Data Analysis for “Presidential Popularity in a Hybrid Regime: Russia under Yeltsin and Putin”

Daniel Treisman
May 2010

For the Yeltsin period, I analyze the 10-point scale ratings. These go back further than the approval ratings. I do not interpolate, and use the bimonthly series from May 1994.

Note that Yeltsin rating period is cases 1-34; Putin period is cases 35-84.

1 Stationarity tests and cointegration

Stationarity tests

Yeltsin period

Time Series Modelling v4.3.13-05-10 (c) James Davidson, 2002-10
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Using ajps.xls

*** Summary Statistics for yeltsin10pt ***
Using 34 observations (dates 3 to 36)
Minimum = 1.78 at obs. 33
Maximum = 3.9 at obs. 14
Mean = 2.83441
Median = 2.935
Standard Deviation = 0.646989
Skewness = -0.34243
Kurtosis = 2.11188
Jarque-Bera statistic = 1.78187
Robinson's d = 0.424098
Tests of I(0):
    Robinson-Lobato test = .NaN { .NaN} (m = 0)
    KPSS test = 0.029588 {<1} (Parzen, bw = 5, N-W plug-in)
    Lo's RS test = 0.259619 {<1} (Parzen, bw = 5, N-W plug-in)
    Harris-McCabe-Leybourne Test = 2.24242 {0.012} (c = 1, L = 0.66)
Tests of I(1):
    Augmented Dickey-Fuller Test = -1.0052 {<0.9} ( 0 lags, Akaike Criterion)
    Phillips-Perron test = -1.2204 {<0.9} (Parzen, bw = 3, N-W plug-in)
    Elliott-Rothenberg-Stock Tests:
        DF-GLS test = -1.44052 {<1} ( 0 lags, Akaike Criterion)
        P test = 6.59225 {<1} (Parzen, bw = 3, N-W plug-in)

*** Summary Statistics for Russec ***
Using 34 observations (dates 3 to 36)
Minimum = -91 at obs. 27
Maximum = -62 at obs. 14
Mean = -73.8971
Median = -71.25
Standard Deviation = 7.56429
Skewness = -0.714048
Kurtosis = 2.7
Jarque-Bera statistic = 3.01673
Robinson's d = 0.425145

Tests of I(0):
Robinson-Lobato test = .NaN {0.487} (m = 2)
KPSS test = 0.0162099 {<1} (Parzen, bw = 5, N-W plug-in)
Lo's RS test = 0.170065 {<1} (Parzen, bw = 5, N-W plug-in)
Harris-McCabe-Leybourne Test = 2.19461 {0.014} (c = 1, L = 0.66)

Tests of I(1):
Augmented Dickey-Fuller Test = -1.72294 {<0.9} (4 lags, Akaike Criterion)
Phillips-Perron test = -2.39279 {<0.9} (Parzen, bw = 2, N-W plug-in)
Elliott-Rothenberg-Stock Tests:
DF-GLS test = -1.83963 {<0.1} (4 lags, Akaike Criterion)
P test = 2.32276 {<0.025} (Parzen, bw = 2, N-W plug-in)

*** Summary Statistics for Fammat ***
Using 34 observations (dates 3 to 36)
Minimum = -83 at obs. 29
Maximum = -35.6 at obs. 3
Mean = -48.9971
Median = -48.3
Standard Deviation = 9.14955
Skewness = -1.65046
Kurtosis = 6.98453
Jarque-Bera statistic = 37.9277
Robinson's d = 0.399403

Tests of I(0):
Robinson-Lobato test = 0.0338039 {0.487} (m = 2)
KPSS test = 0.0162099 {<1} (Parzen, bw = 5, N-W plug-in)
Lo's RS test = 0.170065 {<1} (Parzen, bw = 5, N-W plug-in)
Harris-McCabe-Leybourne Test = 2.19461 {0.014} (c = 1, L = 0.66)

Tests of I(1):
Augmented Dickey-Fuller Test = -1.72294 {<0.9} (4 lags, Akaike Criterion)
Phillips-Perron test = -2.39279 {<0.9} (Parzen, bw = 2, N-W plug-in)
Elliott-Rothenberg-Stock Tests:
DF-GLS test = -1.83963 {<0.1} (4 lags, Akaike Criterion)
P test = 2.32276 {<0.025} (Parzen, bw = 2, N-W plug-in)

*** Summary Statistics for Echope ***
Using 34 observations (dates 3 to 36)
Minimum = -54 at obs. 5
Maximum = -17 at obs. 13
Mean = -36.9412
Median = -38.5
Standard Deviation = 10.2748
Skewness = 0.396563
Kurtosis = 2.16457
Jarque-Bera statistic = 1.8799
Robinson's d = 0.385881

Tests of I(0):
Robinson-Lobato test = 0.434124 {0.332} (m = 2)
KPSS test = 0.00603406 {<1} (Parzen, bw = 5, N-W plug-in)
Lo's RS test = 0.27698 {<1} (Parzen, bw = 5, N-W plug-in)
Harris-McCabe-Leybourne Test = 2.03958 {0.021} (c = 1, L = 0.66)

Tests of I(1):
Augmented Dickey-Fuller Test = -2.76398 {<0.1} (4 lags, Akaike Criterion)
Phillips-Perron test = -2.56474 {<0.9} (Parzen, bw = 2, N-W plug-in)
Elliott-Rothenberg-Stock Tests:
DF-GLS test = -2.69653 {<0.1} (4 lags, Akaike Criterion)
P test = 2.32057 {<0.025} (Parzen, bw = 2, N-W plug-in)

*** Summary Statistics for Polsit ***
Using 34 observations  (dates 3 to 36)
  Minimum = -92 at obs. 5
  Maximum = -72 at obs. 21
  Mean = -82.2941
  Median = -83.5
  Standard Deviation = 6.37005
  Skewness = 0.216623
  Kurtosis = 1.67297
  Jarque-Bera statistic = 2.76068
  Robinson's d = 0.313736
Tests of I(0):
  Robinson-Lobato test = -0.121086 {0.548} (m = 2)
  KPSS test = 0.000513049 {<1} (Parzen, bw = 5, N-W plug-in)
  Lo's RS test = 0.0715887 {<1} (Parzen, bw = 5, N-W plug-in)
  Harris-McCabe-Leybourne Test = 2.23302 {0.013} (c = -1, L = 0.66)
Tests of I(1):
  Augmented Dickey-Fuller Test = -1.62142 {<0.9} ( 4 lags, Akaike Criterion)
  Phillips-Perron test = -2.5807 {<0.9} (Parzen, bw = 0, N-W plug-in)
  Elliott-Rothenberg-Stock Tests:
    DF-GLS test = -1.70741 {<1} ( 4 lags, Akaike Criterion)
    P test = 2.84339 {<0.05} (Parzen, bw = 4, N-W plug-in)

Putin Period

***  Summary Statistics for putapp  ***
Using 50 observations  (35-84, dates 37 to 86)
  Minimum = 65 at obs. 5
  Maximum = 86 at obs. 49
  Mean = 75.2976
  Median = 75.2
  Standard Deviation = 5.36482
  Skewness = 0.0800849
  Kurtosis = 2.3126
  Jarque-Bera statistic = 1.03785
  Robinson's d = 0.409575
Tests of I(0):
  Robinson-Lobato test = -0.103643 {0.541} (m = 3)
  KPSS test = 0.00126925 {<1} (Parzen, bw = 5, N-W plug-in)
  Lo's RS test = 0.0696412 {<1} (Parzen, bw = 5, N-W plug-in)
  Harris-McCabe-Leybourne Test = 2.4938 {0.006} (c = -1, L = 0.66)
Tests of I(1):
  Augmented Dickey-Fuller Test = -1.9366 {<0.9} ( 4 lags, Akaike Criterion)
  Phillips-Perron test = -2.78137 {<0.1} (Parzen, bw = 1, N-W plug-in)
  Elliott-Rothenberg-Stock Tests:
    DF-GLS test = -1.96448 {<1} ( 4 lags, Akaike Criterion)
    P test = 3.68073 {<0.1} (Parzen, bw = 4, N-W plug-in)

***  Summary Statistics for Russec  ***
Using 50 observations  (35-84, dates 37 to 86)
  Minimum = -72 at obs. 2
  Maximum = -6.8 at obs. 49
  Mean = -40.9824
  Median = -41.95
  Standard Deviation = 15.0643
  Skewness = 0.287258
  Kurtosis = 2.73023
  Jarque-Bera statistic = 0.839253
  Robinson's d = 0.429958
Tests of I(0):
  Robinson-Lobato test = .NaN  {.NaN} (m = 0)
  KPSS test = 0.137335 {<1} (Parzen, bw = 5, N-W plug-in)
  Lo's RS test = 0.486233 {<1} (Parzen, bw = 5, N-W plug-in)
  Harris-McCabe-Leybourne Test = 2.34966 {0.009} (c = -1, L = 0.66)
Tests of I(1):
  Augmented Dickey-Fuller Test = -0.239236 {<0.95} ( 0 lags, Akaike Criterion)
  Phillips-Perron test = -0.680823 {<0.9} (Parzen, bw = 3, N-W plug-in)
  Elliott-Rothenberg-Stock Tests:
    DF-GLS test = -1.5008 {<1} ( 0 lags, Akaike Criterion)
P test = 10.8395 {<1} (Parzen, bw = 3, N-W plug-in)

*** Summary Statistics for Fammat ***
Using 50 observations (35-84, dates 37 to 86)
Minimum = -47 at obs. 1
Maximum = -6.31 at obs. 50
Mean = -29.1784
Median = -29.55
Standard Deviation = 8.45984
Skewness = 0.0217706
Kurtosis = 3.39124
Jarque-Bera statistic = 0.322845
Robinson's d = 0.357192

Tests of I(0):
    Robinson-Lobato test = .NaN (.NaN) (m = 0)
    KPSS test = 0.0703544 {<1} (Parzen, bw = 5, N-W plug-in)
    Lo's RS test = 0.355415 {<1} (Parzen, bw = 5, N-W plug-in)
    Harris-McCabe-Leybourne Test = 2.41516 (0.008) (c = 1, L = 0.66)

Tests of I(1):
    Augmented Dickey-Fuller Test = -1.09181 {<0.9} (0 lags, Akaike Criterion)
    Phillips-Perron test = -1.79798 {<0.9} (Parzen, bw = 2, N-W plug-in)

Tests of I(0):
    Robinson-Lobato test = 0.148902 (0.441) (m = 4)
    KPSS test = 0.148341 {<1} (Parzen, bw = 5, N-W plug-in)
    Lo's RS test = 1.207 {<0.6} (Parzen, bw = 5, N-W plug-in)
    Harris-McCabe-Leybourne Test = -0.168868 (0.567) (c = 1, L = 0.66)

Tests of I(1):
    Augmented Dickey-Fuller Test = -2.40748 {<0.9} (3 lags, Akaike Criterion)
    Phillips-Perron test = -3.0982 {<0.05} (Parzen, bw = 3, N-W plug-in)

Tests of I(0):
    Robinson-Lobato test = .NaN (.NaN) (m = 0)
    KPSS test = 0.335523 {<1} (Parzen, bw = 5, N-W plug-in)
    Lo's RS test = 0.789448 {<0.995} (Parzen, bw = 5, N-W plug-in)
    Harris-McCabe-Leybourne Test = 2.08152 (0.019) (c = 1, L = 0.66)

Tests of I(1):
    Augmented Dickey-Fuller Test = -0.43819 {<0.9} (0 lags, Akaike Criterion)
    Phillips-Perron test = -0.947864 {<0.9} (Parzen, bw = 4, N-W plug-in)

Elliott-Rothenberg-Stock Tests:
    DF-GLS test = -2.11161 {<1} (0 lags, Akaike Criterion)
    P test = 4.55029 {<1} (Parzen, bw = 4, N-W plug-in)

*** Summary Statistics for Polsit ***
Using 50 observations (35-84, dates 37 to 86)
Minimum = -80 at obs. 2
Maximum = 26.5 at obs. 50
Mean = -33.4538
Median = -37.5
Standard Deviation = 23.3301
Skewness = 0.424527
Kurtosis = 3.20113
Jarque-Bera statistic = 1.58613
Robinson's d = 0.411614

Tests of I(0):
    Robinson-Lobato test = .NaN (.NaN) (m = 0)
    KPSS test = 0.335523 {<1} (Parzen, bw = 5, N-W plug-in)
    Lo's RS test = 0.789448 {<0.995} (Parzen, bw = 5, N-W plug-in)
    Harris-McCabe-Leybourne Test = 2.08152 (0.019) (c = 1, L = 0.66)

Tests of I(1):
    Augmented Dickey-Fuller Test = -0.43819 {<0.9} (0 lags, Akaike Criterion)
    Phillips-Perron test = -0.947864 {<0.9} (Parzen, bw = 4, N-W plug-in)

Elliott-Rothenberg-Stock Tests:
DF-GLS test = -1.53888 {<1} ( 0 lags, Akaike Criterion)
P test = 8.88661 {<1} (Parzen, DW = 5, N-W plug-in)

*** Summary Statistics for chechmil ***
Using 48 observations (35-82)
Minimum = 13.2 at obs. 48
Maximum = 70 at obs. 2
Mean = 30.2256
Median = 27.15
Standard Deviation = 13.5785
Skewness = 1.21715
Kurtosis = 4.11367
Jarque-Bera statistic = 14.3321
Robinson's d = 0.422342

Tests of I(0):
Robinson-Lobato test = .NaN {.NaN} (m = 0)
KPSS test = 0.168165 {<1} (Parzen, bw = 5, N-W plug-in)
Lo's RS test = 0.573084 {<1} (Parzen, bw = 5, N-W plug-in)
Harris-McCabe-Leybourne Test = 2.27813 {0.011} (c = 1, L = 0.66)

Tests of I(1):
Augmented Dickey-Fuller Test = -2.7263 {<0.1} ( 0 lags, Akaike Criterion)
Phillips-Perron test = -2.80953 {<0.1} (Parzen, bw = 3, N-W plug-in)

Elliott-Rothenberg-Stock Tests:
DF-GLS test = -3.41482 {<0.025} ( 0 lags, Akaike Criterion)
P test = -2.21675 {<0.01} (Parzen, bw = 3, N-W plug-in)

For Yeltsin period, HML test rejects I(0) for all variables, but KPSS test does not; the tests generally do not clearly reject I(1). I therefore estimate d for all the variables. Since n = 34, I used the average of estimates for bandwidths of 5, 10, and 15.

For Putin period, HML test rejects I(0) for all but Russia's economic future (echope). Phillips-Perron test rejects I(1) for echope, and perhaps also for Putin approval and Chechmil. I estimated d for all variables, using the average of estimates for bandwidths of 5, 10, and 15.

***********************************************************************
TSM4.31.13-05-10 Run 16 at 20:18:30 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for yeltsin10pt
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.97361     0.1291     7.542        0
***********************************************************************
TSM4.31.13-05-10 Run 17 at 20:18:30 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Russec
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.95868     0.1291     7.426        0
***********************************************************************
TSM4.31.13-05-10 Run 18 at 20:18:30 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.75866     0.1291     5.877        0
***********************************************************************
Semiparametric Long Memory Estimation for Echopie
Local Whittle Gaussian ML
Bandwidth = 15 (= T^{0.77})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.51355     0.1291     3.978        0

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Semiparametric Long Memory Estimation for Polsit
Local Whittle Gaussian ML
Bandwidth = 15 (= T^{0.77})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)        0.6813     0.1291     5.277        0

-----------------------------------------------

Semiparametric Long Memory Estimation for yeltsin10pt
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.65})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.96056    0.15811     6.075        0

-----------------------------------------------

Semiparametric Long Memory Estimation for Russecc
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.65})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.98926    0.15811     6.257        0

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Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.65})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.88315    0.15811     5.586        0

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Semiparametric Long Memory Estimation for Echope
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.65})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.54217    0.15811     3.429        0

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Semiparametric Long Memory Estimation for Polsit
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.65})
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.61359    0.15811     3.981        0

-----------------------------------------------

Semiparametric Long Memory Estimation for yeltsin10pt
Local Whittle Gaussian ML
Bandwidth = 5 (= \(T^{0.46}\))
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.7183</td>
<td>0.22361</td>
<td>3.212</td>
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TSM4.31.13-05-10 Run 27 at 20:18:45 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Russec
Local Whittle Gaussian ML
Bandwidth = 5 (= \(T^{0.46}\))
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.77892</td>
<td>0.22361</td>
<td>3.483</td>
<td>0</td>
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TSM4.31.13-05-10 Run 28 at 20:18:45 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
Bandwidth = 5 (= \(T^{0.46}\))
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.28537</td>
<td>0.22361</td>
<td>5.748</td>
<td>0</td>
</tr>
</tbody>
</table>

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TSM4.31.13-05-10 Run 29 at 20:18:45 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Echope
Local Whittle Gaussian ML
Bandwidth = 5 (= \(T^{0.46}\))
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.45989</td>
<td>0.22361</td>
<td>2.057</td>
<td>0</td>
</tr>
</tbody>
</table>

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TSM4.31.13-05-10 Run 30 at 20:18:45 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Polsit
Local Whittle Gaussian ML
Bandwidth = 5 (= \(T^{0.46}\))
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.36346</td>
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<td>1.625</td>
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Putin period

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TSM4.31.13-05-10 Run 149 at 8:58:23 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for putapp
Local Whittle Gaussian ML
Bandwidth = 15 (= \(T^{0.69}\))
Using 50 observations (35-84)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.65008</td>
<td>0.1291</td>
<td>5.036</td>
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</tbody>
</table>

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TSM4.31.13-05-10 Run 150 at 8:58:23 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Russec
Local Whittle Gaussian ML
Bandwidth = 15 (= \(T^{0.69}\))
Using 50 observations (35-84)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.67097</td>
<td>0.1291</td>
<td>5.197</td>
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</tbody>
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TSM4.31.13-05-10 Run 151 at 8:58:23 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
Bandwidth = 15 (T^{0.69})
Using 50 observations (35-84)

Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.43478    0.1291     3.368        0

***********************************************************************
TSM4.31.13-05-10 Run 152 at 8:58:23 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Echope
Local Whittle Gaussian ML
Bandwidth = 15 (T^{0.69})
Using 50 observations (35-84)
Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.42435    0.1291     3.287        0

***********************************************************************
TSM4.31.13-05-10 Run 153 at 8:58:23 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Polsit
Local Whittle Gaussian ML
Bandwidth = 15 (T^{0.69})
Using 50 observations (35-84)
Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.53776    0.1291     4.165        0

***********************************************************************
TSM4.31.13-05-10 Run 316 at 9:33:35 on 2-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Semiparametric Long Memory Estimation for chechmil
Local Whittle Gaussian ML
Bandwidth = 5 (T^{0.42})
Using 48 observations (35-82)
Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.51019    0.22361     2.282        0

***********************************************************************
TSM4.31.13-05-10 Run 156 at 8:58:36 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for putapp
Local Whittle Gaussian ML
Bandwidth = 10 (T^{0.59})
Using 50 observations (35-84)
Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.78443    0.15811     4.961        0

***********************************************************************
TSM4.31.13-05-10 Run 157 at 8:58:36 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Russec
Local Whittle Gaussian ML
Bandwidth = 10 (T^{0.59})
Using 50 observations (35-84)
Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.79485    0.15811     5.027        0

***********************************************************************
TSM4.31.13-05-10 Run 158 at 8:58:36 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
Bandwidth = 10 (T^{0.59})
Using 50 observations (35-84)
Fractional Parameter (d)  Estimate  Std. Err.  t Ratio  p-Value
                           0.52726    0.15811     3.335        0

***********************************************************************
TSM4.31.13-05-10 Run 159 at 8:58:36 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Echope
Local Whittle Gaussian ML
Bandwidth = 10 (T^{0.59})
Using 50 observations (35-84)
<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.17304</td>
<td>0.15811</td>
<td>7.419</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.7087</td>
<td>0.15811</td>
<td>4.482</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.63694</td>
<td>0.15811</td>
<td>4.028</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.50284</td>
<td>0.22361</td>
<td>2.249</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.7099</td>
<td>0.22361</td>
<td>3.175</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.44757</td>
<td>0.22361</td>
<td>2.002</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.31121</td>
<td>0.22361</td>
<td>1.392</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.65513</td>
<td>0.22361</td>
<td>2.93</td>
<td>0</td>
</tr>
</tbody>
</table>
Semiparametric Long Memory Estimation for checkmil
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.7)
Using 48 observations  (35-82)

Fractional Parameter (d)       0.66498     0.1291     5.151        0

YELTSIN PERIOD estimates of d

<table>
<thead>
<tr>
<th>Robinson Local Whittle</th>
<th>Yeltsin</th>
<th>Russec</th>
<th>Fammat</th>
<th>Echope</th>
<th>Polsit</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BW 15</td>
<td>.974</td>
<td>.959</td>
<td>.759</td>
<td>.514</td>
<td>.681</td>
<td>.13</td>
</tr>
<tr>
<td>BW 10</td>
<td>.961</td>
<td>.989</td>
<td>.883</td>
<td>.542</td>
<td>.614</td>
<td>.16</td>
</tr>
<tr>
<td>BW 5</td>
<td>.718</td>
<td>.779</td>
<td>1.29</td>
<td>.460</td>
<td>.363</td>
<td>.22</td>
</tr>
<tr>
<td>Average 5-15</td>
<td>0.884</td>
<td>0.909</td>
<td>0.977</td>
<td>0.505</td>
<td>0.553</td>
<td>0.17</td>
</tr>
</tbody>
</table>

PUTIN PERIOD estimates of d

<table>
<thead>
<tr>
<th>35-84</th>
<th>Putin era</th>
<th>Bimonthly</th>
<th>Robinson Whittle</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Est of d</td>
<td>Putapp</td>
<td>Russec</td>
<td>Fammat</td>
<td>Echope</td>
<td>Polsit</td>
<td>Chechmil</td>
</tr>
<tr>
<td>BW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.650</td>
<td>.671</td>
<td>.435</td>
<td>.424</td>
<td>.538</td>
<td>.665</td>
</tr>
<tr>
<td>10</td>
<td>.784</td>
<td>.795</td>
<td>.527</td>
<td>.117</td>
<td>.709</td>
<td>.637</td>
</tr>
<tr>
<td>5</td>
<td>.503</td>
<td>.710</td>
<td>.448</td>
<td>.311</td>
<td>.655</td>
<td>.510</td>
</tr>
<tr>
<td>Average</td>
<td>0.646</td>
<td>0.725</td>
<td>0.470</td>
<td>0.635</td>
<td>0.634</td>
<td>0.604</td>
</tr>
</tbody>
</table>

For use in regressions, I fractionally difference the series by the appropriate d.

