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

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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

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Time Series Modelling v4.31.13-05-10 (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)
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                    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  {.NaN} (m = 0)
                  KPSS test = 0.00440039 {<1} (Parzen, bw = 5, N-W plug-in)
               Lo's RS test = 0.10917 {<1} (Parzen, bw = 5, N-W plug-in)
Harris-McCabe-Leybourne Test = 2.21809 {0.013} (c = 1, L = 0.66)
Tests of I(1):
Augmented Dickey-Fuller Test = -1.60338 {<0.9} ( 4 lags, Akaike Criterion)
        Phillips-Perron test = -1.97007 {<0.9} (Parzen, bw = 1, N-W plug-in)
Elliott-Rothenberg-Stock Tests:
                DF-GLS test = -1.71172 {<1} ( 4 lags, Akaike Criterion)
                     P test = 3.22736 {<0.1} (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 = 0.399903
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 = -1.83933 {<1} ( 4 lags, Akaike Criterion)
                     P test = 2.11696 {<0.025} (Parzen, bw = 1, 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 = 0.27608 {<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  ***
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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)
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Putin Period

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***  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)
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                     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)
Elliott-Rothenberg-Stock Tests:
                 DF-GLS test = -1.89765 {<1} ( 0 lags, Akaike Criterion)
                      P test = 4.55029 {<1} (Parzen, bw = 4, N-W plug-in)


***  Summary Statistics for Echope  ***
Using 50 observations  (35-84, dates 37 to 86)
                      Minimum = -12 at obs. 31
                      Maximum = 27.2 at obs. 50
                         Mean = 3.2358
                       Median = 2.845
          Standard Deviation = 8.70158
                     Skewness = 0.529462
                     Kurtosis = 3.19044
       Jarque-Bera statistic = 2.41164
                Robinson's d = 0.429208
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)
Elliott-Rothenberg-Stock Tests:
                 DF-GLS test = -2.11161 {<1} ( 0 lags, Akaike Criterion)
                      P test = 3.24018 {<0.1} (Parzen, bw = 3, 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:
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                DF-GLS test = -1.53888 {<1} ( 0 lags, Akaike Criterion)
                     P test = 8.88661 {<1} (Parzen, bw = 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-Peron 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.

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

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```
TSM4.31.13-05-10 Run 19 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 Echope
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)       0.51355     0.1291     3.978        0

*************************************************************************
TSM4.31.13-05-10 Run 20 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 Polsit
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)        0.6813     0.1291     5.277        0

*************************************************************************
TSM4.31.13-05-10 Run 21 at 20:18:38 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 = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.96056    0.15811     6.075        0

*************************************************************************
TSM4.31.13-05-10 Run 22 at 20:18:38 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 = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.98926    0.15811     6.257        0

*************************************************************************
TSM4.31.13-05-10 Run 23 at 20:18:38 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 = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.88315    0.15811     5.586        0

*************************************************************************
TSM4.31.13-05-10 Run 24 at 20:18:38 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 = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.54217    0.15811     3.429        0

*************************************************************************
TSM4.31.13-05-10 Run 25 at 20:18:38 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 = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.61359    0.15811     3.881        0

*************************************************************************
TSM4.31.13-05-10 Run 26 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 yeltsin10pt
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Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.46)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.7183    0.22361     3.212        0

*************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.77892    0.22361     3.483        0

*************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.28537    0.22361     5.748        0

*************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.45989    0.22361     2.057        0

*************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.36346    0.22361     1.625        0
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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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.65008     0.1291     5.036        0

*************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.67097     0.1291     5.197        0

*************************************************************************
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
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Semiparametric Long Memory Estimation for Fammat
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.69)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
```

```
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.17304    0.15811     7.419        0

*******************************************************************************
TSM4.31.13-05-10 Run 160 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 Polsit
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.59)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.7087    0.15811     4.482        0

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

*******************************************************************************
TSM4.31.13-05-10 Run 315 at  9:33:04 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 = 10 (= T^0.59)
Using 48 observations  (35-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.63694    0.15811     4.028        0
*******************************************************************************
TSM4.31.13-05-10 Run 163 at  8:58:43 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 = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.50284    0.22361     2.249        0

*******************************************************************************
TSM4.31.13-05-10 Run 164 at  8:58:43 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 = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.7099    0.22361     3.175        0

*******************************************************************************
TSM4.31.13-05-10 Run 165 at  8:58:43 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 = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.44757    0.22361     2.002        0

*******************************************************************************
TSM4.31.13-05-10 Run 166 at  8:58:43 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 = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.31121    0.22361     1.392        0

*******************************************************************************
TSM4.31.13-05-10 Run 167 at  8:58:43 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 = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.65513    0.22361      2.93        0
```

```
*************************************************************************
TSM4.31.13-05-10 Run 314 at  9:32:35 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 = 15 (= T^0.7)
Using 48 observations  (35-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.66498     0.1291     5.151        0
```

YELTSIN PERIOD estimates of d

Robinson Local Whittle	Yeltsin	Russec	Fammat	Echope	Polsit	SE
BW 15	.974	.959	.759	.514	.681	.13
BW 10	.961	.989	.883	.542	.614	.16
BW 5	.718	.779	1.29	.460	.363	.22
Average 5-15	0.884	0.909	0.977	0.505	0.553	0.170

PUTIN PERIOD estimates of d

35-84		Putin era	Bimonthly				
Est of d	Putapp	Russec	Fammat	Echope	Polsit	Chechmil	SE
Robust Whittle							
BW							
15	.650	.671	.435	.424	.538	.665	.13
10	.784	.795	.527	1.17	.709	.637	.16
5	.503	.710	.448	.311	.655	.510	.22
Average	0.646	0.725	0.470	0.635	0.634	0.604	0.170

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.

Data Transformation:  FD0.646_putapp  created.
Data Transformation:  FD0.725_Russec  created.
Data Transformation:  FD0.47_Fammat  created.
Data Transformation:  FD0.635_Echope  created.
Data Transformation:  FD0.634_Polsit  created.
Data Transformation:  FD0.604_chechmil  created.
```

Table 1. Testing for stationarity, unit roots, and cointegration

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

	Yeltsin rating	Current economy	Family finances	Russia's ec. future	Political situation
ADF test of I(1)	-1.01, p < .90	-1.60, p < .90	-1.72, p < .90	-2.76, p < .10	-1.62, p < .90
Phillips-Perron test of I(1)	-1.22, p < .90	-1.97, p < .90	-2.39, p < .90	-2.56, p < .90	-2.58, p < .90
KPSS test of I(0)	.03, p < 1	.00, p < 1	.02, p < 1	.01, p < 1	.00, p < 1
HML test of I(0)	2.24, p = .01	2.22, p = .01	2.19, p = .01	2.04 p = .02	2.23 p = .01
Estimate of d	0.884 (.17)	.909 (.17)	0.977 (.17)	0.505 (.17)	0.553 (.17)
Estimate of d for residuals of regression of Yeltsin rating on this variable		0.344 (.17)	0.509 (.17)	0.629 (.17)	1.001 (.17)

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

	Putin approval	Current ec.	Family finances	Russia's ec. Future	Military op. in Chechnya	Pol. situation
ADF test of I(1)	-1.94, p <.90	-.24, p < .95	-1.09, p < .90	-2.41, p < .90	-2.73, p < .10	-.44, p < .90
Phillips-Perron test of I(1)	-2.78 p < .10	-.68, p < .90	-1.80, p < .90	-3.10, p < .05	-2.81, p < .10	-.95, p < .90
KPSS test of I(0)	.00 p < 1	.14, p < 1	.07, p < 1	.15, p < 1	.17, p < 1	.34, p < 1
HML test of I(0)	2.49, p = .01	2.35, p =.01	2.42,p = .01	-.17, p = .57	2.28, p = .01	2.08, p = .02
Estimate of d	.646 (.17)	0.725 (.17)	0.470 (.17)	0.635 (.17)	0.604 (.17)	0.634 (.17)
Estimate of d for residuals of regression of Putin approval on this variable		.703 (.17)	.754 (.17)	.492 (.17)	.552 (.17)	.592 (.17)

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, Resprus, Respfam, Respec, Resppol, Respchmil.

```
**************************************************************************
TSM4.31.13-05-10 Run 31 at 20:29:26 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    8.31868    0.44274    18.789        0
Russec                       0.07422    0.00602    12.328        0
                     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

**********************************************************************
TSM4.31.13-05-10 Run 32 at 20:31:53 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    5.27002     0.5211    10.113        0
Fammat                       0.04971    0.01101     4.515        0
                     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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    3.7811    0.42226     8.954        0
Echope                       0.02563    0.01116     2.296    0.028
                     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}
Covariance matrix from robust formula.
    ...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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     7.62767    1.13781     6.704        0
Polsit                        0.05825    0.01422     4.096        0
                      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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     83.5938    1.55398    53.793        0
Russec                        0.20243    0.03728      5.43        0
                      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 =  0.2918
                         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 =  0.2684 {0.874}
Box-Pierce (residuals):         Q(12) =  33.953 {0.001}
Box-Pierce (squared residuals): Q(12) =  4.2881 {0.978}
Covariance matrix from robust formula.
    ...Run completed in  0.06

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.
```

```
Estimation Method: Ordinary Least Squares
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     79.6331    0.88122    90.367        0
Polsit                         0.1296    0.02586     5.011        0
                      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
                         R-Bar-Squared =  0.3034
                           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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     77.6336    1.90066    40.846        0
chechmil                     -0.09135    0.05652    -1.616    0.113
                      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
                         R-Bar-Squared =  0.0402
                           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    {<1} *
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)
                            Estimate  Std. Err.   t Ratio  p-Value
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)
                            Estimate  Std. Err.   t Ratio  p-Value
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)
                            Estimate  Std. Err.   t Ratio  p-Value
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)
                            Estimate  Std. Err.   t Ratio  p-Value
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 Resyrus
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
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 Resyfam
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.64445    0.15811     4.076        0
```

```
*************************************************************************
TSM4.31.13-05-10 Run 42 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 Resypol
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.65)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.84537    0.15811     5.347        0

*************************************************************************
TSM4.31.13-05-10 Run 43 at 20:38:04 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 = 5 (= T^0.46)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.06457    0.22361     0.289    0.775

*************************************************************************
TSM4.31.13-05-10 Run 44 at 20:38:04 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 = 5 (= T^0.46)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.29546    0.22361     1.321    0.196

*************************************************************************
TSM4.31.13-05-10 Run 45 at 20:38:04 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 = 5 (= T^0.46)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)         0.6462    0.22361      2.89    0.007

*************************************************************************
TSM4.31.13-05-10 Run 46 at 20:38:04 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 = 5 (= T^0.46)
Using 34 observations  (dates 3 to 36)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.30264    0.22361     5.826        0
```

