## The MCMC Procedure

| | |
|---|---|
| **Number of Observations Read** | 97 |
| **Number of Observations Used** | 97 |

| Parameters | | | | |
|---|---|---|---|---|
| **Block** | **Parameter** | **Sampling Method** | **Initial Value** | **Prior Distribution** |
| **1** | **beta0** | N-Metropolis | 0 | normal(mean = 0, var = 1000) |
| | **beta1** | | 0 | normal(mean = 0, var = 1000) |
| **2** | **sigma2** | Conjugate | 1.0000 | igamma(shape = 2.001,scale = 1.001) |

## The MCMC Procedure

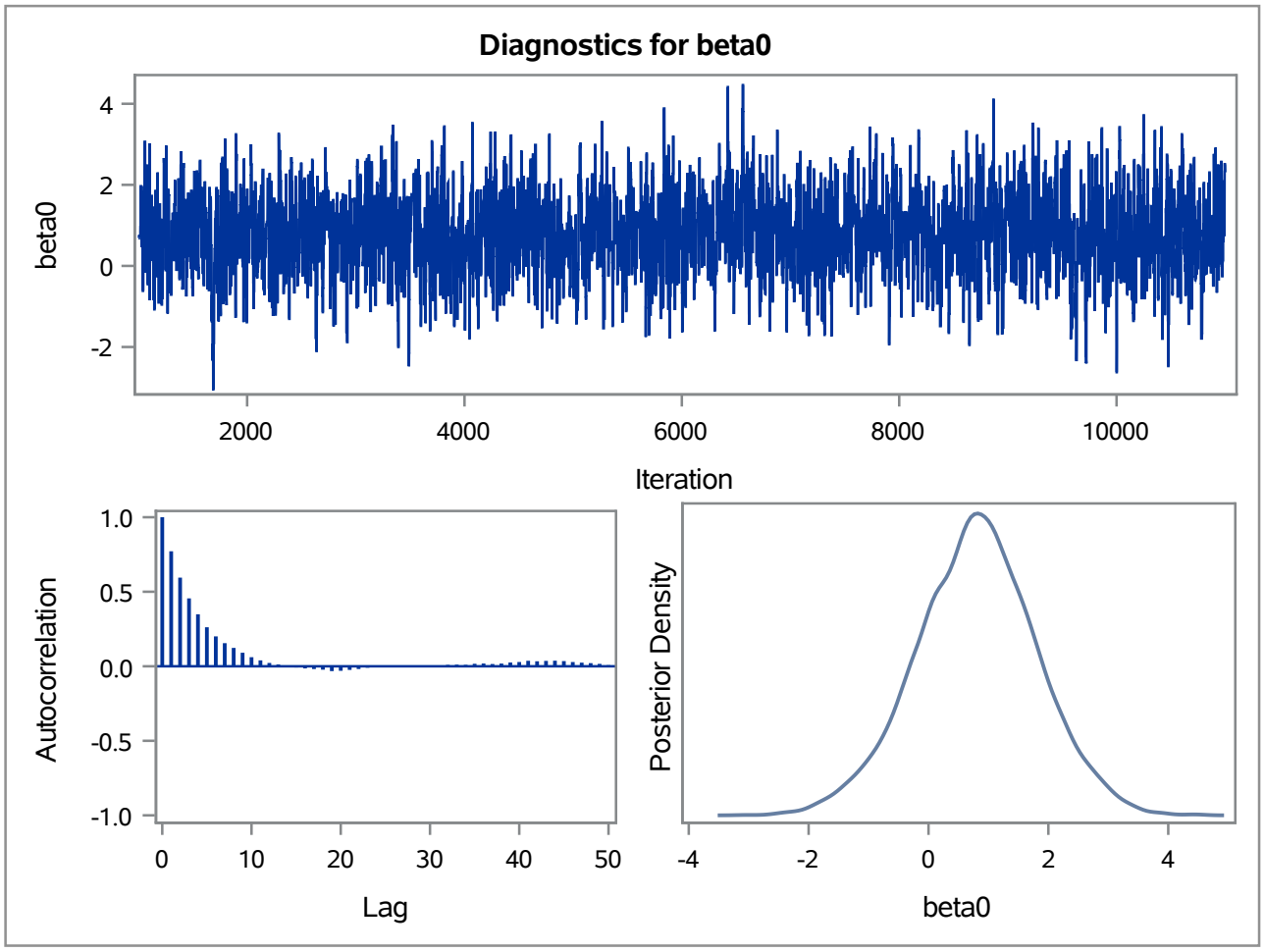
| Posterior Summaries and Intervals | | | | | |
|---|---|---|---|---|---|
| Parameter | N | Mean | Standard Deviation | 95% HPD Interval | |
| **beta0** | 10000 | 0.7964 | 1.0007 | -1.2357 | 2.7551 |
| **beta1** | 10000 | 0.0263 | 0.0156 | -0.00488 | 0.0571 |
| **sigma2** | 10000 | 1.3005 | 0.1893 | 0.9420 | 1.6696 |

## The MCMC Procedure

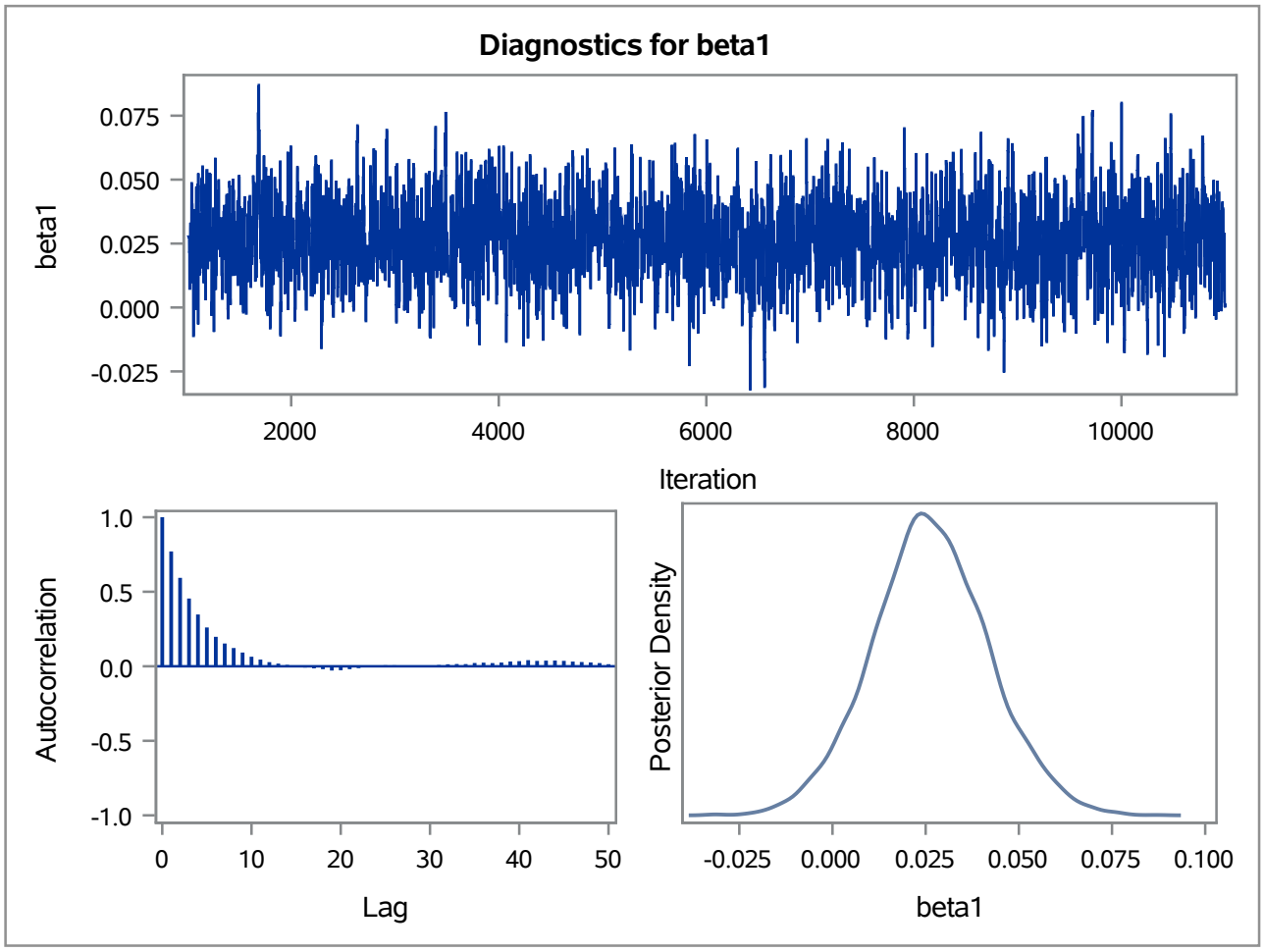
| Effective Sample Sizes | | | |
|---|---|---|---|
| Parameter | ESS | Autocorrelation Time | Efficiency |
| **beta0** | 1374.8 | 7.2737 | 0.1375 |
| **beta1** | 1371.4 | 7.2917 | 0.1371 |
| **sigma2** | 9701.8 | 1.0307 | 0.9702 |

| Deviance Information Criterion | |
|---|---|
| Dbar (posterior mean of deviance) | 302.123 |
| Dmean (deviance evaluated at posterior mean) | 299.170 |
| pD (effective number of parameters) | 2.952 |
| DIC (smaller is better) | 305.075 |