Data Transformation:  FD0.884_yeltsin10pt created.
Data Transformation:  FD0.909_Russec created.
Data Transformation:  FD0.977_Fammat created.
Data Transformation:  FD0.505_Echope created.
Data Transformation:  FD0.505_Polsit created.
Data Transformation:  FD0.553_Polsit created.
Data Transformation:  FD0.505_Polsit deleted.
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls saved.
Table 1. Testing for stationarity, unit roots, and cointegration

A. Under Yeltsin (May 1994 - Dec 1999, bimonthly data)

<table>
<thead>
<tr>
<th>Yeltsin rating</th>
<th>Current economy</th>
<th>Family finances</th>
<th>Russia’s ec. future</th>
<th>Political situation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADF test of I(1)</strong></td>
<td>-1.01, p &lt; .90</td>
<td>-1.60, p &lt; .90</td>
<td>-1.72, p &lt; .90</td>
<td>-2.76, p &lt; .10</td>
</tr>
<tr>
<td><strong>KPSS test of I(0)</strong></td>
<td>0.03, p &lt; 1</td>
<td>0.00, p &lt; 1</td>
<td>0.02, p &lt; 1</td>
<td>0.01, p &lt; 1</td>
</tr>
<tr>
<td><strong>HML test of I(0)</strong></td>
<td>2.24, p = .01</td>
<td>2.22, p = .01</td>
<td>2.19, p = .01</td>
<td>2.04 p = .02</td>
</tr>
<tr>
<td><strong>Estimate of d</strong></td>
<td>0.884 (.17)</td>
<td>0.909 (.17)</td>
<td>0.977 (.17)</td>
<td>0.505 (.17)</td>
</tr>
<tr>
<td><strong>Estimate of d for residuals of regression of Yeltsin rating on this variable</strong></td>
<td>0.344 (.17)</td>
<td>0.509 (.17)</td>
<td>0.629 (.17)</td>
<td>1.001 (.17)</td>
</tr>
</tbody>
</table>

B. Under Putin (Jan 2000 - Nov 2007 or Mar 2008, bimonthly data)

<table>
<thead>
<tr>
<th>Putin approval</th>
<th>Current ec.</th>
<th>Family finances</th>
<th>Russia’s ec. Future</th>
<th>Military op. in Chechnya</th>
<th>Pol. situation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADF test of I(1)</strong></td>
<td>-1.94, p &lt; .90</td>
<td>-.24, p &lt; .95</td>
<td>-1.09, p &lt; .90</td>
<td>-2.41, p &lt; .90</td>
<td>-2.73, p &lt; .10</td>
</tr>
<tr>
<td><strong>Phillips-Perron test of I(1)</strong></td>
<td>-2.78 p &lt; .10</td>
<td>-.68, p &lt; .90</td>
<td>-1.80, p &lt; .90</td>
<td>-3.10, p &lt; .05</td>
<td>-2.81, p &lt; .10</td>
</tr>
<tr>
<td><strong>KPSS test of I(0)</strong></td>
<td>.00 p &lt; 1</td>
<td>.14, p &lt; 1</td>
<td>.07, p &lt; 1</td>
<td>.15, p &lt; 1</td>
<td>.17, p &lt; 1</td>
</tr>
<tr>
<td><strong>HML test of I(0)</strong></td>
<td>2.49, p = .01</td>
<td>2.35, p = .01</td>
<td>2.42, p = .01</td>
<td>-.17, p = .57</td>
<td>2.28, p = .01</td>
</tr>
<tr>
<td><strong>Estimate of d</strong></td>
<td>.646 (.17)</td>
<td>0.725 (.17)</td>
<td>0.470 (.17)</td>
<td>0.635 (.17)</td>
<td>0.604 (.17)</td>
</tr>
<tr>
<td><strong>Estimate of d for residuals of regression of Putin approval on this variable</strong></td>
<td>.703 (.17)</td>
<td>.754 (.17)</td>
<td>.492 (.17)</td>
<td>.552 (.17)</td>
<td>.592 (.17)</td>
</tr>
</tbody>
</table>

Calculated using James Davidson’s *Time Series Modeling* software, v. 4.27; p: probability of the test statistic exceeding the computed value under H(0); estimates of d calculated with Robinson’s Local Whittle Gaussian ML semi-parametric method; I present averages of the estimates for bandwidths of 15, 10, and 5 (Yeltsin series have N of 34; those for Putin have N of 50), standard errors in parentheses (averaged across the 3 bandwidths). Yeltsin: 10-point rating; Putin: percent approving of his performance. Standard errors in parentheses.

Cointegration analysis

Regressions of Yeltsin10pt or Putap on separate independent variables. Residuals saved as: Resyrus, Resyfam, Resyec, Resypol, Resprs, Respam, Respec, Resppol, Respchmil.
Dependent Variable is yeltsin10pt
34 observations (dates 3 to 36) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>8.31868</td>
<td>0.44274</td>
<td>18.789</td>
<td>0</td>
</tr>
<tr>
<td>Russec</td>
<td>0.07422</td>
<td>0.00602</td>
<td>12.328</td>
<td>0</td>
</tr>
</tbody>
</table>

Log Likelihood = -9.16793
Schwarz Criterion = -12.6943
Hannan-Quinn Criterion = -11.6885
Akaike Criterion = -11.1679
Sum of Squares = 3.4136
R-Squared = 0.7529
R-Bar-Squared = 0.7452
Residual SD = 0.3266
Residual Skewness = -0.2899
Residual Kurtosis = 3.3645
Jarque-Bera Test = 0.6645 (0.717)

Box-Pierce (residuals): Q(12) = 38.5844 (0)
Box-Pierce (squared residuals): Q(12) = 8.7887 (0.721)
Covariance matrix from robust formula.

...Run completed in 0.07

Residuals31 added to data set.
Data Transformation: Residuals31 renamed as Resyrus

***********************************************************************
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
***********************************************************************
Dependent Variable is yeltsin10pt
34 observations (dates 3 to 36) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.27002</td>
<td>0.5211</td>
<td>10.113</td>
<td>0</td>
</tr>
<tr>
<td>Fammat</td>
<td>0.04971</td>
<td>0.01101</td>
<td>4.515</td>
<td>0</td>
</tr>
</tbody>
</table>

Log Likelihood = -21.3453
Schwarz Criterion = -24.8717
Hannan-Quinn Criterion = -23.8659
Akaike Criterion = -23.3453
Sum of Squares = 6.9873
R-Squared = 0.4942
R-Bar-Squared = 0.4784
Residual SD = 0.4673
Residual Skewness = -0.0173
Residual Kurtosis = 2.9438
Jarque-Bera Test = 0.0062 (0.997)

Box-Pierce (residuals): Q(12) = 21.7126 (0.041)
Box-Pierce (squared residuals): Q(12) = 20.966 (0.051)
Covariance matrix from robust formula.

...Run completed in 0.04

Residuals32 added to data set.
Data Transformation: Residuals32 renamed as Resyfam

***********************************************************************
TSM4.31.13-05-10 Run 33 at 20:32:21 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
***********************************************************************
Dependent Variable is yeltsin10pt
34 observations (dates 3 to 36) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.7811</td>
<td>0.42226</td>
<td>8.954</td>
<td>0</td>
</tr>
<tr>
<td>Echope</td>
<td>0.02563</td>
<td>0.01116</td>
<td>2.296</td>
<td>0.028</td>
</tr>
</tbody>
</table>

Log Likelihood = -29.8535
Schwarz Criterion = -33.3799
Hannan-Quinn Criterion = -32.3741
Akaike Criterion = -31.8535
Sum of Squares = 11.5256
R-Squared = 0.1656
R-Bar-Squared = 0.1396
Residual SD = 0.6001
Residual Skewness = -0.3687
Residual Kurtosis = 2.5839
Jarque-Bera Test = 1.0158 (0.602)
Box-Pierce (residuals): Q(12) = 65.6949 (0)
Box-Pierce (squared residuals): Q(12) = 14.46 (0.272)

...Run completed in 0.03

Residuals33 added to data set.
Data Transformation: Residuals33 renamed as Resyec

***********************************************************************
TSM4.31.13-05-10 Run 34 at 20:33:16 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is yeltsin10pt
34 observations (dates 3 to 36) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>7.62767</td>
<td>1.13781</td>
<td>6.704</td>
</tr>
<tr>
<td>Polsit</td>
<td>0.05825</td>
<td>0.01422</td>
<td>4.096</td>
</tr>
</tbody>
</table>

Log Likelihood = -26.1526
Schwarz Criterion = -29.679
Hannan-Quinn Criterion = -28.6732
Akaike Criterion = -28.1526
Sum of Squares = 9.2708
R-Squared = 0.3289
R-Bar-Squared = 0.3079
Residual SD = 0.5383
Residual Skewness = 0.1903
Residual Kurtosis = 1.9975
Jarque-Bera Test = 1.6288 (0.443)
Box-Pierce (residuals): Q(12) = 87.3912 (0)
Box-Pierce (squared residuals): Q(12) = 12.6196 (0.397)
Covariance matrix from robust formula.
...Run completed in 0.03

Residuals34 added to data set.
Data Transformation: Residuals34 renamed as Resypol
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls saved.

And Putin period:

***********************************************************************
TSM4.31.13-05-10 Run 68 at 21:58:52 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is putapp
50 observations (35-84, dates 37 to 86) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>83.5938</td>
<td>1.55398</td>
<td>53.793</td>
</tr>
<tr>
<td>Russec</td>
<td>0.20243</td>
<td>0.03728</td>
<td>5.43</td>
</tr>
</tbody>
</table>

Log Likelihood = -144.679
Schwarz Criterion = -148.591
Hannan-Quinn Criterion = -147.407
Akaike Criterion = -146.679
Sum of Squares = 954.601
R-Squared = 0.3231
R-Bar-Squared = 0.309
Residual SD = 4.4595
Residual Skewness = -0.2503
Residual Kurtosis = 2.8156
Jarque-Bera Test = 0.5931 (0.743)
Box-Pierce (residuals): Q(12) = 39.8353 (0)
Box-Pierce (squared residuals): Q(12) = 14.2317 (0.286)
Covariance matrix from robust formula.
...Run completed in 0.06
Residuals68 added to data set.

******************************************************************************
TSM4.31.13-05-10 Run 69 at 21:59:07 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is putapp
50 observations (35-84, dates 37 to 86) used for estimation.
Estimation Method: Ordinary Least Squares

                  Estimate  Std. Err.   t Ratio  p-Value
Intercept          85.5381    2.35995    36.246        0
Fammat             0.35096    0.07844     4.474        0

Log Likelihood = -145.292
Schwarz Criterion = -149.204
Hannan-Quinn Criterion = -148.021
Akaike Criterion = -147.292
Sum of Squares = 978.328
R-Squared = 0.3063
R-Bar-Squared = 0.5146
Residual SD = 4.5146
Residual Skewness = -0.2066
Residual Kurtosis = 2.8337

Jarque-Bera Test = 0.4133 (0.813)
Box-Pierce (residuals): Q(12) = 47.6573 (0)
Box-Pierce (squared residuals): Q(12) = 8.5165 (0.744)
Covariance matrix from robust formula.
...Run completed in 0.04
Residuals69 added to data set.

******************************************************************************
TSM4.31.13-05-10 Run 70 at 21:59:14 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is putapp
50 observations (35-84, dates 37 to 86) used for estimation.
Estimation Method: Ordinary Least Squares

                  Estimate  Std. Err.   t Ratio  p-Value
Intercept          74.2539    0.71321   104.112        0
Echope             0.32256    0.09731     3.315    0.002

Log Likelihood = -146.439
Schwarz Criterion = -150.351
Hannan-Quinn Criterion = -149.167
Akaike Criterion = -148.439
Sum of Squares = 1024.25
R-Squared = 0.2737
R-Bar-Squared = 0.2586
Residual SD = 4.6194
Residual Skewness = 0.1492
Residual Kurtosis = 2.8006

Jarque-Bera Test = 0.4133 (0.813)
Box-Pierce (residuals): Q(12) = 33.953 (0.001)
Box-Pierce (squared residuals): Q(12) = 8.5165 (0.744)
Covariance matrix from robust formula.
...Run completed in 0.04
Residuals70 added to data set.

******************************************************************************
TSM4.31.13-05-10 Run 71 at 21:59:22 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is putapp
50 observations (35-84, dates 37 to 86) used for estimation.

                  Estimate  Std. Err.   t Ratio  p-Value
Intercept          74.2539    0.71321   104.112        0
Echope             0.32256    0.09731     3.315    0.002

Log Likelihood = -146.439
Schwarz Criterion = -150.351
Hannan-Quinn Criterion = -149.167
Akaike Criterion = -148.439
Sum of Squares = 1024.25
R-Squared = 0.2737
R-Bar-Squared = 0.2586
Residual SD = 4.6194
Residual Skewness = 0.1492
Residual Kurtosis = 2.8006

Jarque-Bera Test = 0.4133 (0.813)
Box-Pierce (residuals): Q(12) = 33.953 (0.001)
Box-Pierce (squared residuals): Q(12) = 8.5165 (0.744)
Covariance matrix from robust formula.
...Run completed in 0.04
Residuals70 added to data set.

******************************************************************************

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>79.6331</td>
<td>0.88122</td>
<td>90.367</td>
<td>0</td>
</tr>
<tr>
<td>Polsit</td>
<td>0.1296</td>
<td>0.02586</td>
<td>5.011</td>
<td>0</td>
</tr>
</tbody>
</table>

Log Likelihood = -144.881
Schwarz Criterion = -148.793
Hannan-Quinn Criterion = -147.609
Akaike Criterion = -146.881
Sum of Squares = 962.348
R-Squared = 0.3176
Residual SD = 4.4776
Residual Skewness = 0.0146
Residual Kurtosis = 2.9291
Jarque-Bera Test = 0.0123 (0.994)

Box-Pierce (residuals): Q(12) = 29.0981 (0.004)
Box-Pierce (squared residuals): Q(12) = 8.242 (0.766)
Covariance matrix from robust formula.
...Run completed in 0.04

Residuals71 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 317 at 9:39:16 on 2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is putapp
48 observations (35-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>77.6336</td>
<td>1.90066</td>
<td>40.846</td>
<td>0</td>
</tr>
<tr>
<td>chechmil</td>
<td>-0.09135</td>
<td>0.05652</td>
<td>-1.616</td>
<td>0.113</td>
</tr>
</tbody>
</table>

Log Likelihood = -143.719
Schwarz Criterion = -147.591
Hannan-Quinn Criterion = -146.427
Akaike Criterion = -145.719
Sum of Squares = 1120.62
R-Squared = 0.0606
Residual SD = 4.9357
Residual Skewness = -0.118
Residual Kurtosis = 2.503
Jarque-Bera Test = 0.6055 (0.739)

Ljung-Box (residuals): Q(12) = 46.789 (0)
Ljung-Box (squared residuals): Q(12) = 10.3156 (0.588)
Durbin Watson Statistic = 0.845524
KPSS test of I(0) = 0.2851 (0.779)
Diagnostic Tests:
  Autocorrelation (LM): ChiSq(1) = 13.3931 (0)
  B-P Heterosced. (LM): ChiSq(1) = 0.2141 (0.644)
Covariance matrix from robust formula.
  KPSS, RS bandwidth = 0.
  Parzen HAC kernel with Newey-West plug-in bandwidth.
  ...Run completed in 0.03

Residuals317 added to data set.Renamed Respchmil

ESTIMATING d FOR THE RESIDUALS

***********************************************************************
TSM4.31.13-05-10 Run 35 at 20:37:13 on 27-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps xls
Semiparametric Long Memory Estimation for Resyrus
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.49123     0.1291     3.805    0.001

**********************************************************************

TSM4.31.13-05-10 Run 36 at 20:37:13 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resyfam
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.63469     0.1291     4.916        0

**********************************************************************

TSM4.31.13-05-10 Run 37 at 20:37:13 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resyec
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.59804     0.1291     4.632        0

**********************************************************************

TSM4.31.13-05-10 Run 38 at 20:37:13 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resypol
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.77)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.85364     0.1291     6.612        0

**********************************************************************

TSM4.31.13-05-10 Run 39 at 20:37:51 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resyfam
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.47452    0.15811     3.001    0.005

**********************************************************************

TSM4.31.13-05-10 Run 40 at 20:37:51 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resyec
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.59595    0.15811     3.769    0.001

**********************************************************************

TSM4.31.13-05-10 Run 41 at 20:37:51 on 27-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resyec
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 34 observations (dates 3 to 36)
Fractional Parameter (d)       0.64445    0.15811     4.076        0
Semiparametric Long Memory Estimation for Resypol
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.84537</td>
<td>0.15811</td>
<td>5.347</td>
<td>0</td>
</tr>
</tbody>
</table>

Semiparametric Long Memory Estimation for Resyrus
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.46)
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.06457</td>
<td>0.22361</td>
<td>0.289</td>
<td>0.775</td>
</tr>
</tbody>
</table>

Semiparametric Long Memory Estimation for Resyfam
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.46)
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.29546</td>
<td>0.22361</td>
<td>1.321</td>
<td>0.196</td>
</tr>
</tbody>
</table>

Semiparametric Long Memory Estimation for Resyec
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.46)
Using 34 observations (dates 3 to 36)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6462</td>
<td>0.22361</td>
<td>2.89</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Putin period
### Semiparametric Long Memory Estimation for Reapfam

- Local Whittle Gaussian ML
- Bandwidth = 15 (= $T^{0.69}$)
- Using 50 observations (35-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.66614</td>
<td>0.1291</td>
<td>5.16</td>
<td>0</td>
</tr>
</tbody>
</table>

### Semiparametric Long Memory Estimation for Respec

- Local Whittle Gaussian ML
- Bandwidth = 15 (= $T^{0.69}$)
- Using 50 observations (35-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55005</td>
<td>0.1291</td>
<td>4.261</td>
<td>0</td>
</tr>
</tbody>
</table>

### Semiparametric Long Memory Estimation for Resppol

- Local Whittle Gaussian ML
- Bandwidth = 15 (= $T^{0.7}$)
- Using 50 observations (35-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.47698</td>
<td>0.1291</td>
<td>3.695</td>
<td>0</td>
</tr>
</tbody>
</table>

### Semiparametric Long Memory Estimation for Reapchmil

- Local Whittle Gaussian ML
- Bandwidth = 15 (= $T^{0.7}$)
- Using 48 observations (35-82)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.56512</td>
<td>0.1291</td>
<td>4.377</td>
<td>0</td>
</tr>
</tbody>
</table>

**

### Semiparametric Long Memory Estimation for Reaprus

- Local Whittle Gaussian ML
- Bandwidth = 10 (= $T^{0.59}$)
- Using 50 observations (35-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.57722</td>
<td>0.15811</td>
<td>3.651</td>
<td>0</td>
</tr>
</tbody>
</table>

**
<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.61214</td>
<td>0.15811</td>
<td>3.872</td>
<td>0</td>
</tr>
</tbody>
</table>

***********************************************************************

TSM4.31.13-05-10 Run 178 at 9:06:47 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparameteric Long Memory Estimation for Resppol
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.59)
Using 50 observations (35-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.46521 0.15811 2.942 0

***********************************************************************

TSM4.31.13-05-10 Run 180 at 9:06:54 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparameteric Long Memory Estimation for Resprus
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.41)
Using 50 observations (35-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.89523 0.22361 4.004 0

***********************************************************************

TSM4.31.13-05-10 Run 181 at 9:06:54 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparameteric Long Memory Estimation for Respfam
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.41)
Using 50 observations (35-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
1.0126 0.22361 4.528 0

***********************************************************************

TSM4.31.13-05-10 Run 182 at 9:06:54 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparameteric Long Memory Estimation for Respec
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.41)
Using 50 observations (35-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.31425 0.22361 1.405 0

***********************************************************************

TSM4.31.13-05-10 Run 183 at 9:06:54 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparameteric Long Memory Estimation for Resppol
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.41)
Using 50 observations (35-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.83299 0.22361 3.725 0
Evidence of fractional cointegration of Yeltsin10pt with Russec and Fammat during Yeltsin period. In Putin period, Putin approval may be cointegrated with echope, chechmil, even polsit. However high correlations among variables means it is hard to be sure with which exactly the presidential ratings are cointegrated.

2 Yeltsin period regressions

The economic perceptions variables are highly correlated with each other (and with assessments of the political situation). Thus, including them in regressions together may yield odd results. I start by including them separately.

<table>
<thead>
<tr>
<th></th>
<th>Russec</th>
<th>Fammat</th>
<th>Echope</th>
<th>Polsit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russec</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fammat</td>
<td>0.93</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Echope</td>
<td>0.81</td>
<td>0.75</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Polsit</td>
<td>0.97</td>
<td>0.88</td>
<td>0.81</td>
<td>1</td>
</tr>
</tbody>
</table>

These variables enter the regressions in fractionally differenced form. The method of fractional differencing introduces some major distortions in the first few elements of the differenced series. This is because the fractional difference is calculated as a function of all previous elements in the series. When there are no previous elements—i.e. for the first observation—this function is calculated on just that observation. In practice, the first element in the fractionally differenced series is unchanged—it remains a level, not a difference at all. Usually it is an outlier, the extreme value of which is an artifact of the fractional differencing formula, not a feature of the underlying phenomenon.
To avoid such distortions affecting the analysis too much, I took the following approach. In the Yeltsin period, the continuous bimonthly data begin in early 1994. However, there were other more irregularly spaced preceding data points in each series. I interpolated linearly to add one additional data point two months before the start of the continuous bimonthly series. I then included this previous data point in the series when I fractionally differenced it, but subsequently dropped that observation from the differenced series. Thus, the extreme initial value of the fractionally differenced series fell outside the series I am analyzing. The (temporarily) added elements, each for March 1994, were: 3.62 for yeltsin10pt; -72.2 for russec; -44.0 for fammat; -36.7 for echope; and -84.4 for polsit.

Cointegration analysis suggested that russec and fammat might both be cointegrated with yeltsin10pt. I experimented including FECMs constructed using just russec, just fammat, and both together in the cointegrating regression.

In each case, I first regressed yeltsin10pt on the relevant independent variables (as before, including one interpolated observation before the start of the continuous series to avoid the initial distortion problem when the result is fractionally differenced), saved the residuals, estimated the appropriate d (average of bandwidths 5, 10, 15), fractionally differenced the residuals by this d, dropped the first, distorted value, and lagged the series by one period. The FECMs are labeled, respectively: FECMyrus(-1) (d = .276), FECMyfam(-1) (d = .419), and FECMyrusfam(-1) (d = .319).

For the single events, I include a dummy which takes value 1 for the first poll-month after the event. In some cases, that means the second month after the event because of the bimonthly polling schedule (in case of Budyonnovsk). Others are in the correct month.

For the Chechen war, I include one variable, che1start, for the start of the war, which takes 1 in January 1995 (Dec 94 and Feb 95 not in dataset). Dating the end of first Chechen war is a little more complicated. Yeltsin had declared a desire to end the war from the Spring. Negotiations proceeded, along with fighting. I use a dummy, che1end, that takes value 1 in May and July 1996 (April, June and Aug were not in dataset).

The bombing of Kosovo occurred in April, May, and June 1999. Of these months, only May is in the dataset. I include a dummy—kosp—that takes value 1 in May 1999. For Yeltsin hospitalization, I use a dummy—yhosp1—that takes value of 1 for any month that Yeltsin was reported in hospital.

Creating fecms

For Russec:

```
TSM4.31.13-05-10 Run 114 at 21:07:21 on 31-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Dependent Variable is yel1
35 observations (1-35) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>8.38</td>
<td>0.44167</td>
<td>18.973</td>
</tr>
</tbody>
</table>
```
Log Likelihood = -10.9704
Schwarz Criterion = -14.5257
Hannan-Quinn Criterion = -13.5073
Akaike Criterion = -12.9704
Sum of Squares = 3.8357
R-Squared = 0.7339
R-Bar-Squared = 0.7258
Residual SD = 0.3409
Residual Skewness = -0.1897
Residual Kurtosis = 3.2053
Jarque-Bera Test = 0.2713 {0.873}
Ljung-Box (residuals): Q(12) = 45.5095 {0}
Ljung-Box (squared residuals): Q(12) = 10.2684 {0.592}
Durbin Watson Statistic = 0.443838
KPSS test of I(0) = 0.8467 {<0.01} *
Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 10.8955 {0.001}
B-P Heterosced. (LM): ChiSq(1) = 0.1741 {0.676}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.06

Residuals114 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 115 at 21:07:53 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals114
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.76)
Using 35 observations (1-35)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.47919 0.1291 3.712 0.001

***********************************************************************
TSM4.31.13-05-10 Run 116 at 21:08:03 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals114
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 35 observations (1-35)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.45968 0.15811 2.907 0.006

***********************************************************************
TSM4.31.13-05-10 Run 117 at 21:08:15 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals114
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.45)
Using 35 observations (1-35)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
-0.11126 0.22361 -0.498 0.622
Average d = .276

Data Transformation: FD0.276_Residuals114 created, renamed FECMyrus(-1)

For Fammat:

***********************************************************************
TSM4.31.13-05-10 Run 124 at 21:42:12 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Dependent Variable is yel1
35 observations (1-35) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.33109</td>
<td>0.52728</td>
<td>10.111</td>
</tr>
<tr>
<td>famnov2</td>
<td>0.05065</td>
<td>0.01117</td>
<td>4.534</td>
</tr>
</tbody>
</table>

Log Likelihood = -22.1483
Schwarz Criterion = -25.7037
Hannan-Quinn Criterion = -24.6852
Akaike Criterion = -24.1483
Sum of Squares = 7.2652
R-Squared = 0.4959
R-Bar-Squared = 0.4807
Residual SD = 0.4692
Residual Skewness = -0.0505
Residual Kurtosis = 2.8772
Jarque-Bera Test = 0.0369 (0.982)

Ljung-Box (residuals): Q(12) = 25.0058 (0.015)
Ljung-Box (squared residuals): Q(12) = 26.1407 (0.01)
Durbin Watson Statistic = 0.574596
KPSS test of I(0) = 0.8157 (<0.01) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 10.0673 (0.002)
B-P Heterosced. (LM): ChiSq(1) = 2.7699 (0.096)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.06

Residuals124 added to data set.