Putin period

```
*************************************************************************
TSM4.31.13-05-10 Run 170 at  9:06:40 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resprus
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.69)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.63673     0.1291     4.932        0

*************************************************************************
```

```
TSM4.31.13-05-10 Run 171 at  9:06:40 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Respfam
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.69)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.66614     0.1291      5.16        0

**********************************************************************
TSM4.31.13-05-10 Run 172 at  9:06:40 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Respec
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.69)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.55005     0.1291     4.261        0

**********************************************************************
TSM4.31.13-05-10 Run 173 at  9:06:40 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resppol
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.69)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.47698     0.1291     3.695        0

**********************************************************************
TSM4.31.13-05-10 Run 319 at  9:43:39 on  2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Semiparametric Long Memory Estimation for Respchmil
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.7)
Using 48 observations  (35-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.56512     0.1291     4.377        0


**
TSM4.31.13-05-10 Run 175 at  9:06:47 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resprus
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.59)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.57722    0.15811     3.651        0

**********************************************************************
TSM4.31.13-05-10 Run 176 at  9:06:47 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Respfam
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.59)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.5843    0.15811     3.696        0

**********************************************************************
TSM4.31.13-05-10 Run 177 at  9:06:47 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Respec
```

```
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.59)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.61214    0.15811     3.872        0

*******************************************************************************
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
Semiparametric Long Memory Estimation for Resppol
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.59)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.46521    0.15811     2.942        0

*******************************************************************************
TSM4.31.13-05-10 Run 321 at  9:44:21 on  2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Semiparametric Long Memory Estimation for Respchmil
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.59)
Using 48 observations  (35-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.5778    0.15811     3.654    0.001

*******************************************************************************
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
Semiparametric Long Memory Estimation for Resprus
Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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
Semiparametric Long Memory Estimation for Respfam
Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        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
Semiparametric Long Memory Estimation for Respec
Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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
Semiparametric Long Memory Estimation for Resppol
Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.41)
Using 50 observations  (35-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.83299    0.22361     3.725        0
```

```
**************************************************************************
TSM4.31.13-05-10 Run 323 at  9:44:47 on  2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
Semiparametric Long Memory Estimation for Respchmil
Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.42)
Using 48 observations  (35-82)
                              Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.5119    0.22361     2.289    0.027
```

	YELTSIN	YELTSIN	YELTSIN	Yeltsin	PUTIN	PUTIN	PUTIN	PUTIN	PUTIN
Estimate of d	RESYRUS	RESYFAM	RESYEC	RESYPOL	RESPRUS	RESPFAM	RESPEC	RESPPOL	RESPCHMIL
Robinson Local Whittle									
15	.491	.635	.598	.854	.637	.666	.550	.477	.565
10	.475	.596	.644	.845	.577	.584	.612	.465	.578
5	.065	.295	.646	1.303	.895	1.013	.314	.833	.512
Average	0.344	0.509	0.629	1.001	0.703	0.754	0.492	0.592	.552

Add these to Table 1.

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.

	Russec	Fammat	Echope	Polsit
Russec	1			
Fammat	0.93	1		
Echope	0.81	0.75	1	
Polsit	0.97	0.88	0.81	1

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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                        8.38    0.44167    18.973        0
```

```
russnov2                       0.07479    0.00599    12.486        0
                     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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      -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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     5.33109    0.52728    10.111        0
famnov2                       0.05065    0.01117     4.534        0
                      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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     8.22189    0.49183    16.717        0
russnov2                      0.06748    0.00924     7.303        0
famnov2                       0.00782    0.00554     1.412    0.168
                     Log Likelihood = -10.6515
                  Schwarz Criterion = -15.9846
              Hannan-Quinn Criterion = -14.4569
                    Akaike Criterion = -13.6515
                      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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.5268     0.1291     4.081        0

*************************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.53006    0.15811     3.352    0.002

*************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)     -0.09943    0.22361    -0.445     0.66

AVerage d = .319


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

Table 2

Column 1

```
*****************************************************************
TSM4.31.13-05-10 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
                            Estimate  Std. Err.   t Ratio  p-Value
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                       -0.19123    0.08884    -2.153    0.043
yhOSP1                        0.0273    0.07821     0.349    0.731
budp                        -0.30312    0.11814    -2.566    0.018
che1start                   -0.31441    0.07946    -3.957    0.001
che1end                      0.34648    0.13868     2.498    0.021
startc2                     -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 =  0.7226
                          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}
Covariance matrix from robust formula.
* 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 is Fdo.884yeltsin10pt
33 observations  (2-34) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.26712    0.21511     1.242    0.228
FD0.977fammat                0.00989    0.01189     0.832    0.415
FECMyfam(-1)                -0.16729    0.13389    -1.249    0.225
Months                      -0.00362    0.00319    -1.136    0.269
orchp                       -0.18723    0.10018    -1.869    0.076
yhOSP1                      -0.08119    0.09708    -0.836    0.412
budp                        -0.21892    0.11602    -1.887    0.073
che1start                   -0.54538     0.0916    -5.954        0
che1end                      0.45424    0.11459     3.964    0.001
startc2                     -0.05272    0.09959    -0.529    0.602
finp                        -0.53416    0.18643    -2.865    0.009
kosP                        -0.00708    0.13692    -0.052    0.959
                     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.
* 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 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 is Fdo.884yeltsin10pt
33 observations  (2-34) used for estimation
with 1 pre-sample observations.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.35821    0.19246     1.861    0.076
FD0.505echope                0.01078    0.00347     3.108    0.005
Months                      -0.00421    0.00272    -1.548    0.136
orchp                       -0.17258    0.08683    -1.988    0.059
yhOSP1                      -0.06983    0.09245    -0.755    0.458
budp                        -0.13519    0.10716    -1.262     0.22
che1start                   -0.40522     0.0893    -4.538        0
che1end                      0.26038    0.10471     2.487    0.021
startc2                       0.0465    0.10334      0.45    0.657
finp                        -0.52493    0.08891    -5.904        0
kosP                         0.16304    0.06861     2.376    0.027
```

```
                      Log Likelihood = 16.6665
                   Schwarz Criterion = -2.56427
               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
```

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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.31032    0.30518     1.017     0.32
FD0.553polsit                0.00403    0.00958     0.421    0.678
Months                      -0.00353    0.00368    -0.958    0.348
orchp                        -0.1702    0.10955    -1.554    0.135
yhOSP1                      -0.10614    0.10188    -1.042    0.309
budp                        -0.15982     0.1125    -1.421    0.169
che1start                   -0.50625    0.18146     -2.79    0.011
che1end                       0.3477    0.16534     2.103    0.047
startc2                      0.02923    0.14461     0.202    0.842
finp                        -0.58653    0.16436    -3.569    0.002
kosP                          0.1924    0.08501     2.263    0.034
                      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 = -0.1883
                   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 = 1.7304
                   KPSS test of I(0) =  0.1337    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =   0.234 {0.629}
  B-P Heterosced. (LM):      ChiSq(1) =  1.0859 {0.297}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.09
```

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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.42503    0.13103     3.244    0.003
FD0.909russec                0.03336    0.00404     8.258        0
FD0.977fammat                0.00541    0.00354     1.528     0.14
FECMyrus(-1)                -0.23053    0.09482    -2.431    0.023
Months                      -0.00601    0.00164    -3.667    0.001
orchp                         -0.228    0.07396    -3.083    0.005
budp                        -0.25007    0.06053    -4.131        0
che1start                   -0.28403    0.06265    -4.534        0
che1end                      0.31046    0.11962     2.595    0.016
                     Log Likelihood = 27.0583
                   Schwarz Criterion = 11.324
               Hannan-Quinn Criterion = 15.7924
                     Akaike Criterion = 18.0583
                       Sum of Squares =  0.3748
                            R-Squared =   0.825
                        R-Bar-Squared =  0.7666
                          Residual SD =   0.125
                   Residual Skewness =  0.1841
                   Residual Kurtosis =  2.5066
                    Jarque-Bera Test =  0.5211 {0.771}
Ljung-Box (residuals):          Q(12) =  8.8985 {0.712}
Ljung-Box (squared residuals):  Q(12) = 17.2469 {0.141}
              Durbin Watson Statistic = 1.83409
                   KPSS test of I(0) =  0.0607    {<1} *
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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.39525    0.12413     3.184    0.004
FD0.909russec                0.03458    0.00377     9.173        0
FD0.977fammat                0.00674    0.00328     2.056     0.05
Months                      -0.00543    0.00151    -3.597    0.001
orchp                       -0.26732    0.06692    -3.995    0.001
budp                        -0.16338     0.0517     -3.16    0.004
che1start                   -0.27947    0.06141    -4.551        0
che1end                      0.25356     0.1406     1.803    0.083
                     Log Likelihood = 24.1208
                   Schwarz Criterion = 10.1348
               Hannan-Quinn Criterion = 14.1067
```

```
                     Akaike Criterion = 16.1208
                       Sum of Squares =  0.4479
                            R-Squared =  0.7909
                        R-Bar-Squared =  0.7323
                          Residual SD =  0.1338
                    Residual Skewness = -0.0947
                    Residual Kurtosis =  2.2431
                     Jarque-Bera Test =   0.837 {0.658}
Ljung-Box (residuals):          Q(12) = 10.0454 {0.612}
Ljung-Box (squared residuals):  Q(12) = 30.2945 {0.003}
               Durbin Watson Statistic = 1.97424
                     KPSS test of I(0) =  0.0735    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.0348 {0.852}
  B-P Heterosced. (LM):      ChiSq(1) =  0.6478 {0.421}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.07
```

Trying a model with a FECM 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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     0.40229    0.16556      2.43    0.025
FD0.909russec                 0.03192    0.00592     5.392        0
FD0.977fammat                 0.00602    0.00459     1.311    0.205
FECMyrusfam(-1)              -0.23013    0.14728    -1.563    0.134
Months                       -0.00571    0.00238      -2.4    0.026
orchp                        -0.22653    0.08668    -2.613    0.017
yhOSP1                        0.01156    0.08002     0.144    0.887
budp                         -0.25864    0.11557    -2.238    0.037
che1start                    -0.29158    0.07975    -3.656    0.002
che1end                       0.32688    0.13972      2.34     0.03
startc2                      -0.02582    0.07017    -0.368    0.717
finp                         -0.06093    0.12085    -0.504     0.62
kosP                         -0.04348    0.07899     -0.55    0.588
                        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 =  0.5619 {0.755}
Ljung-Box (residuals):          Q(12) =  8.5643  {0.74}
Ljung-Box (squared residuals):  Q(12) = 18.0241 {0.115}
               Durbin Watson Statistic = 1.83221
                     KPSS test of I(0) =  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  0.09
```

FECMyrusfam(-1) less significant than one for just russe FECMyrus(-1)c.

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