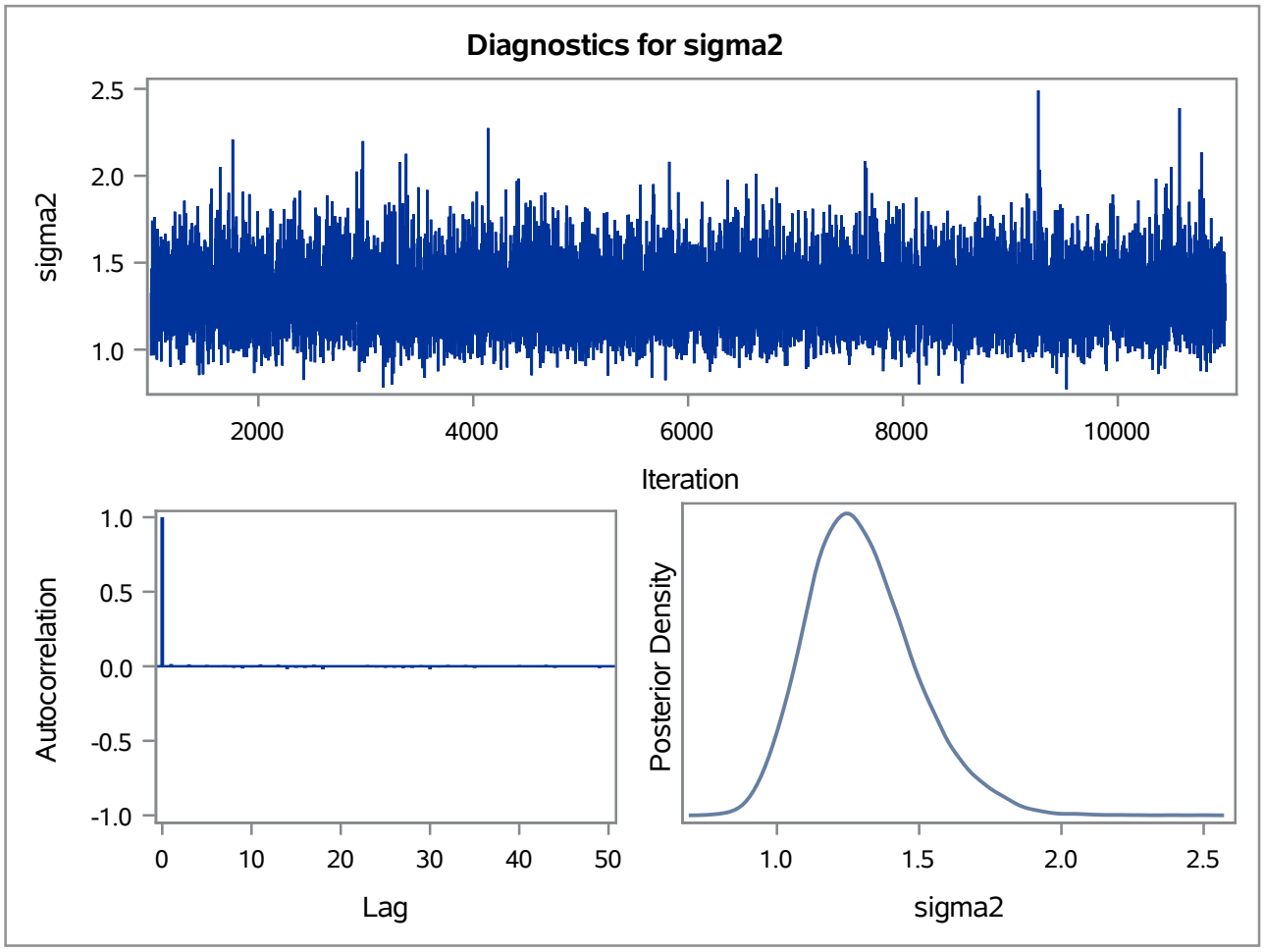
The MCMC Procedure



The MCMC Procedure



The MCMC Procedure



## The MCMC Procedure

| | |
|---|---|
| **Number of Observations Read** | 97 |
| **Number of Observations Used** | 97 |

| Parameters | | | | |
|---|---|---|---|---|
| **Block** | **Parameter** | **Sampling Method** | **Initial Value** | **Prior Distribution** |
| **1** | **beta0** | N-Metropolis | 0 | normal(mean = 0, var = 1000) |
| | **beta1** | | 0 | normal(mean = 0, var = 1000) |
| | **beta2** | | 0 | normal(mean = 0, var = 1000) |
| **2** | **sigma2** | Conjugate | 1.0000 | igamma(shape = 2.001,scale = 1.001) |

## The MCMC Procedure

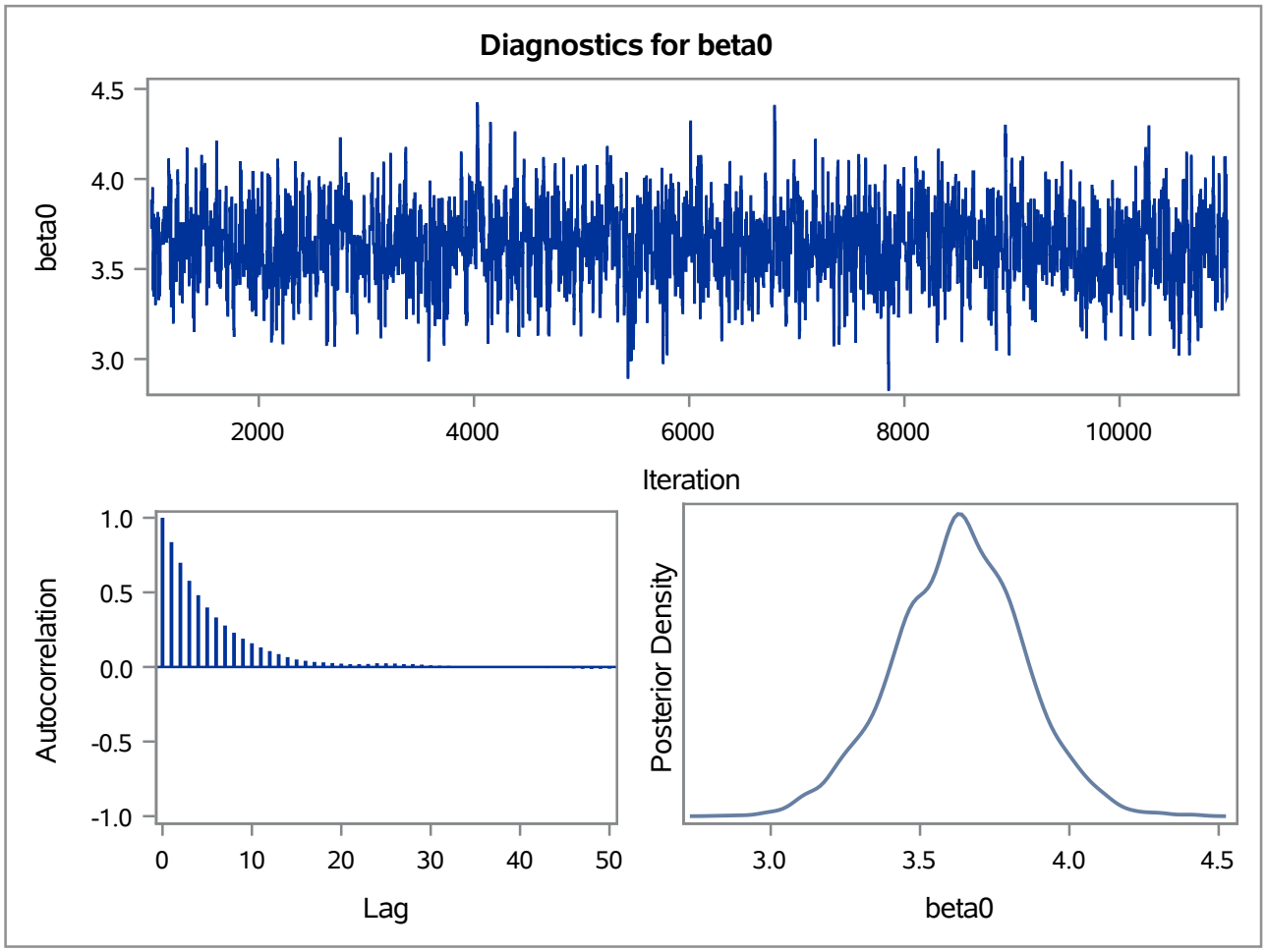
| Posterior Summaries and Intervals | | | | | |
|---|---|---|---|---|---|
| Parameter | N | Mean | Standard Deviation | 95% HPD Interval | |
| **beta0** | 10000 | 3.6296 | 0.2142 | 3.2055 | 4.0474 |
| **beta1** | 10000 | -1.7577 | 0.2757 | -2.3108 | -1.2088 |
| **beta2** | 10000 | -1.2432 | 0.2623 | -1.7319 | -0.7329 |
| **sigma2** | 10000 | 0.9323 | 0.1371 | 0.6876 | 1.2099 |