TSM4.31.13-05-10 Run 125 at 21:42:32 on 31-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals124
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.76)
Using 35 observations (1-35)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.63636 0.1291 4.929 0

TSM4.31.13-05-10 Run 126 at 21:42:40 on 31-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals124
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 35 observations (1-35)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.62156 0.15811 3.931 0

TSM4.31.13-05-10 Run 127 at 21:42:49 on 31-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals124
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.45)
Using 35 observations (1-35)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
0.18316 0.22361 0.819 0.419

Average d = .419

Data Transformation: FD0.419_Residuals124 created, renamed FECMyfam(-1)
For Russec and Fammat together

-----------------------------------------------
TSM4.31.13-05-10 Run 128 at 21:49:07 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
-----------------------------------------------
Dependent Variable is yel1
35 observations (1-35) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>8.22189</td>
<td>0.49183</td>
<td>16.717</td>
<td>0</td>
</tr>
<tr>
<td>russnov2</td>
<td>0.06748</td>
<td>0.00924</td>
<td>7.303</td>
<td>0</td>
</tr>
<tr>
<td>famnov2</td>
<td>0.00782</td>
<td>0.00554</td>
<td>1.412</td>
<td>0.168</td>
</tr>
</tbody>
</table>

Log Likelihood = -10.6515
Schwarz Criterion = -15.9846
Hannan-Quinn Criterion = -14.4569
Sum of Squares = 3.7664
R-Squared = 0.7387
R-Bar-Squared = 0.7223
Residual SD = 0.3431
Residual Skewness = -0.2882
Residual Kurtosis = 3.2816
Jarque-Bera Test = 0.6002 {0.741}
Ljung-Box (residuals): Q(12) = 50.1051 {0}
Ljung-Box (squared residuals): Q(12) = 10.9607 {0.532}
Durbin Watson Statistic = 0.386394
KPSS test of I(0) = 0.7418 {<0.01} *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 11.2114 {0.001}
B-P Heterosced. (LM): ChiSq(1) = 0.1416 {0.707}

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.07

Residuals128 added to data set.

-----------------------------------------------
TSM4.31.13-05-10 Run 129 at 21:49:30 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals128
Local Whittle Gaussian ML
Bandwidth = 15 (= T^0.76)
Using 35 observations (1-35)

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.5268</td>
<td>0.1291</td>
<td>4.081</td>
<td>0</td>
</tr>
</tbody>
</table>

-----------------------------------------------
TSM4.31.13-05-10 Run 130 at 21:49:37 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals128
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.65)
Using 35 observations (1-35)

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.53006</td>
<td>0.15811</td>
<td>3.352</td>
<td>0.002</td>
</tr>
</tbody>
</table>

-----------------------------------------------
TSM4.31.13-05-10 Run 131 at 21:49:43 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\working.xls
Semiparametric Long Memory Estimation for Residuals128
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.45)
Using 35 observations  (1-35)
Fractional Parameter (d)   Estimate  Std. Err.   t Ratio  p-Value
                      -0.09943    0.22361    -0.445     0.66
Average d = .319

Data Transformation:  FD0.319_Residuals128  created, renamed FECMyrusfam(-1)

Table 2

Column 1

***********************************************************************
TSM.31.13-05-10 Run 190 at 10:16:40 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Dependent Variable is Fdo.884yeltsin10pt
33 observations  (2-34) used for estimation.
Estimation Method: Ordinary Least Squares

| Intercept                      0.41835    0.16815     2.488    0.021 |
| FD0.909russec                  0.03105    0.00535     5.803        0 |
| FECMyrus(-1)                  -0.30818    0.14203     -2.17    0.042 |
| Months                        -0.00612     0.0024    -2.552    0.019 |
| orchp                         -0.33120    0.11814    -2.566    0.018 |
| yhOSP1                         0.02730    0.07821     0.349    0.731 |
| budp                          -0.30312    0.11814    -2.566    0.018 |
| chelestart                    -0.31441    0.07946    -3.957    0.001 |
| chelend                       0.34648    0.13868     2.498    0.021 |
| starc2                        -0.00934    0.07118    -0.131    0.897 |
| finp                          -0.14027    0.10643    -1.318    0.202 |
| kosP                          0.05895    0.06549     0.9       0.378 |

Log Likelihood = 26.4121
Schwarz Criterion = 5.43302
Hannan-Quinn Criterion = 11.3909
Akaike Criterion = 14.4121
Sum of Squares = 0.3898
R-Squared = 0.818
R-Bar-Squared = 0.818
Residual SD = 0.1362
Residual Skewness = 0.1717
Residual Kurtosis = 2.7993
Jarque-Bera Test = 0.2176 (0.897)
Ljung-Box (residuals): Q(12) = 4.8847 (0.962)
Ljung-Box (squared residuals): Q(12) = 19.3996 (0.079)
Durbin Watson Statistic = 1.99585
KPSS test of I(0) = 0.0528 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.4315 (0.511)
B-P Heterosced. (LM): ChiSq(1) = 0.6929 (0.405)

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.07

Column 2
### TSM4.31.13-05-10 Run 191 at 10:17:50 on 1-06-2010

Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls

---

**Dependent Variable:** Fdo.884yeltsin10pt  
**33 observations (2-34) used for estimation.**

**Estimation Method:** Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.26712</td>
<td>0.21511</td>
<td>1.242</td>
</tr>
<tr>
<td>FD0.977fammat</td>
<td>0.00989</td>
<td>0.01189</td>
<td>0.832</td>
</tr>
<tr>
<td>FECMyfam(-1)</td>
<td>-0.16729</td>
<td>0.13389</td>
<td>-1.249</td>
</tr>
<tr>
<td>Months</td>
<td>-0.00362</td>
<td>0.00319</td>
<td>-1.136</td>
</tr>
<tr>
<td>orchp</td>
<td>-0.18723</td>
<td>0.10018</td>
<td>-1.869</td>
</tr>
<tr>
<td>yhOSP1</td>
<td>-0.08119</td>
<td>0.09708</td>
<td>-0.836</td>
</tr>
<tr>
<td>budp</td>
<td>-0.21892</td>
<td>0.11602</td>
<td>-1.887</td>
</tr>
<tr>
<td>chelstart</td>
<td>-0.54538</td>
<td>0.0916</td>
<td>-5.954</td>
</tr>
<tr>
<td>chelend</td>
<td>0.45424</td>
<td>0.11459</td>
<td>3.964</td>
</tr>
<tr>
<td>startc2</td>
<td>-0.05272</td>
<td>0.09959</td>
<td>-0.529</td>
</tr>
<tr>
<td>finp</td>
<td>-0.53416</td>
<td>0.18643</td>
<td>-2.865</td>
</tr>
<tr>
<td>kosP</td>
<td>-0.00708</td>
<td>0.13692</td>
<td>-0.052</td>
</tr>
</tbody>
</table>

* Log Likelihood = 14.1422  
* Schwarz Criterion = -6.83686  
* Hannan-Quinn Criterion = -0.878995  
* Akaike Criterion = 2.14218
* Sum of Squares = 0.82  
* R-Squared = 0.6171  
* R-Bar-Squared = 0.4166  
* Residual SD = 0.1976  
* Residual Skewness = 0.0526  
* Residual Kurtosis = 2.6235  
* Jarque-Bera Test = 0.2101 (0.9)

Ljung-Box (residuals): Q(12) = 14.2752 (0.283)
Ljung-Box (squared residuals): Q(12) = 11.6069 (0.478)
Durbin Watson Statistic = 1.72686
KPSS test of I(0) = 0.0802 (<1)

**Diagnostic Tests:**
* Autocorrelation (LM): ChiSq(1) = 0.4743 (0.491)
* B-P Heterosced (LM): ChiSq(1) = 0.3623 (0.547)

Covariance matrix from robust formula.
* Parzen HAC kernel with Newey-West plug-in bandwidth.

---

**Column 3**

---

**TSM4.31.13-05-10 Run 192 at 10:18:29 on 1-06-2010**

Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls

---

**Dependent Variable:** Fdo.884yeltsin10pt  
**33 observations (2-34) used for estimation.**

**with 1 pre-sample observations.**

**Estimation Method:** Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.35821</td>
<td>0.19246</td>
<td>1.861</td>
</tr>
<tr>
<td>FD0.505echope</td>
<td>0.01078</td>
<td>0.00347</td>
<td>3.108</td>
</tr>
<tr>
<td>Months</td>
<td>-0.00421</td>
<td>0.00272</td>
<td>-1.548</td>
</tr>
<tr>
<td>orchp</td>
<td>-0.17258</td>
<td>0.08683</td>
<td>-1.988</td>
</tr>
<tr>
<td>yhOSP1</td>
<td>-0.06983</td>
<td>0.09245</td>
<td>-0.755</td>
</tr>
<tr>
<td>budp</td>
<td>-0.13519</td>
<td>0.10716</td>
<td>-1.262</td>
</tr>
<tr>
<td>chelstart</td>
<td>-0.40522</td>
<td>0.0893</td>
<td>-4.538</td>
</tr>
<tr>
<td>chelend</td>
<td>0.26038</td>
<td>0.10471</td>
<td>2.487</td>
</tr>
<tr>
<td>startc2</td>
<td>0.0465</td>
<td>0.10334</td>
<td>0.45</td>
</tr>
<tr>
<td>finp</td>
<td>-0.52493</td>
<td>0.08891</td>
<td>-5.904</td>
</tr>
<tr>
<td>kosP</td>
<td>0.16304</td>
<td>0.06861</td>
<td>2.376</td>
</tr>
</tbody>
</table>
Log Likelihood = 16.6665
Schwarz Criterion = 2.55627
Hannan-Quinn Criterion = 2.89711
Akaike Criterion = 5.66652
Sum of Squares = 0.7037
R-Squared = 0.6714
R-Bar-Squared = 0.5221
Residual SD = 0.1788
Residual Skewness = -0.1345
Residual Kurtosis = 2.3666
Jarque-Bera Test = 0.6512 (0.722)
Ljung-Box (residuals): Q(12) = 3.2407 (0.994)
Ljung-Box (squared residuals): Q(12) = 8.0907 (0.778)
Durbin Watson Statistic = 1.90967
KPSS test of I(0) = 0.1265 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.0027 (0.959)
B-P Heterosced. (LM): ChiSq(1) = 1.4398 (0.23)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.07 seconds.

Column 4

***********************************************************************
TSM4.31.13-05-10 Run 193 at 10:18:59 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
***********************************************************************

Dependent Variable is Fdo.884yeltsin10pt
33 observations (2-34) used for estimation
with 1 pre-sample observations.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.31032</td>
<td>0.30518</td>
<td>1.017</td>
</tr>
<tr>
<td>FD0.553polsit</td>
<td>0.00403</td>
<td>0.00958</td>
<td>0.421</td>
</tr>
<tr>
<td>Months</td>
<td>-0.00353</td>
<td>0.00368</td>
<td>-0.958</td>
</tr>
<tr>
<td>orchp</td>
<td>-0.1702</td>
<td>0.10955</td>
<td>-1.554</td>
</tr>
<tr>
<td>yhOSP1</td>
<td>-0.10614</td>
<td>0.10188</td>
<td>-1.042</td>
</tr>
<tr>
<td>budp</td>
<td>-0.15982</td>
<td>0.1125</td>
<td>-1.421</td>
</tr>
<tr>
<td>chestart</td>
<td>-0.50625</td>
<td>0.18146</td>
<td>-2.79</td>
</tr>
<tr>
<td>chelen</td>
<td>0.3477</td>
<td>0.16534</td>
<td>2.103</td>
</tr>
<tr>
<td>startc2</td>
<td>0.02923</td>
<td>0.14461</td>
<td>0.202</td>
</tr>
<tr>
<td>finp</td>
<td>-0.58653</td>
<td>0.16436</td>
<td>-3.569</td>
</tr>
<tr>
<td>kosP</td>
<td>0.1924</td>
<td>0.08501</td>
<td>2.263</td>
</tr>
</tbody>
</table>

Log Likelihood = 12.5675
Schwarz Criterion = -6.66326
Hannan-Quinn Criterion = -1.20188
Akaike Criterion = 1.56753
Sum of Squares = 0.9021
R-Squared = 0.5788
R-Bar-Squared = 0.3873
Residual SD = 0.2025
Residual Skewness = -0.1833
Residual Kurtosis = 2.0536
Jarque-Bera Test = 1.4266 (0.49)
Ljung-Box (residuals): Q(12) = 8.2864 (0.762)
Ljung-Box (squared residuals): Q(12) = 12.4782 (0.408)
Durbin Watson Statistic = 1.90967
KPSS test of I(0) = 0.1265 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.0027 (0.959)
B-P Heterosced. (LM): ChiSq(1) = 1.4398 (0.23)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.07 seconds.

27
Column 5

**************************************************************
TSM4.31.13-05-10 Run 195 at 10:20:10 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
**************************************************************
Dependent Variable is Fdo.884yeltsin10pt
33 observations (2-34) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.42503</td>
<td>0.13103</td>
<td>3.244</td>
</tr>
<tr>
<td>FD0.909russec</td>
<td>0.03336</td>
<td>0.00404</td>
<td>8.258</td>
</tr>
<tr>
<td>FD0.977fammat</td>
<td>0.00541</td>
<td>0.00354</td>
<td>1.528</td>
</tr>
<tr>
<td>FECMyrus(-1)</td>
<td>-0.23053</td>
<td>0.09482</td>
<td>-2.431</td>
</tr>
<tr>
<td>Months</td>
<td>-0.00601</td>
<td>0.00164</td>
<td>-3.667</td>
</tr>
<tr>
<td>orchp</td>
<td>-0.228</td>
<td>0.07396</td>
<td>-3.083</td>
</tr>
<tr>
<td>budp</td>
<td>-0.25007</td>
<td>0.06053</td>
<td>-4.131</td>
</tr>
<tr>
<td>che1start</td>
<td>-0.28403</td>
<td>0.06265</td>
<td>-4.534</td>
</tr>
<tr>
<td>che1end</td>
<td>0.31046</td>
<td>0.11962</td>
<td>2.595</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>27.0583</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schwarz Criterion</td>
<td>11.324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannan-Quinn Criterion</td>
<td>15.7924</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Akaike Criterion</td>
<td>18.0583</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of Squares</td>
<td>0.3748</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.825</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Bar-Squared</td>
<td>0.7666</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual SD</td>
<td>0.125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Skewness</td>
<td>0.1841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Kurtosis</td>
<td>2.5066</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jarque-Bera Test</td>
<td>0.5211 (0.771)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ljung-Box (residuals): Q(12) = 8.8985 (0.712)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ljung-Box (squared residuals): Q(12) = 17.2469 (0.14)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin Watson Statistic</td>
<td>1.83409</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KPSS test of I(0)</td>
<td>0.0607 (&lt;1) *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Diagnostic Tests:
- Autocorrelation (LM): Chisq(1) = 0.0012 (0.972)
- B-P Heterosced. (LM): Chisq(1) = 0.7696 (0.38)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.10

Column 6

**************************************************************
TSM4.31.13-05-10 Run 196 at 10:20:45 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
**************************************************************
Dependent Variable is Fdo.884yeltsin10pt
33 observations (2-34) used for estimation
with 1 pre-sample observations.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.39525</td>
<td>0.12413</td>
<td>3.184</td>
</tr>
<tr>
<td>FD0.909russec</td>
<td>0.03458</td>
<td>0.00377</td>
<td>9.173</td>
</tr>
<tr>
<td>FD0.977fammat</td>
<td>0.00674</td>
<td>0.00328</td>
<td>2.056</td>
</tr>
<tr>
<td>Months</td>
<td>-0.00543</td>
<td>0.00151</td>
<td>-3.597</td>
</tr>
<tr>
<td>orchp</td>
<td>-0.26732</td>
<td>0.06692</td>
<td>-3.995</td>
</tr>
<tr>
<td>budp</td>
<td>-0.16338</td>
<td>0.0517</td>
<td>-3.16</td>
</tr>
<tr>
<td>che1start</td>
<td>-0.27947</td>
<td>0.06141</td>
<td>-4.551</td>
</tr>
<tr>
<td>che1end</td>
<td>0.25356</td>
<td>0.1406</td>
<td>1.803</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>24.1208</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schwarz Criterion</td>
<td>10.1348</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannan-Quinn Criterion</td>
<td>14.1067</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

28
Trying a model with a FECEM constructed including both russec and fammat in cointegrating regression:

TSM4.31.13-05-10 Run 197 at 10:21:33 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Dependent Variable is Fdo.884yeltsin10pt
33 observations (2-34) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.40229</td>
<td>0.16556</td>
<td>2.43</td>
<td>0.025</td>
</tr>
<tr>
<td>FD0.909russec</td>
<td>0.03192</td>
<td>0.00592</td>
<td>5.392</td>
<td>0</td>
</tr>
<tr>
<td>FD0.977fammat</td>
<td>0.00602</td>
<td>0.00459</td>
<td>1.311</td>
<td>0.205</td>
</tr>
<tr>
<td>FECMyrusfam(-1)</td>
<td>-0.23013</td>
<td>0.14728</td>
<td>-1.563</td>
<td>0.134</td>
</tr>
<tr>
<td>Months</td>
<td>-0.00571</td>
<td>0.00238</td>
<td>-2.4</td>
<td>0.026</td>
</tr>
<tr>
<td>orchp</td>
<td>-0.22653</td>
<td>0.08668</td>
<td>-2.613</td>
<td>0.017</td>
</tr>
<tr>
<td>yhOSP1</td>
<td>0.01156</td>
<td>0.08002</td>
<td>0.144</td>
<td>0.887</td>
</tr>
<tr>
<td>budp</td>
<td>-0.25864</td>
<td>0.11557</td>
<td>-2.238</td>
<td>0.037</td>
</tr>
<tr>
<td>chelstart</td>
<td>-0.29158</td>
<td>0.07975</td>
<td>-3.656</td>
<td>0.002</td>
</tr>
<tr>
<td>cheleend</td>
<td>0.32688</td>
<td>0.13972</td>
<td>2.34</td>
<td>0.03</td>
</tr>
<tr>
<td>startc2</td>
<td>-0.02582</td>
<td>0.07017</td>
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<td>finp</td>
<td>-0.06093</td>
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<tr>
<td>kosP</td>
<td>-0.04348</td>
<td>0.07899</td>
<td>-0.55</td>
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</tbody>
</table>

Log Likelihood = 26.6726
Schwarz Criterion = 3.94528
Hannan–Quinn Criterion = 10.3996
Akaike Criterion = 13.6726
Sum of Squares = 0.3837
R-Squared = 0.8208
R-Bar-Squared = 0.7133
Residual SD = 0.1385
Residual Skewness = 0.1339
Residual Kurtosis = 2.4195
Jarque-Bera Test = 0.0648 (<1) *
Diagnostic Tests:
  Autocorrelation (LM): ChiSq(1) = 0.0004 (0.984)
  B-P Heterosced. (LM): ChiSq(1) = 0.8813 (0.348)
Covariance matrix from robust formula.
  * KPSS, RS bandwidth = 0.
  Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.07
FECMyrusfam(-1) less significant than one for just russe FECMyrus(-1)c.

For comparison, column 5 model run with dep. var. in first differences

Models with and without the economic variables:
<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD0.909russec</td>
<td>0.03703</td>
<td>0.00731</td>
<td>5.066</td>
<td>0</td>
</tr>
<tr>
<td>FD0.977fammat</td>
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<td>0.00355</td>
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<tr>
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<td>0.024</td>
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<tr>
<td>FECMyrus(-1)</td>
<td>-0.18063</td>
<td>0.16276</td>
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<td>Months</td>
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<td>-1.887</td>
<td>0.074</td>
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<td>orchp</td>
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<td>0.76</td>
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<td>0.09884</td>
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<td>che1start</td>
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<td>-3.069</td>
<td>0.006</td>
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<td>che1end</td>
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<td>0.07859</td>
<td>4.904</td>
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<td>startc2</td>
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<td>kosP</td>
<td>-0.12732</td>
<td>0.08805</td>
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Log Likelihood = 26.0903
Schwarz Criterion = 3.363
Hannan-Quinn Criterion = 9.81736
Akaike Criterion = 13.0903
Sum of Squares = 0.3975
R-Squared = 0.8148
R-Bar-Squared = 0.7034
Residual SD = 0.1408
Residual Skewness = -0.0272
Residual Kurtosis = 3.258
Jarque-Bera Test = 0.0956 (0.953)
Ljung-Box (residuals): Q(12) = 6.8789 (0.866)
Diag Test, I(0): ChiSq(1) = 0.9035 (0.342)
B-P Heterosced. (LM): ChiSq(1) = 1.2992 (0.254)

...Run completed in 0.10
Simulating Yeltsin’s rating had he had Putin’s economy

To estimate what Yeltsin’s rating would have been with Putin’s Russec, I constructed variable in which Putin’s Jan 2000 fd0.909russec was substituted for Yeltsin’s Sept 1991 fd0.909russec, and so on. I then estimated, using the model from column 6 of Table 2 for the Yeltsin period. I calculated the fitted values using the new fd0.909russec and fdo.977fammat variables that contain the Putin period economic perceptions. This produced the following graph. (See Ec and Pol Time Series page in Dataset).

FIGURE 2A Simulating Yeltsin’s Rating with Putin’s Economy

Simulating the rating of a new Kremlin-supported candidate from late 1999 or early 2000 based on just the economic variables and months in office using column 6 model from Yeltsin period:

I calculate the predicted values of the column 6 model starting at (a) Sept 1999, (b) Jan 2000, using the actual economic perceptions data and the estimated coefficients on the intercept, months, fdo909russec and fdo977fammat. I then reverse fractionally difference it, adding the actual values of fdo884yeltsin10pt for March 1994 – July 1999 for (a) and March 1994 - Nov 1999 for (b), to the beginning of the series, and using d = -.884. The resulting predictions are shown in the graph.
3Putin period regressions

<table>
<thead>
<tr>
<th></th>
<th>Russc</th>
<th>Fammat</th>
<th>Echope</th>
<th>Polsit</th>
<th>chechmil</th>
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</thead>
<tbody>
<tr>
<td>Russc</td>
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<td></td>
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<tr>
<td>Fammat</td>
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<td>1.00</td>
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<td></td>
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<tr>
<td>Echope</td>
<td>0.15</td>
<td>0.14</td>
<td>1.00</td>
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<tr>
<td>Polsit</td>
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<td>0.85</td>
<td>0.27</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>chechmil</td>
<td>-0.86</td>
<td>-0.78</td>
<td>0.07</td>
<td>-0.85</td>
<td>1.00</td>
</tr>
</tbody>
</table>

In the Putin regressions, to reduce distortion caused by the differencing process, I have to drop the first observation from the Putin presidency (i.e. Jan 2000). Otherwise the initial value, 79—a level not a difference—is an extreme outlier.