```
*******************************************************************************
TSM4.31.13-05-10 Run 473 at  9:38:52 on 10-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-------------------------------------------------------------------------------
Dependent Variable is D1_yeltsin10pt
33 observations  (2-34) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.24471    0.10512     2.328    0.029
FD0.909russec                0.03513    0.00397     8.848        0
FD0.977fammat                0.00459    0.00346     1.327    0.197
FECMyrus(-1)                -0.21167    0.10488    -2.018    0.055
Months                      -0.00374    0.00141     -2.65    0.014
orchp                       -0.32119    0.05092    -6.308        0
budp                        -0.23286    0.06318    -3.686    0.001
che1start                   -0.27168    0.05047    -5.383        0
che1end                      0.26238    0.14254     1.841    0.078
                     Log Likelihood = 27.1686
                  Schwarz Criterion = 11.4343
              Hannan-Quinn Criterion = 15.9027
                    Akaike Criterion = 18.1686
                      Sum of Squares =  0.3723
                           R-Squared =   0.818
                      R-Bar-Squared =  0.7574
                        Residual SD =  0.1246
                  Residual Skewness =  0.2219
                  Residual Kurtosis =  2.2163
                   Jarque-Bera Test =  1.1153 {0.573}
Ljung-Box (residuals):          Q(12) = 15.4937 {0.216}
Ljung-Box (squared residuals):  Q(12) =  8.5301 {0.742}
             Durbin Watson Statistic = 2.07445
                  KPSS test of I(0) =  0.0521    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.1137 {0.736}
  B-P Heterosced. (LM):      ChiSq(1) =   1.538 {0.215}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.07
```

Models with and without the economic variables:

```
*******************************************************************************
TSM4.31.13-05-10 Run 486 at 14:25:24 on 10-06-2010
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
                            Estimate  Std. Err.   t Ratio  p-Value
FD0.553polsit               -0.00042    0.00758    -0.056    0.956
Months                      -0.00042    0.00111    -0.382    0.706
orchp                       -0.06857    0.13757    -0.498    0.623
yhOSP1                      -0.08113    0.09892     -0.82     0.42
budp                        -0.09884    0.09529    -1.037     0.31
che1start                   -0.46374      0.214    -2.167     0.04
```

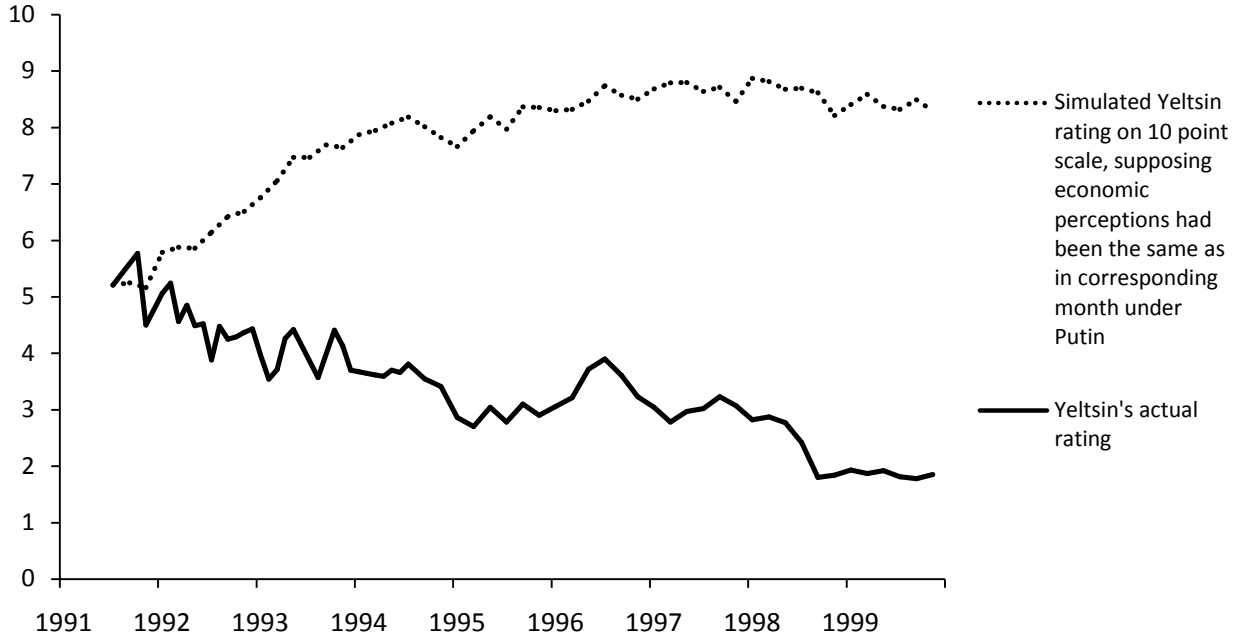
```
che1end                        0.45081     0.1297     3.476    0.002
startc2                       -0.01226    0.10541    -0.116    0.908
kosP                           0.14693     0.0507     2.898    0.008
                      Log Likelihood = 5.21279
                   Schwarz Criterion = -10.5215
               Hannan-Quinn Criterion = -6.05309
                     Akaike Criterion = -3.78721
                       Sum of Squares =  1.4088
                            R-Squared =  0.3453
                        R-Bar-Squared =   0.127
                          Residual SD =  0.2418
                   Residual Skewness = -0.4097
                   Residual Kurtosis =  3.9972
                    Jarque-Bera Test =  2.2906 {0.318}
Ljung-Box (residuals):          Q(12) = 10.0181 {0.614}
Ljung-Box (squared residuals):  Q(12) =  3.0366 {0.995}
              Durbin Watson Statistic = 1.55787
                   KPSS test of I(0) =  0.3015    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.9491  {0.33}
  B-P Heterosced. (LM):      ChiSq(1) =  0.7205 {0.396}
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 488 at 14:29:38 on 10-06-2010
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
                              Estimate  Std. Err.   t Ratio  p-Value
FD0.909russec                  0.03703    0.00731     5.066        0
FD0.977fammat                  0.00599    0.00355     1.688    0.107
FD0.553polsit                 -0.01395    0.00571    -2.443    0.024
FECMyrus(-1)                  -0.18063    0.16276     -1.11     0.28
Months                        -0.00164    0.00087    -1.887    0.074
orchp                         -0.25845    0.11574    -2.233    0.037
yhOSP1                        -0.02543    0.08229    -0.309     0.76
budp                          -0.20644    0.09885    -2.088     0.05
che1start                     -0.43564    0.14193    -3.069    0.006
che1end                        0.3854    0.07859     4.904        0
startc2                       -0.15774    0.05766    -2.736    0.013
finp                          -0.18357    0.11919     -1.54    0.139
kosP                          -0.12732    0.08605     -1.48    0.155
                      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 =  0.7036
                          Residual SD =  0.1408
                   Residual Skewness = -0.0272
                   Residual Kurtosis =   3.258
                    Jarque-Bera Test =  0.0956 {0.953}
Ljung-Box (residuals):          Q(12) =  8.7003 {0.728}
Ljung-Box (squared residuals):  Q(12) =  6.8789 {0.866}
              Durbin Watson Statistic = 1.99361
                   KPSS test of I(0) =  0.0956    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.9035 {0.342}
  B-P Heterosced. (LM):      ChiSq(1) =  1.2992 {0.254}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...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

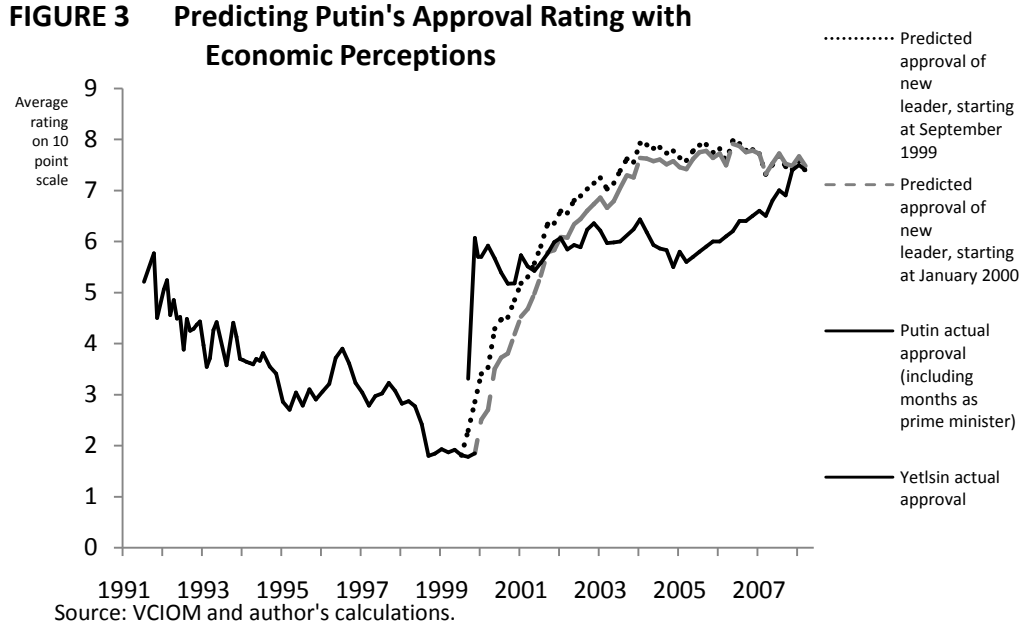


Sources: VCIOM and author's calculations.

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.

FIGURE 3 Predicting Putin's Approval Rating with Economic Perceptions



Source: VCIOM and author's calculations.

3 Putin period regressions

	Russec	Fammat	Echope	Polsit	chechmil
Russec	1				
Fammat	0.89	1.00			
Echope	0.15	0.14	1.00		
Polsit	0.93	0.85	0.27	1.00	
chechmil	-0.86	-0.78	0.07	-0.85	1.00

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 FECM 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)

```
**************************************************************************
TSM4.31.13-05-10 Run 328 at 10:08:34 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    16.4695    7.35212      2.24    0.032
FD0.725_Russec               0.40649    0.12079     3.365    0.002
FD0.604_chechmil             0.67168    0.10101      6.65        0
Fhpress                     -0.17835    0.11315    -1.576    0.125
Nordost                      -4.3387     1.5872    -2.734     0.01
Beslan                      -8.64612    1.79593    -4.814        0
Kursk                       -2.45187    1.02984    -2.381    0.023
nineleven                    -6.5687    1.27874    -5.137        0
Khodnov                      8.78023    1.00368     8.748        0
Sovhymn                      10.6116    1.11759     9.495        0
iraqp                       -3.21601    0.87248    -3.686    0.001
ntvp                         1.22263     1.2377     0.988     0.33
monetize                    -4.10464    1.23306    -3.329    0.002
FECMpchmil(-1)              -0.21051    0.14096    -1.493    0.145
                      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 =  0.6068
                           Residual SD =  3.2147
                   Residual Skewness = -0.2625
                   Residual Kurtosis =  3.5189
                    Jarque-Bera Test =  1.0671 {0.587}
Ljung-Box (residuals):          Q(12) = 21.0168  {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.