## The MCMC Procedure

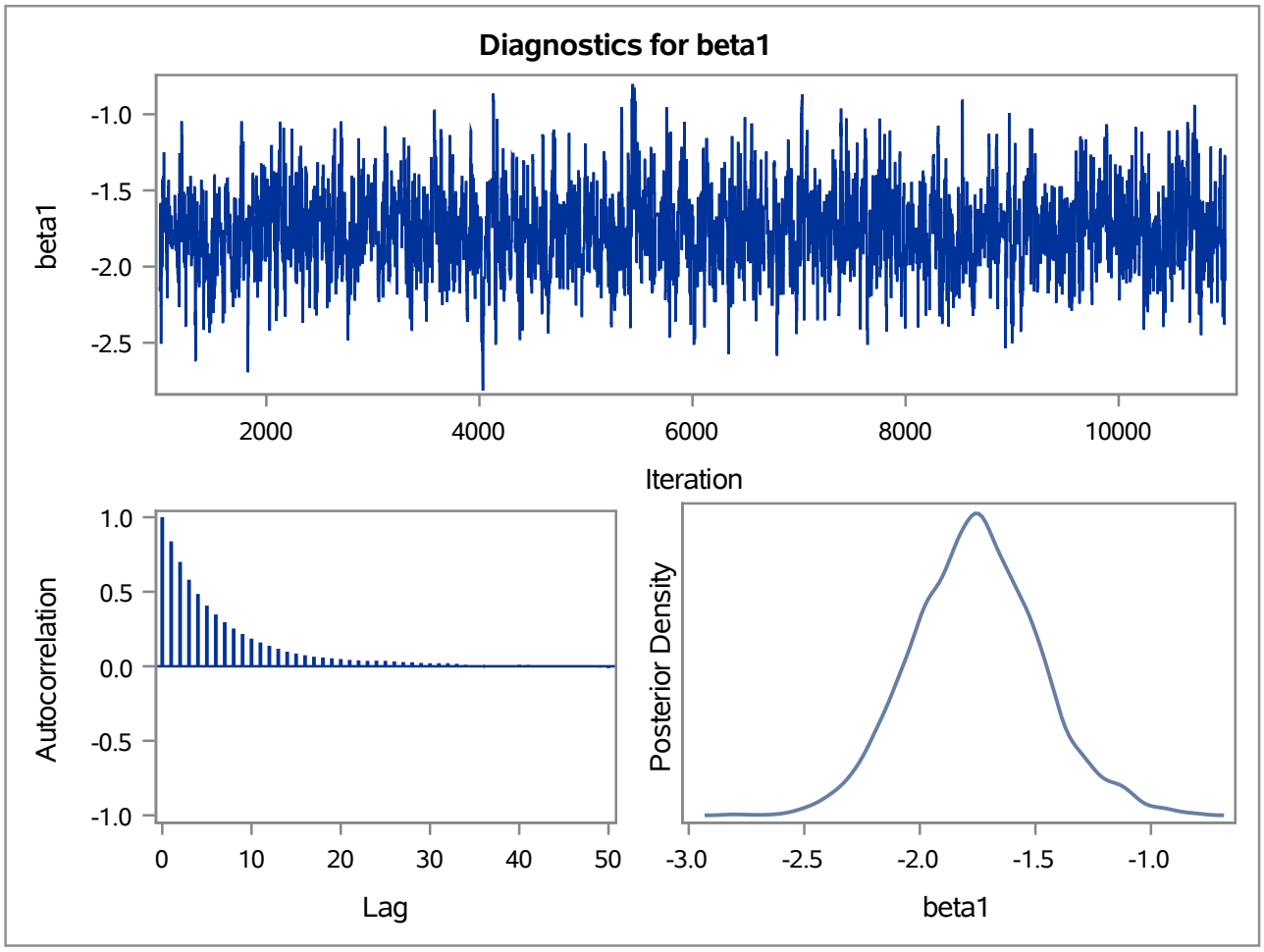
| Effective Sample Sizes | | | |
|---|---|---|---|
| Parameter | ESS | Autocorrelation Time | Efficiency |
| **beta0** | 913.7 | 10.9445 | 0.0914 |
| **beta1** | 821.1 | 12.1787 | 0.0821 |
| **beta2** | 817.4 | 12.2333 | 0.0817 |
| **sigma2** | 7675.3 | 1.3029 | 0.7675 |

| Deviance Information Criterion | |
|---|---|
| Dbar (posterior mean of deviance) | 269.379 |
| Dmean (deviance evaluated at posterior mean) | 265.427 |
| pD (effective number of parameters) | 3.951 |
| DIC (smaller is better) | 273.330 |

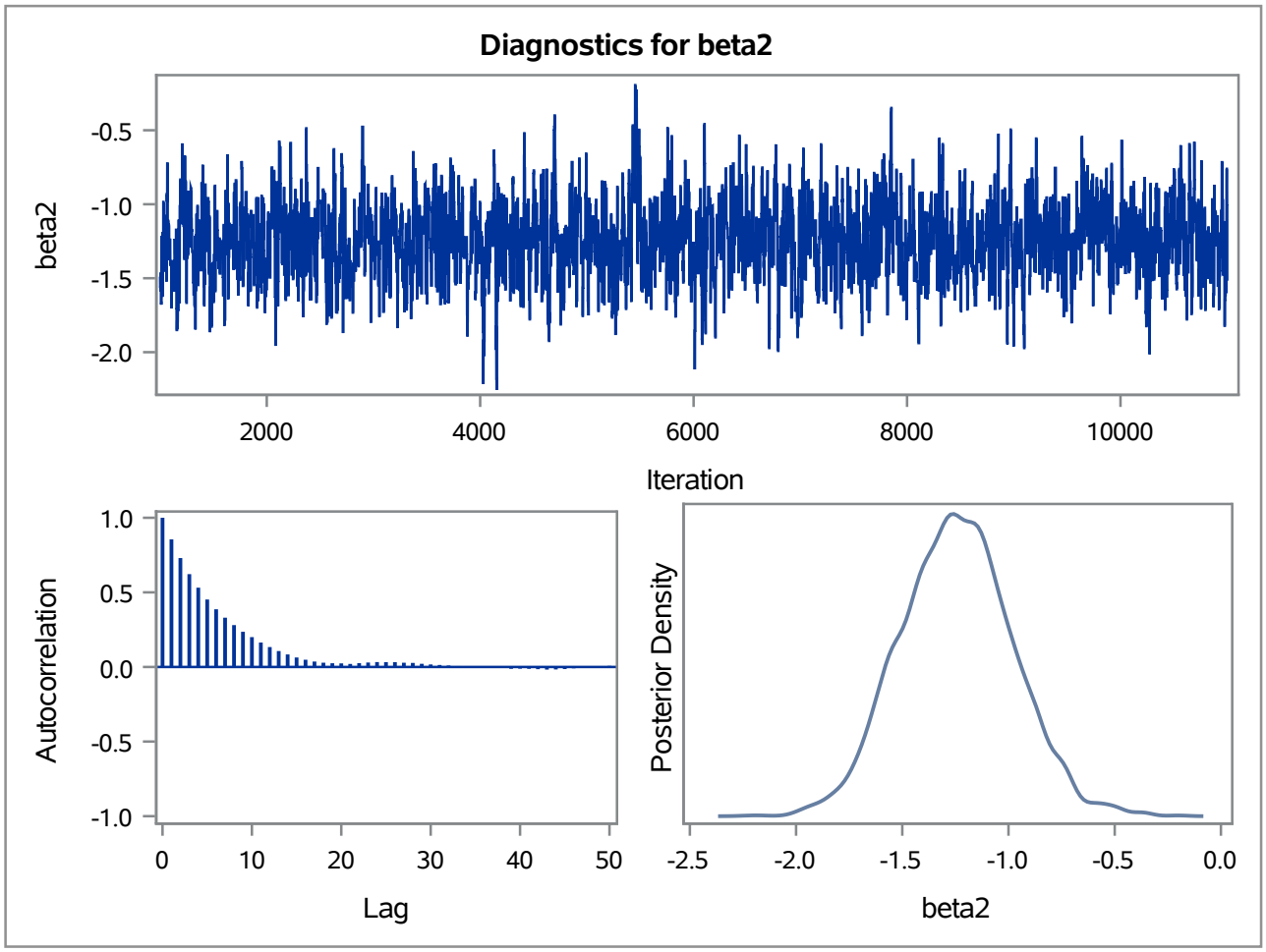
The MCMC Procedure



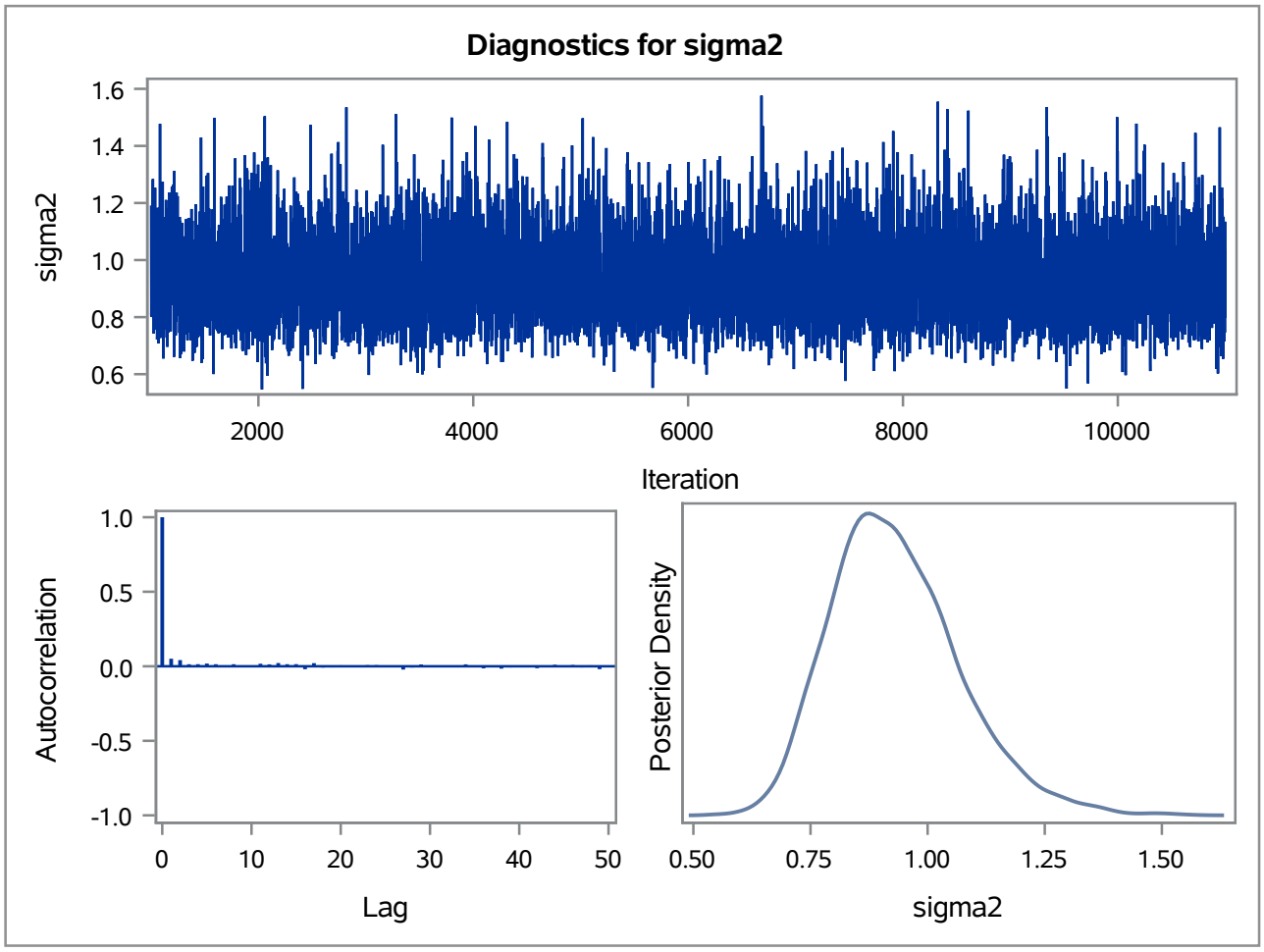
The MCMC Procedure



The MCMC Procedure



The MCMC Procedure



## The MCMC Procedure

| | |
|---|---|
| **Number of Observations Read** | 97 |
| **Number of Observations Used** | 97 |

| Parameters | | | | |
|---|---|---|---|---|
| **Block** | **Parameter** | **Sampling Method** | **Initial Value** | **Prior Distribution** |
| **1** | **beta0** | N-Metropolis | 0 | normal(mean = 0, var = 1000) |
| | **beta1** | | 0 | normal(mean = 0, var = 1000) |
| **2** | **sigma2** | Conjugate | 1.0000 | igamma(shape = 2.001,scale = 1.001) |