I construct FECMs for echope, chechmil, polsit (using respec, respchmil, resppol, and d’s in Table 1). These are labeled FECMpechop(-1), FECMpchmil(-1), FECMppol(-1).

I also tried an ECM in which cointegrating regression included both echope and chechmil: FECMpecmil(-1)

In earlier draft of paper, I had used a variable for the percentage who said that “war continued” in Chechnya rather than that “peace was being established”, labeled chechwar2. This—surprisingly—proved more significant than chechmil. I discovered an error in the data that accounts for this. Now chechmil is also significant. Including the two together is problematic since they are highly correlated (r = .90). I prefer chechmil both because using chechwar2 required a large amount of interpolation because of missing data and because theoretically it seems more plausible that Russians would oppose Putin because they disagreed with his strategy in Chechnya (i.e. thought Moscow should negotiate...
rather than continuing the military operation) than just because they believed the war there was continuing.

I have also added the dummy monetize for January 2005, the month in which Putin’s administration replaced a system of generous in-kind social benefits with one of monetary grants, generally considered to be inadequate compensation for what was lost. This was extremely unpopular. I include this as a determinant of economic perceptions when these are analyzed later. But the political storm over this government action could also have cut into Putin’s popularity directly. It turns out that this is highly significant (and helps reduce autocorrelation in the errors).

Exploring which FECM fits best

**FECMpchmil(-1)**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>FD0.646_putapp</th>
<th>47 observations (36-82) used for estimation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate</td>
<td>Std. Err.</td>
<td>t Ratio</td>
</tr>
<tr>
<td>Intercept</td>
<td>16.4696</td>
<td>7.35212</td>
</tr>
<tr>
<td>FD0.725 Russec</td>
<td>0.40649</td>
<td>0.12079</td>
</tr>
<tr>
<td>FD0.604 checkmil</td>
<td>0.67168</td>
<td>0.10101</td>
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<tr>
<td>Fhpress</td>
<td>-0.17835</td>
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</tr>
<tr>
<td>Nordost</td>
<td>-4.3387</td>
<td>1.5872</td>
</tr>
<tr>
<td>Beslan</td>
<td>-8.64612</td>
<td>1.79593</td>
</tr>
<tr>
<td>Kursk</td>
<td>-2.45187</td>
<td>1.02984</td>
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<td>nineleven</td>
<td>-6.5687</td>
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<tr>
<td>Khodnov</td>
<td>8.78023</td>
<td>1.00368</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>10.6116</td>
<td>1.11759</td>
</tr>
<tr>
<td>iraqp</td>
<td>-3.21601</td>
<td>0.87248</td>
</tr>
<tr>
<td>ntvp</td>
<td>1.22263</td>
<td>1.2377</td>
</tr>
<tr>
<td>monetize</td>
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<td>1.23306</td>
</tr>
<tr>
<td>FECMpchmil(-1)</td>
<td>-0.21051</td>
<td>0.14096</td>
</tr>
</tbody>
</table>

Log Likelihood = -113.264
Schwarz Criterion = -140.215
Hannan-Quinn Criterion = -132.137
Akaike Criterion = -127.264
Sum of Squares = 341.042
R-Squared = 0.7179
R-Bar-Squared = 0.6968
Residual SD = 3.2147
Residual Skewness = -0.2625
Residual Kurtosis = 3.5189
Jarque-Bera Test = 1.0671 (0.587)
Ljung-Box (residuals): Q(12) = 21.0268 (0.05)
Ljung-Box (squared residuals): Q(12) = 19.8297 (0.07)
Durbin Watson Statistic = 1.67801
KPSS test of I(0) = 0.3474 (<0.1) *

Diagnostic Tests:

- Autocorrelation (LM): ChiSq(1) = 1.3506 (0.245)
- B-P Heterosced. (LM): ChiSq(1) = 0.1059 (0.745)
- Covariance matrix from robust formula.
- KPSS, RS bandwidth = 0.
- Parzen HAC kernel with Newey-West plug-in bandwidth.

...Run completed in 0.10
In this regression, the Durbin Watson stat is low, and KPSS test suggests some non-stationarity. I try including one lag of the dep var.
FD0.725_Russec                  0.4055    0.12057     3.363    0.002
FD0.604_chechmil                0.6276    0.10956     5.728        0
FECMpechop(-1)                -0.28763    0.11806    -2.436     0.02
Fhpress                        -0.1667    0.10188    -1.636    0.111
Nordost                       -3.22731     1.7303    -1.865    0.071
Beslan                        -7.99345    1.4281    -5.559        0
Kursk                         -0.95865    0.98571    -0.973    0.338
nineleven                     -6.32638    1.18299    -5.348        0
Khodnov                        7.71451    1.20695     6.392        0
Sovhymn                        10.2215     1.0705     9.548        0
iraqp                         -2.93292    0.84136    -3.486    0.001
ntvp                           1.83085    1.24054     1.476    0.149
monetize                      -4.01788    1.0647    -3.774    0.001

Log Likelihood = -111.582
Schwarz Criterion = -138.533
Hannan-Quinn Criterion = -130.455
Akaike Criterion = -125.582
Sum of Squares = 317.485
R-Squared = 0.7374
R-Bar-Squared = 0.634
Residual SD = 3.1017
Residual Skewness = -0.2829
Residual Kurtosis = 3.3555
Jarque-Bera Test = 0.8743 {0.646}
Ljung-Box (residuals):          Q(12) = 24.159 (0.019)
Ljung-Box (squared residuals):  Q(12) = 21.1713 (0.048)
Durbin Watson Statistic = 1.63187
KPSS test of I(0) = 0.3311    {<1} *

Diagnostic Tests:
Autocorrelation (LM):      ChiSq(1) = 1.5811 {0.209}
B-P Heterosced. (LM):      ChiSq(1) = 0.2289 {0.632}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Farzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.09

Again low DW; include lag of dv.

***********************************************************************
TSM4.31.13-05-10 Run 331 at 10:12:04 on 2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
***********************************************************************

Dependent Variable is FD0.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
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<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>FDO646PUTAP(-1)</td>
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<tr>
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<td>0.001</td>
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<tr>
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<tr>
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</tr>
<tr>
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<td>0.711</td>
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<td>-5.70781</td>
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<tr>
<td>Kursk</td>
<td>-0.49421</td>
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</table>

Log Likelihood = -108.952
Schwarz Criterion = -137.828
Hannan-Quinn Criterion = -129.173
Akaike Criterion = -123.952
Sum of Squares = 283.87
R-Squared = 0.7652
R-Bar-Squared = 0.6625
Residual SD = 2.9784
Residual Skewness = -0.0158
Residual Kurtosis = 3.0924
Jarque-Bera Test = 0.0187 (0.991)

Ljung-Box (residuals): Q(12) = 19.4826 (0.078)
Ljung-Box (squared residuals): Q(12) = 22.7292 (0.03)
Durbin Watson Statistic = 1.8528

KPSS test of I(0) = 0.2479 (<1)

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = -0.987 (0.667)
B-P Heterosced. (LM): ChiSq(1) = -0.549 (0.69)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.09

FECMpol(-1)

******************************************************************************
TSM4.31.13-05-10 Run 332 at 10:12:43 on 2-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls

Dependent Variable is FD0.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
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<tbody>
<tr>
<td>Intercept</td>
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<td>0.41839</td>
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<td>3.451</td>
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<tr>
<td>FD0.604 chechmil</td>
<td>0.68608</td>
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<td>5.988</td>
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<td>FECMpol(-1)</td>
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<td>-3.593</td>
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</table>

Log Likelihood = -112.272
Schwarz Criterion = -139.223
Hannan-Quinn Criterion = -131.146
Akaike Criterion = -126.272
Sum of Squares = 326.951
R-Squared = 0.7296
R-Bar-Squared = 0.623
Residual SD = 3.1476
Residual Skewness = -0.2571
Residual Kurtosis = 3.5114
Jarque-Bera Test = 1.0299 (0.598)

Ljung-Box (residuals): Q(12) = 20.9088 (0.052)
Ljung-Box (squared residuals): Q(12) = 20.0161 (0.067)
Durbin Watson Statistic = 1.61929

KPSS test of I(0) = 0.3469 (<1)*

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.1857 (0.667)
B-P Heterosced. (LM): ChiSq(1) = 0.9602 (0.327)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.12

With lagged dv:
Dependent Variable is FD0.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
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<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
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<tr>
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<td>-4.77064</td>
<td>1.55666</td>
<td>-3.065</td>
</tr>
<tr>
<td>Khodnov</td>
<td>7.81995</td>
<td>0.96301</td>
<td>8.12</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>9.11905</td>
<td>1.17785</td>
<td>7.472</td>
</tr>
<tr>
<td>iraqp</td>
<td>-3.45508</td>
<td>0.75006</td>
<td>-4.606</td>
</tr>
<tr>
<td>ntvp</td>
<td>-0.55533</td>
<td>1.32646</td>
<td>-0.419</td>
</tr>
<tr>
<td>monetize</td>
<td>-5.97006</td>
<td>1.29667</td>
<td>-4.604</td>
</tr>
</tbody>
</table>

Log Likelihood = -108.062
Schwarz Criterion = -136.939
Hannan-Quinn Criterion = -128.024
Akaike Criterion = -123.062
Sum of Squares = 273.327
R-Squared = 0.7739
Residual SD = 2.9226
Residual Skewness = -0.0296
Residual Kurtosis = 3.4031
Jarque-Bera Test = 0.3251 (0.85)

Ljung-Box (residuals): Q(12) = 14.7222 (0.257)
Ljung-Box (squared residuals): Q(12) = 28.6474 (0.004)
Durbin Watson Statistic = 1.82985
KPSS test of I(0) = 0.2456 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.4047 (0.525)
B-P Heterosced. (LM): ChiSq(1) = 0.2771 (0.599)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0

Trying one with both chechmil and echope: FECMpecmil(-1)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>iraqp</td>
<td>-2.84634</td>
<td>0.84047</td>
<td>-3.355</td>
<td>0.002</td>
</tr>
<tr>
<td>ntvp</td>
<td>1.74472</td>
<td>1.36279</td>
<td>1.28</td>
<td>0.209</td>
</tr>
<tr>
<td>monetize</td>
<td>-3.84425</td>
<td>1.09558</td>
<td>-3.509</td>
<td>0.001</td>
</tr>
<tr>
<td>FECMpecmil(-1)</td>
<td>-0.23133</td>
<td>0.13497</td>
<td>-1.714</td>
<td>0.096</td>
</tr>
</tbody>
</table>

Log Likelihood = -112.823  
Schwarz Criterion = -139.774  
Hannan-Quinn Criterion = -131.697  
Akaiake Criterion = -126.823  
Sum of Squares = 334.709  
R-Squared = 0.723  
R-Bar-Squared = 3.1848  
Residual Skewness = -0.2164  
Residual Kurtosis = 3.1905  
Jarque-Bera Test = 0.4379 {0.803}  
Ljung-Box (residuals): Q(12) = 23.3197 {0.025}  
Ljung-Box (squared residuals): Q(12) = 22.3996 {0.033}  
Durbin Watson Statistic = 1.62212  
KPSS test of I(0) = 0.3481 {<0.1}  

Diagnostic Tests:  
Autocorrelation (LM): ChiSq(1) = 1.6134 (0.204)  
B-P Heterosced. (LM): ChiSq(1) = 0.1346 (0.714)  

Covariance matrix from robust formula.  
* KPSS, RS bandwidth = 0.  
Parzen HAC kernel with Newey-West plug-in bandwidth.  
...Run completed in 0.10

TSM4.31.13-05-10 Run 336 at 10:15:24 on 2-06-2010  
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls  
Dependent Variable is FD0.646_putapp  
47 observations (36-82) used for estimation.  
Estimation Method: Ordinary Least Squares  

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>11.4761</td>
<td>6.50888</td>
<td>1.763</td>
<td>0.087</td>
</tr>
<tr>
<td>FDO646PUTAP(-1)</td>
<td>0.16507</td>
<td>0.06556</td>
<td>2.518</td>
<td>0.017</td>
</tr>
<tr>
<td>FDO.725_Russec</td>
<td>0.37902</td>
<td>0.11249</td>
<td>3.369</td>
<td>0.002</td>
</tr>
<tr>
<td>FDO.604_chechmil</td>
<td>0.35507</td>
<td>0.17905</td>
<td>1.983</td>
<td>0.056</td>
</tr>
<tr>
<td>Fhpress</td>
<td>-0.11917</td>
<td>0.09795</td>
<td>-1.217</td>
<td>0.233</td>
</tr>
<tr>
<td>Nordost</td>
<td>1.88556</td>
<td>3.22582</td>
<td>0.585</td>
<td>0.563</td>
</tr>
<tr>
<td>Beslan</td>
<td>-5.502</td>
<td>2.06377</td>
<td>-2.666</td>
<td>0.012</td>
</tr>
<tr>
<td>Kursk</td>
<td>-1.06191</td>
<td>0.98017</td>
<td>-1.083</td>
<td>0.287</td>
</tr>
<tr>
<td>nineleven</td>
<td>-4.5538</td>
<td>1.52887</td>
<td>-2.979</td>
<td>0.005</td>
</tr>
<tr>
<td>Khodnov</td>
<td>6.52351</td>
<td>1.17099</td>
<td>5.571</td>
<td>0</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>8.17189</td>
<td>1.31784</td>
<td>6.201</td>
<td>0</td>
</tr>
<tr>
<td>iraqp</td>
<td>-3.29096</td>
<td>0.81278</td>
<td>-4.049</td>
<td>0</td>
</tr>
<tr>
<td>ntvp</td>
<td>0.90659</td>
<td>1.29352</td>
<td>0.701</td>
<td>0.488</td>
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<tr>
<td>monetize</td>
<td>-5.11782</td>
<td>1.0796</td>
<td>-4.74</td>
<td>0</td>
</tr>
<tr>
<td>FECMpecmil(-1)</td>
<td>-0.47474</td>
<td>0.12591</td>
<td>-3.77</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Log Likelihood = -109.303  
Schwarz Criterion = -138.179  
Hannan-Quinn Criterion = -129.525  
Akaiake Criterion = -124.303  
Sum of Squares = 288.148  
R-Squared = 0.7617  
R-Bar-Squared = 0.6574  
Residual Skewness = 0.0018  
Residual Kurtosis = 2.9612  
Jarque-Bera Test = 0.003 (0.999)  
Ljung-Box (residuals): Q(12) = 20.6666 (0.056)  
Ljung-Box (squared residuals): Q(12) = 24.2422 (0.019)  
Durbin Watson Statistic = 1.84406  
KPSS test of I(0) = 0.2657 (0.01)  

Diagnostic Tests:  
Autocorrelation (LM): ChiSq(1) = 0.2096 (0.647)  
B-P Heterosced. (LM): ChiSq(1) = 0.947 (0.33)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.17

Comparing these, FECMpechop(-1) is the most significant.

Table 3

Column 1

<table>
<thead>
<tr>
<th>Dependent Variable is FD0.646_putapp</th>
<th>47 observations (36-82) used for estimation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimation Method: Ordinary Least Squares</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>Estimate  Std. Err. t Ratio  p-Value</td>
</tr>
<tr>
<td></td>
<td>5.60822   1.33026   4.216       0</td>
</tr>
<tr>
<td>FD0.646_PUTAP(-1)</td>
<td>0.10312   0.05772   1.786       0.083</td>
</tr>
<tr>
<td>FD0.725_Russec</td>
<td>0.37931   0.10708   3.542       0.001</td>
</tr>
<tr>
<td>FD0.604_chechmil</td>
<td>0.40868   0.16317   2.505       0.018</td>
</tr>
<tr>
<td>Months</td>
<td>-0.03178  0.02046   -1.553      0.13</td>
</tr>
<tr>
<td>FECMpechop(-1)</td>
<td>-0.41064  0.09911   -4.143      0</td>
</tr>
<tr>
<td>Nordost</td>
<td>1.11528   2.96936   0.376       0.71</td>
</tr>
<tr>
<td>Beslan</td>
<td>-5.80494  1.97125   -2.945      0.006</td>
</tr>
<tr>
<td>Kursk</td>
<td>-1.0494   1.07018   -0.981      0.334</td>
</tr>
<tr>
<td>nineleven</td>
<td>-4.78963  1.46941   -3.26       0.003</td>
</tr>
<tr>
<td>Khodnov</td>
<td>6.50015   1.11538   5.828       0</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>8.65636   1.16245   7.447       0</td>
</tr>
<tr>
<td>iraqp</td>
<td>-3.64255  0.75781   -4.807      0</td>
</tr>
<tr>
<td>ntvp</td>
<td>0.72402   1.12386   0.644       0.524</td>
</tr>
<tr>
<td>monetize</td>
<td>-4.75513  1.00321   -4.74       0</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-108.398</td>
</tr>
<tr>
<td>Schwarz Criterion</td>
<td>-137.274</td>
</tr>
<tr>
<td>Hannan-Quinn Criterion</td>
<td>-128.619</td>
</tr>
<tr>
<td>Akaike Criterion</td>
<td>-123.398</td>
</tr>
<tr>
<td>Sum of Squares</td>
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</tr>
<tr>
<td>R-Squared</td>
<td>0.7707</td>
</tr>
<tr>
<td>R-Bar-Squared</td>
<td>0.6704</td>
</tr>
<tr>
<td>Residual SD</td>
<td>2.9435</td>
</tr>
<tr>
<td>Residual Skewness</td>
<td>-0.0009</td>
</tr>
<tr>
<td>Residual Kurtosis</td>
<td>3.234</td>
</tr>
<tr>
<td>Jarque-Bera Test</td>
<td>0.1072</td>
</tr>
<tr>
<td>Ljung-Box (residuals): Q(12) = 19.2765 (0.082)</td>
<td></td>
</tr>
<tr>
<td>Ljung-Box (squared residuals): Q(12) = 22.4783 (0.032)</td>
<td></td>
</tr>
<tr>
<td>Durbin Watson Statistic</td>
<td>1.85999</td>
</tr>
<tr>
<td>KPSS test of I(0)</td>
<td>0.2397</td>
</tr>
<tr>
<td>Diagnostic Tests: Autocorrelation LM:</td>
<td>ChiSq(1) = 0.1754 (0.675)</td>
</tr>
<tr>
<td>B-P Heterosced. (LM): ChiSq(1) = 0.9797 (0.322)</td>
<td></td>
</tr>
<tr>
<td>Covariance matrix from robust formula.</td>
<td></td>
</tr>
</tbody>
</table>
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.10

Note that months was more significant than FHpress in this regression.
Dependent Variable is FD.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>6.10406</td>
<td>1.52862</td>
<td>3.993</td>
<td>0</td>
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<tr>
<td>FD.646PUTAP(-1)</td>
<td>0.12658</td>
<td>0.07596</td>
<td>1.666</td>
<td>0.105</td>
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<tr>
<td>FD.47_Fammat</td>
<td>-0.01356</td>
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<td>-0.058</td>
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</tr>
<tr>
<td>FD.604_chechmil</td>
<td>0.30652</td>
<td>0.20502</td>
<td>1.495</td>
<td>0.145</td>
</tr>
<tr>
<td>Months</td>
<td>-0.02761</td>
<td>0.02295</td>
<td>-1.203</td>
<td>0.238</td>
</tr>
<tr>
<td>FECMpechop(-1)</td>
<td>-0.40991</td>
<td>0.1309</td>
<td>-3.131</td>
<td>0.004</td>
</tr>
<tr>
<td>Nordost</td>
<td>2.07451</td>
<td>3.95647</td>
<td>0.524</td>
<td>0.604</td>
</tr>
<tr>
<td>Beslan</td>
<td>-6.84785</td>
<td>2.14192</td>
<td>-3.197</td>
<td>0.003</td>
</tr>
<tr>
<td>Kursk</td>
<td>-2.89373</td>
<td>1.52803</td>
<td>-1.894</td>
<td>0.067</td>
</tr>
<tr>
<td>nineleven</td>
<td>-1.48618</td>
<td>1.90839</td>
<td>-0.779</td>
<td>0.442</td>
</tr>
<tr>
<td>Khodnov</td>
<td>4.8475</td>
<td>1.39912</td>
<td>3.465</td>
<td>0.002</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>8.63642</td>
<td>1.64522</td>
<td>5.249</td>
<td>0</td>
</tr>
<tr>
<td>iraqp</td>
<td>-4.9429</td>
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<td>-3.293</td>
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<td>ntvp</td>
<td>0.15689</td>
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<td>0.915</td>
</tr>
<tr>
<td>monetize</td>
<td>-6.32124</td>
<td>4.55539</td>
<td>-1.380</td>
<td>0.175</td>
</tr>
</tbody>
</table>

Log Likelihood = -115.581
Schwarz Criterion = -144.457
Hannan-Quinn Criterion = -135.803
Akaike Criterion = -130.581
Sum of Squares = 376.391
R-Squared = 0.6887
R-Bar-Squared = 0.5525
Residual SD = 3.4296
Residual Skewness = -0.3689
Residual Kurtosis = 2.8325
Jarque-Bera Test = 1.1212 (0.571)
Ljung-Box (residuals): Q(12) = 12.485 (0.408)
Ljung-Box (squared residuals): Q(12) = 8.4589 (0.748)
Durbin Watson Statistic = 1.93827
KPSS test of I(0) = 0.2375 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.0029 (0.957)
B-P Heterosced. (LM): ChiSq(1) = 0.0756 (0.783)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.12

Note that months was more significant than FHpress in this regression.

Note also that the fammat effect is largely wiped out by including monetize. This was the time during Putin’s period when people had the sharpest shock to their sense of their family’s material situation. Thus, this negative shock seems to have cost Putin popularity (picked up inter alia by fammat when monetize is not included), but gradual improvement in personal living conditions had a less clear effect, perhaps in part because it was so steady and gradual.

Column 3

**********************************************************************

Note that months was more significant than FHpress in this regression.

Note also that the fammat effect is largely wiped out by including monetize. This was the time during Putin’s period when people had the sharpest shock to their sense of their family’s material situation. Thus, this negative shock seems to have cost Putin popularity (picked up inter alia by fammat when monetize is not included), but gradual improvement in personal living conditions had a less clear effect, perhaps in part because it was so steady and gradual.
Note that months was more significant than FHpress in this regression.

**Column 4**

**Dependent Variable is FD0.646_putapp**

**Estimation Method: Ordinary Least Squares**

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.49886</td>
<td>1.74363</td>
<td>3.154</td>
</tr>
<tr>
<td>FD0.646PUTAP(-1)</td>
<td>0.12905</td>
<td>0.07918</td>
<td>1.63</td>
</tr>
<tr>
<td>FD0.634_Polsit</td>
<td>0.09727</td>
<td>0.06931</td>
<td>1.403</td>
</tr>
<tr>
<td>Months</td>
<td>-0.0258</td>
<td>0.02168</td>
<td>-1.19</td>
</tr>
<tr>
<td>FECMpechop(-1)</td>
<td>-0.46002</td>
<td>0.13092</td>
<td>-3.514</td>
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<tr>
<td>Nordost</td>
<td>3.77038</td>
<td>4.40939</td>
<td>0.855</td>
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<tr>
<td>Beslan</td>
<td>-2.9704</td>
<td>3.96239</td>
<td>-0.75</td>
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<tr>
<td>Kursk</td>
<td>-1.63415</td>
<td>1.63365</td>
<td>-1</td>
</tr>
<tr>
<td>nineleven</td>
<td>-2.18244</td>
<td>1.61562</td>
<td>-1.351</td>
</tr>
</tbody>
</table>

**Log Likelihood = -113.764**

**Schwarz Criterion = -140.715**

**Hannan-Quinn Criterion = -132.638**

**Akaike Criterion = -127.764**

**Sum of Squares = 348.386**

**R-Squared = 0.7118**

**R-Bar-Squared = 0.5983**

**Residual SD = 3.2492**

**Residual Skewness = -0.441**

**Residual Kurtosis = 3.5881**

**Jarque-Bera Test = 2.2009**

**Ljung-Box (residuals): ChiSq(12) = 14.9463**

**Ljung-Box (squared residuals): ChiSq(12) = 9.5686**

**Durbin Watson Statistic = 1.80691**

**KPSS test of I(0) = 0.8069**

**Diagnostic Tests:**

- **Autocorrelation (LM): ChiSq(1) = 0.3496**
- **B-P Heterosced. (LM): ChiSq(1) = 0.0969**

**Covariance matrix from robust formula.**

* KPSS, RS bandwidth = 0.

