Forecasting

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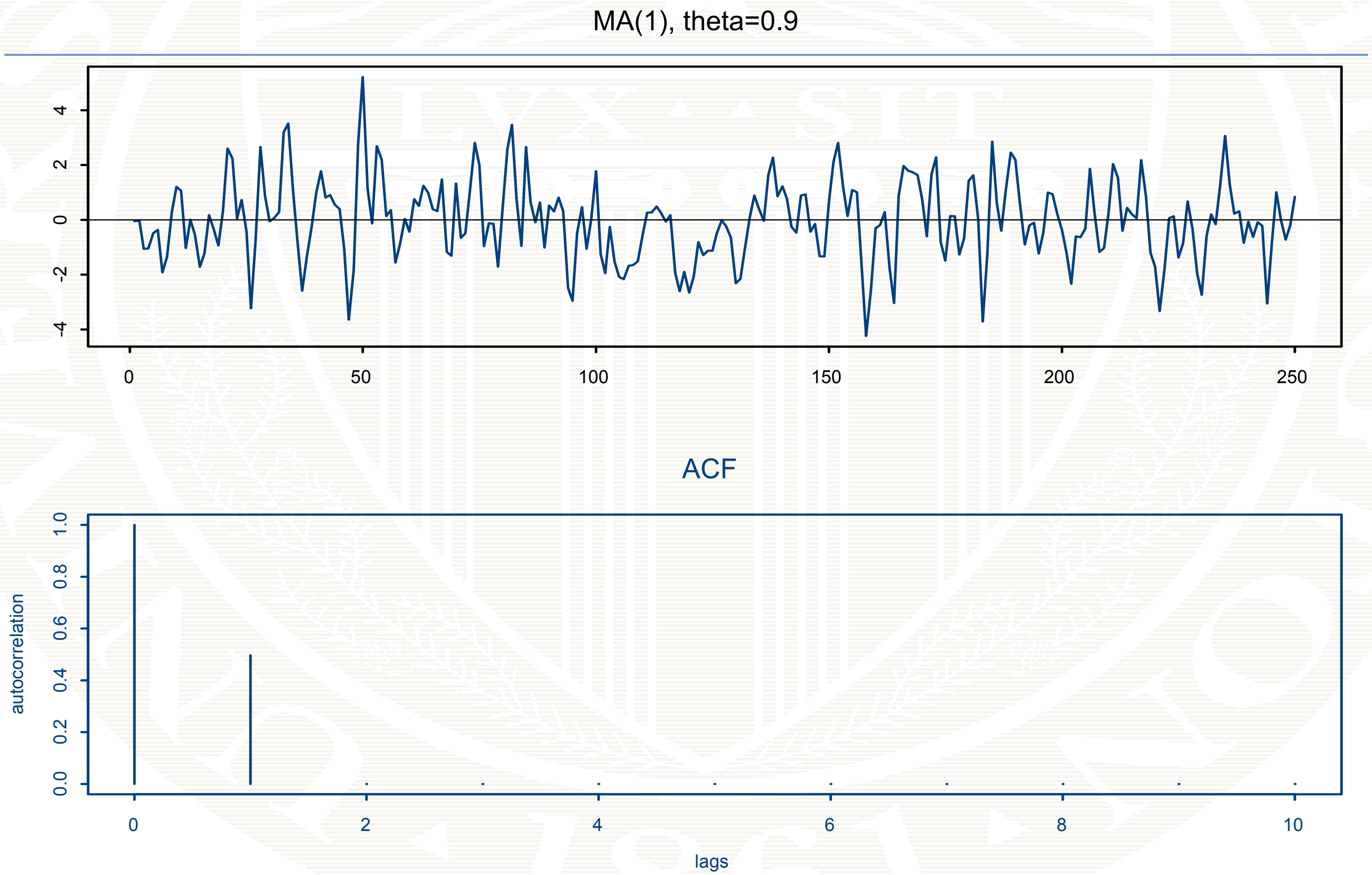
MA(1), θ=0.9



MA(1), theta=0.9
4
2
0
-2
-4
0
50
100
150
200
250
ACF
1.0
0.8
0.6
0.4
0.2
0.0
autocorrelation
0
2
4
6
8
10
lags

Forecasting with MA(1)

EViews - [Equation: UNTITLED   Workfile: ARMADATA\armaData]