## The MCMC Procedure

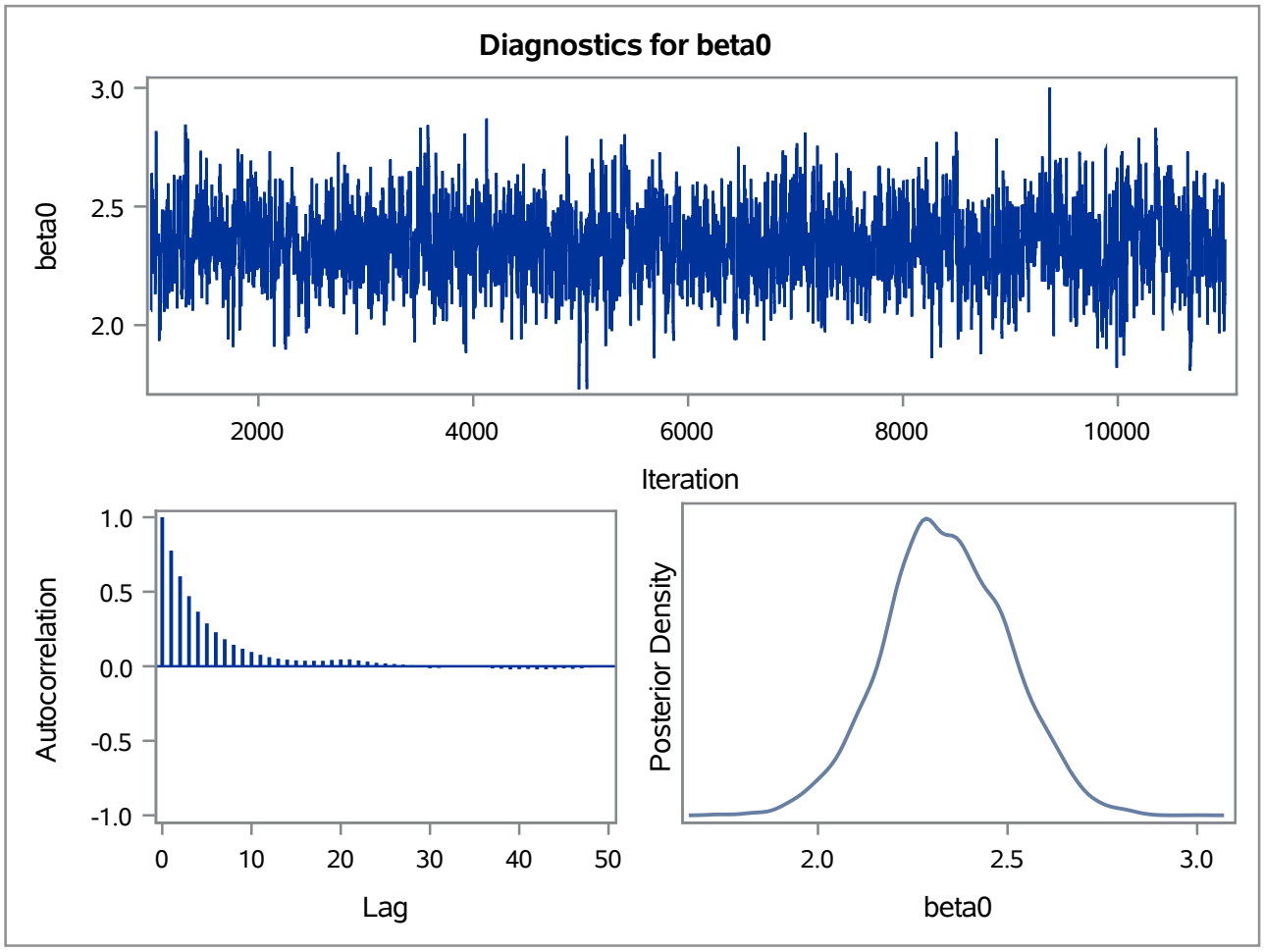
| Posterior Summaries and Intervals | | | | | |
|---|---|---|---|---|---|
| Parameter | N | Mean | Standard Deviation | 95% HPD Interval | |
| **beta0** | 10000 | 2.3385 | 0.1626 | 2.0392 | 2.6760 |
| **beta1** | 10000 | 0.00316 | 0.00258 | -0.00193 | 0.00808 |
| **sigma2** | 10000 | 1.3183 | 0.1911 | 0.9465 | 1.6720 |

## The MCMC Procedure

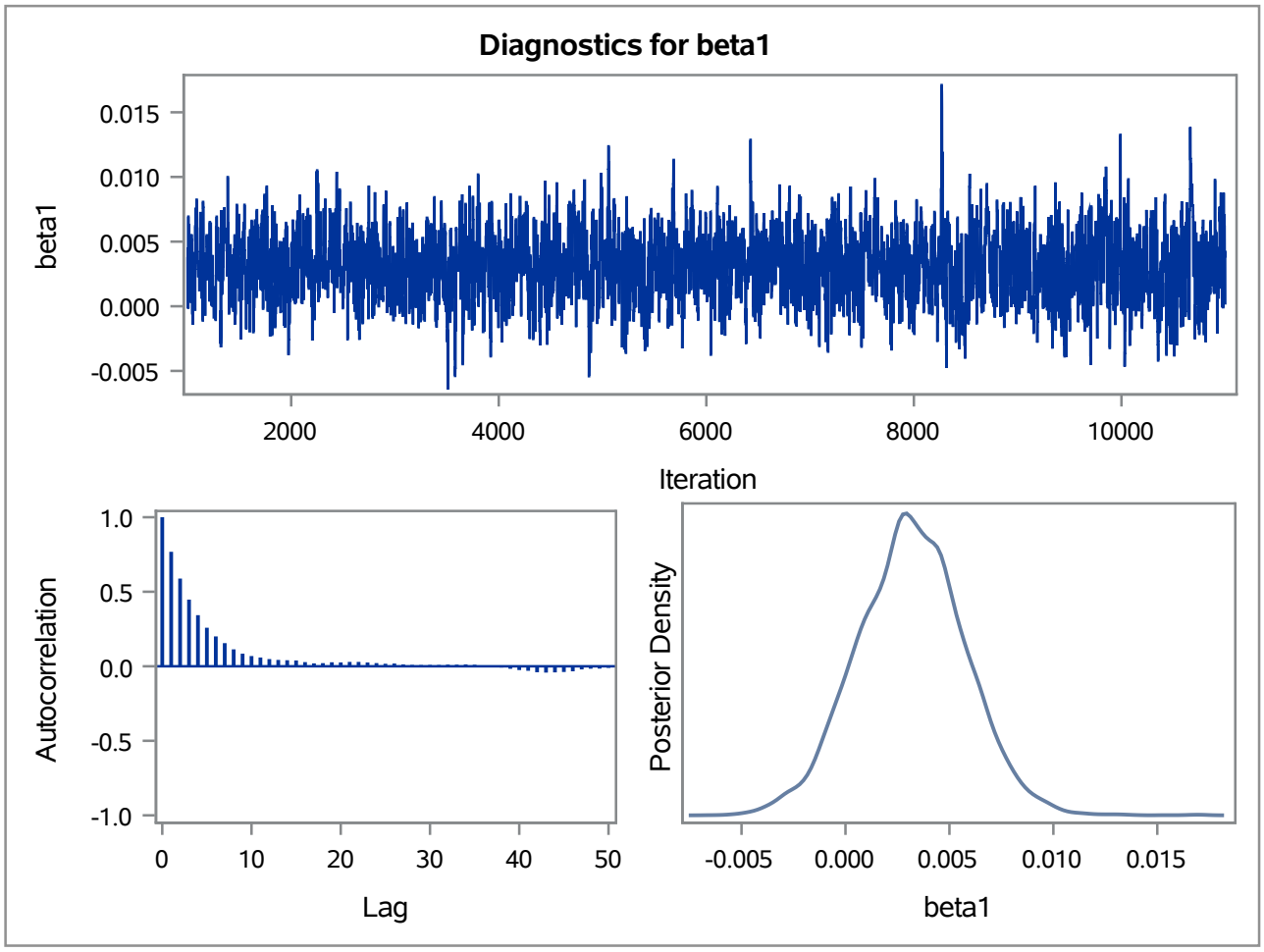
| Effective Sample Sizes | | | |
|---|---|---|---|
| Parameter | ESS | Autocorrelation Time | Efficiency |
| **beta0** | 1128.0 | 8.8655 | 0.1128 |
| **beta1** | 1240.6 | 8.0604 | 0.1241 |
| **sigma2** | 8447.1 | 1.1838 | 0.8447 |

| Deviance Information Criterion | |
|---|---|
| Dbar (posterior mean of deviance) | 303.511 |
| Dmean (deviance evaluated at posterior mean) | 300.565 |
| pD (effective number of parameters) | 2.947 |
| DIC (smaller is better) | 306.458 |