Parzen HAC kernel with Newey-West plug-in bandwidth.

...Run completed in 0.15
Khodnov                        4.83138    1.2201      3.96        0
Sovhymn                        9.08028    1.44862     6.268        0
iraqp                          -4.5986    0.77432    -5.939        0
ntvp                           0.33023    1.35561     0.244    0.809
monetize                      -5.97839    1.02314    -5.843        0

Log Likelihood = -114.282
Schwarz Criterion = -143.158
Hannan-Quinn Criterion = -134.504
Akaike Criterion = -129.282
Sum of Squares = 356.144
R-Squared =  0.7054
R-Bar-Squared =  0.5766
Residual SD =  3.3361
Residual Skewness = -0.4644
Residual Kurtosis =  3.1492
Jarque-Bera Test =  1.7328  {0.42}

Ljung-Box (residuals):          Q(12) = 12.8005 {0.384}
Ljung-Box (squared residuals):  Q(12) = 12.6595 {0.394}
Durbin Watson Statistic = 1.8861
KPSS test of I(0) =  0.2278    {<1} *

Diagnostic Tests:
Autocorrelation (LM):      ChiSq(1) =  0.0625 {0.803}
B-P Heterosced. (LM):      ChiSq(1) =  0.2497 {0.617}

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in  0.12

Paranethetically, trying this regression with the fecm for polsit instead of that for echope:

***********************************************************************
TSM4.31.13-05-10 Run 355 at 10:44:36 on  2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is FD0.646_putapp
47 observations  (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.27919</td>
<td>1.94929</td>
<td>2.708</td>
</tr>
<tr>
<td>FD0646PUTAP(-1)</td>
<td>0.17731</td>
<td>0.09724</td>
<td>1.823</td>
</tr>
<tr>
<td>FD0.634_Polsit</td>
<td>0.09908</td>
<td>0.07772</td>
<td>1.275</td>
</tr>
<tr>
<td>FD0.604_chechmil</td>
<td>0.34009</td>
<td>0.22406</td>
<td>1.518</td>
</tr>
<tr>
<td>Months</td>
<td>-0.02821</td>
<td>0.02344</td>
<td>-1.204</td>
</tr>
<tr>
<td>FECMpol(-1)</td>
<td>-0.49975</td>
<td>0.1817</td>
<td>-2.75</td>
</tr>
<tr>
<td>Nordost</td>
<td>3.74245</td>
<td>4.67462</td>
<td>0.801</td>
</tr>
<tr>
<td>Beslan</td>
<td>-3.99326</td>
<td>4.1446</td>
<td>-0.963</td>
</tr>
<tr>
<td>Kurak</td>
<td>-3.30499</td>
<td>1.62746</td>
<td>-2.031</td>
</tr>
<tr>
<td>nineleven</td>
<td>-2.3163</td>
<td>1.64913</td>
<td>-1.405</td>
</tr>
<tr>
<td>Khodnov</td>
<td>6.20472</td>
<td>0.96632</td>
<td>6.421</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>9.34585</td>
<td>1.58075</td>
<td>5.912</td>
</tr>
<tr>
<td>iraqp</td>
<td>-4.77848</td>
<td>0.85919</td>
<td>-5.694</td>
</tr>
<tr>
<td>ntvp</td>
<td>-1.2737</td>
<td>1.64203</td>
<td>-0.776</td>
</tr>
<tr>
<td>monetize</td>
<td>-7.05908</td>
<td>1.39089</td>
<td>-5.075</td>
</tr>
</tbody>
</table>

Log Likelihood = -114.18
Schwarz Criterion = -143.056
Hannan-Quinn Criterion = -134.402
Akaike Criterion = -129.18
Sum of Squares = 354.605
R-Squared =  0.7067
R-Bar-Squared =  0.5784
Residual SD =  3.3289
Residual Skewness = -0.4654
Residual Kurtosis =  3.5258
Jarque-Bera Test =  2.2378 {0.327}
Ljung-Box (residuals):          Q(12) = 8.7427 {0.725}
Ljung-Box (squared residuals):  Q(12) = 17.0005 {0.15}
Durbin Watson Statistic = 1.84643
KPSS test of I(0) =  0.2278    {<1} *
Autocorrelation (LM): ChiSq(1) = 0.1875 (0.665)
B-P Heterosced. (LM): ChiSq(1) = 0.0013 (0.971)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.14

it’s less significant.

Again, months was more significant than FHpress in this regression.

Column 5: International

***********************************************************************
TSM4.31.13-05-10 Run 90 at 16:39:09 on 28-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for international
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.62)
Using 41 observations (38-78)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.51635</td>
<td>0.15811</td>
<td>3.266</td>
</tr>
</tbody>
</table>

** Sample period truncated due to missing values. **

***********************************************************************
TSM4.31.13-05-10 Run 91 at 16:39:20 on 28-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for international
Local Whittle Gaussian ML
Bandwidth = 5 (= T^0.43)
Using 41 observations (38-78)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>-0.04745</td>
<td>0.22361</td>
<td>-0.212</td>
</tr>
</tbody>
</table>

So average estimate of d = (0.85301+0.51635-0.04745)/3 = .441
Beslan  -6.24793  1.9955  -3.131   0.004
Kursk    -5.05247  2.20842  -2.288   0.031
nineleven -2.82353  1.98196  -1.425   0.166
Khodnov  5.00802  2.14022   2.34     0.027
Sovhymn  10.3396  1.41263   7.319    0
iraqp    -4.31053  0.8183   -5.268    0
ntvp     -2.24981  2.8456   -0.791   0.436
FD0.441_international  0.18573  0.14258   1.303   0.204
monetize -4.25698  1.14752   -3.71    0.001

Log Likelihood = -94.552
Schwarz Criterion = -120.374
Hannan-Quinn Criterion = -112.827
Akaike Criterion = -108.552
Sum of Squares = 264.702
R-Squared =  0.642
R-Bar-Squared =  0.462
Residual SD =  3.1907
Residual Skewness = -0.1043
Residual Kurtosis =  2.9022
Jarque-Bera Test =  0.0885 {0.957}
Ljung-Box (residuals):  Q(12) = 11.9971 {0.446}
Ljung-Box (squared residuals): Q(12) = 14.5738 {0.266}
Durbin Watson Statistic = 2.0785
KPSS test of I(0) =  0.1386    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):  ChiSq(1) =  0.1599 {0.689}
  B-P Heterosced. (LM):  ChiSq(1) =  0.2603  {0.61}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in  0.12

Perhaps because of poor data, international is not significant.

Column 6: Order

So average d for order is (0.46724+0.33609+0.62929)/3 = .478
<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>7.10933</td>
<td>1.78313</td>
<td>3.987</td>
</tr>
<tr>
<td>FD0.604_chechmil</td>
<td>0.4015</td>
<td>0.19146</td>
<td>2.097</td>
</tr>
<tr>
<td>Months</td>
<td>-0.04347</td>
<td>0.03089</td>
<td>-1.407</td>
</tr>
<tr>
<td>FECMpechop(-1)</td>
<td>-0.1434</td>
<td>0.14264</td>
<td>-1.005</td>
</tr>
<tr>
<td>Beslan</td>
<td>-7.1262</td>
<td>1.85425</td>
<td>-3.843</td>
</tr>
<tr>
<td>Kursk</td>
<td>-2.22412</td>
<td>2.71187</td>
<td>-0.82</td>
</tr>
<tr>
<td>nineleven</td>
<td>-1.84879</td>
<td>1.52693</td>
<td>-1.211</td>
</tr>
<tr>
<td>Khodnov</td>
<td>7.09803</td>
<td>2.03211</td>
<td>3.493</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>10.0422</td>
<td>1.84506</td>
<td>5.443</td>
</tr>
<tr>
<td>iraqp</td>
<td>-5.46895</td>
<td>1.93312</td>
<td>-2.829</td>
</tr>
<tr>
<td>ntvp</td>
<td>0.19439</td>
<td>1.61926</td>
<td>0.12</td>
</tr>
<tr>
<td>FD0.478_order</td>
<td>0.11141</td>
<td>0.21677</td>
<td>0.514</td>
</tr>
<tr>
<td>monetize</td>
<td>-4.7055</td>
<td>1.49211</td>
<td>-3.154</td>
</tr>
</tbody>
</table>

Log Likelihood = -96.8473
Schwarz Criterion = -122.669
Hannan-Quinn Criterion = -115.122
Akaike Criterion = -110.847
Sum of Squares = 296.891
R-Squared = 0.5984
R-Bar-Squared = 0.3976
Residual SD = 3.3792
Residual Skewness = -0.1797
Residual Kurtosis = 3.4107
Jarque-Bera Test = 0.4963 {0.78}
Ljung-Box (residuals): Q(12) = 11.8782 {0.456}
Ljung-Box (squared residuals): Q(12) = 3.4466 {0.991}
Durbin Watson Statistic = 1.87285
KPSS test of I(0) = 0.2198 {<1} *

Diagnostic Tests:

Autocorrelation (LM): ChiSq(1) = 0.1451 {0.703}
B-P Heterosced. (LM): ChiSq(1) = 0.0708 {0.79}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.12

Column 7: Combined model
Column 8: Same model without FECM
THIS MODEL IS JUST FOR FORECASTING (CANNOT DO THIS WITH A MODEL THAT CONTAINS A FECM).

-----------------------------------------------------------------------
Dependent Variable is FD0.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares
-----------------------------------------------------------------------

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>6.97226</td>
<td>1.2503</td>
<td>5.576</td>
</tr>
<tr>
<td>FD0.725_Russec</td>
<td>0.35459</td>
<td>0.16395</td>
<td>2.163</td>
</tr>
<tr>
<td>FD0.635_Echope</td>
<td>0.03778</td>
<td>0.10187</td>
<td>0.371</td>
</tr>
<tr>
<td>FD0.604_chechmil</td>
<td>0.55814</td>
<td>0.0763</td>
<td>7.315</td>
</tr>
<tr>
<td>Months</td>
<td>-0.04886</td>
<td>0.02313</td>
<td>-2.112</td>
</tr>
<tr>
<td>nineleven</td>
<td>-6.38442</td>
<td>1.21039</td>
<td>-5.275</td>
</tr>
<tr>
<td>Khodnov</td>
<td>8.66765</td>
<td>0.88745</td>
<td>9.767</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>9.17583</td>
<td>1.19638</td>
<td>7.67</td>
</tr>
<tr>
<td>iraqp</td>
<td>-3.589</td>
<td>0.75</td>
<td>-4.785</td>
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<tr>
<td>monetize</td>
<td>-3.12483</td>
<td>0.841</td>
<td>-3.712</td>
</tr>
</tbody>
</table>

Log Likelihood = -115.205
Schwarz Criterion = -136.381
Hannan-Quinn Criterion = -130.034
Akaike Criterion = -136.205
Sum of Squares = 370.411
R-Squared = 0.6936
R-Bar-Squared = 0.6085
Residual SD = 3.2077
Residual Skewness = 0.2563
Residual Kurtosis = 2.5297
Jarque-Bera Test = 0.9479 (0.623)
Ljung-Box (residuals): Q(12) = 9.9904 (0.617)
Ljung-Box (squared residuals): Q(12) = 13.807 (0.313)
Durbin Watson Statistic = 1.81253
KPSS test of I(0) = 0.2406 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.7855 (0.375)
B-P Heterosced. (LM): ChiSq(1) = 0.6274 (0.428)
Covariance matrix from robust formula.

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
For comparison: Model 7 with d1_putapp

Dependent Variable is D1_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-2.79039</td>
<td>1.11605</td>
<td>-2.5</td>
</tr>
<tr>
<td>FD0.725_Russec</td>
<td>0.3601</td>
<td>0.15104</td>
<td>2.384</td>
</tr>
<tr>
<td>FD0.635_Echope</td>
<td>-0.08292</td>
<td>0.10926</td>
<td>-0.759</td>
</tr>
<tr>
<td>FD0.604_chechmil</td>
<td>0.21447</td>
<td>0.15821</td>
<td>1.356</td>
</tr>
<tr>
<td>Months</td>
<td>0.04581</td>
<td>0.01953</td>
<td>2.346</td>
</tr>
<tr>
<td>FECMpechop(-1)</td>
<td>-0.52476</td>
<td>0.1221</td>
<td>-4.298</td>
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<tr>
<td>Beslan</td>
<td>-3.29357</td>
<td>1.56877</td>
<td>-2.099</td>
</tr>
<tr>
<td>nineleven</td>
<td>-1.33697</td>
<td>1.54845</td>
<td>-0.863</td>
</tr>
<tr>
<td>Khodnov</td>
<td>6.49876</td>
<td>1.4016</td>
<td>4.637</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>8.63321</td>
<td>1.39151</td>
<td>6.204</td>
</tr>
<tr>
<td>iraqp</td>
<td>-2.64914</td>
<td>0.81602</td>
<td>-3.246</td>
</tr>
<tr>
<td>monetize</td>
<td>-4.40259</td>
<td>1.38056</td>
<td>-3.189</td>
</tr>
</tbody>
</table>

Log Likelihood = -117.519
Schwarz Criterion = -140.62
Hannan-Quinn Criterion = -133.696
Akaike Criterion = -129.519
Sum of Squares = 408.734
R-Squared = 0.5284
R-Bar-Squared = 0.3802
Residual Skewness = 0.1995
Residual Kurtosis = 2.5732
Jarque-Bera Test = 0.6685 (0.716)
Ljung-Box (residuals): Q(12) = 9.8713 (0.627)
Ljung-Box (squared residuals): Q(12) = 12.1633 (0.433)
Durbin Watson Statistic = 1.88515
KPSS test of I(0) = 0.1415 (<1) *

Comparing models with and without economic variables

Dependent Variable is FD0.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>7.70398</td>
<td>1.79054</td>
<td>4.303</td>
</tr>
<tr>
<td>FDO646PUTAP(-1)</td>
<td>0.01498</td>
<td>0.0624</td>
<td>0.24</td>
</tr>
<tr>
<td>FDO.604_chechmil</td>
<td>0.56018</td>
<td>0.17785</td>
<td>3.15</td>
</tr>
<tr>
<td>Months</td>
<td>-0.04765</td>
<td>0.02746</td>
<td>-1.735</td>
</tr>
<tr>
<td>Nordost</td>
<td>-3.67549</td>
<td>3.00779</td>
<td>-1.222</td>
</tr>
<tr>
<td>Beslan</td>
<td>-8.52893</td>
<td>2.07899</td>
<td>-4.102</td>
</tr>
</tbody>
</table>

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.09
Kursk                         -4.98845      1.324    -3.768    0.001
nineleven                     -3.22348    1.60746    -2.005    0.053
Khodnov                        7.46745    0.82663     9.034        0
Sovhymn                        9.72955    1.57584     6.174        0
iraqp                          -4.5422    0.86427    -5.256        0
ntvp                           -0.10019    1.66943    -0.06    0.952

Log Likelihood = -120.727
Schwarz Criterion = -143.828
Hannan-Quinn Criterion = -136.904
Akaike Criterion = -132.727
Sum of Squares = 468.523
R-Squared =  0.6125
Residual SD =  3.6587
Residual Skewness =  0.0121
Residual Kurtosis =  2.7168
Jarque-Bera Test =  0.1582 (0.924)
Ljung-Box (residuals):          Q(12) = 13.7369 (0.318)
Ljung-Box (squared residuals):  Q(12) =  6.6767 (0.878)
Durbin Watson Statistic = 1.65284
KPSS test of I(0) = 0.3091 (<1) *
Diagnostic Tests:
    Autocorrelation (LM): ChiSq(1) =  0.9201 (0.337)
    B-P Heterosced. (LM): ChiSq(1) =  0.0781 (0.78)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in  0.15

TSM4.31.13-05-10 Run 491 at 14:34:46 on 10-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Dependent Variable is FD0.646_putapp
47 observations (36-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.59374</td>
<td>1.3808</td>
<td>4.051</td>
</tr>
<tr>
<td>FDO646PUTAP(-1)</td>
<td>0.09948</td>
<td>0.06178</td>
<td>1.61</td>
</tr>
<tr>
<td>FDO0.725_Russec</td>
<td>0.33532</td>
<td>0.17051</td>
<td>1.967</td>
</tr>
<tr>
<td>FDO0.635_Echope</td>
<td>0.04626</td>
<td>0.10369</td>
<td>0.446</td>
</tr>
<tr>
<td>FDO0.604_czechmil</td>
<td>0.38763</td>
<td>0.18942</td>
<td>2.046</td>
</tr>
<tr>
<td>Months</td>
<td>-0.03112</td>
<td>0.02105</td>
<td>-1.479</td>
</tr>
<tr>
<td>FECMpechop(-1)</td>
<td>-0.42527</td>
<td>0.11723</td>
<td>-3.628</td>
</tr>
<tr>
<td>Nordost</td>
<td>2.0151</td>
<td>4.0498</td>
<td>0.498</td>
</tr>
<tr>
<td>Beslan</td>
<td>-5.45184</td>
<td>2.24828</td>
<td>-2.425</td>
</tr>
<tr>
<td>Kursk</td>
<td>-0.83166</td>
<td>1.28774</td>
<td>-0.646</td>
</tr>
<tr>
<td>nineleven</td>
<td>-4.76089</td>
<td>1.55792</td>
<td>-3.056</td>
</tr>
<tr>
<td>Khodnov</td>
<td>6.23792</td>
<td>1.37207</td>
<td>4.546</td>
</tr>
<tr>
<td>Sovhymn</td>
<td>8.26961</td>
<td>1.40891</td>
<td>5.87</td>
</tr>
<tr>
<td>iraqp</td>
<td>-3.70411</td>
<td>0.78613</td>
<td>-4.712</td>
</tr>
<tr>
<td>ntvp</td>
<td>0.52196</td>
<td>1.23669</td>
<td>0.422</td>
</tr>
<tr>
<td>monetize</td>
<td>-4.61599</td>
<td>0.96805</td>
<td>-4.768</td>
</tr>
</tbody>
</table>

Log Likelihood = -108.169
Schwarz Criterion = -138.97
Hannan-Quinn Criterion = -129.739
Akaike Criterion = -124.169
Sum of Squares = 274.572
R-Squared =  0.7729
Residual SD =  2.9761
Residual Skewness = -0.0256
Residual Kurtosis =  3.006
Jarque-Bera Test =  0.0052 (0.997)
Ljung-Box (residuals):          Q(12) = 17.9875 (0.116)
Ljung-Box (squared residuals):  Q(12) = 23.8979 (0.021)
Durbin Watson Statistic = 1.85519
KPSS test of I(0) = 0.2438 (<1) *
Diagnostic Tests:
Simulating Putin’s popularity had he had Yeltsin’s economy

First need to impute values to extend the economic perceptions data back to early in Yeltsin’s term.

Regress russec, fammat, echope on inflation and real wage (in STATA):

```
. insheet using "C:\Interesting Times\public opinion\VCIOM Data\June 2009\working2.txt"
(5 vars, 216 obs)
reg russec rwage inflation, rob
```

```
<table>
<thead>
<tr>
<th>Robust</th>
</tr>
</thead>
<tbody>
<tr>
<td>russec</td>
</tr>
<tr>
<td>Coef.</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>rwage</td>
</tr>
<tr>
<td>inflation</td>
</tr>
<tr>
<td>_cons</td>
</tr>
</tbody>
</table>
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```
. reg fammat rwage inflation, rob
option rbo not allowed
r(198);
. reg fammat rwage inflation, rob
```

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<table>
<thead>
<tr>
<th>Robust</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>rwage</td>
</tr>
<tr>
<td>inflation</td>
</tr>
<tr>
<td>_cons</td>
</tr>
</tbody>
</table>
```