```
**************************************************************************
TSM4.31.13-05-10 Run 329 at 10:09:38 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    11.5156    7.19998     1.599     0.12
FDO646PUTAP(-1)              0.15154    0.07816     1.939    0.061
FD0.725_Russec               0.38604    0.10694      3.61    0.001
FD0.604_chechmil             0.41767      0.184      2.27     0.03
Fhpress                     -0.11741    0.10719    -1.095    0.282
Nordost                      0.68255    3.58937      0.19     0.85
Beslan                       -6.7535    2.15541    -3.133    0.004
Kursk                       -2.78462    0.94959    -2.932    0.006
nineleven                   -4.61905    1.67181    -2.763    0.009
Khodnov                      7.80088    1.00187     7.786        0
Sovhymn                      9.40406    1.15526      8.14        0
iraqp                         -4.002    0.85552    -4.678        0
ntvp                        -0.00182    1.25039    -0.001    0.999
monetize                    -5.61463    1.35081    -4.156        0
FECMpchmil(-1)              -0.43346    0.15904    -2.726     0.01
                      Log Likelihood = -110.375
                   Schwarz Criterion = -139.251
               Hannan-Quinn Criterion = -130.597
                     Akaike Criterion = -125.375
                       Sum of Squares = 301.597
                            R-Squared =  0.7505
                        R-Bar-Squared =  0.6414
                          Residual SD =    3.07
                   Residual Skewness = -0.1167
                   Residual Kurtosis =  3.5111
                    Jarque-Bera Test =  0.6182 {0.734}
Ljung-Box (residuals):          Q(12) = 16.8948 {0.154}
Ljung-Box (squared residuals):  Q(12) = 25.5887 {0.012}
              Durbin Watson Statistic = 1.84056
                   KPSS test of I(0) =  0.2738    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.3244 {0.569}
  B-P Heterosced. (LM):      ChiSq(1) =  0.2189  {0.64}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.09
```

FECMpechop(-1)

```
**************************************************************************
TSM4.31.13-05-10 Run 330 at 10:11:20 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    15.6717    6.59812     2.375    0.024
```

```
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                         -7.93945     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.
Parzen 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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   12.0474    6.31293     1.908    0.065
FDO646PUTAP(-1)             0.12233    0.05757     2.125    0.041
FD0.725_Russec              0.38125    0.10921     3.491    0.001
FD0.604_chechmil            0.39404    0.16794     2.346    0.025
FECMpechop(-1)             -0.43536    0.10442    -4.169        0
Fhpress                    -0.12338    0.09544    -1.293    0.205
Nordost                     1.13389    3.02791     0.374    0.711
Beslan                     -5.70781    1.99519    -2.861    0.007
Kursk                      -0.49421    0.97818    -0.505    0.617
nineleven                   -4.5725    1.48286    -3.084    0.004
Khodnov                     6.49424    1.17135     5.544        0
Sovhymn                     8.89903    1.18865     7.487        0
iraqp                      -3.34608    0.79281    -4.221        0
ntvp                        0.97414    1.18035     0.825    0.415
monetize                   -4.86513    1.03233    -4.713        0
                      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 = 1.85828
                 KPSS test of I(0) =  0.2479    {<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  0.09
```

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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    16.8808    7.04616     2.396    0.022
FD0.725_Russec               0.41839    0.12124     3.451    0.002
FD0.604_chechmil             0.68608    0.11458     5.988        0
FECMppol(-1)                -0.24753    0.13282    -1.864    0.071
Fhpress                     -0.18553    0.10837    -1.712    0.096
Nordost                     -4.34294    1.75603    -2.473    0.019
Beslan                      -8.85623    1.78342    -4.966        0
Kursk                       -1.99179    0.95801    -2.079    0.045
nineleven                   -6.81954    1.30519    -5.225        0
Khodnov                      8.83194    0.97197     9.087        0
Sovhymn                      10.6146    1.10279     9.625        0
iraqp                       -2.90483    0.81023    -3.585    0.001
ntvp                         1.10425    1.23881     0.891    0.379
monetize                    -4.26187     1.1863    -3.593    0.001
                     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) =   1.916 {0.166}
  B-P Heterosced. (LM):      ChiSq(1) =  0.0476 {0.827}
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:

```
*************************************************************************
TSM4.31.13-05-10 Run 333 at 10:13:20 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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   12.0341    6.55772     1.835    0.076
FDO646PUTAP(-1)              0.1763    0.07564     2.331    0.026
FD0.725_Russec               0.40208    0.10767     3.734    0.001
FD0.604_chechmil             0.40145    0.18105     2.217    0.034
FECMppol(-1)                -0.49878    0.14666    -3.401    0.002
Fhpress                     -0.12946    0.09845    -1.315    0.198
Nordost                      1.32703    3.43508     0.386    0.702
Beslan                      -6.65084    2.08725    -3.186    0.003
Kursk                       -1.93349    0.91223     -2.12    0.042
nineleven                   -4.77064    1.55666    -3.065    0.004
Khodnov                      7.81995    0.96301      8.12        0
Sovhymn                      9.11905    1.17785     7.742        0
iraqp                       -3.45508    0.75006    -4.606        0
ntvp                        -0.55533    1.32646    -0.419    0.678
monetize                    -5.97006    1.29667    -4.604        0
                     Log Likelihood = -108.062
                  Schwarz Criterion = -136.939
              Hannan-Quinn Criterion = -128.284
                    Akaike Criterion = -123.062
                      Sum of Squares = 273.327
                           R-Squared =  0.7739
                        R-Bar-Squared =   0.675
                          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)

```
*************************************************************************
TSM4.31.13-05-10 Run 335 at 10:14:56 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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   16.5521    6.99253     2.367    0.024
FD0.725_Russec               0.40501    0.12582     3.219    0.003
FD0.604_chechmil             0.65308    0.11448     5.705        0
Fhpress                     -0.18014    0.10752    -1.675    0.103
Nordost                     -3.93285    1.78811    -2.199    0.035
Beslan                      -8.16802    1.54186    -5.298        0
Kursk                       -1.59304    0.99901    -1.595     0.12
nineleven                   -6.62977    1.32114    -5.018        0
Khodnov                      8.18335    1.19282     6.861        0
Sovhymn                      10.0851    1.12937      8.93        0
```

```
iraqp                         -2.84634    0.84847    -3.355    0.002
ntvp                           1.74472    1.36279      1.28    0.209
monetize                      -3.84425    1.09558    -3.509    0.001
FECMpecmil(-1)                -0.23133    0.13497    -1.714    0.096
                      Log Likelihood = -112.823
                   Schwarz Criterion = -139.774
               Hannan-Quinn Criterion = -131.697
                     Akaike Criterion = -126.823
                       Sum of Squares = 334.709
                            R-Squared =  0.7232
                         R-Bar-Squared =  0.6141
                           Residual SD =  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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     11.4761    6.50888     1.763    0.087
FDO646PUTAP(-1)               0.16507    0.06556     2.518    0.017
FD0.725_Russec                0.37902    0.11249     3.369    0.002
FD0.604_chechmil              0.35507    0.17905     1.983    0.056
Fhpress                      -0.11917    0.09795    -1.217    0.233
Nordost                       1.88556    3.22582     0.585    0.563
Beslan                         -5.502    2.06377    -2.666    0.012
Kursk                        -1.06191    0.98017    -1.083    0.287
nineleven                     -4.5538    1.52887    -2.979    0.005
Khodnov                       6.52351    1.17099     5.571        0
Sovhymn                       8.17189    1.31784     6.201        0
iraqp                        -3.29096    0.81278    -4.049        0
ntvp                          0.90659    1.29352     0.701    0.488
monetize                     -5.11782     1.0796     -4.74        0
FECMpecmil(-1)               -0.47474    0.12591     -3.77    0.001
                      Log Likelihood = -109.303
                   Schwarz Criterion = -138.179
               Hannan-Quinn Criterion = -129.525
                     Akaike Criterion = -124.303
                       Sum of Squares = 288.148
                            R-Squared =  0.7617
                         R-Bar-Squared =  0.6574
                           Residual SD =  3.0008
                   Residual Skewness =  0.0018
                   Residual Kurtosis =  2.9612
                    Jarque-Bera Test =   0.003 {0.999}
Ljung-Box (residuals):          Q(12) = 20.6468 {0.056}
Ljung-Box (squared residuals):  Q(12) = 24.2422 {0.019}
             Durbin Watson Statistic = 1.84406
                   KPSS test of I(0) =  0.2657    {<1} *
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

```
*******************************************************************************
TSM4.31.13-05-10 Run 338 at 10:27:18 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    5.60822    1.33026     4.216        0
FDO646PUTAP(-1)              0.10312    0.05772     1.786    0.083
FD0.725_Russec               0.37931    0.10708     3.542    0.001
FD0.604_chechmil             0.40868    0.16317     2.505    0.018
Months                      -0.03178    0.02046    -1.553     0.13
FECMpechop(-1)              -0.41064    0.09911    -4.143        0
Nordost                      1.11528    2.96936     0.376     0.71
Beslan                      -5.80494    1.97125    -2.945    0.006
Kursk                        -1.0494    1.07018    -0.981    0.334
nineleven                   -4.78963    1.46941     -3.26    0.003
Khodnov                      6.50015    1.11538     5.828        0
Sovhymn                      8.65636    1.16245     7.447        0
iraqp                       -3.64255    0.75781    -4.807        0
ntvp                         0.72402    1.12386     0.644    0.524
monetize                    -4.75513    1.00321     -4.74        0
                     Log Likelihood = -108.398
                  Schwarz Criterion = -137.274
              Hannan-Quinn Criterion = -128.619
                    Akaike Criterion = -123.398
                      Sum of Squares = 277.256
                           R-Squared =  0.7707
                       R-Bar-Squared =  0.6704
                          Residual SD =  2.9435
                  Residual Skewness = -0.0009
                  Residual Kurtosis =   3.234
                   Jarque-Bera Test =  0.1072 {0.948}
Ljung-Box (residuals):          Q(12) = 19.2765 {0.082}
Ljung-Box (squared residuals):  Q(12) = 22.4783 {0.032}
             Durbin Watson Statistic = 1.85999
                    KPSS test of I(0) =  0.2387    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.1754 {0.675}
  B-P Heterosced. (LM):      ChiSq(1) =  0.9797 {0.322}
Covariance matrix from robust formula.
* 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.