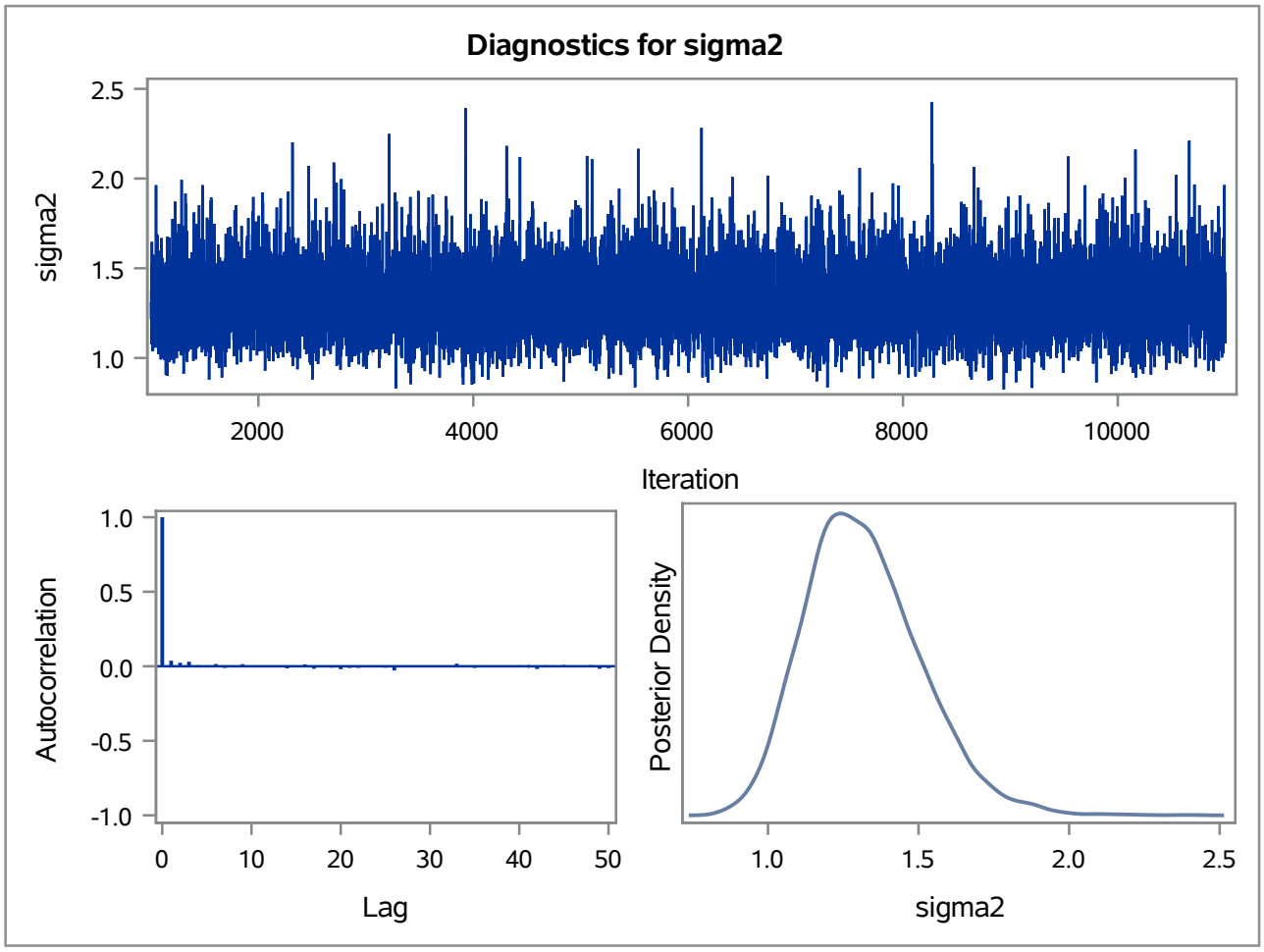
The MCMC Procedure



The MCMC Procedure



The MCMC Procedure



## The MCMC Procedure

| | |
|---|---|
| **Number of Observations Read** | 97 |
| **Number of Observations Used** | 97 |

| Parameters | | | | |
|---|---|---|---|---|
| **Block** | **Parameter** | **Sampling Method** | **Initial Value** | **Prior Distribution** |
| **1** | **beta0** | N-Metropolis | 0 | normal(mean = 0, var = 1000) |
| | **beta1** | | 0 | normal(mean = 0, var = 1000) |
| **2** | **sigma2** | Conjugate | 1.0000 | igamma(shape = 2.001,scale = 1.001) |

## The MCMC Procedure

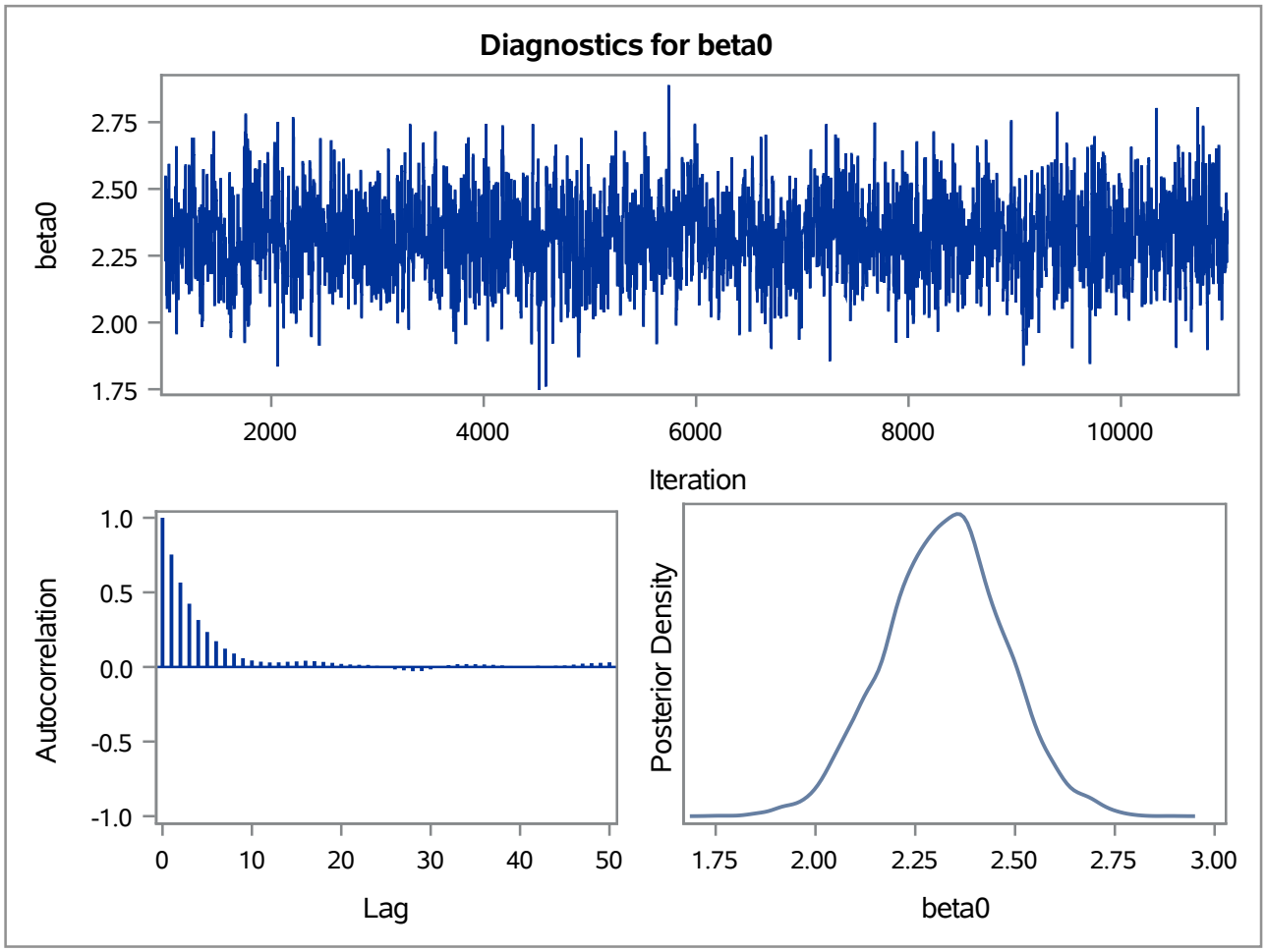
| Posterior Summaries and Intervals | | | | | |
|---|---|---|---|---|---|
| Parameter | N | Mean | Standard Deviation | 95% HPD Interval | |
| **beta0** | 10000 | 2.3236 | 0.1483 | 2.0257 | 2.6018 |
| **beta1** | 10000 | 0.0601 | 0.0370 | -0.0118 | 0.1335 |
| **sigma2** | 10000 | 1.3033 | 0.1874 | 0.9605 | 1.6785 |