File Edit Object View Proc Quick Options Window Help

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

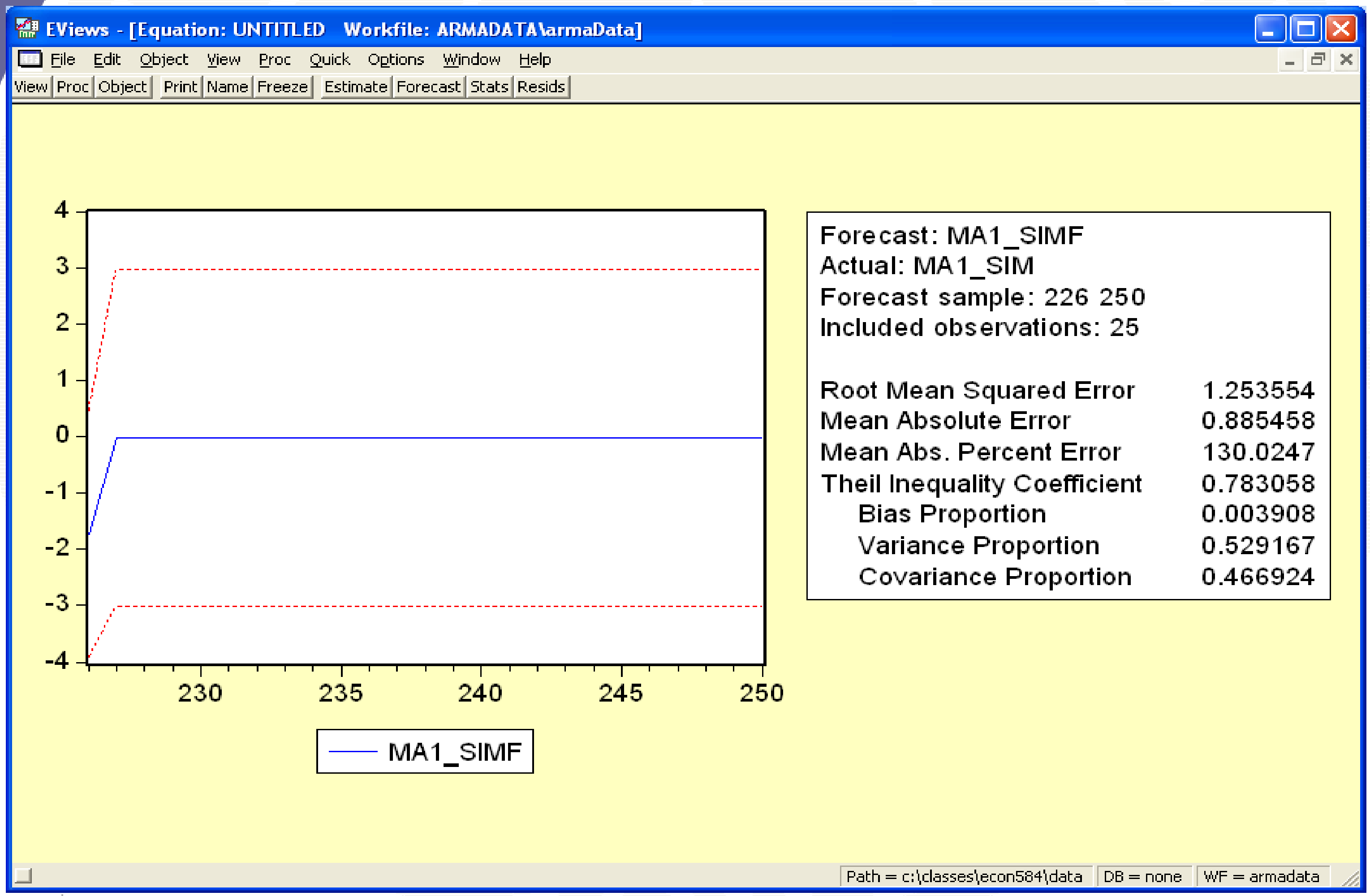
Dependent Variable: MA1_SIM
Method: Least Squares
Date: 04/10/06   Time: 13:35
Sample: 1 225
Included observations: 225
Convergence achieved after 7 iterations
Backcast: 0

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.027455	0.140247	-0.195761	0.8450
MA(1)	0.943203	0.022702	41.54788	0.0000

R-squared	0.473335	Mean dependent var	-0.020492
Adjusted R-squared	0.470973	S.D. dependent var	1.488687
S.E. of regression	1.082785	Akaike info criterion	3.005800
Sum squared resid	261.4506	Schwarz criterion	3.036165
Log likelihood	-336.1525	F-statistic	200.4188
Durbin-Watson stat	1.966231	Prob(F-statistic)	0.000000

