

VaR between 2001 - 2006***The MEANS Procedure***

Analysis Variable : port_ret
5th Pctl
-0.0229362

\$VaR between 2001 - 2006***The MEANS Procedure***

Analysis Variable : port_change
5th Pctl
-21316.46

ES between 2001 - 2006***The MEANS Procedure***

Analysis Variable : port_ret
Mean
-0.0341819

VaR between 2001 - 2009***The MEANS Procedure***

Analysis Variable : port_ret
5th Pctl
-0.0245719

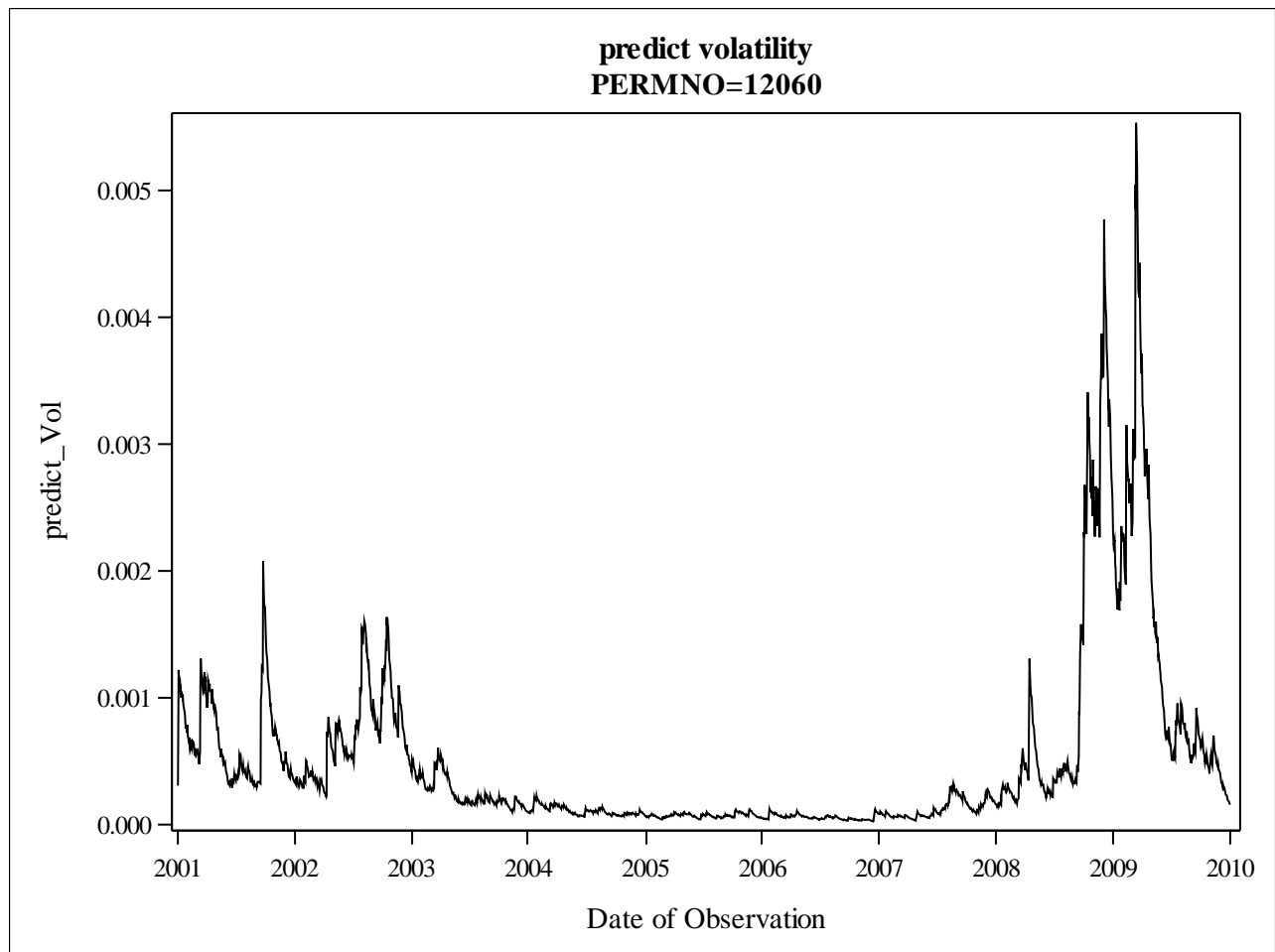
\$VaR between 2001 - 2009***The MEANS Procedure***