Column 2

```
*******************************************************************************
TSM4.31.13-05-10 Run 347 at 10:35:31 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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     6.10406    1.52862     3.993        0
FDO646PUTAP(-1)               0.12658    0.07596     1.666    0.105
FD0.47_Fammat                -0.01356     0.2336    -0.058    0.954
FD0.604_chechmil              0.30652    0.20502     1.495    0.145
Months                       -0.02761    0.02295    -1.203    0.238
FECMpechop(-1)               -0.40991     0.1309    -3.131    0.004
Nordost                       2.07451    3.95647     0.524    0.604
Beslan                       -6.84785    2.14192    -3.197    0.003
Kursk                        -2.89373    1.52803    -1.894    0.067
nineleven                    -1.48618    1.90839    -0.779    0.442
Khodnov                        4.8475    1.39912     3.465    0.002
Sovhymn                       8.63642    1.64522     5.249        0
iraqp                         -4.9429    1.50112    -3.293    0.002
ntvp                          0.15689    1.46294     0.107    0.915
monetize                     -6.32124    4.55539    -1.388    0.175
                      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

```
*******************************************************************************
```

```
TSM4.31.13-05-10 Run 350 at 10:41:08 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                     7.1236    1.39383     5.111        0
FD0.635_Echope               0.17886    0.06945     2.575    0.015
FD0.604_chechmil             0.44903    0.11748     3.822    0.001
Months                      -0.03916    0.02378    -1.647    0.109
FECMpechop(-1)              -0.33758    0.10957    -3.081    0.004
Nordost                      1.68776    2.44813     0.689    0.495
Beslan                      -6.79208     1.7646    -3.849    0.001
Kursk                       -1.94184    1.37001    -1.417    0.166
nineleven                   -4.24196    0.69218    -6.128        0
Khodnov                      5.44904    0.98567     5.528        0
Sovhymn                      7.95455    1.16976       6.8        0
iraqp                       -4.43948    0.80226    -5.534        0
ntvp                         0.02045     1.3743     0.015    0.988
monetize                    -4.30338    1.05173    -4.092        0
                     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 {0.333}
Ljung-Box (residuals):          Q(12) = 14.9463 {0.244}
Ljung-Box (squared residuals):  Q(12) =  9.5686 {0.654}
             Durbin Watson Statistic = 1.80691
                  KPSS test of I(0) =  0.3116    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.3496 {0.554}
  B-P Heterosced. (LM):      ChiSq(1) =  0.0969 {0.756}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.15
```

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

Column 4

```
**************************************************************************
TSM4.31.13-05-10 Run 354 at 10:43:27 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    5.49886    1.74363     3.154    0.003
FDO646PUTAP(-1)              0.12905    0.07918      1.63    0.113
FD0.634_Polsit               0.09727    0.06931     1.403     0.17
FD0.604_chechmil             0.32451    0.21473     1.511    0.141
Months                       -0.0258    0.02168     -1.19    0.243
FECMpechop(-1)              -0.46002    0.13092    -3.514    0.001
Nordost                      3.77038    4.40939     0.855    0.399
Beslan                       -2.9704    3.96239     -0.75    0.459
Kursk                       -1.63415    1.63365        -1    0.325
nineleven                   -2.18244    1.61562    -1.351    0.186
```

```
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 = 1.88611
                  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
```

Parantheticallly, 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
                              Estimate  Std. Err.   t Ratio  p-Value
Intercept                      5.27919    1.94929     2.708    0.011
FDO646PUTAP(-1)                0.17731    0.09724     1.823    0.078
FD0.634_Polsit                 0.09908    0.07772     1.275    0.212
FD0.604_chechmil               0.34009    0.22406     1.518    0.139
Months                        -0.02821    0.02344    -1.204    0.238
FECMppol(-1)                  -0.49975     0.1817     -2.75     0.01
Nordost                        3.74245    4.67462     0.801    0.429
Beslan                        -3.99326     4.1446    -0.963    0.343
Kursk                         -3.30499    1.62746    -2.031    0.051
nineleven                      -2.3163    1.64913    -1.405     0.17
Khodnov                        6.20472    0.96632     6.421        0
Sovhymn                        9.34585    1.58075     5.912        0
iraqp                         -4.77848    0.83919    -5.694        0
ntvp                           -1.2737    1.64203    -0.776    0.444
monetize                      -7.05908    1.39089    -5.075        0
                        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) =  0.2295    {<1} *
Diagnostic Tests:
```

```
  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 89 at 16:38:58 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 = 15 (= T^0.73)
Using 41 observations  (38-78)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.85301     0.1291     6.607        0
** Sample period truncated due to missing values. **

**************************************************************************
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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.51635    0.15811     3.266    0.002
** 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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      -0.04745    0.22361    -0.212    0.833
```

So average estimate of d = (0.85301+0.51635-0.04745)/3 =.441

```
**************************************************************************
TSM4.31.13-05-10 Run 359 at 10:48:35 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
40 observations  (39-78) used for estimation.
Estimation Method: Ordinary Least Squares
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   5.81643    1.52982     3.802    0.001
FD0.604_chechmil            0.40558    0.17494     2.318    0.029
Months                     -0.04628    0.03076    -1.505    0.144
FECMpechop(-1)             -0.13103     0.1256    -1.043    0.306
Nordost                    -1.92793    3.18732    -0.605    0.551
```

```
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 =  0.4629
                          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

```
************************************************************************
TSM4.31.13-05-10 Run 94 at 16:50:59 on 28-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for order
Local Whittle Gaussian ML
       Bandwidth = 5 (= T^0.43)
Using 41 observations  (38-78)
                          Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.46724    0.22361      2.09    0.046
** Sample period truncated due to missing values. **

************************************************************************
TSM4.31.13-05-10 Run 95 at 16:51:06 on 28-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for order
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.62)
Using 41 observations  (38-78)
                          Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.33609    0.15811     2.126    0.043
** Sample period truncated due to missing values. **

************************************************************************
TSM4.31.13-05-10 Run 96 at 16:51:14 on 28-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for order
Local Whittle Gaussian ML
       Bandwidth = 15 (= T^0.73)
Using 41 observations  (38-78)
                          Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.62929     0.1291     4.874        0
```

So average d for order is (0.46724+0.33609+0.62929)/3 = .478

```
*************************************************************************
TSM4.31.13-05-10 Run 358 at 10:47:56 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
40 observations  (39-78) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    7.10933    1.78313     3.987        0
FD0.604_chechmil              0.4015    0.19146     2.097    0.046
Months                      -0.04347    0.03089    -1.407    0.171
FECMpechop(-1)               -0.1434    0.14264    -1.005    0.324
Nordost                      0.21613    3.42964     0.063     0.95
Beslan                       -7.1262    1.85425    -3.843    0.001
Kursk                       -2.22412    2.71187     -0.82     0.42
nineleven                   -1.84879    1.52693    -1.211    0.237
Khodnov                      7.09803    2.03211     3.493    0.002
Sovhymn                      10.0422    1.84506     5.443        0
iraqp                       -5.46895    1.93312    -2.829    0.009
ntvp                         0.19439    1.61926      0.12    0.905
FD0.478_order                0.11141    0.21677     0.514    0.612
monetize                     -4.7055    1.49211    -3.154    0.004
                     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

```
*************************************************************************
TSM4.31.13-05-10 Run 376 at 11:00:03 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    6.74291    0.95304     7.075        0
FD0.725_Russec               0.33469    0.16144     2.073    0.046
FD0.635_Echope               0.07343    0.08277     0.887    0.381
FD0.604_chechmil             0.53302    0.07178     7.426        0
Months                      -0.04212    0.01982    -2.125    0.041
FECMpechop(-1)               -0.3222    0.10102     -3.19    0.003
Beslan                      -6.73271    1.16854    -5.762        0
nineleven                   -6.11904    1.01484     -6.03        0
```

```
Khodnov                        6.89777    1.07765     6.401        0
Sovhymn                        8.77967    0.83616      10.5        0
iraqp                         -3.58933    0.65942    -5.443        0
monetize                       -3.9509    0.94389    -4.186        0
                     Log Likelihood = -110.044
                  Schwarz Criterion = -133.145
              Hannan-Quinn Criterion = -126.221
                    Akaike Criterion = -122.044
                     Sum of Squares = 297.374
                          R-Squared =   0.754
                     R-Bar-Squared =  0.6767
                       Residual SD =  2.9149
                  Residual Skewness = -0.2433
                  Residual Kurtosis =   3.059
                   Jarque-Bera Test =  0.4704  {0.79}
Ljung-Box (residuals):          Q(12) =  20.317 {0.061}
Ljung-Box (squared residuals):  Q(12) = 22.7008  {0.03}
             Durbin Watson Statistic = 1.81253
                  KPSS test of I(0) =  0.2931    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.3298 {0.566}
  B-P Heterosced. (LM):      ChiSq(1) =  0.2104 {0.646}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.12
```

Column 8: Same model without FECM

THIS MODEL IS JUST FOR FORECASTING (CANNOT DO THIS WITH A MODEL THAT CONTAINS A FECM).

```
*********************************************************************
TSM4.31.13-05-10 Run 377 at 11:01:23 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    6.97226     1.2503     5.576        0
FD0.725_Russec               0.35459    0.16395     2.163    0.037
FD0.635_Echope               0.03778    0.10187     0.371    0.713
FD0.604_chechmil             0.55814     0.0763     7.315        0
Months                      -0.04886    0.02313    -2.112    0.042
Beslan                      -6.38442    1.21039    -5.275        0
nineleven                   -5.89235    1.17947    -4.996        0
Khodnov                      8.66765    0.88745     9.767        0
Sovhymn                      9.17583    1.19638      7.67        0
iraqp                         -3.589       0.75    -4.785        0
monetize                    -3.12483     0.8419    -3.712    0.001
                     Log Likelihood = -115.205
                  Schwarz Criterion = -136.381
              Hannan-Quinn Criterion = -130.034
                    Akaike Criterion = -126.205
                     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 = 2.19435
                  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.
    ...Run completed in  0.12
```

For comparison: Model 7 with d1_Putapp

```
*************************************************************************
TSM4.31.13-05-10 Run 476 at  9:42:44 on 10-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
-------------------------------------------------------------------------
Dependent Variable is D1_putapp
47 observations  (36-82) used for estimation.
Estimation Method: Ordinary Least Squares
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                  -2.79039    1.11605      -2.5    0.017
FD0.725_Russec               0.3601    0.15104     2.384    0.023
FD0.635_Echope             -0.08292    0.10926    -0.759    0.453
FD0.604_chechmil            0.21447    0.15821     1.356    0.184
Months                      0.04581    0.01953     2.346    0.025
FECMpechop(-1)             -0.52476     0.1221    -4.298        0
Beslan                     -3.29357    1.56877    -2.099    0.043
nineleven                  -1.33697    1.54845    -0.863    0.394
Khodnov                     6.49876     1.4016     4.637        0
Sovhymn                     8.63321    1.39151     6.204        0
iraqp                      -2.64914    0.81602    -3.246    0.003
monetize                   -4.40259    1.38056    -3.189    0.003
                    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 SD =  3.4173
                  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} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.0019 {0.965}
  B-P Heterosced. (LM):      ChiSq(1) =  5.1691 {0.023}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.09
```