Inverted MA Roots   -.94

h-step ahead forecasts



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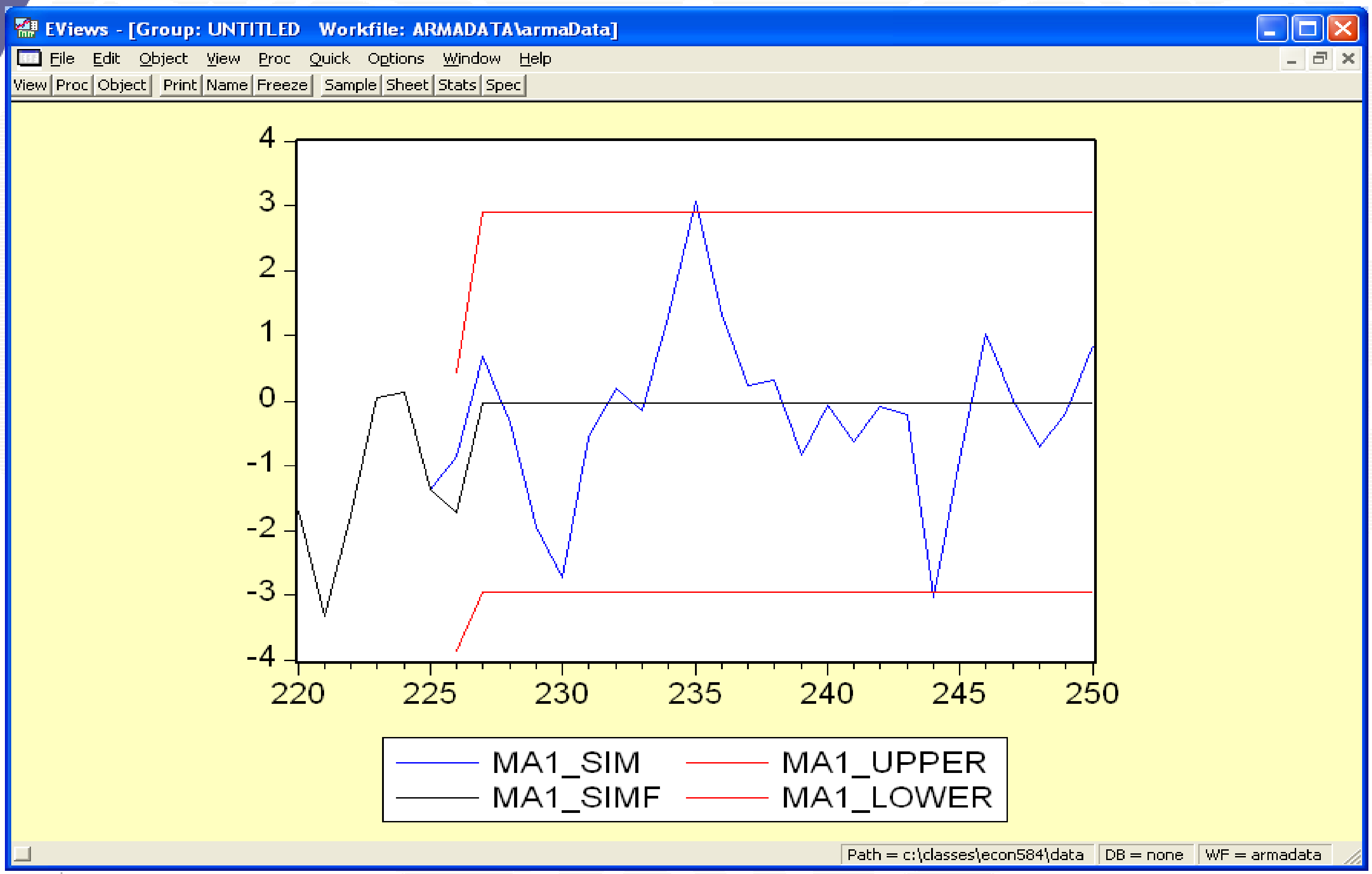
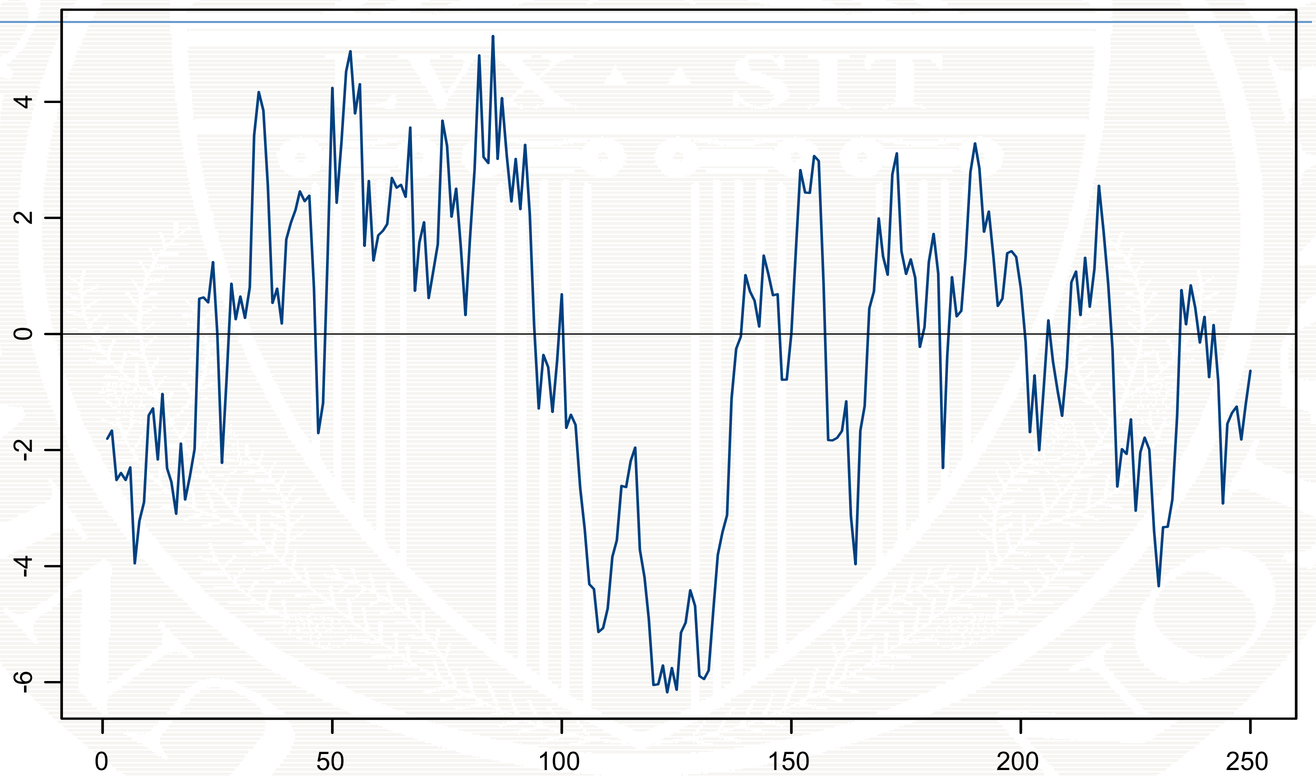
Forecasts vs. Actuals