## The MCMC Procedure

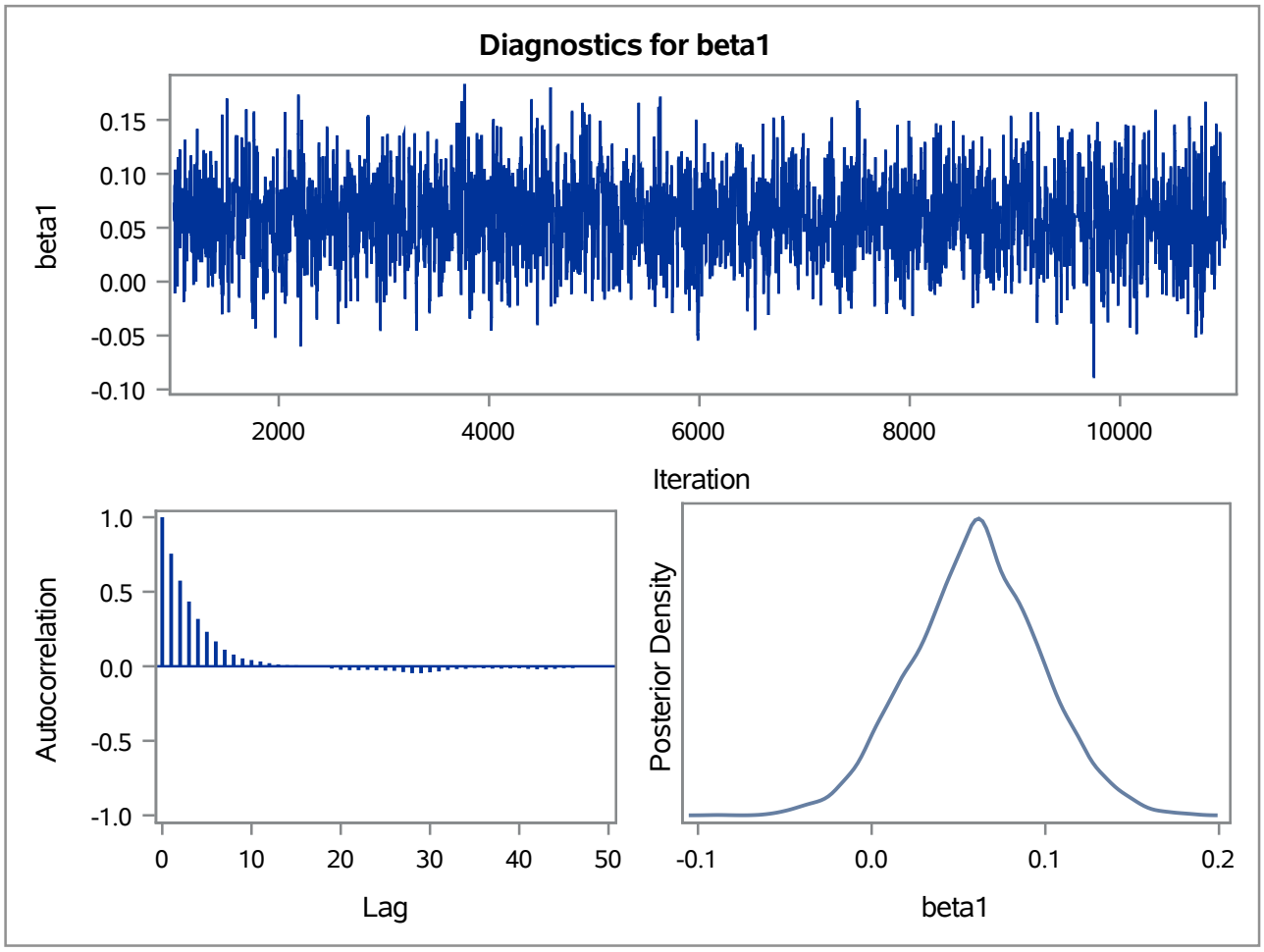
| Effective Sample Sizes | | | |
|---|---|---|---|
| Parameter | ESS | Autocorrelation Time | Efficiency |
| **beta0** | 1367.1 | 7.3149 | 0.1367 |
| **beta1** | 1501.2 | 6.6612 | 0.1501 |
| **sigma2** | 10000.0 | 1.0000 | 1.0000 |

| Deviance Information Criterion | |
|---|---|
| Dbar (posterior mean of deviance) | 302.406 |
| Dmean (deviance evaluated at posterior mean) | 299.576 |
| pD (effective number of parameters) | 2.831 |
| DIC (smaller is better) | 305.237 |

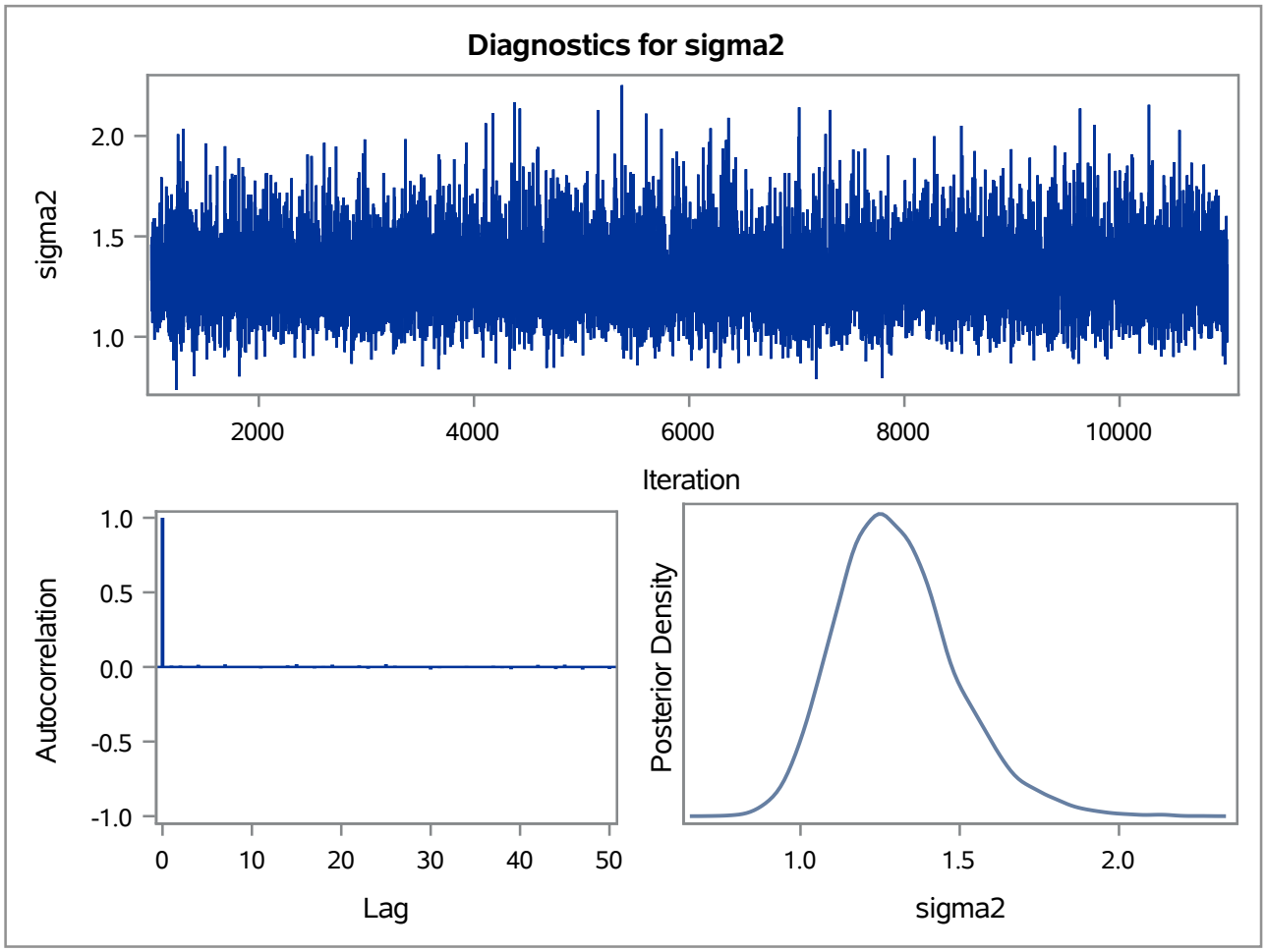
The MCMC Procedure



The MCMC Procedure



The MCMC Procedure



# Log PSA and capsular penetration

## The MCMC Procedure

| | |
|---|---|
| **Number of Observations Read** | 97 |
| **Number of Observations Used** | 97 |

| Parameters | | | | |
|---|---|---|---|---|
| **Block** | **Parameter** | **Sampling Method** | **Initial Value** | **Prior Distribution** |
| **1** | **beta0** | N-Metropolis | 0 | normal(mean = 0, var = 1000) |
| | **beta1** | | 0 | normal(mean = 0, var = 1000) |
| **2** | **sigma2** | Conjugate | 1.0000 | igamma(shape = 2.001,scale = 1.001) |

# Log PSA and capsular penetration

## The MCMC Procedure

| Posterior Summaries and Intervals | | | | | |
|---|---|---|---|---|---|
| Parameter | N | Mean | Standard Deviation | 95% HPD Interval | |
| **beta0** | 10000 | 2.1220 | 0.1210 | 1.8864 | 2.3553 |
| **beta1** | 10000 | 0.1585 | 0.0277 | 0.1038 | 0.2111 |
| **sigma2** | 10000 | 0.9843 | 0.1423 | 0.7182 | 1.2587 |

