	1	0	5.523	43.34
16	0	1	26	2.35	83.08	0	0	5.523	83.08
17	0	1	29	2.37	150.79	1	0	5.617	150.79
18	0	1	26	2.4	41.19	0	0	5.760	41.19
19	0	1	29	2.4	49.56	0	0	5.760	49.56
20	0	1	43	2.4	68.38	0	0	5.760	68.38
21	0	1	33	2.42	9.85	0	0	5.856	9.85
22	0	1	29	2.45	78.87	1	0	6.003	78.87
23	0	1	31	2.46	308.05	1	0	6.052	308.05
24	0	1	21	2.47	552.72	1	0	6.101	552.72
25	0	1	23	2.5	92	0	0	6.250	92.00
26	0	1	31	2.54	137.87	0	0	6.452	137.87
27	0	1	33	2.55	101.68	0	0	6.503	101.68
28	0	1	23	2.59	53.65	0	0	6.708	53.65
29	0	1	38	2.6	9.58	0	0	6.760	9.58
30	1	1	55	2.64	65.25	1	0	6.970	65.25
31	0	1	22	2.7	79.51	0	0	7.290	79.51
32	0	1	37	2.72	129.37	0	0	7.398	129.37
33	0	1	24	2.8	34.13	0	0	7.840	34.13
34	0	1	26	2.8	215.07	0	0	7.840	215.07
35	0	1	25	2.88	98.46	0	0	8.294	98.46
36	0	1	24	3	222.54	0	0	9.000	222.54
37	0	1	26	3	310.94	1	0	9.000	310.94
38	1	1	33	3	169.89	0	0	9.000	169.89
39	2	1	25	3	95.8	0	0	9.000	95.80
40	0	1	36	3.05	258.55	0	0	9.303	258.55
41	0	1	25	3.07	642.47	0	0	9.425	642.47
42	0	1	33	3.18	810.39	0	0	10.112	810.39
43	0	1	28	3.2	52.58	0	0	10.240	52.58
44	0	1	41	3.2	335.43	1	0	10.240	335.43
45	1	1	29	3.2	417.83	0	0	10.240	417.83
46	0	1	33	3.25	56.15	0	0	10.563	56.15
47	0	1	27	3.5	344.47	0	0	12.250	344.47

Descriptive Statistics using Proc Univariate

Obs	MDR	Acc	Age	Income	AvgExp	OwnRent	SelfEmpl	incomesq	y
48	0	1	43	3.54	541.3	1	0	12.532	541.30
49	1	1	25	3.6	234.05	0	0	12.960	234.05
50	0	1	24	3.75	292.66	0	0	14.063	292.66
51	0	1	37	3.8	777.82	1	0	14.440	777.82
52	0	1	42	3.9	104.54	0	0	15.210	104.54
53	0	1	31	3.95	256.66	1	0	15.603	256.66
54	0	1	28	3.96	40.83	0	0	15.682	40.83
55	0	1	40	4	248.72	1	0	16.000	248.72
56	1	1	36	4	170.64	0	0	16.000	170.64
57	0	1	34	4.5	15	1	0	20.250	15.00
58	0	1	30	4.51	502.2	0	0	20.340	502.20
59	0	1	38	4.52	124.98	1	0	20.430	124.98
60	0	1	28	4.6	405.35	1	0	21.160	405.35
61	0	1	34	4.8	1898.03	0	0	23.040	1898.03
62	0	1	26	5	451.2	1	0	25.000	451.20
63	0	1	43	5.14	37.58	1	0	26.420	37.58
64	0	1	40	5.5	1532.77	1	0	30.250	1532.77
65	0	1	46	5.5	251.52	1	0	30.250	251.52
66	0	1	37	5.7	568.77	1	0	32.490	568.77
67	0	1	41	6	306.03	0	1	36.000	306.03
68	1	1	33	6	474.15	1	0	36.000	474.15
69	0	1	28	7	644.83	1	0	49.000	644.83
70	0	1	41	7.24	235.57	1	0	52.418	235.57
71	0	1	32	9.79	546.5	1	0	95.844	546.50
72	0	1	40	10	548.03	1	1	100.000	548.03

Descriptive Statistics using Proc Univariate

Obs	id	_MODEL_	_TYPE_	_DEPVAR_	_RMSE_	Intercept	Age	OwnRent	Income	incomesq	AvgExp
1	1	MODEL1	PARMS	AvgExp	102.587	153.130	-4.13740	108.872	16.886	3.6934	-1
2	2	MODEL1	PARMS	AvgExp	397.335	-259.108	-1.94040	-52.828	250.135	-16.1141	-1

Descriptive Statistics using Proc Univariate

Obs	id	_MODEL_	_TYPE_	_DEPVAR_	_RMSE_	Intercept	Age	OwnRent	Income	incomesq	AvgExp
1	1	MODEL1	PARMS	AvgExp	265.596	-224.351	-2.13573	119.415	189.893	-11.3830	-1
2	2	MODEL1	PARMS	AvgExp	311.996	-487.879	-4.24401	-95.237	402.141	-33.0446	-1

Descriptive Statistics using Proc Univariate

	LM
The Breusch Pagan Test Statistic Value is	306.52946

	pval
The p value associated with this is	0

The null hypothesis of homoscedasticity is rejected