AR(1), Φ=0.9



UW

Forecasting with AR(1)

EViews - [Equation: UNTITLED Workfile: ARMADATA\armaData]

File Edit Object View Proc Quick Options Window Help

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

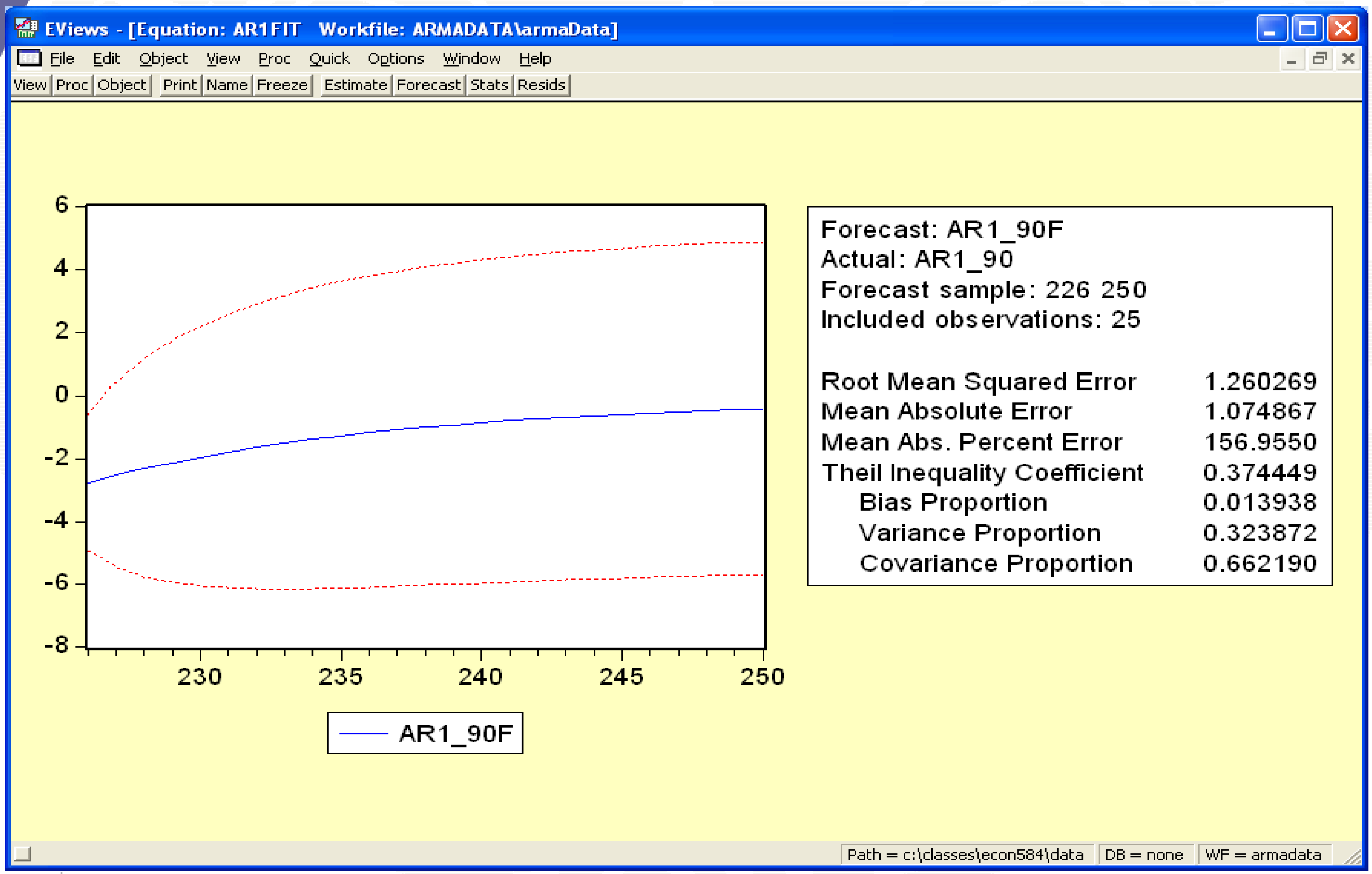
Dependent Variable: AR1_90
Method: Least Squares
Date: 04/10/06 Time: 13:52
Sample (adjusted): 2 225
Included observations: 224 after adjustments
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.150744	0.819243	-0.184004	0.8542
AR(1)	0.911094	0.027974	32.56985	0.0000