# Log PSA and capsular penetration

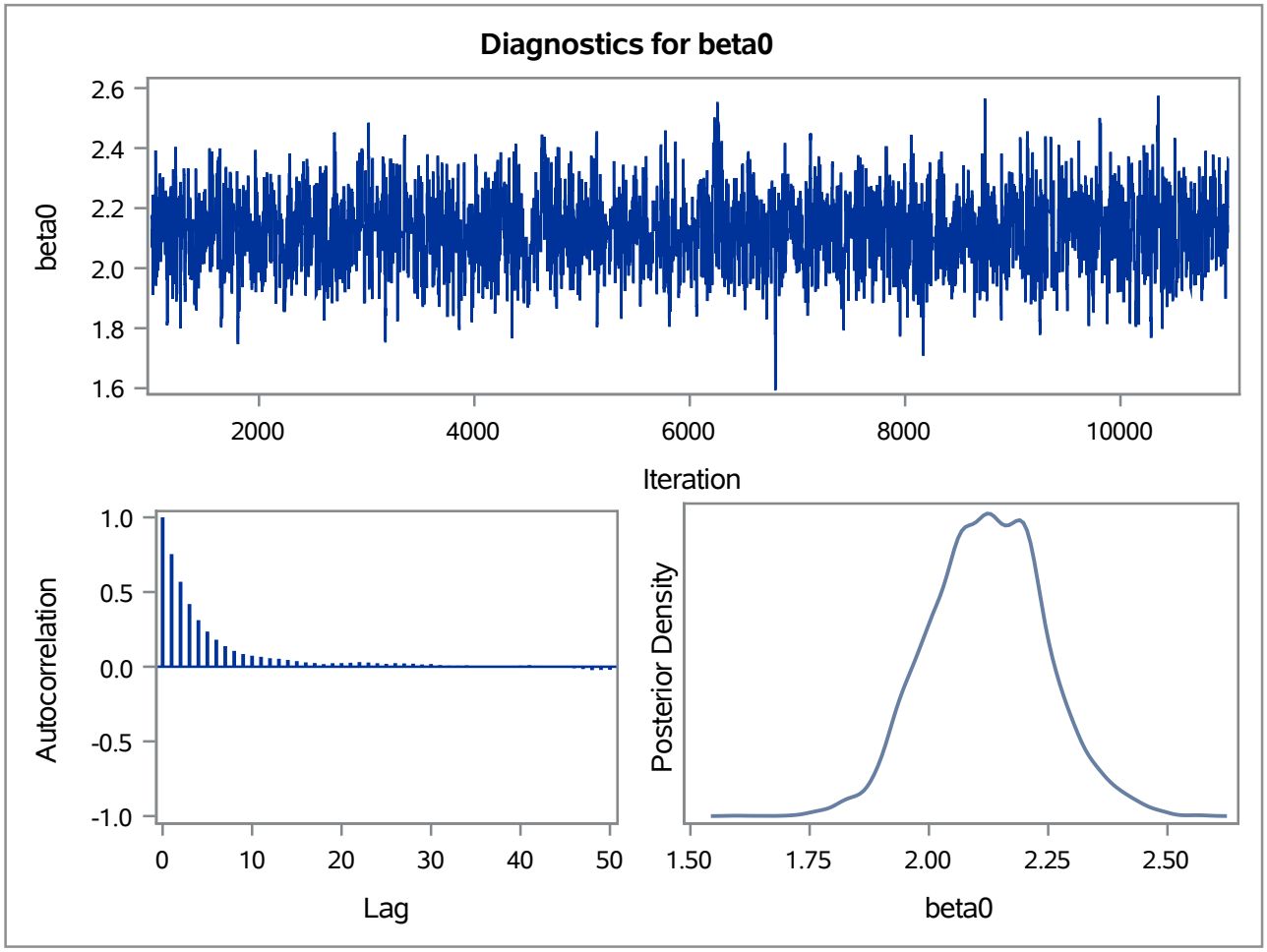
## The MCMC Procedure

| Effective Sample Sizes | | | |
|---|---|---|---|
| **Parameter** | **ESS** | **Autocorrelation Time** | **Efficiency** |
| **beta0** | 1252.6 | 7.9832 | 0.1253 |
| **beta1** | 1492.5 | 6.7001 | 0.1493 |
| **sigma2** | 9649.4 | 1.0363 | 0.9649 |

| Deviance Information Criterion | |
|---|---|
| Dbar (posterior mean of deviance) | 274.785 |
| Dmean (deviance evaluated at posterior mean) | 271.713 |
| pD (effective number of parameters) | 3.072 |
| DIC (smaller is better) | 277.857 |

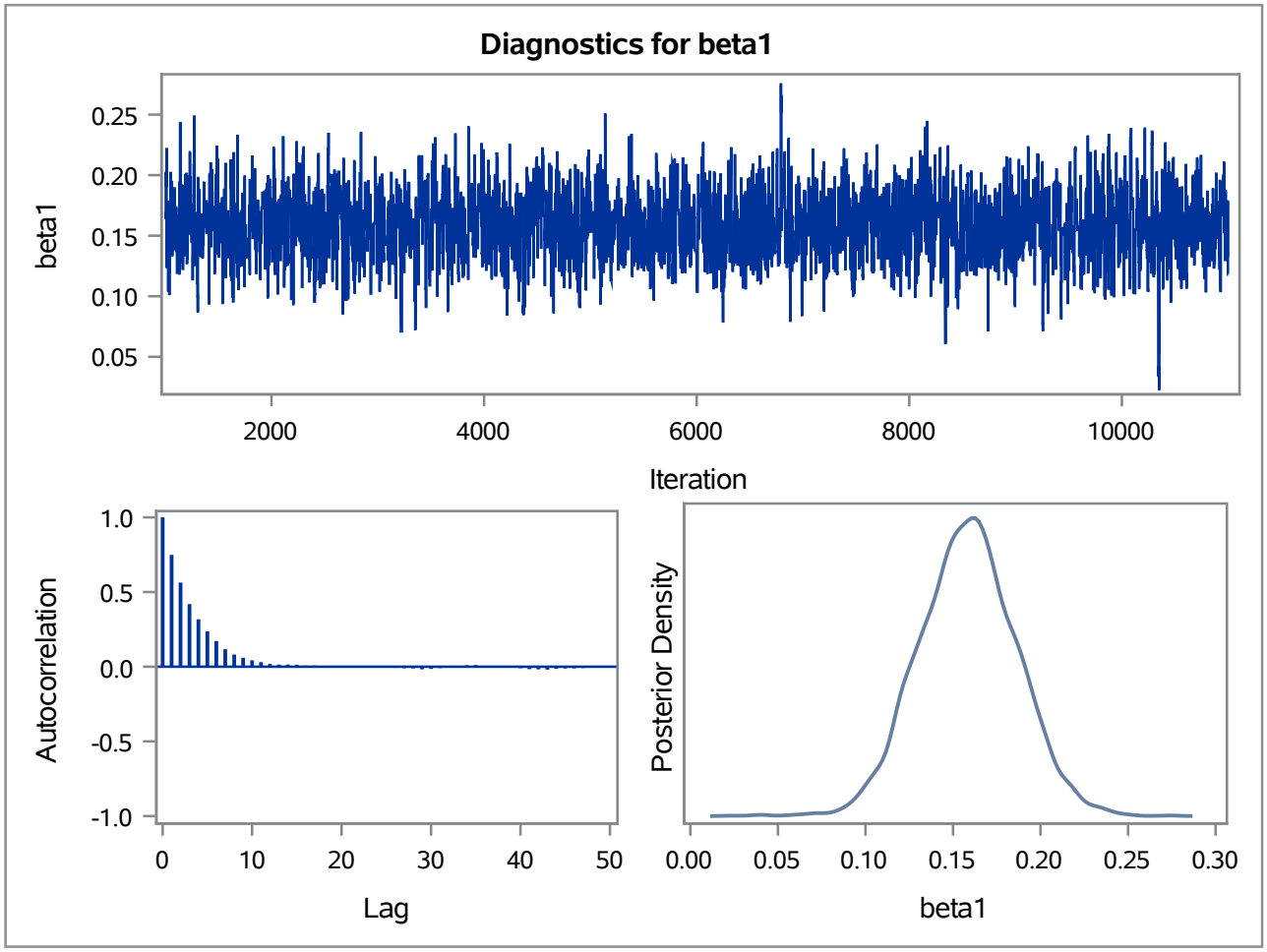
## Log PSA and capsular penetration

### The MCMC Procedure



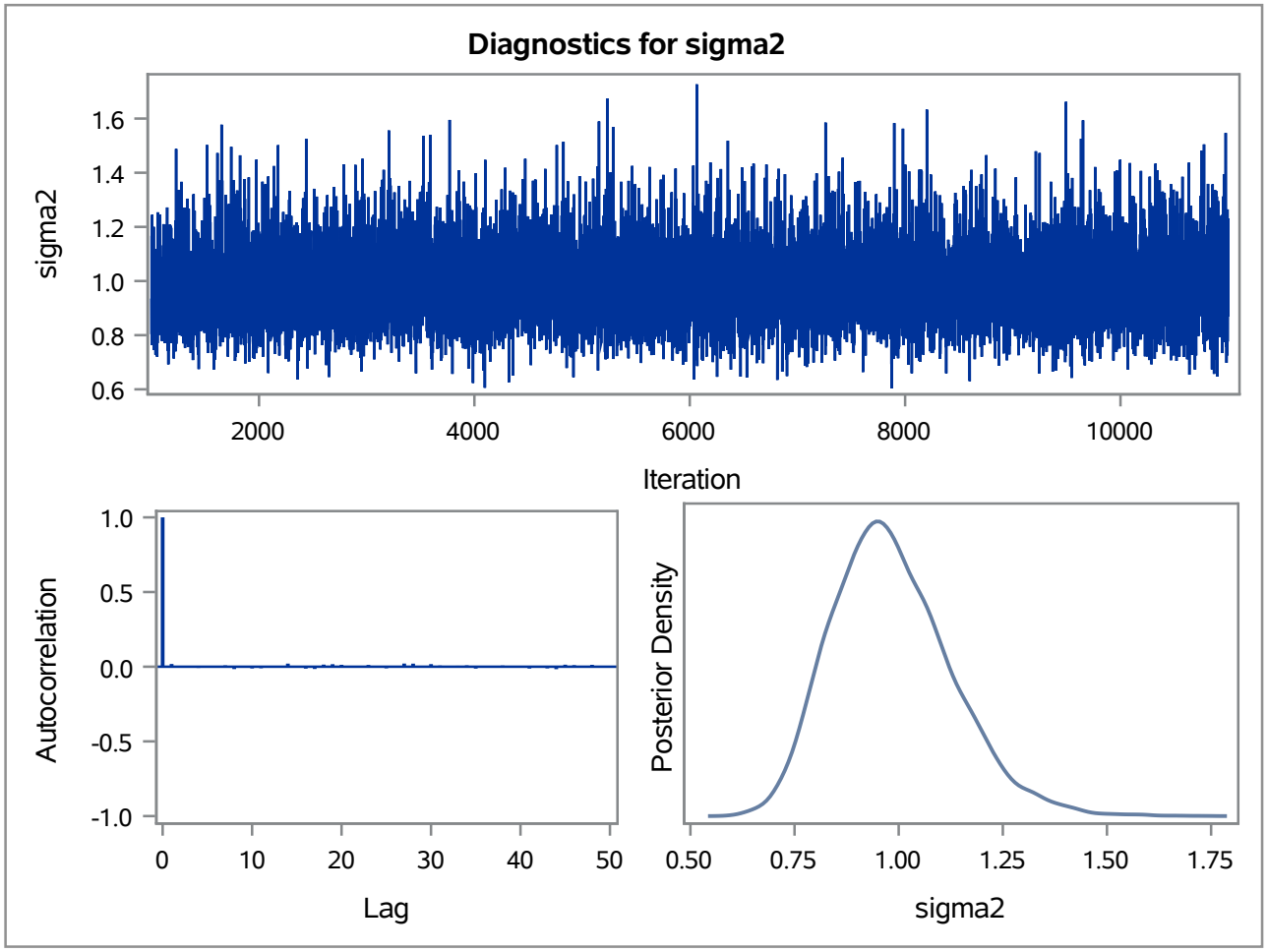
## Log PSA and capsular penetration

### The MCMC Procedure



## Log PSA and capsular penetration

### The MCMC Procedure



## Log PSA and seminal vesical invasion (yes=1)

### The MCMC Procedure

| | |
|---|---|
| **Number of Observations Read** | 97 |
| **Number of Observations Used** | 97 |

| Parameters | | | | |
|---|---|---|---|---|
| **Block** | **Parameter** | **Sampling Method** | **Initial Value** | **Prior Distribution** |
| **1** | **beta0** | N-Metropolis | 0 | normal(mean = 0, var = 1000) |
| | **beta1** | | 0 | normal(mean = 0, var = 1000) |
| **2** | **sigma2** | Conjugate | 1.0000 | igamma(shape = 2.001,scale = 1.001) |