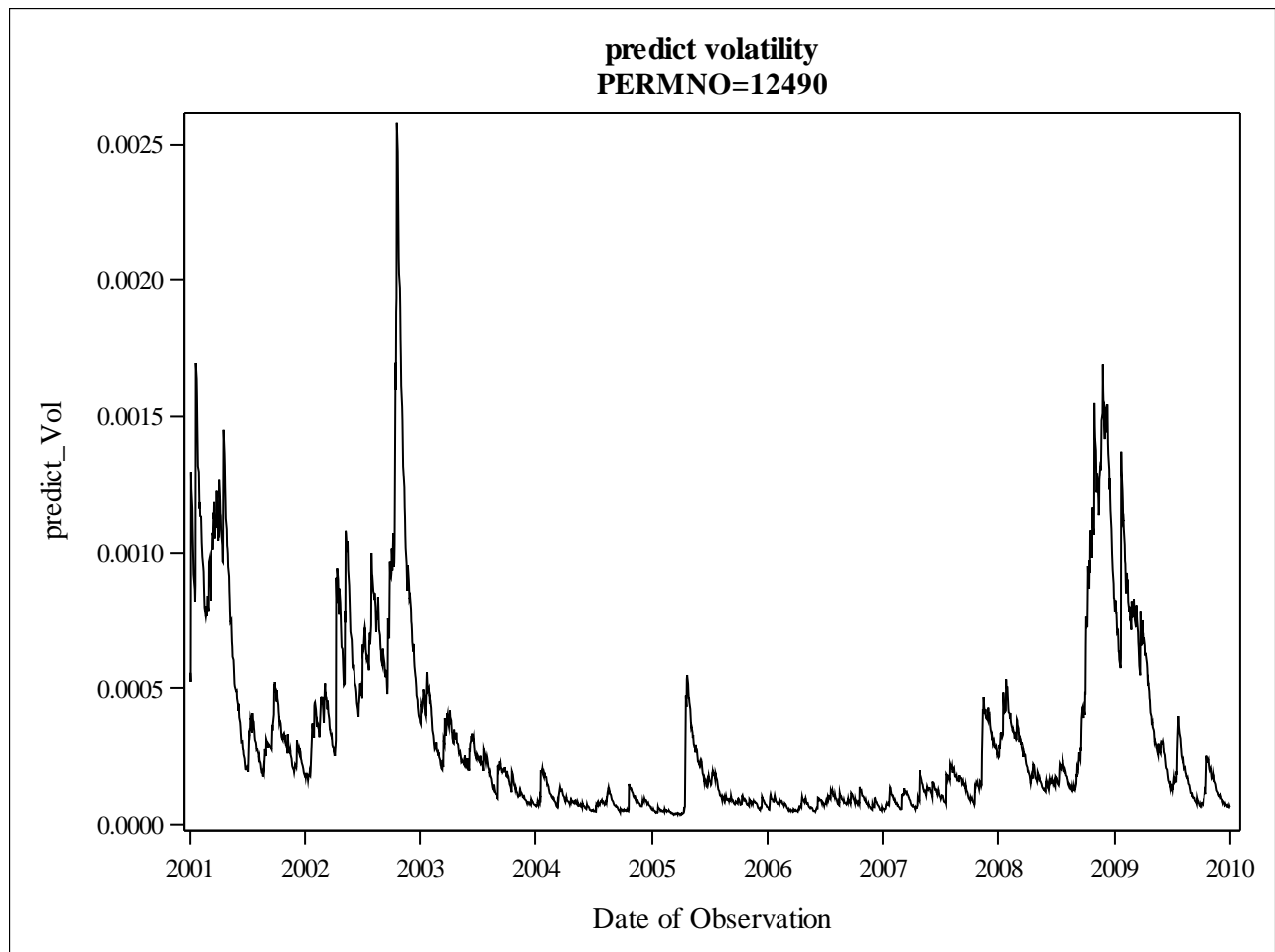
Analysis Variable : port_change	
5th Pctl	
-24153.85	