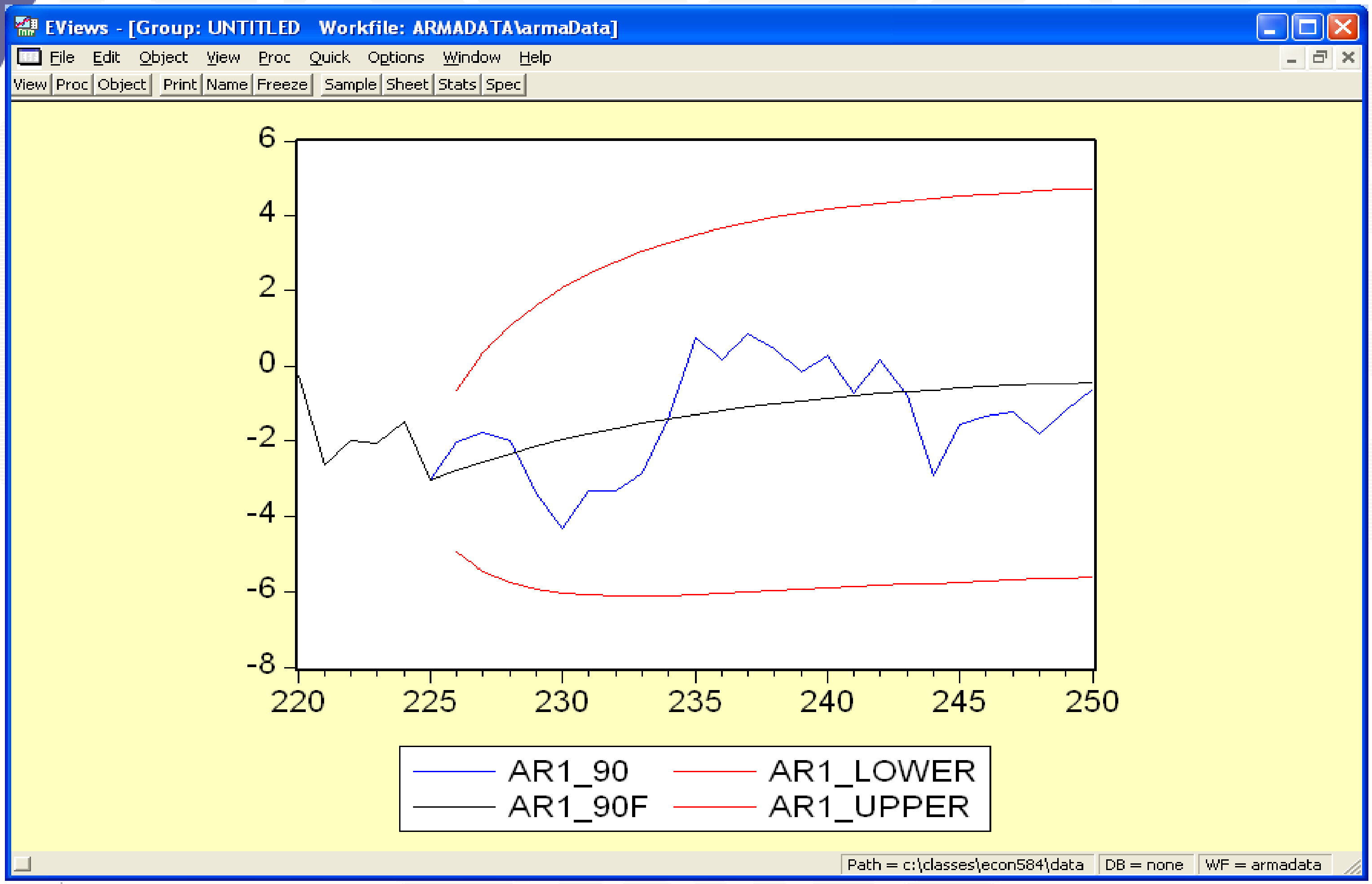
R-squared	0.826940	Mean dependent var	-0.094056
Adjusted R-squared	0.826161	S.D. dependent var	2.613798
S.E. of regression	1.089798	Akaike info criterion	3.018750
Sum squared resid	263.6603	Schwarz criterion	3.049211
Log likelihood	-336.1000	F-statistic	1060.795
Durbin-Watson stat	1.921896	Prob(F-statistic)	0.000000

