

## The SAS System

### The LIFEREG Procedure

Model Information	
Data Set	WORK.SHORT
Dependent Variable	Log(Duration)
Censoring Variable	Event_kind
Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	8
Name of Distribution	Weibull
Log Likelihood	-87.90626049

Number of Observations Read	121
Number of Observations Used	121

Fit Statistics	
-2 Log Likelihood	175.813
AIC (smaller is better)	191.813
AICC (smaller is better)	193.098
BIC (smaller is better)	214.179

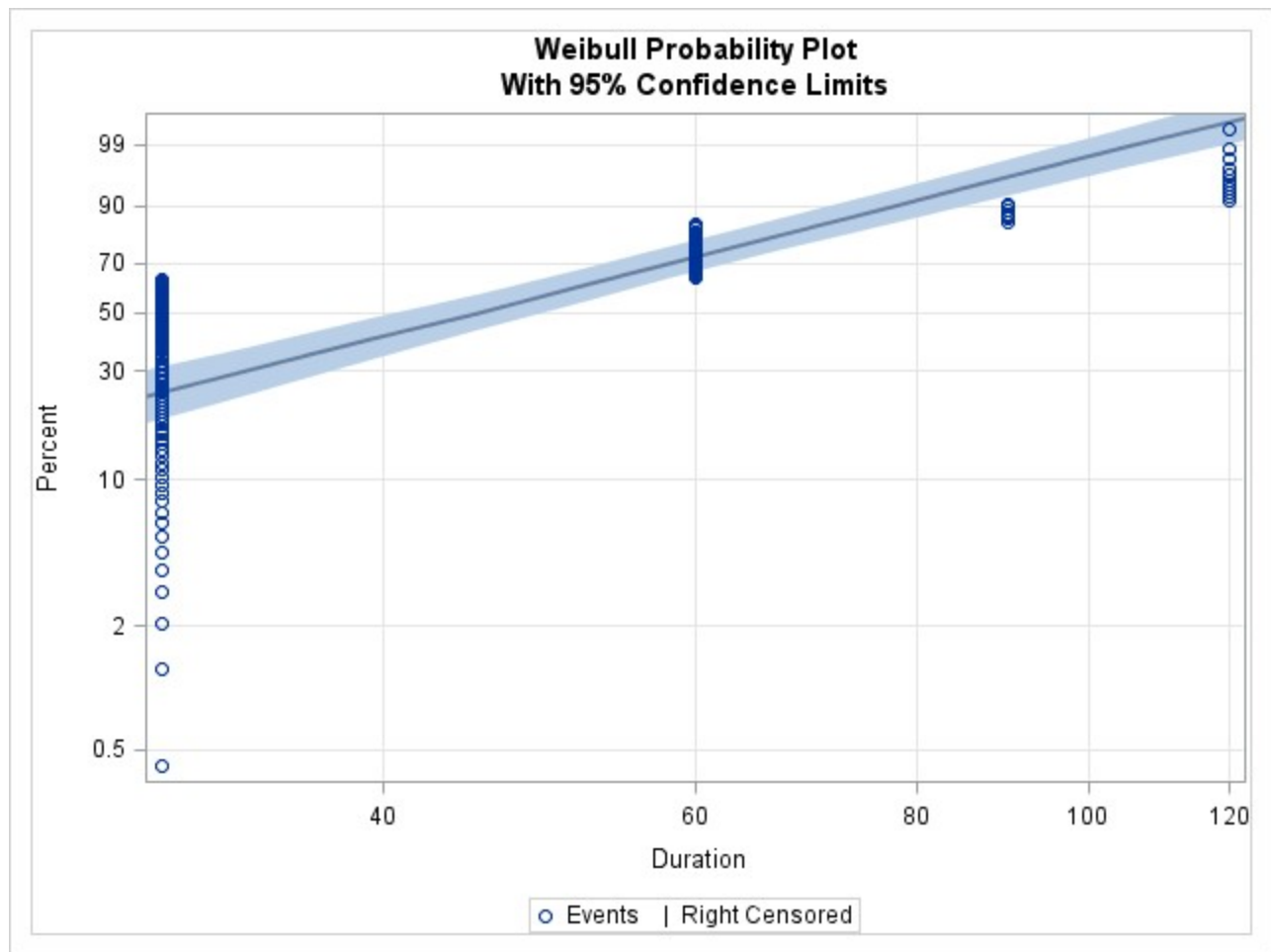
Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1080.825
Weibull AIC (smaller is better)	1096.825
Weibull AICC (smaller is better)	1098.111
Weibull BIC (smaller is better)	1119.191

Algorithm converged.

Type III Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq

<b>LaborForce</b>	1	3.8916	0.0485
<b>Employment</b>	1	7.7411	0.0054
<b>CPI_U</b>	1	3.7750	0.0520
<b>Ave_Temperature</b>	1	4.0926	0.0431
<b>Ave_Heating_Degree_D</b>	1	2.8852	0.0894
<b>Ave_Cooling_Degree_D</b>	1	6.7896	0.0092