```
. reg echope rwage inflation, rob
```

```
<table>
<thead>
<tr>
<th>Robust</th>
</tr>
</thead>
<tbody>
<tr>
<td>echope</td>
</tr>
<tr>
<td>Coef.</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>rwage</td>
</tr>
<tr>
<td>inflation</td>
</tr>
<tr>
<td>_cons</td>
</tr>
</tbody>
</table>
```

|               | Coef.     | Std. Err. | t     | P>|t| | [95% Conf. Interval] |
|---------------|-----------|-----------|-------|------|----------------------|
| rwage         | 0.023561  | 0.0040831 | 5.77  | 0.000| 0.0154467 0.0316752  |
| inflation     | -29.66761 | 4.283092  | -6.93 | 0.000| -38.17936 -21.15586  |
| _cons         | -28.27751 | 7.34026   | -3.85 | 0.000| -42.86473 -13.69028  |

Then use these models to fit values for earlier dates. Then use Putin Table 2 column 8 model to predict Putin's approval, substituting in the Yeltsin period ec perceptions data (see “Put with Yels econ data” sheet in data file).

4. Analysis of economic perceptions

*Whole period cases 1-82*

<table>
<thead>
<tr>
<th></th>
<th>rwage@</th>
<th>rwarrear@</th>
<th>Unemployment@</th>
<th>inflation@</th>
<th>workdem@</th>
<th>pens@</th>
</tr>
</thead>
<tbody>
<tr>
<td>rwage@</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rwarrear@</td>
<td>-0.56</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment@</td>
<td>-0.79</td>
<td>0.75</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inflation@</td>
<td>-0.40</td>
<td>0.12</td>
<td>0.17</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Estimating $d$ for the economic indicators, full period. Average of bandwidths 30, 20, 10.

Time Series Modelling v4.31.13-05-10 (c) James Davidson, 2002-10
Copy licenced to Daniel Treisman

C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls opened.

**********************************************************************
TSM.31.13-05-10 Run 1 at 10:22:15 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for RussEc
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
Fractional Parameter (d) 0.85925 0.09129 9.412 0

**********************************************************************
TSM.31.13-05-10 Run 2 at 10:22:15 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for FamMat
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
Fractional Parameter (d) 0.76389 0.09129 8.368 0

**********************************************************************
TSM.31.13-05-10 Run 3 at 10:22:15 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for EchoPe
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
Fractional Parameter (d) 0.81717 0.09129 8.951 0

**********************************************************************
TSM.31.13-05-10 Run 4 at 10:22:15 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for rwage
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
Fractional Parameter (d) 0.94602 0.09129 10.363 0

**********************************************************************
TSM.31.13-05-10 Run 5 at 10:22:15 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for rwarrear
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)
Fractional Parameter (d) Estimate Std. Err. t Ratio p-Value
Fractional Parameter (d) 1.38789 0.09129 15.203 0
**TSM4.31.13-05-10 Run 6 at 10:22:15 on 30-05-2010**

Data file is:
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls

Semiparametric Long Memory Estimation for Unemployment
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.05362</td>
<td>0.09129</td>
<td>11.542</td>
</tr>
</tbody>
</table>

**Semiparametric Long Memory Estimation for inflation**

Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.55236</td>
<td>0.09129</td>
<td>6.051</td>
</tr>
</tbody>
</table>

**Semiparametric Long Memory Estimation for workdem**

Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 82 observations (1-82)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.90653</td>
<td>0.09129</td>
<td>9.93</td>
</tr>
</tbody>
</table>

**Semiparametric Long Memory Estimation for pens**

Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 82 observations (1-82)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.89281</td>
<td>0.09129</td>
<td>9.78</td>
</tr>
</tbody>
</table>

**Semiparametric Long Memory Estimation for Russec**

Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.97515</td>
<td>0.1118</td>
<td>8.722</td>
</tr>
</tbody>
</table>

**Semiparametric Long Memory Estimation for Fammat**

Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.83126</td>
<td>0.1118</td>
<td>7.435</td>
</tr>
</tbody>
</table>
Semiparametric Long Memory Estimation for Echope
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.93472</td>
<td>0.1118</td>
<td>8.361</td>
</tr>
</tbody>
</table>

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TSM4.31.13-05-10 Run 13 at 10:29:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for rwage
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.05882</td>
<td>0.1118</td>
<td>9.471</td>
</tr>
</tbody>
</table>

**********************************************************************

TSM4.31.13-05-10 Run 14 at 10:29:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for rwarrear
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.25049</td>
<td>0.1118</td>
<td>11.185</td>
</tr>
</tbody>
</table>

**********************************************************************

TSM4.31.13-05-10 Run 15 at 10:29:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Unemployment
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.9378</td>
<td>0.1118</td>
<td>8.388</td>
</tr>
</tbody>
</table>

**********************************************************************

TSM4.31.13-05-10 Run 16 at 10:29:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for inflation
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.56695</td>
<td>0.1118</td>
<td>5.071</td>
</tr>
</tbody>
</table>

**********************************************************************

TSM4.31.13-05-10 Run 17 at 10:29:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for workdem
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 82 observations (1-82)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.73022</td>
<td>0.1118</td>
<td>6.532</td>
</tr>
</tbody>
</table>

**********************************************************************

TSM4.31.13-05-10 Run 18 at 10:29:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for pens
Local Whittle Gaussian ML
Bandwidth = 20 (= $T^{0.68}$)
Using 82 observations (1-82)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter</td>
<td>Estimate</td>
<td>Std. Err.</td>
<td>t Ratio</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.02525</td>
<td>0.1118</td>
<td>9.17</td>
</tr>
</tbody>
</table>

**BW 10**

---

TSM4.31.13-05-10 Run 28 at 10:30:59 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Rusec
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 84 observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.00663</td>
<td>0.15811</td>
<td>6.367</td>
<td>0</td>
</tr>
</tbody>
</table>

---

TSM4.31.13-05-10 Run 29 at 10:30:59 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 84 observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.9001</td>
<td>0.15811</td>
<td>5.693</td>
<td>0</td>
</tr>
</tbody>
</table>

---

TSM4.31.13-05-10 Run 30 at 10:30:59 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Echope
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 84 observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>0.89924</td>
<td>0.15811</td>
<td>5.687</td>
<td>0</td>
</tr>
</tbody>
</table>

---

TSM4.31.13-05-10 Run 31 at 10:30:59 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for rwage
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 84 observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.19633</td>
<td>0.15811</td>
<td>7.566</td>
<td>0</td>
</tr>
</tbody>
</table>

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TSM4.31.13-05-10 Run 32 at 10:30:59 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for rwarrear
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 84 observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.22124</td>
<td>0.15811</td>
<td>7.724</td>
<td>0</td>
</tr>
</tbody>
</table>

---

TSM4.31.13-05-10 Run 33 at 10:30:59 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Unemployment
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 84 observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Parameter (d)</td>
<td>1.26986</td>
<td>0.15811</td>
<td>8.032</td>
<td>0</td>
</tr>
</tbody>
</table>

---
Generate residuals from regressions of russec, fammat, echope on each ec indicator taken separately. Call these: Resrusrwage, resrusunemp, etc.

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6524</td>
<td>0.1581</td>
<td>4.126</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0.89426</td>
<td>0.1581</td>
<td>5.656</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1.01965</td>
<td>0.1581</td>
<td>6.449</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Residuals37 added to data set.
Dependent Variable is Russec
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-39.4762</td>
<td>2.12009</td>
<td>-18.62</td>
</tr>
<tr>
<td>rwarrear</td>
<td>-0.14832</td>
<td>0.01489</td>
<td>-9.961</td>
</tr>
</tbody>
</table>

Log Likelihood = -337.403
Schwarz Criterion = -341.834
Hannan-Quinn Criterion = -340.38
Akaike Criterion = -339.403
Sum of Squares = 15159
R-Squared = 0.5661
R-Bar-Squared = 0.5608
Residual SD = 13.5966
Residual Skewness = 0.1895
Residual Kurtosis = 2.5553
Jarque-Bera Test = 1.1952 {0.55}
Box-Pierce (residuals): Q(12) = 216.287 {0}
Box-Pierce (squared residuals): Q(12) = 92.9573 {0}
Covariance matrix from robust formula.
...Run completed in 0.03

Residuals42 added to data set.

Dependent Variable is Russec
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>26.8467</td>
<td>6.21622</td>
<td>4.319</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-9.05398</td>
<td>0.6249</td>
<td>-14.489</td>
</tr>
</tbody>
</table>

Log Likelihood = -322.845
Schwarz Criterion = -327.276
Hannan-Quinn Criterion = -325.822
Akaike Criterion = -324.845
Sum of Squares = 10718.5
R-Squared = 0.6932
R-Bar-Squared = 0.6894
Residual SD = 11.433
Residual Skewness = -0.8498
Residual Kurtosis = 3.3355
Jarque-Bera Test = 10.5053 (0.005)
Box-Pierce (residuals): Q(12) = 229.042 (0)
Box-Pierce (squared residuals): Q(12) = 157.132 (0)
Covariance matrix from robust formula.
...Run completed in 0.03

Residuals43 added to data set.

Dependent Variable is Russec
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-40.6689</td>
<td>3.46673</td>
<td>-11.731</td>
</tr>
<tr>
<td>inflation</td>
<td>-31.8675</td>
<td>5.10774</td>
<td>-6.239</td>
</tr>
</tbody>
</table>

Log Likelihood = -362.578
Schwarz Criterion = -367.009
Hannan-Quinn Criterion = -365.555
Akaike Criterion = -364.578
Sum of Squares = 27604.7
R-Squared = 0.2098
R-Bar-Squared = 0.2002
Residual SD = 18.3478
Residual Skewness = 0.2818
Residual Kurtosis = 2.8296
Jarque-Bera Test = 1.2132 \{(0.545)\}
Box-Pierce (residuals): Q(12) = 405.826 \{(0)\}
Box-Pierce (squared residuals): Q(12) = 99.1577 \{(0)\}
Covariance matrix from robust formula.
...Run completed in 0.02

Residuals44 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 45 at 10:36:50 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is Russec
82 observations (1-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-93.0275</td>
<td>2.33133</td>
<td>-39.903</td>
</tr>
<tr>
<td>workdem</td>
<td>0.05168</td>
<td>0.00305</td>
<td>16.943</td>
</tr>
</tbody>
</table>

Log Likelihood = -306.353
Schwarz Criterion = -310.76
Hannan-Quinn Criterion = -309.319
Akaike Criterion = -308.353
Sum of Squares = 8441.1
R-Squared = 0.7233
R-Bar-Squared = 0.7199
Residual SD = 10.272
Residual Skewness = -0.3907
Residual Kurtosis = 2.5573
Jarque-Bera Test = 2.756 \{(0.252)\}
Box-Pierce (residuals): Q(12) = 274.065 \{(0)\}
Box-Pierce (squared residuals): Q(12) = 53.2927 \{(0)\}
Covariance matrix from robust formula.
...Run completed in 0.03

Residuals45 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 46 at 10:36:56 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is Russec
82 observations (1-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-121.919</td>
<td>5.91637</td>
<td>-20.607</td>
</tr>
<tr>
<td>pens</td>
<td>0.00019</td>
<td>2e-005</td>
<td>9.442</td>
</tr>
</tbody>
</table>

Log Likelihood = -327.622
Schwarz Criterion = -332.029
Hannan-Quinn Criterion = -330.588
Akaike Criterion = -329.622
Sum of Squares = 14180.5
R-Squared = 0.5352
R-Bar-Squared = 0.5294
Residual SD = 13.3138
Residual Skewness = -0.6249
Residual Kurtosis = 2.176
Jarque-Bera Test = 7.6562 \{(0.022)\}
Box-Pierce (residuals): Q(12) = 343.625 \{(0)\}
Box-Pierce (squared residuals): Q(12) = 53.2927 \{(0)\}
Covariance matrix from robust formula.
...Run completed in 0.02

58
Residuals46 added to data set.
Data Transformation: Residuals37 renamed as Resrusrwage
Data Transformation: Residuals42 renamed as Resruswarrarea
Data Transformation: Residuals43 renamed as Resrusunemp
Data Transformation: Residuals44 renamed as Resrusinfl
Data Transformation: Residuals45 renamed as Resruswork
Data Transformation: Residuals46 renamed as Resruspens
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls saved.

***********************************************************************
TSM4.31.13-05-10 Run 47 at 10:40:13 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is Fammat
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-69.2539</td>
<td>2.8583</td>
<td>-24.225</td>
</tr>
<tr>
<td>rwage</td>
<td>0.02738</td>
<td>0.00203</td>
<td>13.489</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-283.883</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schwarz Criterion</td>
<td>-288.313</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannan-Quinn Criterion</td>
<td>-286.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Akaike Criterion</td>
<td>-285.883</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of Squares</td>
<td>4238.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.7019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Bar-Squared</td>
<td>0.6982</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual SD</td>
<td>7.1898</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Skewness</td>
<td>-0.959</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Kurtosis</td>
<td>5.2419</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jarque-Bera Test</td>
<td>30.4668</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box-Pierce (residuals): Q(12) = 191.009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box-Pierce (squared residuals): Q(12) = 12.4129</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Covariance matrix from robust formula.
...Run completed in 0.04
Residuals47 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 48 at 10:40:22 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-----------------------------------------------------------------------
Dependent Variable is Fammat
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-27.5834</td>
<td>1.15047</td>
<td>-23.976</td>
</tr>
<tr>
<td>rwarrear</td>
<td>-0.09619</td>
<td>0.01065</td>
<td>-9.032</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-297.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schwarz Criterion</td>
<td>-302.213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannan-Quinn Criterion</td>
<td>-300.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Akaike Criterion</td>
<td>-299.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of Squares</td>
<td>5901.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.5849</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Bar-Squared</td>
<td>0.5799</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual SD</td>
<td>8.4837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Skewness</td>
<td>-0.7527</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Kurtosis</td>
<td>5.4664</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jarque-Bera Test</td>
<td>99.8106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box-Pierce (residuals): Q(12) = 16.5486</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box-Pierce (squared residuals): Q(12) = 12.4129</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Covariance matrix from robust formula.
...Run completed in 0.03
Residuals48 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 49 at 10:40:29 on 30-05-2010
Data file is
## Regression Output

### Model 1:

Dependent Variable: Fammat

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>18.143</td>
<td>3.5596</td>
<td>5.097</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-6.17457</td>
<td>0.40036</td>
<td>-15.423</td>
</tr>
</tbody>
</table>

Log Likelihood = -268.751
Schwarz Criterion = -273.181
Hannan-Quinn Criterion = -271.728
Akaike Criterion = -270.751
Sum of Squares = 2956.5
R-Squared = 0.7921
R-Bar-Squared = 0.7895
Residual SD = 6.0046
Residual Skewness = -0.5163
Residual Kurtosis = 3.0874
Jarque-Bera Test = 3.7584 (0.153)

Box-Pierce (residuals): Q(12) = 96.3648 (0)
Box-Pierce (squared residuals): Q(12) = 13.6803 (0.322)

Covariance matrix from robust formula.

Run completed in 0.04

Residuals added to data set.

---

### Model 2:

Dependent Variable: Fammat

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-29.4138</td>
<td>2.30967</td>
<td>-12.735</td>
</tr>
<tr>
<td>inflation</td>
<td>-18.1968</td>
<td>4.68617</td>
<td>-3.883</td>
</tr>
</tbody>
</table>

Log Likelihood = -326.986
Schwarz Criterion = -331.416
Hannan-Quinn Criterion = -329.963
Akaike Criterion = -328.986
Sum of Squares = 11829
R-Squared = 0.1681
R-Bar-Squared = 0.1579
Residual SD = 12.0107
Residual Skewness = -0.3119
Residual Kurtosis = 3.0588
Jarque-Bera Test = 1.3738 (0.503)

Box-Pierce (residuals): Q(12) = 351.265 (0)
Box-Pierce (squared residuals): Q(12) = 50.2907 (0)

Covariance matrix from robust formula.

Run completed in 0.03

Residuals added to data set.

---

### Model 3:

Dependent Variable: Fammat

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-60.4288</td>
<td>2.41556</td>
<td>-25.016</td>
</tr>
<tr>
<td>workdem</td>
<td>0.03097</td>
<td>0.00256</td>
<td>12.099</td>
</tr>
</tbody>
</table>

Log Likelihood = -281.458
Schwarz Criterion = -285.865
Hannan-Quinn Criterion = -284.424
Akaike Criterion = -283.458
Sum of Squares = 4599.38

Run completed in 0.03

Residuals added to data set.
### Regression Results for Fammat

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-80.4312</td>
<td>5.05285</td>
<td>-15.918</td>
</tr>
<tr>
<td>pens</td>
<td>0.00012</td>
<td>1e-005</td>
<td>12.082</td>
</tr>
</tbody>
</table>

**Log Likelihood**: -291.276
**Schwarz Criterion**: -295.683
**Hannan-Quinn Criterion**: -294.242
**Akaike Criterion**: -293.276

**Sum of Squares**: 5843.78

- **R-Squared**: 0.5335
- **R-Bar-Squared**: 0.5277
- **Residual SD**: 8.5468
- **Residual Skewness**: -0.7543
- **Residual Kurtosis**: 2.8723

**Jarque-Bera Test**: 7.8322 (0.02)

**Box-Pierce (residuals)**: Q(12) = 291.342 (0)

**Box-Pierce (squared residuals)**: Q(12) = 33.9103 (0.001)

Covariance matrix from robust formula.

Run completed in 0.03

Residuals51 added to data set.

### Regression Results for Echope

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-50.7424</td>
<td>6.06771</td>
<td>-8.363</td>
</tr>
<tr>
<td>rwage</td>
<td>0.03222</td>
<td>0.00387</td>
<td>8.325</td>
</tr>
</tbody>
</table>

**Log Likelihood**: -360.135

**Schwarz Criterion**: -364.566
**Hannan-Quinn Criterion**: -363.112
**Akaike Criterion**: -362.135

**Sum of Squares**: 26045.1

- **R-Squared**: 0.3466
- **R-Bar-Squared**: 0.3387
- **Residual SD**: 17.822
- **Residual Skewness**: 0.4778
- **Residual Kurtosis**: 2.6159

**Jarque-Bera Test**: 3.7132 (0.156)

**Box-Pierce (residuals)**: Q(12) = 254.505 (0)

Covariance matrix from robust formula.

Run completed in 0.03

Residuals52 added to data set.

Data Transformation: Residuals47 renamed as Resfamrwage
Data Transformation: Residuals48 renamed as Resfamrwarrear
Data Transformation: Residuals49 renamed as Resfamunemp
Data Transformation: Residuals50 renamed as Resfaminfl
Data Transformation: Residuals51 renamed as Resfamwork
Data Transformation: Residuals52 renamed as Resfampens

### Regression Results for Echope (continued)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-50.7424</td>
<td>6.06771</td>
<td>-8.363</td>
</tr>
<tr>
<td>rwage</td>
<td>0.03222</td>
<td>0.00387</td>
<td>8.325</td>
</tr>
</tbody>
</table>

**Log Likelihood**: -360.135

**Schwarz Criterion**: -364.566
**Hannan-Quinn Criterion**: -363.112
**Akaike Criterion**: -362.135

**Sum of Squares**: 26045.1

- **R-Squared**: 0.3466
- **R-Bar-Squared**: 0.3387
- **Residual SD**: 17.822
- **Residual Skewness**: 0.4778
- **Residual Kurtosis**: 2.6159

**Jarque-Bera Test**: 3.7132 (0.156)

**Box-Pierce (residuals)**: Q(12) = 254.505 (0)
Box-Pierce (squared residuals): $Q(12) = 77.134$  
Covariance matrix from robust formula.

...Run completed in 0.04

Residuals53 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 54 at 10:42:54 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Dependent Variable is Echophe
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.81334</td>
<td>2.21595</td>
<td>0.367</td>
</tr>
<tr>
<td>rwarrear</td>
<td>-0.13842</td>
<td>-0.01272</td>
<td>-10.882</td>
</tr>
</tbody>
</table>

Log Likelihood = -354.246
Schwarz Criterion = -358.677
Hannan-Quinn Criterion = -357.224
Akaike Criterion = -356.246
Sum of Squares = 22637.8
R-Squared = 0.4321
R-Bar-Squared = 0.4252
Residual SD = 16.6154
Residual Skewness = -0.8522
Residual Kurtosis = 3.3647
Jarque-Bera Test = 10.632 (0.005)

Box-Pierce (residuals): $Q(12) = 137.678$  
Box-Pierce (squared residuals): $Q(12) = 95.998$  
Covariance matrix from robust formula.

...Run completed in 0.03

Residuals54 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 55 at 10:42:59 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Dependent Variable is Echophe
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>42.8459</td>
<td>7.93389</td>
<td>5.4</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-6.23358</td>
<td>0.85285</td>
<td>-7.309</td>
</tr>
</tbody>
</table>

Log Likelihood = -363.747
Schwarz Criterion = -368.177
Hannan-Quinn Criterion = -366.724
Akaike Criterion = -365.747
Sum of Squares = 28383.8
R-Squared = 0.288
R-Bar-Squared = 0.162
Residual SD = 18.6049
Residual Skewness = -0.4275
Residual Kurtosis = 3.3559
Jarque-Bera Test = 3.0021 (0.223)

Box-Pierce (residuals): $Q(12) = 137.678$  
Box-Pierce (squared residuals): $Q(12) = 95.998$  
Covariance matrix from robust formula.

...Run completed in 0.03

Residuals55 added to data set.

***********************************************************************
TSM4.31.13-05-10 Run 56 at 10:43:05 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Dependent Variable is Echophe
84 observations (1-84) used for estimation.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-6.23358</td>
<td>0.85285</td>
<td>-7.309</td>
</tr>
</tbody>
</table>

Log Likelihood = -365.747
Schwarz Criterion = -365.747
Hannan-Quinn Criterion = -365.747
Akaike Criterion = -365.747
Sum of Squares = 28383.8
R-Squared = 0.288
R-Bar-Squared = 0.162
Residual SD = 18.6049
Residual Skewness = -0.4275
Residual Kurtosis = 3.3559
Jarque-Bera Test = 3.0021 (0.223)

Box-Pierce (residuals): $Q(12) = 137.678$  
Box-Pierce (squared residuals): $Q(12) = 95.998$  
Covariance matrix from robust formula.

...Run completed in 0.03

Residuals56 added to data set.
## Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>4.36377</td>
<td>3.45168</td>
<td>1.264</td>
</tr>
<tr>
<td>inflation</td>
<td>-40.6404</td>
<td>6.00323</td>
<td>-6.77</td>
</tr>
</tbody>
</table>

Log Likelihood = -363.089
Schwarz Criterion = -367.52
Hannan-Quinn Criterion = -366.067
Akaike Criterion = -365.089
Sum of Squares = 27943.1
R-Squared = 0.299
R-Bar-Squared = 0.2905
Residual SD = 18.4599
Residual Skewness = -0.1871
Residual Kurtosis = 2.3649
Jarque-Bera Test = 1.9016 (0.386)

Box-Pierce (residuals): Q(12) = 205.71 (0)
Box-Pierce (squared residuals): Q(12) = 44.5905 (0)
Covariance matrix from robust formula.

...Run completed in 0.07

Residuals56 added to data set.

******************************************************************************
TSM4.31.13-05-10 Run 57 at 10:43:12 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
******************************************************************************

Dependent Variable is Echope
82 observations (1-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-54.5259</td>
<td>3.11175</td>
<td>-17.523</td>
</tr>
<tr>
<td>workdem</td>
<td>0.05595</td>
<td>0.00357</td>
<td>15.672</td>
</tr>
</tbody>
</table>

Log Likelihood = -319.648
Schwarz Criterion = -324.054
Hannan-Quinn Criterion = -322.614
Akaike Criterion = -321.648
Sum of Squares = 11674.1
R-Squared = 0.6891
R-Bar-Squared = 0.6852
Residual SD = 12.08
Residual Skewness = 0.2446
Residual Kurtosis = 3.1702
Jarque-Bera Test = 0.9165 (0.632)

Box-Pierce (residuals): Q(12) = 65.0995 (0)
Box-Pierce (squared residuals): Q(12) = 37.6684 (0)
Covariance matrix from robust formula.

...Run completed in 0.03

Residuals57 added to data set.

******************************************************************************
TSM4.31.13-05-10 Run 58 at 10:43:17 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
******************************************************************************

Dependent Variable is Echoppe
82 observations (1-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-47.0037</td>
<td>11.4382</td>
<td>-4.109</td>
</tr>
<tr>
<td>pens</td>
<td>9e-005</td>
<td>3e-005</td>
<td>3.141</td>
</tr>
</tbody>
</table>

Log Likelihood = -362.842
Schwarz Criterion = -367.249
Hannan-Quinn Criterion = -365.808
Akaike Criterion = -364.842
Sum of Squares = 33478.3
R-Squared = 0.1083
R-Bar-Squared = 0.0972
Residual SD = 20.4567
Residual Skewness = -0.1024
Residual Kurtosis = 2.0951
Jarque-Bera Test = 2.9411 {0.23}
Box-Pierce (residuals): Q(12) = 303.75 (0)
Box-Pierce (squared residuals): Q(12) = 62.7115 (0)
Covariance matrix from robust formula.
...Run completed in 0.03

Residuals58 added to data set.
Data Transformation: Residuals53 renamed as Resecrwage
Data Transformation: Residuals54 renamed as Resecrwarrea
Data Transformation: Residuals55 renamed as Resecunemp
Data Transformation: Residuals56 renamed as Resecinfl
Data Transformation: Residuals57 renamed as Resecwork
Data Transformation: Residuals58 renamed as Resecpens
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls saved.

Now estimate d for each of these residuals:

BW 30

******************************************************************************
TSM4.31.13-05-10 Run 59 at 10:50:22 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resrusrwage
Local Whittle Gaussian ML
   Bandwidth = 30 (= T^-0.77)
Using 84 observations (1-84)
Fractional Parameter (d)    Estimate  Std. Err.   t Ratio  p-Value
                          0.64053    0.09129     7.016        0
******************************************************************************
TSM4.31.13-05-10 Run 60 at 10:50:22 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resrusrwarrarea
Local Whittle Gaussian ML
   Bandwidth = 30 (= T^-0.77)
Using 84 observations (1-84)
Fractional Parameter (d)    Estimate  Std. Err.   t Ratio  p-Value
                          0.85142    0.09129     9.327        0
******************************************************************************
TSM4.31.13-05-10 Run 61 at 10:50:22 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resrusunemp
Local Whittle Gaussian ML
   Bandwidth = 30 (= T^-0.77)
Using 84 observations (1-84)
Fractional Parameter (d)    Estimate  Std. Err.   t Ratio  p-Value
                          0.65908    0.09129     7.22        0
******************************************************************************
TSM4.31.13-05-10 Run 62 at 10:50:22 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resrusinfl
Local Whittle Gaussian ML
   Bandwidth = 30 (= T^-0.77)
Using 84 observations (1-84)
Fractional Parameter (d)    Estimate  Std. Err.   t Ratio  p-Value
                          0.67100    0.09129     7.35        0
******************************************************************************
TSM4.31.13-05-10 Run 63 at 10:50:22 on 30-05-2010
Data file is
Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.64875    0.09129     7.106        0

Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.73647    0.09129     8.067        0

Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.62007    0.09129     6.792        0

Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.67872    0.09129     7.435        0

Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.41062    0.09129     4.498        0

Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.64155    0.09129     7.028        0
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**TSM4.31.13-05-10 Run 70 at 10:50:22 on 30-05-2010**
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfampens
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 82 observations (1-82)

**TSM4.31.13-05-10 Run 71 at 10:50:22 on 30-05-2010**
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecrwarrea
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)

**TSM4.31.13-05-10 Run 72 at 10:50:22 on 30-05-2010**
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecunemp
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)

**TSM4.31.13-05-10 Run 73 at 10:50:22 on 30-05-2010**
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecinfl
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)

**TSM4.31.13-05-10 Run 74 at 10:50:22 on 30-05-2010**
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecwork
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 82 observations (1-82)
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecpens
Local Whittle Gaussian ML
   Bandwidth = 30 (= T^0.77)
Using 82 observations (1-82)

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<th>p-Value</th>
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BW 20

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TSM4.31.13-05-10 Run 77 at 10:51:09 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resrusrwage
Local Whittle Gaussian ML
   Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)

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<th>p-Value</th>
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TSM4.31.13-05-10 Run 78 at 10:51:09 on 30-05-2010
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Semiparametric Long Memory Estimation for Resruswarrarea
Local Whittle Gaussian ML
   Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)

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<th>t Ratio</th>
<th>p-Value</th>
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TSM4.31.13-05-10 Run 79 at 10:51:09 on 30-05-2010
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Semiparametric Long Memory Estimation for Resrusunemp
Local Whittle Gaussian ML
   Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)

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<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
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TSM4.31.13-05-10 Run 80 at 10:51:09 on 30-05-2010
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Semiparametric Long Memory Estimation for Resrusinfl
Local Whittle Gaussian ML
   Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)

<table>
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<th>t Ratio</th>
<th>p-Value</th>
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TSM4.31.13-05-10 Run 81 at 10:51:09 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resruswork
Local Whittle Gaussian ML
   Bandwidth = 20 (= T^0.68)
Using 82 observations (1-82)

<table>
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<th>p-Value</th>
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TSM4.31.13-05-10 Run 82 at 10:51:09 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resuuspens
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 82 observations (1-82)

<table>
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<th>p-Value</th>
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TSM4.31.13-05-10 Run 84 at 10:51:09 on 30-05-2010
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C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfarwage
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 84 observations (1-84)

<table>
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<th>p-Value</th>
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<tbody>
<tr>
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TSM4.31.13-05-10 Run 85 at 10:51:09 on 30-05-2010
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C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfarwrear
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 84 observations (1-84)

<table>
<thead>
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<th>Estimate</th>
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<th>t Ratio</th>
<th>p-Value</th>
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<tbody>
<tr>
<td>Fractional Parameter (d)</td>
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TSM4.31.13-05-10 Run 86 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfarunemp
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 84 observations (1-84)

<table>
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<tr>
<th>Estimate</th>
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<th>t Ratio</th>
<th>p-Value</th>
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<tbody>
<tr>
<td>Fractional Parameter (d)</td>
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TSM4.31.13-05-10 Run 87 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfarinfl
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 84 observations (1-84)

<table>
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<th>Estimate</th>
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<tbody>
<tr>
<td>Fractional Parameter (d)</td>
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<td>6.992</td>
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**********************************************************************
TSM4.31.13-05-10 Run 88 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfarwork
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 82 observations (1-82)

<table>
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<th>p-Value</th>
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<tr>
<td>Fractional Parameter (d)</td>
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TSM4.31.13-05-10 Run 89 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfarbens
Local Whittle Gaussian ML
Bandwidth = 20 (= T^{0.68})
Using 82 observations (1-82)
Fractional Parameter (d)       0.83461     0.1118     7.465        0

***********************************************************************
TSM4.31.13-05-10 Run 89 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecrwage
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
Fractional Parameter (d)       0.9387     0.1118     8.353        0

***********************************************************************
TSM4.31.13-05-10 Run 90 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecrwarrea
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
Fractional Parameter (d)       0.93261     0.1118     8.342        0

***********************************************************************
TSM4.31.13-05-10 Run 91 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecunemp
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
Fractional Parameter (d)       0.7485     0.1118     6.695        0

***********************************************************************
TSM4.31.13-05-10 Run 92 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecinfl
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
Fractional Parameter (d)       0.64507     0.1118      5.77        0

***********************************************************************
TSM4.31.13-05-10 Run 93 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecwork
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 82 observations  (1-82)
Fractional Parameter (d)       0.38258     0.1118     3.422    0.001

***********************************************************************
TSM4.31.13-05-10 Run 94 at 10:51:09 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resecpens
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 82 observations  (1-82)
Fractional Parameter (d)       1.00041     0.1118     8.948        0

BW 10
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<th>Time</th>
<th>File Path</th>
<th>Estimation Method</th>
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<td>Semiparametric Long Memory Estimation for Inflation</td>
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</table>
Semiparametric Long Memory Estimation for recessive area

Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.52})
Using 84 observations (1-84)

Fractional Parameter (d) | 0.54904 | 0.15811 | 3.473 | 0.001

Semiparametric Long Memory Estimation for recession
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.52})
Using 84 observations (1-84)

Fractional Parameter (d) | 0.82812 | 0.15811 | 5.238 | 0

Semiparametric Long Memory Estimation for recession
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.52})
Using 84 observations (1-84)

Fractional Parameter (d) | 0.76435 | 0.15811 | 4.834 | 0

Semiparametric Long Memory Estimation for recession
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.52})
Using 82 observations (1-82)

Fractional Parameter (d) | 0.03995 | 0.15811 | 0.253 | 0.801

Semiparametric Long Memory Estimation for recession
Local Whittle Gaussian ML
Bandwidth = 10 (= T^{0.52})
Using 82 observations (1-82)

Fractional Parameter (d) | 0.87933 | 0.15811 | 5.561 | 0

Cases 1-84

<table>
<thead>
<tr>
<th>Estimate of d</th>
<th>RUSSEC</th>
<th>FAMMAT</th>
<th>ECHOPE</th>
<th>RWAGE</th>
<th>RWARREA</th>
<th>UNEMP</th>
<th>INFLAT</th>
<th>WORKDEM</th>
<th>PENS</th>
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<td>.817</td>
<td>.946</td>
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<td>.884</td>
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<td>d for resids from reg of Russec on this *</td>
<td>0.819</td>
<td>0.981</td>
<td>0.688</td>
<td>0.857</td>
<td>0.711</td>
<td>0.782</td>
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<td></td>
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<tr>
<td>d for resids from fammat on this *</td>
<td>0.742</td>
<td><strong>0.645</strong></td>
<td>0.440</td>
<td>0.844</td>
<td><strong>0.643</strong></td>
<td>0.781</td>
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<tr>
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<td><strong>0.764</strong></td>
<td>0.775</td>
<td>0.666</td>
<td><strong>0.366</strong></td>
<td>0.908</td>
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* See following table for details.
RESIDUALS FOR COINTEGRATION ANALYSIS; regressions of russec on the ec vars

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<th>Est of d</th>
<th>RESRUSRWAGE</th>
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<th>RESRUSINFL</th>
<th>RESRUSWORK</th>
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<td>1.098</td>
<td>.909</td>
<td>.734</td>
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<tr>
<td>Average</td>
<td>0.819</td>
<td>0.981</td>
<td>0.688</td>
<td>0.857</td>
<td>0.711</td>
<td>0.782</td>
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RESIDUALS FOR COINTEGRATION ANALYSIS; regressions of fammat on the ec vars

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<th>RESFAMINFLA</th>
<th>RESFAMWORK</th>
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<td>.782</td>
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<td>0.645</td>
<td>0.440</td>
<td>0.844</td>
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<td>0.781</td>
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RESIDUALS FOR COINTEGRATION ANALYSIS; regressions of echope on the ec vars

<table>
<thead>
<tr>
<th>Est of d</th>
<th>RESECRWAGE</th>
<th>RESECRWARREAR</th>
<th>RESECUNEMP</th>
<th>RESECINFL</th>
<th>RESECWORK</th>
<th>RESECPENS</th>
<th>se</th>
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</thead>
<tbody>
<tr>
<td>BW</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>30</td>
<td>.809</td>
<td>.811</td>
<td>.749</td>
<td>.590</td>
<td>.674</td>
<td>.846</td>
<td>.091</td>
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<tr>
<td>20</td>
<td>.934</td>
<td>.933</td>
<td>.749</td>
<td>.645</td>
<td>.383</td>
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<td>.112</td>
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<td>0.764</td>
<td>0.775</td>
<td>0.666</td>
<td>0.366</td>
<td>0.908</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Many of these could be cointegrated. Because they are highly correlated, it is difficult to know what to make of this. I experimented with various FECMs and show models including versions of FECMs which had good fit.

To avoid the initial distortions in the fractionally differenced series, I drop the first observation.

The high correlation between the various economic variables makes it hard to confidently distinguish their separate effects. (In some models, inflation is positive, which I take to be spurious: high inflation is unlikely to improve perceptions of the economy. I drop it from the final models.)

Note that including both a dummy for Putin’s presidency (putdum) and one for the recovery phase (recovery), putdum is negative and recovery is positive. I believe this is because of the strong correlation between the two, and not because Putin engendered a sense of economic gloom. Taken together, the dummies suggest that there was a sharp improvement in economic perceptions as the recovery began.
(early 1999 to late 1999), which then moderated from 2000. In the short models, I include only recovery, which then picks up the average linear effect of economic recovery.

I control for support for the incumbent president, which might itself influence economic perceptions. Estimating d for the rating on the 10 point scale, both presidents (i.e. “tenpt”):