Inverted AR Roots .91

H-step ahead forecasts



Forecasts vs. Actuals



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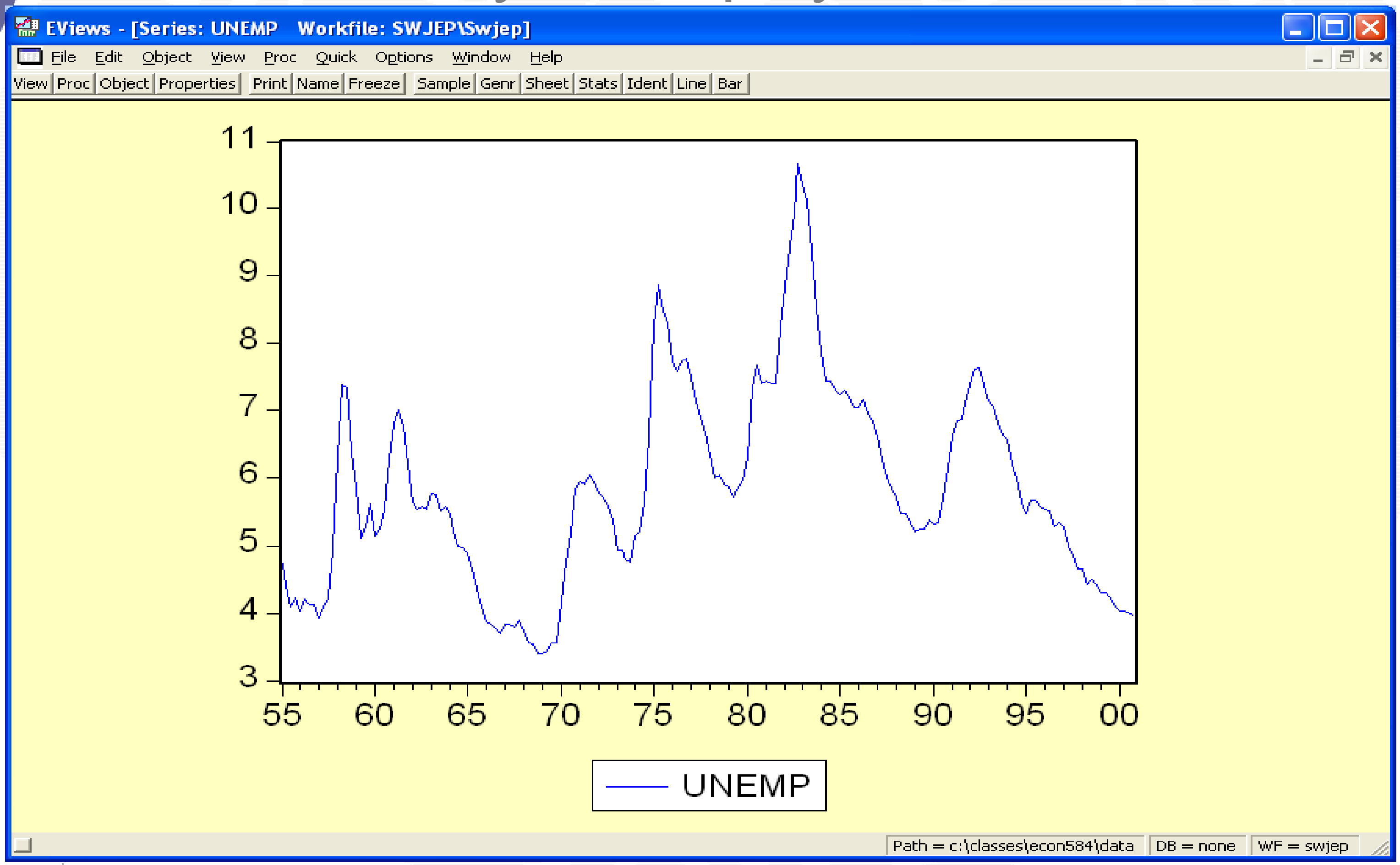
Comparing Forecasts for the US Quarterly Unemployment Rate



AR(2) looks like best model

EViews - [Series: UNEMP Workfile: SWJEP\Swjep]

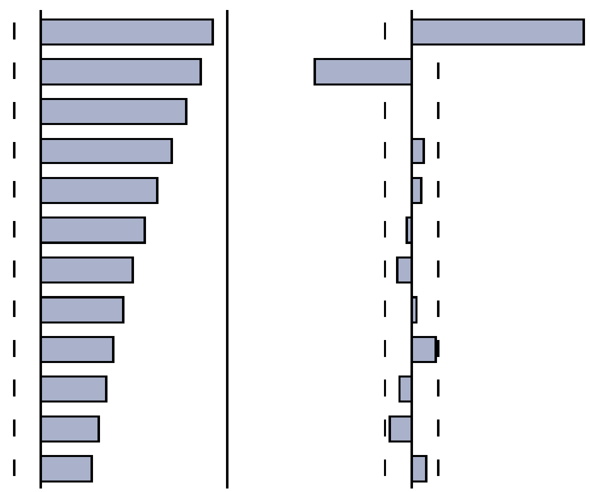
File Edit Object View Proc Quick Options Window Help

View | Proc | Object | Properties | Print | Name | Freeze | Sample | Genr | Sheet | Stats | Ident | Line | Bar

Correlogram of UNEMP

Date: 04/10/06 Time: 14:06
Sample: 1955Q1 2000Q4
Included observations: 184

Autocorrelation | Partial Correlation



	AC	PAC	Q-Stat	Prob
1	0.966	0.966	174.36	0.000
2	0.896	-0.538	325.29	0.000
3	0.811	-0.000	449.62	0.000
4	0.725	0.061	549.60	0.000
5	0.648	0.057	629.78	0.000
6	0.579	-0.030	694.28	0.000
7	0.515	-0.089	745.56	0.000
8	0.455	0.031	785.85	0.000
9	0.406	0.135	818.08	0.000
10	0.364	-0.072	844.18	0.000
11	0.324	-0.115	864.96	0.000
12	0.287	0.075	881.36	0.000

Fit AR(1): 1955:2 – 1989:4

EViews - [Equation: AR1_FIT Workfile: SWJEP\Swjep]

File Edit Object View Proc Quick Options Window Help

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

Dependent Variable: UNEMP
Method: Least Squares
Date: 04/22/04 Time: 10:51
Sample(adjusted): 1955:2 1989:4
Included observations: 139 after adjusting endpoints
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.081033	1.036496	5.866915	0.0000
AR(1)	0.967572	0.021031	46.00709	0.0000

R-squared	0.939210	Mean dependent var	5.945084
Adjusted R-squared	0.938766	S.D. dependent var	1.595217
S.E. of regression	0.394744	Akaike info criterion	0.993126
Sum squared resid	21.34775	Schwarz criterion	1.035349
Log likelihood	-67.02229	F-statistic	2116.652
Durbin-Watson stat	0.774764	Prob(F-statistic)	0.000000