ES between 2001 - 2009***The MEANS Procedure***

Analysis Variable : port_ret
Mean
-0.0385243

The VaR, \$VaR and ES in 2001-2009 were all higher than 2001-2006, indicating that the potential loss was higher. This was because the recession in 2008. Most extreme losses happened around 2008, causing higher VaR, \$VaR and ES.





GARCH model***The AUTOREG Procedure*****PERMNO=12060**

Dependent Variable	RET
	Returns

GARCH model***The AUTOREG Procedure*****PERMNO=12060**

Ordinary Least Squares Estimates			
SSE	0.41526649	DFE	1262
MSE	0.0003291	Root MSE	0.01814
SBC	-6537.981	AIC	-6543.1222
MAE	0.01397334	AICC	-6543.119
MAPE	100.630443	HQC	-6541.1904
Durbin-Watson	1.9720	Regress R-Square	0.0000
		Total R-Square	0.0000

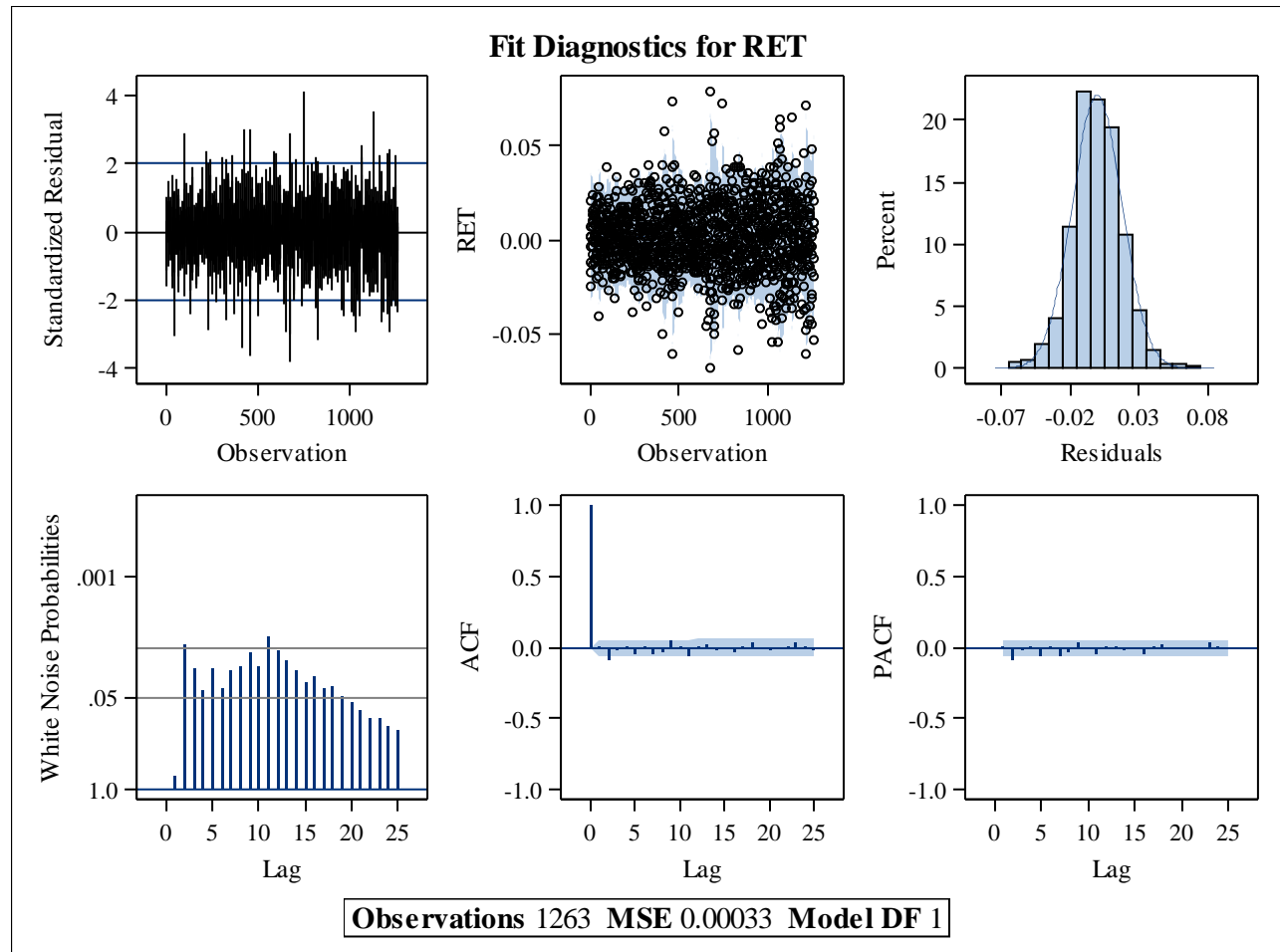
Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	0.001321	0.000510	2.59	0.0097