```
TSM4.31.13-05-10 Run 113 at 11:48:48 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for tenpt
Local Whittle Gaussian ML
  Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)
Fractional Parameter (d)          Estimate  Std. Err.   t Ratio  p-Value
                               0.97028    0.09129    10.628        0
```

```
TSM4.31.13-05-10 Run 114 at 11:49:03 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for tenpt
Local Whittle Gaussian ML
  Bandwidth = 20 (= T^0.68)
Using 84 observations (1-84)
Fractional Parameter (d)          Estimate  Std. Err.   t Ratio  p-Value
                               0.94687     0.1118     8.469        0
```

```
TSM4.31.13-05-10 Run 115 at 11:49:13 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for tenpt
Local Whittle Gaussian ML
  Bandwidth = 10 (= T^0.52)
Using 84 observations (1-84)
Fractional Parameter (d)          Estimate  Std. Err.   t Ratio  p-Value
                               1.11378    0.15811     7.044        0
```

Average d = 1.01, very close to one. So I just first difference tenpt to get D1tenpt.

Table 4

Column 1

```
TSM4.31.13-05-10 Run 141 at 13:39:19 on 30-05-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Dependent Variable is FD0.947_Russec
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares
```

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.52738</td>
<td>4.83793</td>
<td>-0.109</td>
<td>0.914</td>
</tr>
<tr>
<td>finp</td>
<td>-20.1604</td>
<td>4.9132</td>
<td>-4.103</td>
<td>0</td>
</tr>
<tr>
<td>Fhpress</td>
<td>0.00116</td>
<td>0.08843</td>
<td>0.013</td>
<td>0.99</td>
</tr>
<tr>
<td>Khodnov</td>
<td>-6.67947</td>
<td>1.44764</td>
<td>-4.614</td>
<td>0</td>
</tr>
<tr>
<td>nov94p</td>
<td>-6.42749</td>
<td>2.4802</td>
<td>-2.592</td>
<td>0.012</td>
</tr>
<tr>
<td>monetize</td>
<td>-0.47853</td>
<td>1.33181</td>
<td>-0.359</td>
<td>0.721</td>
</tr>
<tr>
<td>putdum</td>
<td>0.41479</td>
<td>1.70717</td>
<td>0.243</td>
<td>0.809</td>
</tr>
</tbody>
</table>

---

75
The FECM cointegrating regression included both rwage and workdem:

TSM4.31.13-05-10 Run 125 at 12:24:34 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Dependent Variable is Russec
82 observations (1-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-110.874</td>
<td>2.13497</td>
<td>-51.932</td>
</tr>
<tr>
<td>rwage</td>
<td>0.03141</td>
<td>0.00208</td>
<td>15.103</td>
</tr>
<tr>
<td>workdem</td>
<td>0.02669</td>
<td>0.0021</td>
<td>12.703</td>
</tr>
</tbody>
</table>

Log Likelihood = -254.411
Schwarz Criterion = -261.021
Hannan-Quinn Criterion = -258.86
Akaike Criterion = -257.411
Sum of Squares = 2377.93
R-Squared = 0.9221
R-Bar-Squared = 0.9201
Residual SD = 5.4864
Residual Skewness = -0.1181
Residual Kurtosis = 3.3213
Jarque-Bera Test = 0.5434 {0.762}

Ljung-Box (residuals): Q(12) = 61.8532 {0}
Ljung-Box (squared residuals): Q(12) = 38.1554 {0}
Durbin Watson Statistic = 0.850536

KPSS test of I(0) = 0.3259 {<1} *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.0168 {0.897}
B-P Heterosced. (LM): ChiSq(1) = 0.0005 {0.981}

Covariance matrix from robust formula.
KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.18 seconds
Covariance matrix from robust formula.

- KPSS, RS bandwidth = 0.
- Parzen HAC kernel with Newey-West plug-in bandwidth.

...Run completed in 0.08

Residuals125 added to data set.

TSM4.31.13-05-10 Run 126 at 12:25:01 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Residuals125
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 82 observations (1-82)
Fractional Parameter (d) 0.43566 0.09129 4.772 0

TSM4.31.13-05-10 Run 127 at 12:25:12 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Residuals125
Local Whittle Gaussian ML
Bandwidth = 20 (= T^0.68)
Using 82 observations (1-82)
Fractional Parameter (d) 0.42023 0.1118 3.759 0

TSM4.31.13-05-10 Run 128 at 12:25:20 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Residuals125
Local Whittle Gaussian ML
Bandwidth = 10 (= T^0.52)
Using 82 observations (1-82)
Fractional Parameter (d) 0.53017 0.15811 3.353 0.001

Average d = .462.

FECM for russec on workdem and rwage is called fecmrussrwagework(-1). It is more significant in regressions than the FECMs for either rwage or workdem taken separately.

Column 2

TSM4.31.13-05-10 Run 16 at 9:24:07 on 31-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Dependent Variable is FD0.947_Russec
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
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<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
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<td>-0.934</td>
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<td>finp</td>
<td>-18.8368</td>
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<td>Khodnov</td>
<td>-6.14017</td>
<td>1.16628</td>
<td>-5.265</td>
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<td>nov94p</td>
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<td>2.77704</td>
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<td>recovery</td>
<td>1.75272</td>
<td>0.81814</td>
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<td>4.1319</td>
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<td>camp04</td>
<td>5.41362</td>
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<td>FD1.286_rwarrear</td>
<td>-0.04017</td>
<td>0.0236</td>
<td>-1.702</td>
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</table>
FD0.844_workdem                0.00799    0.00419     1.906    0.061
fcmrussrswagework(-1)         -0.05056    0.07664     -6.59     0

Schwarz Criterion = -223.358
Hannan-Quinn Criterion = -215.509
Akaike Criterion = -210.257
Sum of Squares = 682.366
R-Squared = 0.6255
Residual SD = 3.1447
Residual Skewness = 0.4022
Residual Kurtosis = 3.1421
Jarque-Bera Test = 2.2247 {0.329}
Ljung-Box (residuals):          Q(12) = 8.6178 {0.735}
Ljung-Box (squared residuals):  Q(12) = 7.5115 {0.822}
Durbin Watson Statistic = 2.05369
KPSS test of I(0) = 0.0446 (0.044) *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) = 0.1876 {0.665}
  B-P Heterosced. (LM):      ChiSq(1) = 0.259 {0.611}
Covariance matrix from robust formula.
  * KPSS, RS bandwidth = 0.
  Parzen HAC kernel with Newey-West plug-in bandwidth.
  ...Run completed in 0.09

Column 3

******************************************************************************
TSM4.31.13-05-10 Run 166 at 14:06:52 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
******************************************************************************
Dependent Variable is FD0.832_Fammat
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

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<th>p-Value</th>
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<tr>
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<td>1.41719</td>
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<td>1.28</td>
<td>0.206</td>
</tr>
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<td>-2.49256</td>
<td>1.34157</td>
<td>-1.858</td>
<td>0.068</td>
</tr>
<tr>
<td>FD0.59_Inflation</td>
<td>2.47834</td>
<td>4.23087</td>
<td>0.586</td>
<td>0.56</td>
</tr>
<tr>
<td>FD0.844_workdem</td>
<td>-0.00052</td>
<td>0.00493</td>
<td>-0.105</td>
<td>0.916</td>
</tr>
<tr>
<td>FD0.979_pens</td>
<td>0.05074</td>
<td>0.02245</td>
<td>2.26</td>
<td>0.027</td>
</tr>
<tr>
<td>fcmfamrswagunem(-1)</td>
<td>-0.48062</td>
<td>0.08986</td>
<td>-5.348</td>
<td>0</td>
</tr>
</tbody>
</table>

Log Likelihood = -204.759
Schwarz Criterion = -248.579
Hannan-Quinn Criterion = -234.309
Akaike Criterion = -224.759
Sum of Squares = 782.993
R-Squared = 0.6782
R-Bar-Squared = 0.5763
Residual SD = 3.6125
Residual Skewness = -0.2988
Residual Kurtosis = 3.4338
Jarque-Bera Test = 1.8177 (0.403)

78
Ljung-Box (residuals): \( Q(12) = 11.4871 \quad (0.488) \)
Ljung-Box (squared residuals): \( Q(12) = 17.5731 \quad (0.129) \)
Durbin Watson Statistic = 1.9544
KPSS test of I(0) = 0.0359 \( (<1) \) *

Diagnostic Tests:
Autocorrelation (LM): \( \text{ChiSq}(1) = 0.0313 \quad (0.86) \)
B-P Heterosced. (LM): \( \text{ChiSq}(1) = 0.5077 \quad (0.476) \)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.14

FECM is for fammat on rwage and unemployment--fecmfamrwageunem(-1). (I also tried an 
fecc with rwage and workdem, but this was less sig.)

******************************************************************************
TSM4.31.13-05-10 Run 160 at 14:00:01 on 30-05-2010
Data file is 
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
******************************************************************************
Dependent Variable is Fammat
84 observations (1-84) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-13.318</td>
<td>7.84709</td>
<td>-1.697</td>
<td>0.094</td>
</tr>
<tr>
<td>rwage</td>
<td>0.01179</td>
<td>0.00236</td>
<td>4.996</td>
<td>0</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-4.20442</td>
<td>0.62083</td>
<td>-6.772</td>
<td>0</td>
</tr>
</tbody>
</table>

Log Likelihood = -257.331
Schwarz Criterion = -263.977
Hannan-Quinn Criterion = -261.797
Akaike Criterion = -260.331
Sum of Squares = 2252.66
R-Squared = 0.8416
R-Bar-Squared = 0.8377
Residual SD = 5.2736
Residual Skewness = -0.5472
Residual Kurtosis = 3.8452
Jarque-Bera Test = 6.6918 \( (0.035) \)

Ljung-Box (residuals): \( Q(12) = 93.2485 \quad (0) \)
Ljung-Box (squared residuals): \( Q(12) = 5.2993 \quad (0.947) \)
Durbin Watson Statistic = 0.955135
KPSS test of I(0) = 1.3485 \( (<0.01) \) *

Diagnostic Tests:
Autocorrelation (LM): \( \text{ChiSq}(1) = 35.8185 \quad (0) \)
B-P Heterosced. (LM): \( \text{ChiSq}(1) = 9.41 \quad (0.002) \)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.08

Residuals160 added to data set.

******************************************************************************
TSM4.31.13-05-10 Run 161 at 14:00:34 on 30-05-2010
Data file is 
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
******************************************************************************
Semiparametric Long Memory Estimation for Residuals160
Local Whittle Gaussian ML
Bandwidth = 30 (= T^0.77)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.39939</td>
<td>0.09129</td>
<td>4.309</td>
<td>0</td>
</tr>
</tbody>
</table>

******************************************************************************
TSM4.31.13-05-10 Run 162 at 14:00:46 on 30-05-2010
Data file is 
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Residuals
Local Whittle Gaussian ML
Bandwidth = 20 (≈ T^0.68)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.46067</td>
<td>0.1118</td>
<td>4.121</td>
<td>0</td>
</tr>
</tbody>
</table>

Average d = .442
Fecm is fecmfamrwageunem(-1)

Column 4

Semiparametric Long Memory Estimation for Residuals
Local Whittle Gaussian ML
Bandwidth = 10 (≈ T^0.52)
Using 84 observations (1-84)

<table>
<thead>
<tr>
<th>Fractional Parameter (d)</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.47234</td>
<td>0.15811</td>
<td>2.987</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Average d = .442

Dependent Variable is FD0.832_Fammat
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

| Intercept         | -2.30889  | 0.74778   | -3.088  | 0.003   |
| monetize          | -15.0477  | 1.63819   | -9.186  | 0       |
| D1_tenpt          | 1.43557   | 0.44614   | 3.218   | 0.002   |
| recovery          | 3.13224   | 0.8877    | 3.528   | 0.001   |
| camp96            | -1.70441  | 0.91693   | -1.859  | 0.067   |
| camp08            | -4.45765  | 0.64805   | -6.879  | 0       |
| FD1.067_rwage     | 0.01219   | 0.00674   | 1.809   | 0.037   |
| FD1.087_Unemployment | -2.81878 | 1.32555   | -2.126  | 0.037   |
| FD0.979_pens      | 0.0511    | 0.01947   | 2.624   | 0.011   |
| fecmfamrwageunem(-1) | -0.45445 | 0.10769   | -4.22   | 0       |

Log Likelihood = -213.159
Schwarz Criterion = -235.069
Hannan-Quinn Criterion = -227.934
Akaike Criterion = -223.159
Sum of Squares = 965.957
R-Squared = 0.630
R-Bar-Squared = 0.552
Residual SD = 3.7148
Residual Skewness = -0.5338
Residual Kurtosis = 5.2059
Jarque-Bera Test = 20.0193 (0)
Ljung-Box (residuals): Q(12) = 13.4809 (0.335)
Ljung-Box (squared residuals): Q(12) = 9.3697 (0.671)
Durbin Watson Statistic = 2.06149
KPSS test of I(0) = 0.1932 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.4157 (0.519)
B-P Heterosced. (LM): ChiSq(1) = 0.15 (0.699)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.08
Dependent Variable is FD0.884_Echope
80 observations (3-82) used for estimation.

Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-4.76431</td>
<td>8.75071</td>
<td>-0.544</td>
</tr>
<tr>
<td>finp</td>
<td>-2.98806</td>
<td>7.59621</td>
<td>-0.393</td>
</tr>
<tr>
<td>Fhpress</td>
<td>0.10471</td>
<td>0.16513</td>
<td>0.634</td>
</tr>
<tr>
<td>Khodnov</td>
<td>-6.23709</td>
<td>2.80093</td>
<td>-2.227</td>
</tr>
<tr>
<td>FD0.866_Resecrwage(-1)</td>
<td>-0.26507</td>
<td>0.15447</td>
<td>-1.716</td>
</tr>
<tr>
<td>nov94p</td>
<td>-11.7318</td>
<td>5.39373</td>
<td>-2.175</td>
</tr>
<tr>
<td>monetize</td>
<td>-5.894</td>
<td>3.06343</td>
<td>-1.924</td>
</tr>
<tr>
<td>putdum</td>
<td>-3.61906</td>
<td>4.6897</td>
<td>-0.772</td>
</tr>
<tr>
<td>D1_tenpt</td>
<td>7.23268</td>
<td>1.70834</td>
<td>4.234</td>
</tr>
<tr>
<td>recovery</td>
<td>1.20564</td>
<td>4.53681</td>
<td>0.266</td>
</tr>
<tr>
<td>camp96</td>
<td>3.56561</td>
<td>2.14692</td>
<td>1.661</td>
</tr>
<tr>
<td>camp00</td>
<td>6.15924</td>
<td>7.18763</td>
<td>0.857</td>
</tr>
<tr>
<td>camp04</td>
<td>8.52626</td>
<td>1.69875</td>
<td>5.019</td>
</tr>
<tr>
<td>camp08</td>
<td>-5.89421</td>
<td>2.32621</td>
<td>-2.534</td>
</tr>
<tr>
<td>FD1.067_rwage(-1)</td>
<td>0.0007</td>
<td>0.02001</td>
<td>0.35</td>
</tr>
<tr>
<td>FD1.286_rwarrear</td>
<td>-0.11715</td>
<td>0.04633</td>
<td>-2.529</td>
</tr>
<tr>
<td>FD1.087_Unemployment</td>
<td>-2.91022</td>
<td>2.40084</td>
<td>-1.212</td>
</tr>
<tr>
<td>FD0.59_inflation(-1)</td>
<td>3.04052</td>
<td>7.40146</td>
<td>0.411</td>
</tr>
<tr>
<td>FD0.844_workdem</td>
<td>-0.00122</td>
<td>0.01004</td>
<td>-0.121</td>
</tr>
<tr>
<td>FD0.979_pens</td>
<td>0.10264</td>
<td>0.05142</td>
<td>1.996</td>
</tr>
</tbody>
</table>

Log Likelihood = -256.211
Schwarz Criterion = -300.031
Hannan-Quinn Criterion = -285.761
Akaike Criterion = -276.211
Sum of Squares = 2833.92
R-Squared = 0.5129
R-Bar-Squared = 0.3587
Residual SD = 6.8726
Residual Skewness = 1.2433
Residual Kurtosis = 6.7232
Jarque-Bera Test = 66.8171 {0}
Ljung-Box (residuals): Q(12) = 25.7308 (0.012)
Ljung-Box (squared residuals): Q(12) = 5.7643 (0.927)
Durbin Watson Statistic = 2.07566
KPSS test of I(0) = 0.0539 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.1887 (0.664)
B-P Heterosced. (LM): ChiSq(1) = 0.1103 (0.74)

Covariance matrix from robust formula.

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.21

FECM is for echope on rwage (FD0.866_Resecrwage(-1)).

Column 6

Dependent Variable is FD0.884_Echope
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.30866</td>
<td>0.72562</td>
<td>0.425</td>
</tr>
<tr>
<td>Khodnov</td>
<td>-6.10441</td>
<td>2.14713</td>
<td>-2.843</td>
</tr>
<tr>
<td>F0.866_Resecrwage(-1)</td>
<td>-0.27411</td>
<td>0.12492</td>
<td>-2.194</td>
</tr>
<tr>
<td>nov94p</td>
<td>-12.4845</td>
<td>1.28159</td>
<td>-9.741</td>
</tr>
<tr>
<td>monetize</td>
<td>-5.40939</td>
<td>2.05458</td>
<td>-2.633</td>
</tr>
<tr>
<td>D1_tenpt</td>
<td>6.91456</td>
<td>1.69065</td>
<td>4.09</td>
</tr>
<tr>
<td>camp96</td>
<td>3.86495</td>
<td>1.93335</td>
<td>2.0</td>
</tr>
<tr>
<td>camp00</td>
<td>6.94084</td>
<td>7.15285</td>
<td>0.97</td>
</tr>
<tr>
<td>camp04</td>
<td>8.78546</td>
<td>1.53733</td>
<td>5.715</td>
</tr>
<tr>
<td>camp08</td>
<td>-4.29455</td>
<td>0.94197</td>
<td>-4.559</td>
</tr>
<tr>
<td>FD1.286_rwarrear</td>
<td>-0.10727</td>
<td>0.05207</td>
<td>-2.06</td>
</tr>
<tr>
<td>FD0.979_pens</td>
<td>0.09364</td>
<td>0.03487</td>
<td>2.686</td>
</tr>
</tbody>
</table>

Log Likelihood = -256.945
Schwarz Criterion = -285.428
Hannan-Quinn Criterion = -276.153
Akaike Criterion = -269.945
Sum of Squares = 2886.42
R-Squared = 0.5039
R-Bar-Squared = 0.415
Residual SD = 6.5636
Residual Skewness = 1.3496
Residual Kurtosis = 6.8244

Diagnostic Tests:

- Ljung-Box (residuals): Q(12) = 23.8 (0.022)