Inverted AR Roots .97

Fit MA(1): 1955:2 – 1989:4

EViews - [Equation: MA1_FIT Workfile: SWJEP\Swjep]

File Edit Object View Proc Quick Options Window Help

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

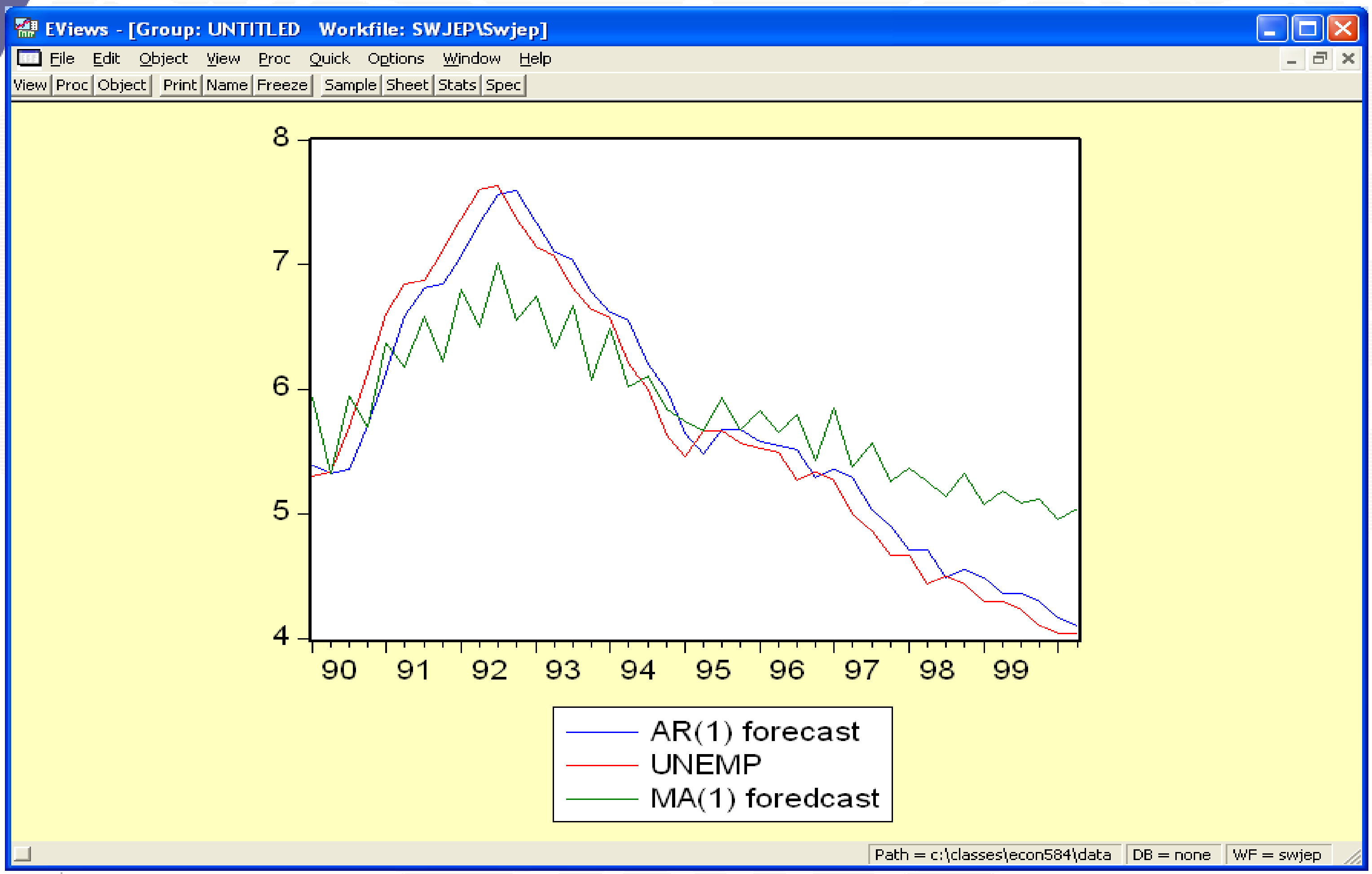
Dependent Variable: UNEMP
Method: Least Squares
Date: 04/22/04 Time: 10:55
Sample: 1955:1 1989:4
Included observations: 140
Convergence achieved after 6 iterations
Backcast: 1954:4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.942297	0.140612	42.26025	0.0000
MA(1)	0.968079	0.023263	41.61496	0.0000