Comparing models with and without economic variables

```
*************************************************************************
TSM4.31.13-05-10 Run 489 at 14:32:51 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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   7.70393    1.79054     4.303        0
FDO646PUTAP(-1)             0.01498     0.0624      0.24    0.812
FD0.604_chechmil            0.56018    0.17785      3.15    0.003
Months                     -0.04765    0.02746    -1.735    0.091
Nordost                    -3.67549    3.00779    -1.222     0.23
Beslan                     -8.52893    2.07899    -4.102        0
```

```
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
                        R-Bar-Squared =  0.4907
                          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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    5.59374     1.3808     4.051        0
FDO646PUTAP(-1)              0.09948    0.06178      1.61    0.117
FD0.725_Russec               0.33532    0.17051     1.967    0.058
FD0.635_Echope               0.04626    0.10369     0.446    0.659
FD0.604_chechmil             0.38763    0.18942     2.046    0.049
Months                      -0.03112    0.02105    -1.479    0.149
FECMpechop(-1)              -0.42527    0.11723    -3.628    0.001
Nordost                       2.0151     4.0498     0.498    0.622
Beslan                      -5.45184    2.24828    -2.425    0.021
Kursk                       -0.83166    1.28774    -0.646    0.523
nineleven                   -4.76089    1.55792    -3.056    0.005
Khodnov                      6.23792    1.37207     4.546        0
Sovhymn                      8.26961    1.40891      5.87        0
iraqp                       -3.70411    0.78613    -4.712        0
ntvp                         0.52196    1.23669     0.422    0.676
monetize                    -4.61599    0.96805    -4.768        0
                      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
                        R-Bar-Squared =   0.663
                          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:
```

```
  Autocorrelation (LM):      ChiSq(1) =  0.2015 {0.654}
  B-P Heterosced. (LM):      ChiSq(1) =  0.7447 {0.388}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.14
```

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

Linear regression                                      Number of obs =      91
                                                       F(  2,    88) =  446.47
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.8356
Root MSE      =  8.2699

------------------------------------------------------------------------------
             |               Robust
      russec |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       rwage |   .0426311   .0020202    21.10   0.000     .0386163    .0466459
   inflation |   -13.6876   2.632799    -5.20   0.000    -18.91973   -8.455462
       _cons |  -99.00992   3.671344   -26.97   0.000    -106.3059   -91.71389
------------------------------------------------------------------------------

. reg fammat  rwage inflation, rbo
option rbo not allowed
r(198);

. reg fammat  rwage inflation, rob

Linear regression                                      Number of obs =      90
                                                       F(  2,    87) =   98.64
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.6921
                                                       Root MSE      =  7.0769

------------------------------------------------------------------------------
             |               Robust
      fammat |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       rwage |   .0264956   .0018893    14.02   0.000     .0227405    .0302508
   inflation |   -3.15386   2.277918    -1.38   0.170    -7.681468    1.373748
       _cons |  -67.08297   2.811315   -23.86   0.000    -72.67076   -61.49517
------------------------------------------------------------------------------

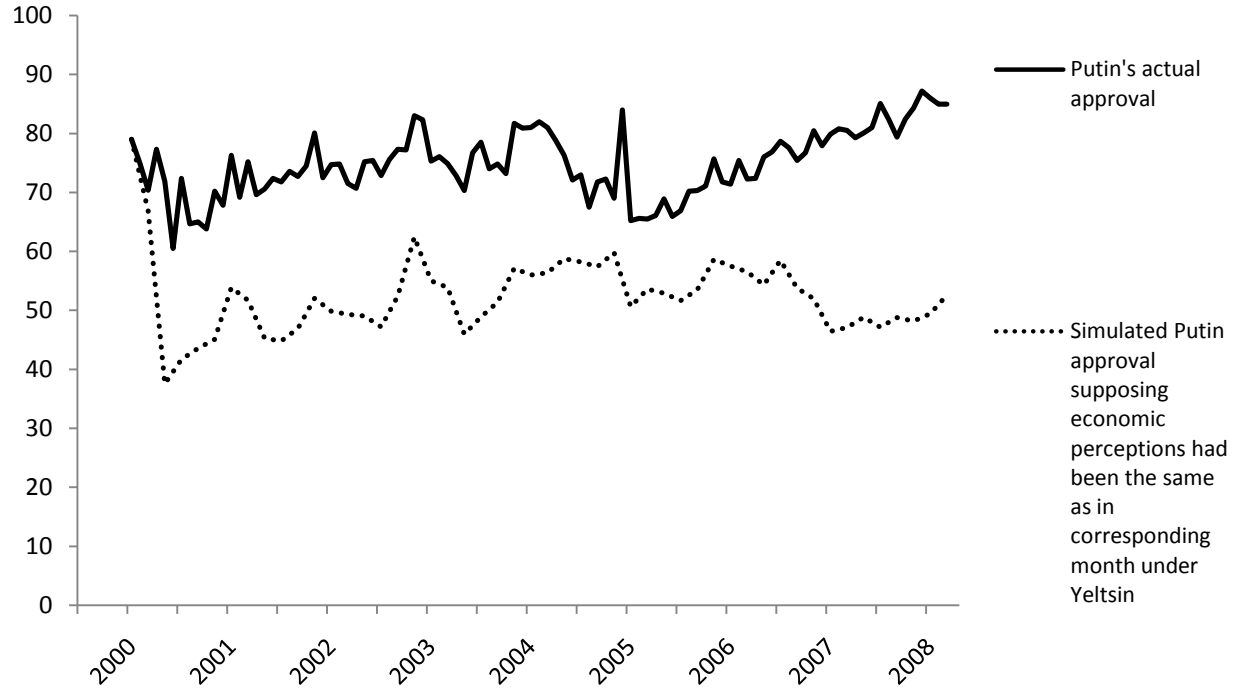
. reg  echope rwage inflation, rob

Linear regression                                      Number of obs =      91
                                                       F(  2,    88) =   86.57
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.5022
                                                       Root MSE      =  15.972
```

```
------------------------------------------------------------------------------
             |               Robust
      echope |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       rwage |    .023561   .0040831     5.77   0.000     .0154467    .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).

FIGURE 2B Simulating Putin's Approval with Yeltsin's Economy



Source: VCIOM/Levada Center and author's calculations.

4. Analysis of economic perceptions

Whole period cases 1-82

	rwage@	rwarrear@	Unemployment@	inflation@	workdem@	pens@
rwage@	1					
rwarrear@	-0.56	1				
Unemployment@	-0.79	0.75	1			
inflation@	-0.40	0.12	0.17	1		

workdem@	0.68	-0.76	-0.63	-0.52	1	
pens@	0.87	-0.35	-0.80	-0.30	0.39	1

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.

********************************************************************
TSM4.31.13-05-10 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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.85925    0.09129     9.412        0

********************************************************************
TSM4.31.13-05-10 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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.76389    0.09129     8.368        0

********************************************************************
TSM4.31.13-05-10 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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.81717    0.09129     8.951        0

********************************************************************
TSM4.31.13-05-10 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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.94602    0.09129    10.363        0

********************************************************************
TSM4.31.13-05-10 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)
                           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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.05362    0.09129    11.542        0

*************************************************************************
TSM4.31.13-05-10 Run 7 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 inflation
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.55236    0.09129     6.051        0

*************************************************************************
TSM4.31.13-05-10 Run 8 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 workdem
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.90653    0.09129      9.93        0

*************************************************************************
TSM4.31.13-05-10 Run 9 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 pens
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.89281    0.09129      9.78        0

BW 20

*************************************************************************
TSM4.31.13-05-10 Run 10 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 Russec
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.97515     0.1118     8.722        0

*************************************************************************
TSM4.31.13-05-10 Run 11 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 Fammat
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.83126     0.1118     7.435        0

*************************************************************************
TSM4.31.13-05-10 Run 12 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 Echope
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.93472     0.1118     8.361        0

*******************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.05882     0.1118     9.471        0

*******************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.25049     0.1118    11.185        0

*******************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)         0.9378     0.1118     8.388        0

*******************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.56695     0.1118     5.071        0

*******************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.73022     0.1118     6.532        0

*******************************************************************
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)
                             Estimate  Std. Err.   t Ratio  p-Value
```

```
Fractional Parameter (d)       1.02525     0.1118      9.17        0

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 Russec
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.00663    0.15811     6.367        0

********************************************************************
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  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.9001    0.15811     5.693        0

********************************************************************
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  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.89924    0.15811     5.687        0

********************************************************************
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  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.19633    0.15811     7.566        0

********************************************************************
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  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.22124    0.15811     7.724        0

********************************************************************
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  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.26986    0.15811     8.032        0

********************************************************************
```

```
TSM4.31.13-05-10 Run 34 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 inflation
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.6524    0.15811     4.126        0

*********************************************************************
TSM4.31.13-05-10 Run 35 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 workdem
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.89426    0.15811     5.656        0

*********************************************************************
TSM4.31.13-05-10 Run 36 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 pens
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.01965    0.15811     6.449        0
```

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

```
*********************************************************************
TSM4.31.13-05-10 Run 37 at 10:35:24 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
---------------------------------------------------------------------
Dependent Variable is Russec
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -109.264    2.49916    -43.72        0
rwage                        0.04695    0.00171    27.455        0
                      Log Likelihood = -295.537
                   Schwarz Criterion = -299.967
               Hannan-Quinn Criterion = -298.514
                     Akaike Criterion = -297.537
                       Sum of Squares = 5594.42
                            R-Squared =  0.8399
                        R-Bar-Squared =  0.8379
                           Residual SD =  8.2598
                   Residual Skewness = -0.0117
                   Residual Kurtosis =  2.3652
                    Jarque-Bera Test =  1.4122 {0.494}
Box-Pierce (residuals):         Q(12) = 268.683     {0}
Box-Pierce (squared residuals): Q(12) = 43.6033     {0}
Covariance matrix from robust formula.
    ...Run completed in  0.09

Residuals37 added to data set.



*********************************************************************
```

```
TSM4.31.13-05-10 Run 42 at 10:36:33 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
--------------------------------------------------------------------------
Dependent Variable is Russec
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -39.4762    2.12009    -18.62        0
rwarrear                    -0.14832    0.01489    -9.961        0
                     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.

**************************************************************************
TSM4.31.13-05-10 Run 43 at 10:36:40 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
--------------------------------------------------------------------------
Dependent Variable is Russec
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    26.8467    6.21622     4.319        0
Unemployment                -9.05398     0.6249   -14.489        0
                     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.