## Log PSA and seminal vesical invasion (yes=1)

### The MCMC Procedure

| Posterior Summaries and Intervals | | | | | |
|---|---|---|---|---|---|
| Parameter | N | Mean | Standard Deviation | 95% HPD Interval | |
| **beta0** | 10000 | 2.1403 | 0.1141 | 1.9313 | 2.3685 |
| **beta1** | 10000 | 1.5805 | 0.2317 | 1.1593 | 2.0503 |
| **sigma2** | 10000 | 0.9154 | 0.1336 | 0.6662 | 1.1794 |

## Log PSA and seminal vesical invasion (yes=1)

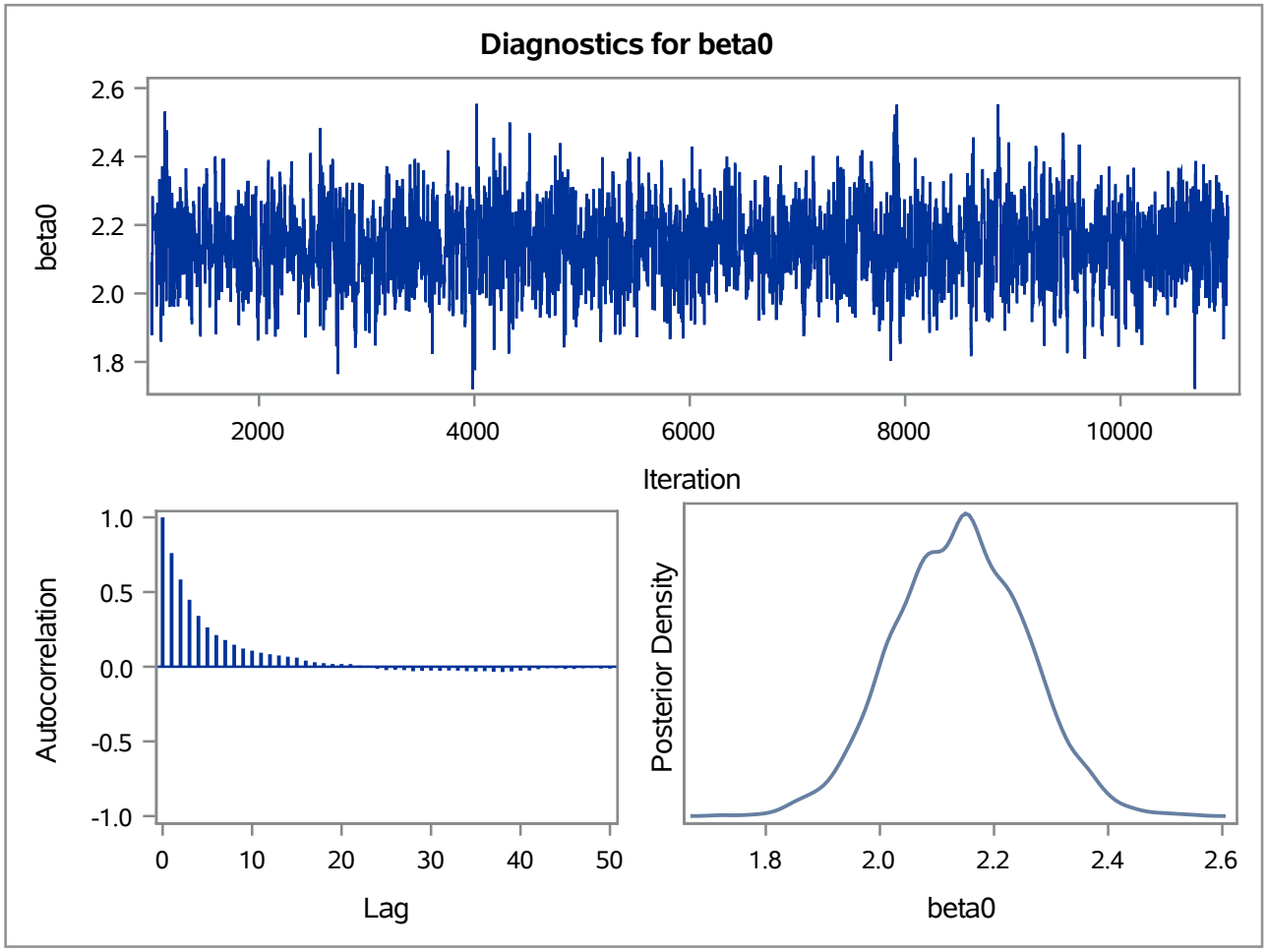
### The MCMC Procedure

| Effective Sample Sizes | | | |
|---|---|---|---|
| Parameter | ESS | Autocorrelation Time | Efficiency |
| **beta0** | 1192.1 | 8.3888 | 0.1192 |
| **beta1** | 1243.8 | 8.0401 | 0.1244 |
| **sigma2** | 9140.9 | 1.0940 | 0.9141 |

| Deviance Information Criterion | |
|---|---|
| Dbar (posterior mean of deviance) | 267.505 |
| Dmean (deviance evaluated at posterior mean) | 264.507 |
| pD (effective number of parameters) | 2.998 |
| DIC (smaller is better) | 270.503 |

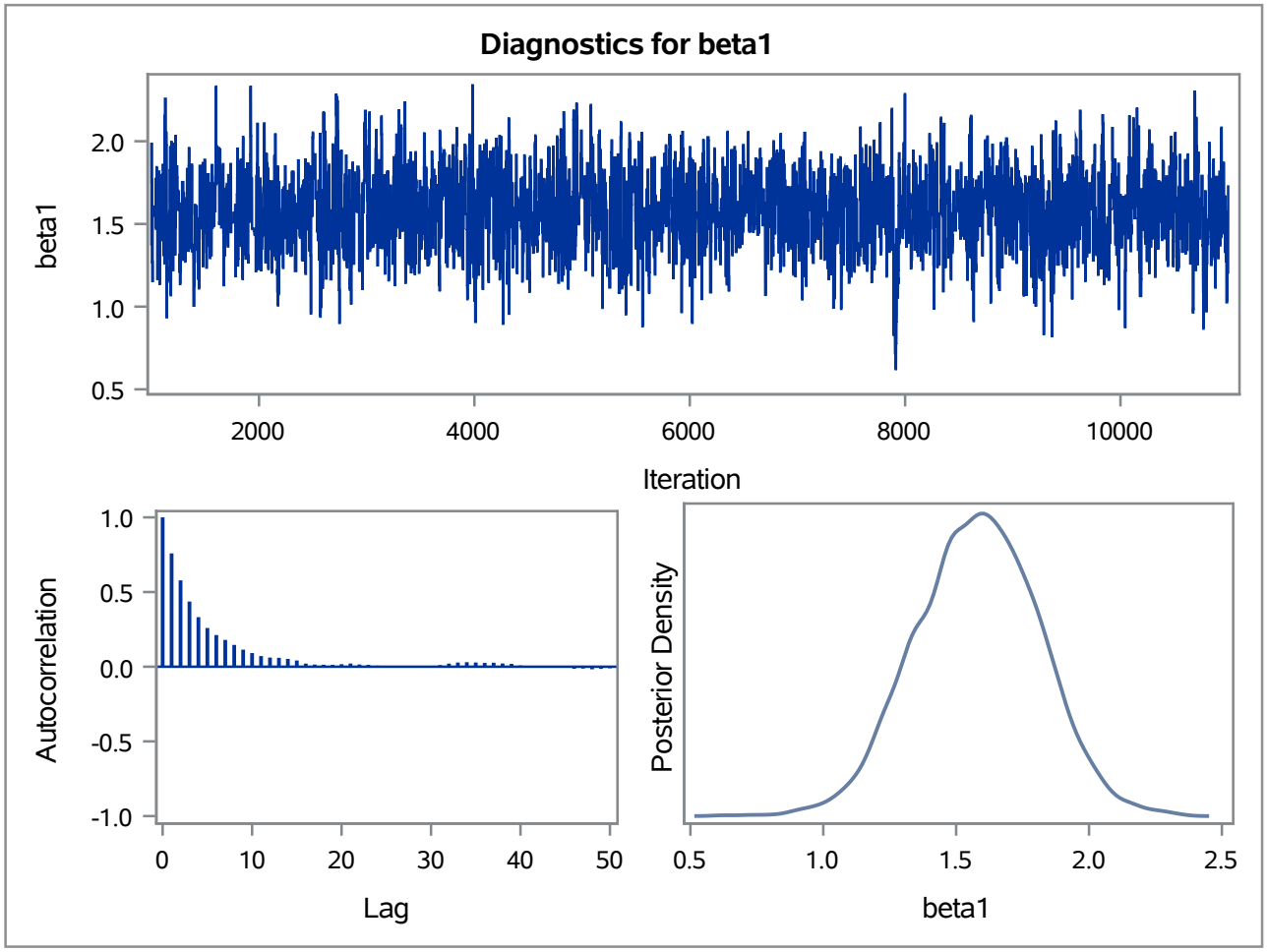
## Log PSA and seminal vesical invasion (yes=1)

### The MCMC Procedure



## Log PSA and seminal vesical invasion (yes=1)

### The MCMC Procedure



## Log PSA and seminal vesical invasion (yes=1)

### The MCMC Procedure