<b>Analysis of Maximum Likelihood Parameter Estimates</b>							
<b>Parameter</b>	<b>DF</b>	<b>Estimate</b>	<b>Standard Error</b>	<b>95% Confidence Limits</b>		<b>Chi-Square</b>	<b>Pr &gt; ChiSq</b>
<b>Intercept</b>	1	-1.4456	6.4230	-14.0344	11.1432	0.05	0.8219
<b>LaborForce</b>	1	-0.0000	0.0000	-0.0000	-0.0000	3.89	0.0485
<b>Employment</b>	1	0.0000	0.0000	0.0000	0.0000	7.74	0.0054
<b>CPI_U</b>	1	-0.0173	0.0089	-0.0347	0.0002	3.77	0.0520
<b>Ave_Temperature</b>	1	0.1987	0.0982	0.0062	0.3912	4.09	0.0431
<b>Ave_Heating_Degree_D</b>	1	0.1701	0.1001	-0.0262	0.3664	2.89	0.0894
<b>Ave_Cooling_Degree_D</b>	1	-0.2735	0.1050	-0.4792	-0.0678	6.79	0.0092
<b>Scale</b>	1	0.4496	0.0309	0.3930	0.5143		
<b>Weibull Shape</b>	1	2.2241	0.1526	1.9442	2.5443		



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Data Set	WORK.SHORT
Dependent Variable	Duration
Censoring Variable	Event_kind
Censoring Value(s)	0
Ties Handling	EFRON

Number of Observations Read	121
Number of Observations Used	121

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
121	121	0	0.00

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	925.216	907.681
AIC	925.216	919.681
SBC	925.216	936.456

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	17.5356	6	0.0075
Score	18.4523	6	0.0052
Wald	17.9480	6	0.0064

Analysis of Maximum Likelihood Estimates						
Parameter	DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
LaborForce	1	3.79671E-6	2.86127E-6	1.7607	0.1845	1.000

<b>Employment</b>	1	-3.1395E-6	1.641E-6	3.6602	0.0557	1.000
<b>CPI_U</b>	1	0.02796	0.01973	2.0089	0.1564	1.028
<b>Ave_Temperature</b>	1	-0.31358	0.21912	2.0480	0.1524	0.731
<b>Ave_Heating_Degree_D</b>	1	-0.27331	0.22364	1.4935	0.2217	0.761
<b>Ave_Cooling_Degree_D</b>	1	0.42743	0.23451	3.3220	0.0684	1.533

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Model Information	
Data Set	WORK.SHORT
Dependent Variable	Duration
Censoring Variable	Event_kind
Censoring Value(s)	2 3
Ties Handling	EFRON

Number of Observations Read	121
Number of Observations Used	121

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
121	41	80	66.12

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	346.218	343.458
AIC	346.218	355.458
SBC	346.218	365.739

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2.7603	6	0.8383
Score	2.8206	6	0.8310
Wald	2.7867	6	0.8351

Analysis of Maximum Likelihood Estimates						
Parameter	DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
LaborForce	1	1.81953E-6	4.71355E-6	0.1490	0.6995	1.000

<b>Employment</b>	1	-1.7323E-6	2.69145E-6	0.4142	0.5198	1.000
<b>CPI_U</b>	1	0.01541	0.03274	0.2215	0.6379	1.016
<b>Ave_Temperature</b>	1	-0.18960	0.38885	0.2377	0.6258	0.827
<b>Ave_Heating_Degree_D</b>	1	-0.15138	0.39859	0.1442	0.7041	0.860
<b>Ave_Cooling_Degree_D</b>	1	0.25569	0.41139	0.3863	0.5343	1.291

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Model Information	
Data Set	WORK.SHORT
Dependent Variable	Duration
Censoring Variable	Event_kind
Censoring Value(s)	1 3
Ties Handling	EFRON

Number of Observations Read	121
Number of Observations Used	121

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
121	42	79	65.29

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	346.202	342.800
AIC	346.202	354.800
SBC	346.202	365.226

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	3.4019	6	0.7570
Score	3.4960	6	0.7445
Wald	3.4524	6	0.7503

Analysis of Maximum Likelihood Estimates						
Parameter	DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
LaborForce	1	1.22815E-6	4.7524E-6	0.0668	0.7961	1.000



<b>Employment</b>	1	-1.5707E-6	2.77961E-6	0.3193	0.5720	1.000
<b>CPI_U</b>	1	0.01875	0.03436	0.2976	0.5854	1.019
<b>Ave_Temperature</b>	1	-0.23299	0.37542	0.3852	0.5348	0.792
<b>Ave_Heating_Degree_D</b>	1	-0.19413	0.38309	0.2568	0.6123	0.824
<b>Ave_Cooling_Degree_D</b>	1	0.31533	0.40119	0.6178	0.4319	1.371

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Censoring Value(s)	1 2
Ties Handling	EFRON

Number of Observations Read	121
Number of Observations Used	121

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
121	38	83	68.60

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	308.705	302.660
AIC	308.705	314.660
SBC	308.705	324.486

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	6.0450	6	0.4182
Score	6.4999	6	0.3696
Wald	6.2651	6	0.3942

Analysis of Maximum Likelihood Estimates						
Parameter	DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
LaborForce	1	4.2867E-6	5.32926E-6	0.6470	0.4212	1.000

<b>Employment</b>	1	-2.6061E-6	2.95051E-6	0.7802	0.3771	1.000
<b>CPI_U</b>	1	0.01910	0.03463	0.3043	0.5812	1.019
<b>Ave_Temperaturate</b>	1	-0.11832	0.36600	0.1045	0.7465	0.888
<b>Ave_Heating_Degree_D</b>	1	-0.11862	0.37729	0.0988	0.7532	0.888
<b>Ave_Cooling_Degree_D</b>	1	0.18921	0.38867	0.2370	0.6264	1.208