**************************************************************************
TSM4.31.13-05-10 Run 44 at 10:36:45 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
--------------------------------------------------------------------------
Dependent Variable is Russec
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -40.6689    3.46673   -11.731        0
inflation                   -31.8675    5.10774    -6.239        0
                     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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -93.0275    2.33133   -39.903        0
workdem                       0.05168    0.00305    16.943        0
                      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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -121.919    5.91637   -20.607        0
pens                          0.00019     2e-005     9.442        0
                      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) = 61.0505     {0}
Covariance matrix from robust formula.
    ...Run completed in  0.02
```

```
Residuals46 added to data set.
Data Transformation:  Residuals37  renamed as Resrusrwage
Data Transformation:  Residuals42  renamed as Resrusrwarrarea
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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -69.2539    2.85883   -24.225        0
rwage                         0.02738    0.00203    13.489        0
                     Log Likelihood = -283.883
                  Schwarz Criterion = -288.313
              Hannan-Quinn Criterion = -286.86
                    Akaike Criterion = -285.883
                      Sum of Squares = 4238.86
                           R-Squared =  0.7019
                       R-Bar-Squared =  0.6982
                         Residual SD =  7.1898
                  Residual Skewness =  -0.959
                  Residual Kurtosis =  5.2419
                   Jarque-Bera Test = 30.4668     {0}
Box-Pierce (residuals):         Q(12) = 191.009     {0}
Box-Pierce (squared residuals): Q(12) = 12.4129 {0.413}
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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -27.5834    1.15047   -23.976        0
rwarrear                     -0.09619    0.01065    -9.032        0
                     Log Likelihood = -297.783
                  Schwarz Criterion = -302.213
              Hannan-Quinn Criterion = -300.76
                    Akaike Criterion = -299.783
                      Sum of Squares = 5901.73
                           R-Squared =  0.5849
                       R-Bar-Squared =  0.5799
                         Residual SD =  8.4837
                  Residual Skewness = -0.7527
                  Residual Kurtosis =  5.4664
                   Jarque-Bera Test = 29.2233     {0}
Box-Pierce (residuals):         Q(12) = 99.8106     {0}
Box-Pierce (squared residuals): Q(12) = 16.5486 {0.167}
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
```

```
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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                     18.143     3.5596     5.097        0
Unemployment                 -6.17457    0.40036   -15.423        0
                     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

Residuals49 added to data set.

*************************************************************************
TSM4.31.13-05-10 Run 50 at 10:40:54 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -29.4138    2.30967   -12.735        0
inflation                    -18.1968    4.68617    -3.883        0
                     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

Residuals50 added to data set.

*************************************************************************
TSM4.31.13-05-10 Run 51 at 10:40:59 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-------------------------------------------------------------------------
Dependent Variable is Fammat
82 observations  (1-82) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -60.4288    2.41556   -25.016        0
workdem                      0.03097    0.00256    12.099        0
                     Log Likelihood = -281.458
                  Schwarz Criterion = -285.865
              Hannan-Quinn Criterion = -284.424
                    Akaike Criterion = -283.458
                      Sum of Squares = 4599.38
```

```
                          R-Squared =  0.6329
                       R-Bar-Squared =  0.6283
                         Residual SD =  7.5824
                   Residual Skewness = -1.2553
                   Residual Kurtosis =   6.163
                    Jarque-Bera Test = 55.7182     {0}
Box-Pierce (residuals):         Q(12) = 170.948     {0}
Box-Pierce (squared residuals): Q(12) = 18.3032 {0.107}
Covariance matrix from robust formula.
    ...Run completed in  0.03

Residuals51 added to data set.

*************************************************************************
TSM4.31.13-05-10 Run 52 at 10:41:06 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-------------------------------------------------------------------------
Dependent Variable is Fammat
82 observations  (1-82) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -80.4312    5.05285   -15.918        0
pens                         0.00012     1e-005    12.082        0
                     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

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

*************************************************************************
TSM4.31.13-05-10 Run 53 at 10:42:48 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-------------------------------------------------------------------------
Dependent Variable is Echope
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -50.7424    6.06771    -8.363        0
rwage                        0.03222    0.00387     8.325        0
                     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     {0}
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 Echope
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.81334    2.21595     0.367    0.715
rwarrear                    -0.13842    0.01272   -10.882        0
                     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     {0}
Box-Pierce (squared residuals): Q(12) =  95.998     {0}
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 Echope
84 observations  (1-84) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    42.8459    7.93389      5.4        0
Unemployment                -6.23358    0.85285    -7.309        0
                     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 =  0.2793
                        Residual SD = 18.6049
                  Residual Skewness = -0.4275
                  Residual Kurtosis =  3.3559
                   Jarque-Bera Test =  3.0021 {0.223}
Box-Pierce (residuals):         Q(12) = 226.717     {0}
Box-Pierce (squared residuals): Q(12) = 109.573     {0}
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 Echope
84 observations  (1-84) used for estimation.
```

```
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    4.36377    3.45168     1.264     0.21
inflation                   -40.6404    6.00323     -6.77        0
                     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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -54.5259    3.11175   -17.523        0
workdem                      0.05595    0.00357    15.672        0
                     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 Echope
82 observations  (1-82) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -47.0037    11.4382    -4.109        0
pens                          9e-005     3e-005     3.141    0.002
                     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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)          0.671    0.09129      7.35        0

**************************************************************************
TSM4.31.13-05-10 Run 63 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 Resruswork
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.64875    0.09129     7.106        0

*************************************************************************
TSM4.31.13-05-10 Run 64 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 Resruspens
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.73647    0.09129     8.067        0

*************************************************************************
TSM4.31.13-05-10 Run 65 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 Resfamrwage
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.62007    0.09129     6.792        0

*************************************************************************
TSM4.31.13-05-10 Run 66 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 Resfamrwarrear
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.67872    0.09129     7.435        0

*************************************************************************
TSM4.31.13-05-10 Run 67 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 Resfamunemp
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.41062    0.09129     4.498        0

*************************************************************************
TSM4.31.13-05-10 Run 68 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 Resfaminfl
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.64155    0.09129     7.028        0

*************************************************************************
TSM4.31.13-05-10 Run 69 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 Resfamwork
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 82 observations  (1-82)
```

```
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.61216    0.09129     6.706        0

*****************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.70004    0.09129     7.668        0

*****************************************************************
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 Resecrwage
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.80866    0.09129     8.858        0

*****************************************************************
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 Resecrwarrea
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.81131    0.09129     8.887        0

*****************************************************************
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 Resecunemp
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.74935    0.09129     8.208        0

*****************************************************************
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 Resecinfl
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.59027    0.09129     6.466        0

*****************************************************************
TSM4.31.13-05-10 Run 75 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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)         0.6742    0.09129     7.385        0

*****************************************************************
TSM4.31.13-05-10 Run 76 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 Resecpens
Local Whittle Gaussian ML
       Bandwidth = 30 (= T^0.77)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.84577    0.09129     9.265        0
```

BW 20

```
********************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)         0.911     0.1118     8.148        0

********************************************************************************
TSM4.31.13-05-10 Run 78 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 Resrusrwarrarea
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.99731     0.1118     8.921        0

********************************************************************************
TSM4.31.13-05-10 Run 79 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 Resrusunemp
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.58621     0.1118     5.243        0

********************************************************************************
TSM4.31.13-05-10 Run 80 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 Resrusinfl
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.80245     0.1118     7.178        0

********************************************************************************
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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.57475     0.1118     5.141        0

********************************************************************************
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 Resruspens
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 82 observations  (1-82)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.87607     0.1118     7.836        0

*************************************************************************
TSM4.31.13-05-10 Run 83 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 Resfamrwage
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.78122     0.1118     6.988        0

*************************************************************************
TSM4.31.13-05-10 Run 84 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 Resfamrwarrear
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.67636     0.1118      6.05        0

*************************************************************************
TSM4.31.13-05-10 Run 85 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 Resfamunemp
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.42958     0.1118     3.842        0

*************************************************************************
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 Resfaminfl
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.78171     0.1118     6.992        0

*************************************************************************
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 Resfamwork
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 82 observations  (1-82)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)        0.6451     0.1118      5.77        0

*************************************************************************
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 Resfampens
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 82 observations  (1-82)
                             Estimate  Std. Err.   t Ratio  p-Value
```

```
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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.93387     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)
                           Estimate  Std. Err.   t Ratio  p-Value
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)
                           Estimate  Std. Err.   t Ratio  p-Value
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)
                           Estimate  Std. Err.   t Ratio  p-Value
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)
                           Estimate  Std. Err.   t Ratio  p-Value
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)
                           Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.00041     0.1118     8.948        0
```

BW 10

```
********************************************************************
TSM4.31.13-05-10 Run 95 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.90515    0.15811     5.725        0

********************************************************************
TSM4.31.13-05-10 Run 96 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      1.09487    0.15811     6.925        0

********************************************************************
TSM4.31.13-05-10 Run 97 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.81832    0.15811     5.176        0

********************************************************************
TSM4.31.13-05-10 Run 98 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      1.09793    0.15811     6.944        0

********************************************************************
TSM4.31.13-05-10 Run 99 at 10:51:42 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 = 10 (= T^0.52)
Using 82 observations  (1-82)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.90901    0.15811     5.749        0

********************************************************************
TSM4.31.13-05-10 Run 100 at 10:51:42 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resruspens
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 82 observations  (1-82)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.73361    0.15811      4.64        0

********************************************************************
TSM4.31.13-05-10 Run 101 at 10:51:42 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfamrwage
```

```
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.82382    0.15811      5.21        0

*****************************************************************************
TSM4.31.13-05-10 Run 102 at 10:51:42 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfamrwarrear
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.58129    0.15811     3.677        0

*****************************************************************************
TSM4.31.13-05-10 Run 103 at 10:51:42 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfamunemp
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.47764    0.15811     3.021    0.003

*****************************************************************************
TSM4.31.13-05-10 Run 104 at 10:51:42 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfaminfl
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       1.10932    0.15811     7.016        0

*****************************************************************************
TSM4.31.13-05-10 Run 105 at 10:51:42 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
Semiparametric Long Memory Estimation for Resfamwork
Local Whittle Gaussian ML
       Bandwidth = 10 (= T^0.52)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.67055    0.15811     4.241        0

*****************************************************************************
TSM4.31.13-05-10 Run 106 at 10:51:42 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 = 10 (= T^0.52)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.80677    0.15811     5.103        0

*****************************************************************************
TSM4.31.13-05-10 Run 107 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.85492    0.15811     5.407        0
```

```
******************************************************************************
TSM4.31.13-05-10 Run 108 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.54904    0.15811     3.473    0.001

******************************************************************************
TSM4.31.13-05-10 Run 109 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.82812    0.15811     5.238        0

******************************************************************************
TSM4.31.13-05-10 Run 110 at 10:51:42 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.76435    0.15811     4.834        0

******************************************************************************
TSM4.31.13-05-10 Run 111 at 10:51:42 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 = 10 (= T^0.52)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.03995    0.15811     0.253    0.801