Algorithm converged.

GARCH model***The AUTOREG Procedure*****PERMNO=12060**

GARCH Estimates			
SSE	0.41546625	Observations	1263
MSE	0.0003290	Uncond Var	0.0003539
Log Likelihood	3326.68656	Total R-Square	.
SBC	-6624.8081	AIC	-6645.3731
MAE	0.01397693	AICC	-6645.3413
MAPE	101.903307	HQC	-6637.646
		Normality Test	20.4971
		Pr > ChiSq	<.0001

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	0.001719	0.000461	3.73	0.0002
ARCH0	1	7.9286E-6	3.2083E-6	2.47	0.0135
ARCH1	1	0.0757	0.0147	5.16	<.0001
GARCH1	1	0.9019	0.0203	44.51	<.0001

GARCH model***The AUTOREG Procedure*****PERMNO=12060**

GARCH model***The AUTOREG Procedure*****PERMNO=12490**

Dependent Variable	RET
	Returns

GARCH model***The AUTOREG Procedure*****PERMNO=12490**

Ordinary Least Squares Estimates			
SSE	0.7494891	DFE	1262
MSE	0.0005939	Root MSE	0.02437
SBC	-5792.2157	AIC	-5797.357
MAE	0.01747373	AICC	-5797.3538
MAPE	103.600795	HQC	-5795.4252
Durbin-Watson	2.1144	Regress R-Square	0.0000
		Total R-Square	0.0000

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	0.001366	0.000686	1.99	0.0465

Algorithm converged.

GARCH model***The AUTOREG Procedure*****PERMNO=12490**

GARCH Estimates			
SSE	0.75005745	Observations	1263
MSE	0.0005939	Uncond Var	0.00064058
Log Likelihood	2924.04673	Total R-Square	.
SBC	-5819.5285	AIC	-5840.0935
MAE	0.01748566	AICC	-5840.0617
MAPE	107.542725	HQC	-5832.3664
		Normality Test	1115.1600
		Pr > ChiSq	<.0001

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	0.002037	0.000643	3.17	0.0015
ARCH0	1	0.0000356	7.8914E-6	4.51	<.0001
ARCH1	1	0.0717	0.0107	6.71	<.0001
GARCH1	1	0.8728	0.0185	47.25	<.0001

GARCH model***The AUTOREG Procedure*****PERMNO=12490**