- Ljung-Box (squared residuals): Q(12) = 6.861 (0.867)

Models with campall

*******************************************************************************
TSM4.31.13-05-10 Run 509 at 20:24:33 on 10-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
*******************************************************************************
Dependent Variable is FD0.947_Russec
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.64648</td>
<td>0.68742</td>
<td>-0.94</td>
</tr>
<tr>
<td>finp</td>
<td>-18.8594</td>
<td>2.56422</td>
<td>-7.355</td>
</tr>
<tr>
<td>Khodnov</td>
<td>-3.18623</td>
<td>1.36548</td>
<td>-2.333</td>
</tr>
<tr>
<td>nov94p</td>
<td>-5.79942</td>
<td>1.00167</td>
<td>-5.79</td>
</tr>
<tr>
<td>D1_tenpt</td>
<td>2.20677</td>
<td>1.00707</td>
<td>2.191</td>
</tr>
<tr>
<td>recovery</td>
<td>1.66202</td>
<td>0.84191</td>
<td>1.974</td>
</tr>
<tr>
<td>campall</td>
<td>2.62388</td>
<td>1.04315</td>
<td>2.515</td>
</tr>
<tr>
<td>FD1.286_rwarrear</td>
<td>-0.04267</td>
<td>0.02521</td>
<td>-1.693</td>
</tr>
<tr>
<td>FD0.844_workdem</td>
<td>0.00953</td>
<td>0.00455</td>
<td>2.093</td>
</tr>
<tr>
<td>femmrussragework(-1)</td>
<td>-0.45323</td>
<td>0.08632</td>
<td>-5.251</td>
</tr>
</tbody>
</table>

Log Likelihood = -206.271
Schwarz Criterion = -228.181
Hannan-Quinn Criterion = -221.046
Akaike Criterion = -216.271
Sum of Squares = 813.151
R-Squared = 0.5538
R-Bar-Squared = 0.4964
Residual SD = 3.4083
Residual Skewness = 0.6946
Residual Kurtosis = 3.8278
Jarque-Bera Test = 8.7181 (0.013)
Ljung-Box (residuals): Q(12) = 8.1536 (0.773)
Ljung-Box (squared residuals): Q(12) = 3.7758 (0.987)
Durbin Watson Statistic = 1.99238
KPSS test of I(0) = 0.0519 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0 (0.998)
B-P Heterosced. (LM): ChiSq(1) = 0.4693 (0.493)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.

Run completed in 0.12

******************************************************************************
TSM4.31.13-05-10 Run 511 at 20:27:11 on 10-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is FD0.832_Fammat
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-2.33022</td>
<td>0.75692</td>
<td>-3.079</td>
</tr>
<tr>
<td>monetize</td>
<td>-15.0374</td>
<td>1.6622</td>
<td>-9.047</td>
</tr>
<tr>
<td>D1_tenpt</td>
<td>1.47088</td>
<td>0.45789</td>
<td>3.212</td>
</tr>
<tr>
<td>recovery</td>
<td>3.1017</td>
<td>0.89867</td>
<td>3.451</td>
</tr>
<tr>
<td>campall</td>
<td>0.70982</td>
<td>0.78157</td>
<td>-0.908</td>
</tr>
<tr>
<td>FD1.067_rwage</td>
<td>0.01151</td>
<td>0.00669</td>
<td>1.721</td>
</tr>
<tr>
<td>FD1.087_Unemployment</td>
<td>-2.81688</td>
<td>1.33057</td>
<td>-2.117</td>
</tr>
<tr>
<td>FD0.979_pens</td>
<td>0.04929</td>
<td>0.01923</td>
<td>2.563</td>
</tr>
<tr>
<td>fecmfamrwageunem(-1)</td>
<td>-0.44401</td>
<td>0.10978</td>
<td>-4.045</td>
</tr>
</tbody>
</table>

Log Likelihood = -214.251
Schwarz Criterion = -233.97
Hannan-Quinn Criterion = -227.549
Akaike Criterion = -223.251
Sum of Squares = 992.694
R-Squared = 0.592
R-Bar-Squared = 0.5461
Residual SD = 3.7392
Residual Skewness = -0.5398
Residual Kurtosis = 5.1188
Jarque-Bera Test = 18.8496 (0)
Ljung-Box (residuals): Q(12) = 12.6342 (0.396)
Ljung-Box (squared residuals): Q(12) = 10.5544 (0.567)
Durbin Watson Statistic = 2.04053
KPSS test of I(0) = 0.2217 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.3564 (0.55)
B-P Heterosced. (LM): ChiSq(1) = 0.1335 (0.715)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.

Run completed in 0.06

******************************************************************************
TSM4.31.13-05-10 Run 514 at 20:29:12 on 10-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is FD0.884_Echope
80 observations (3-82) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.15154</td>
<td>0.73567</td>
<td>0.206</td>
</tr>
<tr>
<td>Khodnov</td>
<td>-3.07851</td>
<td>3.1293</td>
<td>-0.984</td>
</tr>
<tr>
<td>FD0.866_Resecrwage(-1)</td>
<td>-0.25799</td>
<td>0.1254</td>
<td>-2.057</td>
</tr>
<tr>
<td>nov94p</td>
<td>-12.2658</td>
<td>1.28648</td>
<td>-9.534</td>
</tr>
<tr>
<td>monetize</td>
<td>-5.13055</td>
<td>2.35685</td>
<td>-2.177</td>
</tr>
<tr>
<td>D1_tenpt</td>
<td>6.82299</td>
<td>1.20376</td>
<td>5.668</td>
</tr>
</tbody>
</table>

Log Likelihood = -214.251
Schwarz Criterion = -233.97
Hannan-Quinn Criterion = -227.549
Akaike Criterion = -223.251
Sum of Squares = 992.694
R-Squared = 0.592
R-Bar-Squared = 0.5461
Residual SD = 3.7392
Residual Skewness = -0.5398
Residual Kurtosis = 5.1188
Jarque-Bera Test = 18.8496 (0)
Ljung-Box (residuals): Q(12) = 12.6342 (0.396)
Ljung-Box (squared residuals): Q(12) = 10.5544 (0.567)
Durbin Watson Statistic = 2.04053
KPSS test of I(0) = 0.2217 (<1) *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.3564 (0.55)
B-P Heterosced. (LM): ChiSq(1) = 0.1335 (0.715)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.

Run completed in 0.06
5. Causal modeling

Yeltsin period

Table A2

Column 1
Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 1.0165 (0.313)
B-P Heterosced. (LM): ChiSq(1) = 0.3886 (0.533)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.12

Column 2

***********************************************************************
TSM4.31.13-05-10 Run 252 at 15:27:04 on 1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is FD0.553polsit
33 observations (2-34) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-5.23947</td>
<td>1.27013</td>
<td>-4.125</td>
</tr>
<tr>
<td>FD0.505echope(-1)</td>
<td>0.24736</td>
<td>0.14485</td>
<td>1.708</td>
</tr>
<tr>
<td>FD0.553polsit(-1)</td>
<td>0.32464</td>
<td>0.12882</td>
<td>2.52</td>
</tr>
</tbody>
</table>

Log Likelihood = -101.169
Schwarz Criterion = -106.414
Hannan-Quinn Criterion = -104.924
Akaike Criterion = -104.169
Sum of Squares = 888.997
R-Squared = 0.3772
R-Bar-Squared = 0.3357
Residual SD = 5.4436
Residual Skewness = -0.564
Residual Kurtosis = 3.5418
Jarque-Bera Test = 2.1532 {0.341}
Ljung-Box (residuals): Q(12) = 2.0712 {0.999}
Ljung-Box (squared residuals): Q(12) = 8.0246 {0.783}
Durbin Watson Statistic = 1.97259

KPSS test of I(0) = 0.3657 {<0.1} *

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.0006 (0.98)
B-P Heterosced. (LM): ChiSq(1) = 0.3855 (0.535)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.10

Notice that errors do not appear stationary.

Column 2A

Same thing but with trend; errors now pass KPSS test; cannot reject I(0).

***********************************************************************
TSM4.31.13-05-10 Run 399 at 15:03:22 on 2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is FD0.553polsit
33 observations (2-34) used for estimation.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
</table>

...
### Column 3

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-12.0971</td>
<td>3.02355</td>
<td>-4.001</td>
<td>0</td>
</tr>
<tr>
<td>FD0.505echope(-1)</td>
<td>0.30629</td>
<td>0.14564</td>
<td>2.103</td>
<td>0.044</td>
</tr>
<tr>
<td>FD0.553polsit(-1)</td>
<td>0.09771</td>
<td>0.13964</td>
<td>0.7</td>
<td>0.49</td>
</tr>
<tr>
<td>trend</td>
<td>0.26009</td>
<td>0.10533</td>
<td>2.469</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Log Likelihood = -98.6063
Schwarz Criterion = -105.599
Hannan-Quinn Criterion = -103.613
Akaike Criterion = -102.606
Sum of Squares = 761.106
R-Squared = 0.4668
R-Bar-Squared = 5.123
Residual Skewness = 0.167
Residual Kurtosis = 3.2593
Jarque-Bera Test = 0.2458 {0.884}

Ljung-Box (residuals): Q(12) = 2.4085 {0.998}
Ljung-Box (squared residuals): Q(12) = 8.1736 {0.771}
Durbin Watson Statistic = 1.79038

KPSS test of I(0) = 0.1364 (<1) *

Diagnostic Tests:
- Autocorrelation (LM): ChiSq(1) = 0.701 {0.402}
- B-P Heterosced. (LM): ChiSq(1) = 1.0076 {0.315}

Covariance matrix from robust formula.

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.12

### Column 4

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.16195</td>
<td>1.43754</td>
<td>-0.808</td>
<td>0.425</td>
</tr>
<tr>
<td>FD0.909russec(-1)</td>
<td>0.17666</td>
<td>0.18117</td>
<td>0.975</td>
<td>0.337</td>
</tr>
<tr>
<td>FD0.553polsit(-1)</td>
<td>-0.02849</td>
<td>0.09936</td>
<td>-0.287</td>
<td>0.776</td>
</tr>
</tbody>
</table>

Log Likelihood = -97.3747
Schwarz Criterion = -102.619
Hannan-Quinn Criterion = -101.13
Akaike Criterion = -100.375
Sum of Squares = 706.36
R-Squared = 0.0237
R-Bar-Squared = 0.0414
Residual SD = 4.8524
Residual Skewness = -0.5058
Residual Kurtosis = 2.9236
Jarque-Bera Test = 1.4149 (0.493)

Ljung-Box (residuals): Q(12) = 10.1081 {0.606}
Ljung-Box (squared residuals): Q(12) = 7.1942 {0.845}
Durbin Watson Statistic = 1.92006

KPSS test of I(0) = 0.1073 (<1) *

Diagnostic Tests:
- Autocorrelation (LM): ChiSq(1) = 0.1459 {0.702}
- B-P Heterosced. (LM): ChiSq(1) = 0.0392 {0.843}

Covariance matrix from robust formula.

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.14
Dependent Variable is FD.505echope
33 observations (2-34) used for estimation.

Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.74621</td>
<td>2.82734</td>
<td>-0.618</td>
</tr>
<tr>
<td>FD.505echope(-1)</td>
<td>0.2704</td>
<td>0.16687</td>
<td>1.62</td>
</tr>
<tr>
<td>FD.553polsit(-1)</td>
<td>0.14124</td>
<td>0.1855</td>
<td>0.761</td>
</tr>
</tbody>
</table>

Log Likelihood = -116.718
Schwarz Criterion = -121.963
Hannan-Quinn Criterion = -120.473
Akaike Criterion = -119.718
Sum of Squares = 2281.15
R-Squared = 0.116
R-Bar-Squared = 0.0571
Residual SD = 8.72
Residual Skewness = 0.5599
Residual Kurtosis = 3.5418
Jarque-Bera Test = 2.1281 (0.345)

Ljung-Box (residuals): Q(12) = 9.5591 (0.655)
Ljung-Box (squared residuals): Q(12) = 3.7997 (0.987)
Durbin Watson Statistic = 1.65207

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.3357 (0.562)
B-P Heterosced. (LM): ChiSq(1) = 0.6704 (0.413)

Covariance matrix from robust formula.

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.

...Run completed in 0.09

DW is very low, so include lag of dep var:

Dependent Variable is FD.505echope
32 observations (3-34) used for estimation.

Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.82909</td>
<td>3.19272</td>
<td>-0.26</td>
</tr>
<tr>
<td>FD.505echope(-1)</td>
<td>0.30281</td>
<td>0.17872</td>
<td>1.694</td>
</tr>
<tr>
<td>FD.553polsit(-1)</td>
<td>0.21967</td>
<td>0.22418</td>
<td>0.98</td>
</tr>
<tr>
<td>FD.505echope(-1)(-1)</td>
<td>0.01576</td>
<td>0.20461</td>
<td>0.077</td>
</tr>
</tbody>
</table>

Log Likelihood = -113.217
Schwarz Criterion = -120.149
Hannan-Quinn Criterion = -118.189
Akaike Criterion = -117.217
Sum of Squares = 2217.03
R-Squared = 0.139
R-Bar-Squared = 0.0571
Residual SD = 8.8983
Residual Skewness = 0.5406
Residual Kurtosis = 3.6604
Jarque-Bera Test = 2.1401 (0.343)

Ljung-Box (residuals): Q(12) = 9.2764 (0.679)
Ljung-Box (squared residuals): Q(12) = 4.5589 (0.971)
Durbin Watson Statistic = 1.73007

Diagnostic Tests:
Autocorrelation (LM): ChiSq(1) = 0.0053 (0.942)
B-P Heterosced. (LM): ChiSq(1) = 0.8933 (0.345)

Covariance matrix from robust formula.
**Putin period**

**Column 5**

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.04

---

**Column 6**

* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.10
R-Squared = 0.0437
R-Var-Squared = 0.003
Residual SD = 10.385
Residual Skewness = -0.8928
Residual Kurtosis = 7.3786
Jarque-Bera Test = 46.5854 (0)
Ljung-Box (residuals): Q(12) = 8.1474 (0.774)
Ljung-Box (squared residuals): Q(12) = 3.2258 (0.994)
Durbin Watson Statistic = 1.9951
KPSS test of I(0) = 0.3474 (<0.1) *
Diagnostic Tests:
   Autocorrelation (LM): ChiSq(1) = 1.1904 (0.275)
   B-P Heterosced. (LM): ChiSq(1) = 0.0674 (0.795)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.09

The KPSS test suggests non-stationarity. Adding trend solves this problem, but then LM test suggests significant autocorrelation: I need to include lagged dep. var. as well.

**Column 6A**

***********************************************************************
TSM4.31.13-05-10 Run 408 at 18:13:34 on 2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-----------------------------------------------------------------------
Dependent Variable is FD0.634_Polsit
50 observations (35-84) used for estimation
with 31 pre-sample observations.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-5.84031</td>
<td>6.23348</td>
<td>-0.937</td>
</tr>
<tr>
<td>FD0.635_Echope(-1)</td>
<td>0.17834</td>
<td>0.197</td>
<td>0.905</td>
</tr>
<tr>
<td>FD0.634_Polsit(-1)</td>
<td>-0.33881</td>
<td>0.15977</td>
<td>-2.121</td>
</tr>
<tr>
<td>trend</td>
<td>0.18803</td>
<td>0.09992</td>
<td>1.882</td>
</tr>
<tr>
<td>FD0.634_Polsit(-1)(-1)</td>
<td>-0.10264</td>
<td>0.08526</td>
<td>-1.204</td>
</tr>
</tbody>
</table>

Log Likelihood = -184.795
Schwarz Criterion = -194.575
Hannan-Quinn Criterion = -191.615
Akaike Criterion = -189.795
Sum of Squares = 4750.22
R-Squared = 0.1038
R-Var-Squared = 0.0241
Residual SD = 10.2743
Residual Skewness = -0.9266
Residual Kurtosis = 7.4825
Jarque-Bera Test = 49.0153 (0)
Ljung-Box (residuals): Q(12) = 6.0966 (0.911)
Ljung-Box (squared residuals): Q(12) = 2.9595 (0.996)
Durbin Watson Statistic = 1.9951
KPSS test of I(0) = 0.3474 (<0.1) *
Diagnostic Tests:
   Autocorrelation (LM): ChiSq(1) = 1.1904 (0.275)
   B-P Heterosced. (LM): ChiSq(1) = 0.0674 (0.795)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.09
**Column 7**

******************************************************************************
TSM4.31.13-05-10 Run 257 at 15:36:31 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
******************************************************************************
Dependent Variable is FD0.725_Russec
50 observations (35-84) used for estimation with 32 pre-sample observations.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.49818</td>
<td>0.69714</td>
<td>3.583</td>
</tr>
<tr>
<td>FD0.725_Russec(-1)</td>
<td>-0.15909</td>
<td>0.17762</td>
<td>-0.896</td>
</tr>
<tr>
<td>FD0.634_Polsit(-1)</td>
<td>0.00766</td>
<td>0.05927</td>
<td>0.129</td>
</tr>
</tbody>
</table>

Log Likelihood = -143.655
Schwarz Criterion = -146.55
Hannan-Quinn Criterion = -147.747
Sum of Squares = 916.302
R-Squared = 0.0223
R-Bar-Squared = 0.0193
Residual SD = 4.4154
Residual Skewness = 0.3045
Residual Kurtosis = 2.8633
Jarque-Bera Test = 0.8117 (0.666)

Ljung-Box (residuals): Q(12) = 11.7529 (0.466)
Ljung-Box (squared residuals): Q(12) = 7.6284 (0.813)
Durbin Watson Statistic = 2.00122

KPSS test of I(0) = 0.2065 (<1) *

Diagnostic Tests:
- Autocorrelation (LM): ChiSq(1) = 0.433 (0.511)
- B-P Heterosced. (LM): ChiSq(1) = 0.0549 (0.815)

Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Farzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.12

**Column 8**

******************************************************************************
TSM4.31.13-05-10 Run 259 at 15:37:48 on 1-06-2010
Data file is C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
******************************************************************************
Dependent Variable is FD0.635_Echope
50 observations (35-84) used for estimation with 31 pre-sample observations.
Estimation Method: Ordinary Least Squares

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Std. Err.</th>
<th>t Ratio</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.07152</td>
<td>1.22286</td>
<td>1.694</td>
</tr>
<tr>
<td>FD0.635_Echope(-1)</td>
<td>0.24746</td>
<td>0.24156</td>
<td>1.024</td>
</tr>
<tr>
<td>FD0.634_Polsit(-1)</td>
<td>-0.13115</td>
<td>0.19555</td>
<td>-0.671</td>
</tr>
<tr>
<td>FD0.635_Echope(-1)(-1)</td>
<td>0.20929</td>
<td>0.17628</td>
<td>1.187</td>
</tr>
</tbody>
</table>

Log Likelihood = -175.616
Schwarz Criterion = -183.44
Hannan-Quinn Criterion = -181.073
Akaike Criterion = -179.616
Sum of Squares = 3290.51
R-Squared = 0.1235
R-Bar-Squared = 0.0664
Residual SD = 8.4577
Residual Skewness = 0.2644
Residual Kurtosis = 3.322
Jarque-Bera Test = 0.7984 (0.671)

Ljung-Box (residuals): Q(12) = 12.6024 (0.466)
Ljung-Box (squared residuals): Q(12) = 10.7538 (0.55)
Durbin Watson Statistic = 1.98771
KPSS test of I(0) = 0.1052 (0.01) *
Diagostic Tests:
  Autocorrelation (LM): ChiSq(1) = 1.0106 (0.315)
  B-P Heterosced. (LM): ChiSq(1) = 9.6143 (0.002)
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
...Run completed in 0.09