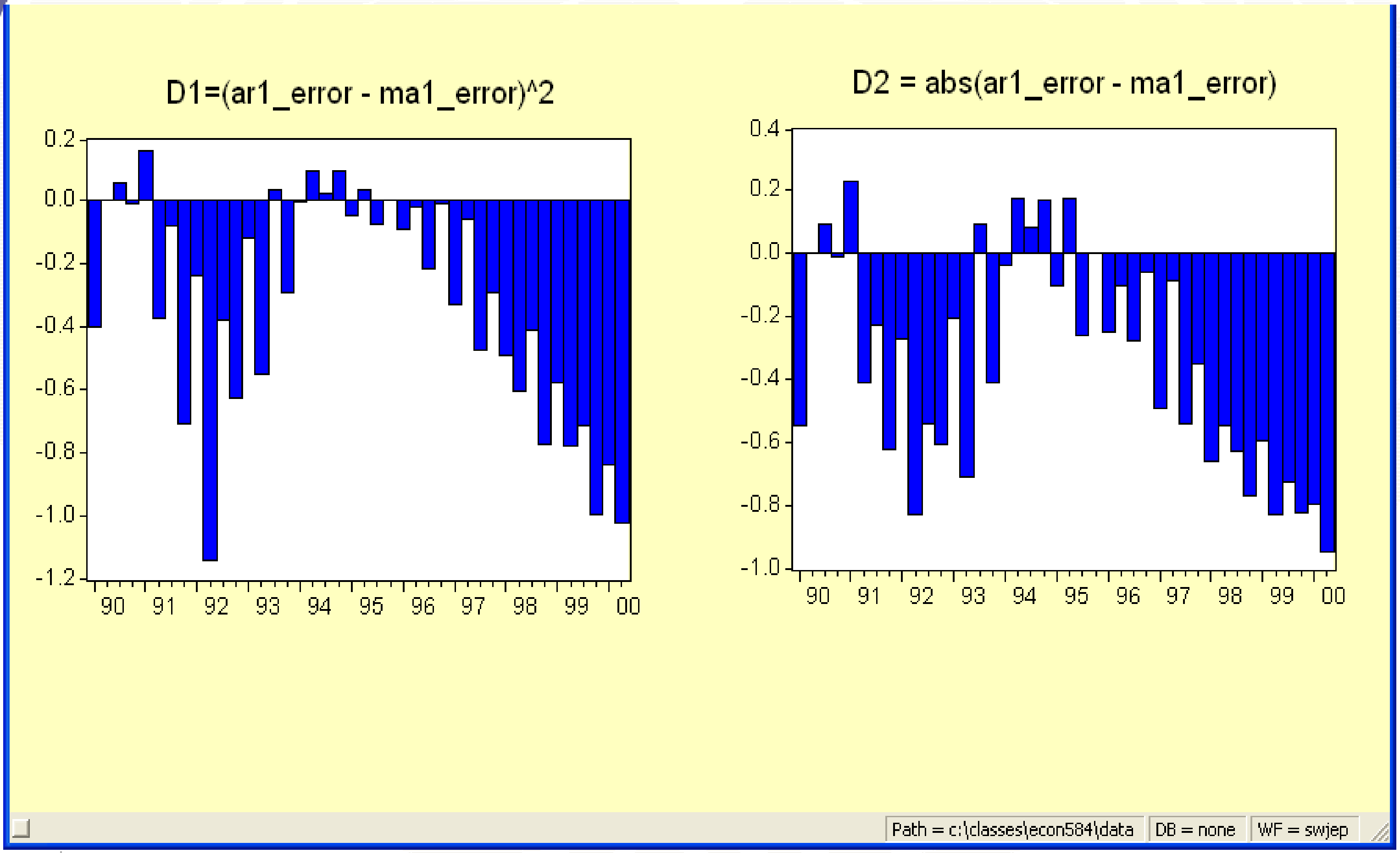
R-squared	0.720311	Mean dependent var	5.936429
Adjusted R-squared	0.718285	S.D. dependent var	1.592764
S.E. of regression	0.845389	Akaike info criterion	2.516144
Sum squared resid	98.62626	Schwarz criterion	2.558167
Log likelihood	-174.1301	F-statistic	355.4057
Durbin-Watson stat	0.321105	Prob(F-statistic)	0.000000

Inverted MA Roots -.97

Rolling 1-Step Ahead Forecasts vs. Actual



Loss Differentials: AR(1) – MA(1)



DM Statistics for D1

EViews - [Equation: UNTITLED Workfile: SWJEP\Swjep]

File Edit Object View Proc Quick Options Window Help

View Proc Object Print Name Freeze Estimate Forecast Stats Resids

Dependent Variable: D1
Method: Least Squares
Date: 04/10/06 Time: 14:21
Sample: 1990Q1 2000Q4
Included observations: 44
Newey-West HAC Standard Errors & Covariance (lag truncation=3)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.346165	0.093962	-3.684117	0.0006

R-squared	0.000000	Mean dependent var	-0.346165
Adjusted R-squared	0.000000	S.D. dependent var	0.371885
S.E. of regression	0.371885	Akaike info criterion	0.882002
Sum squared resid	5.946841	Schwarz criterion	0.922552
Log likelihood	-18.40405	Durbin-Watson stat	0.783051

DM Statistics for D1

EViews - [Equation: UNTITLED Workfile: SWJEP\Swjep]

File Edit Object View Proc Quick Options Window Help

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

Dependent Variable: D2
Method: Least Squares
Date: 04/10/06 Time: 14:23
Sample: 1990Q1 2000Q4
Included observations: 44
Newey-West HAC Standard Errors & Covariance (lag truncation=3)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.364500	0.088732	-4.107855	0.0002

R-squared	0.000000	Mean dependent var	-0.364500
Adjusted R-squared	0.000000	S.D. dependent var	0.353925
S.E. of regression	0.353925	Akaike info criterion	0.783002
Sum squared resid	5.386309	Schwarz criterion	0.823552
Log likelihood	-16.22605	Durbin-Watson stat	0.827874