******************************************************************************
TSM4.31.13-05-10 Run 112 at 10:51:42 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 = 10 (= T^0.52)
Using 82 observations  (1-82)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.87933    0.15811     5.561        0
```

Cases 1-84									
Estimate of d	**RUSSEC**	**FAMMAT**	**ECHOPE**	**RWAGE**	**RWARREA**	**UNEMP**	**INFLAT**	**WORKDEM**	**PENS**
Robinson Local Whittle									
BW									
30	.859	.764	.817	.946	1.388	1.054	.552	0.907	0.893
20	.975	.831	.935	1.059	1.250	.938	.567	0.73	1.025
10	1.007	.900	.899	1.196	1.221	1.270	.652	0.894	1.02
Average 10-30	.947	.832	.884	1.067	1.286	1.087	0.590	0.844	0.979

d for resids from reg of Russec on this *				0.819	0.981	**0.688**	0.857	0.711	0.782
d for resids from fammat on this *				0.742	**0.645**	**0.440**	0.844	**0.643**	0.781
d for resids of echope on this*				0.866	**0.764**	0.775	0.666	**0.366**	0.908

* See following table for details.

*RESIDUALS FOR COINTEGRATION ANALYSIS; regressions of **russec** on the ec vars*

Est of d	RESRUSRWAGE	RESRUSRWARREA	RESRUSUNEMP	RESRUSINFL	RESRUSWORK	RESRUSPENS
BW						
30	.641	.851	.659	.671	.649	.736
20	.911	.997	.586	.802	.575	.876
10	.905	1.095	.818	1.098	.909	.734
Average	0.819	0.981	0.688	0.857	0.711	0.782

*RESIDUALS FOR COINTEGRATION ANALYSIS; regressions of **fammat** on the ec vars*

Est of d	RESFAMRWAGE	RESFAMRWARREAR	RESFAMUNEMP	RESFAMINFLA	RESFAMWORK	RESFAMPENS
BW						
30	.620	.679	.411	.642	.612	.700
20	.781	.676	.430	.782	.645	.835
10	.824	.581	.478	1.109	.671	.807
Average	0.742	0.645	0.440	0.844	0.643	0.781

*RESIDUALS FOR COINTEGRATION ANALYSIS; regressions of **echope** on the ec vars*

Est of d	RESECRWAGE	RESECRWARREA	RESECUNEMP	RESECINFL	RESECWORK	RESECPENS	se
BW							
30	.809	.811	.749	.590	.674	.846	.091
20	.934	.933	.749	.645	.383	1.000	.112
10	.855	.549	.828	.764	.040	.879	0.158
Average	0.866	0.764	0.775	0.666	0.366	0.908	0.120

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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      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)
                            Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -0.52738    4.83793    -0.109    0.914
finp                        -20.1604     4.9132    -4.103        0
Fhpress                      0.00116    0.08843     0.013     0.99
Khodnov                     -6.67947    1.44764    -4.614        0
nov94p                      -6.42749     2.4802    -2.592    0.012
monetize                    -0.47853    1.33181    -0.359    0.721
putdum                       0.41479    1.70717     0.243    0.809
```

```
D1_tenpt                       3.08085    1.07694     2.861    0.006
recovery                       0.97458    1.72947     0.564    0.575
camp96                         3.95046    1.38208     2.858    0.006
camp00                        -1.29679    2.36667    -0.548    0.586
camp04                         5.36721     1.0773     4.982        0
camp08                        -1.74945    1.58426    -1.104    0.274
FD1.067_rwage                  0.00667    0.01071     0.622    0.536
FD1.286_rwarrear              -0.04117    0.03521    -1.169    0.247
FD1.087_Unemployment          -0.20637    0.97718    -0.211    0.833
FD0.59_inflation               4.24122    3.73091     1.137     0.26
FD0.844_workdem                0.00734    0.00558     1.316    0.193
fecmrussrwagework(-1)         -0.50447    0.07859    -6.419        0
FD0.979_pens                   0.02285    0.02328     0.982     0.33
                      Log Likelihood = -196.132
                   Schwarz Criterion = -239.953
               Hannan-Quinn Criterion = -225.683
                     Akaike Criterion = -216.132
                       Sum of Squares = 631.098
                            R-Squared =  0.6537
                         R-Bar-Squared =   0.544
                           Residual SD =  3.2432
                    Residual Skewness =  0.1997
                    Residual Kurtosis =  2.5894
                     Jarque-Bera Test =  1.0937 {0.579}
Ljung-Box (residuals):          Q(12) = 11.1993 {0.512}
Ljung-Box (squared residuals):  Q(12) =  8.7019 {0.728}
              Durbin Watson Statistic = 1.99759
                    KPSS test of I(0) =  0.0434    {<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
```

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
                              Estimate  Std. Err.   t Ratio  p-Value
Intercept                     -110.874    2.13497   -51.932        0
rwage                          0.03141    0.00208    15.103        0
workdem                        0.02668     0.0021    12.703        0
                        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) = 16.5253     {0}
  B-P Heterosced. (LM):      ChiSq(1) =  1.4153 {0.234}
```

```
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)
                              Estimate  Std. Err.   t Ratio  p-Value
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)
                              Estimate  Std. Err.   t Ratio  p-Value
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)
                              Estimate  Std. Err.   t Ratio  p-Value
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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                  -0.62806    0.67255    -0.934    0.354
finp                       -18.8368    2.38923    -7.884        0
Khodnov                    -6.14017    1.16628    -5.265        0
nov94p                     -5.75722    0.98531    -5.843        0
D1_tenpt                    2.77704    0.83142      3.34    0.001
recovery                    1.75272    0.81814     2.142    0.036
camp96                       4.1319    1.03125     4.007        0
camp04                      5.41362    1.02289     5.292        0
FD1.286_rwarrear           -0.04017     0.0236    -1.702    0.093
```

```
FD0.844_workdem                0.00799    0.00419     1.906    0.061
fecmrussrwagework(-1)         -0.50506    0.07664     -6.59        0
                      Log Likelihood = -199.257
                    Schwarz Criterion = -223.358
                Hannan-Quinn Criterion = -215.509
                     Akaike Criterion = -210.257
                       Sum of Squares = 682.366
                            R-Squared =  0.6255
                         R-Bar-Squared =  0.5713
                           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    {<1} *
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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     0.81705    4.50425     0.181    0.857
finp                         -0.61357    6.97386    -0.088     0.93
Fhpress                       -0.0602    0.08374    -0.719    0.475
Khodnov                       0.45449     1.9791      0.23    0.819
nov94p                       -1.64502    2.58388    -0.637    0.527
monetize                     -15.2734     2.0128    -7.588        0
putdum                       -4.98641    2.50105    -1.994    0.051
D1_tenpt                      2.11019    0.72389     2.915    0.005
recovery                      8.65572    2.26686     3.818        0
camp96                       -1.18741    1.37797    -0.862    0.392
camp00                       -1.09746    1.99084    -0.551    0.584
camp04                       -0.16796    1.09716    -0.153    0.879
camp08                       -3.66179    1.41719    -2.584    0.012
FD1.067_rwage                 0.00418    0.01146     0.364    0.717
FD1.286_rwarrear              0.07314    0.05715      1.28    0.206
FD1.087_Unemployment         -2.49256    1.34157    -1.858    0.068
FD0.59_inflation              2.47834    4.23087     0.586     0.56
FD0.844_workdem              -0.00052    0.00493    -0.105    0.916
FD0.979_pens                  0.05074    0.02245      2.26    0.027
fecmfamrwageunem(-1)         -0.48062    0.08986    -5.348        0
                      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}
```

```
Ljung-Box (residuals):          Q(12) = 11.4871 {0.488}
Ljung-Box (squared residuals):  Q(12) = 17.5731 {0.129}
              Durbin Watson Statistic = 1.9544
                    KPSS test of I(0) =  0.0359    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.0313  {0.86}
  B-P Heterosced. (LM):      ChiSq(1) =  0.5077 {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 fecm 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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     -13.318    7.84709    -1.697    0.094
rwage                         0.01179    0.00236     4.996        0
Unemployment                 -4.20442    0.62083    -6.772        0
                     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     {0}
Ljung-Box (squared residuals):  Q(12) =  5.2993 {0.947}
              Durbin Watson Statistic = 0.955135
                  KPSS test of I(0) =  1.3485 {<0.01} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) = 35.8185     {0}
  B-P Heterosced. (LM):      ChiSq(1) =    9.41 {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)
                             Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)      0.39339    0.09129     4.309        0

**************************************************************************
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 Residuals160
Local Whittle Gaussian ML
       Bandwidth = 20 (= T^0.68)
Using 84 observations  (1-84)
                              Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.46067     0.1118     4.121        0

*********************************************************************
TSM4.31.13-05-10 Run 163 at 14:00:56 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 = 10 (= T^0.52)
Using 84 observations  (1-84)
                              Estimate  Std. Err.   t Ratio  p-Value
Fractional Parameter (d)       0.47234    0.15811     2.987    0.004

Average d = .442

Fecm is fecmfamrwageunem(-1)
```

Column 4

```
*********************************************************************
TSM4.31.13-05-10 Run 17 at 10:03:11 on 31-05-2010
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
                           Estimate  Std. Err.   t Ratio  p-Value
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    0.075
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 =   0.603
                      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
```

Column 5

```
*******************************************************************************
TSM4.31.13-05-10 Run 214 at 14:44:52 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-------------------------------------------------------------------------------
Dependent Variable is FD0.884_Echope
80 observations  (3-82) used for estimation.
Estimation Method: Ordinary Least Squares
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -4.76431    8.75071    -0.544    0.588
finp                         -2.98806    7.59621    -0.393    0.695
Fhpress                       0.10471    0.16513     0.634    0.528
Khodnov                      -6.23709    2.80093    -2.227     0.03
FD0.866_Resecrwage(-1)       -0.26507    0.15447    -1.716    0.091
nov94p                       -11.7318    5.39373    -2.175    0.034
monetize                       -5.894    3.06343    -1.924    0.059
putdum                       -3.61906     4.6897    -0.772    0.443
D1_tenpt                      7.23268    1.70834     4.234        0
recovery                      1.20564    4.53681     0.266    0.791
camp96                        3.56561    2.14692     1.661    0.102
camp00                        6.15924    7.18763     0.857    0.395
camp04                        8.52626    1.69875     5.019        0
camp08                       -5.89421    2.32621    -2.534    0.014
FD1.067_rwage                   0.007    0.02001      0.35    0.728
FD1.286_rwarrear             -0.11715    0.04633    -2.529    0.014
FD1.087_Unemployment         -2.91022    2.40084    -1.212     0.23
FD0.59_inflation              3.04052    7.40146     0.411    0.683
FD0.844_workdem              -0.00122    0.01004    -0.121    0.904
FD0.979_pens                  0.10264    0.05142     1.996     0.05
                      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

```
*******************************************************************************
TSM4.31.13-05-10 Run 217 at 14:47:00 on 30-05-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps.xls
-------------------------------------------------------------------------------
Dependent Variable is FD0.884_Echope
80 observations  (3-82) used for estimation.
```

```
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    0.30866    0.72562     0.425    0.672
Khodnov                     -6.10441    2.14713    -2.843    0.006
FD0.866_Resecrwage(-1)      -0.27411    0.12492    -2.194    0.032
nov94p                      -12.4845    1.28159    -9.741        0
monetize                    -5.40939    2.05458    -2.633    0.011
D1_tenpt                     6.91456    1.69065      4.09        0
camp96                       3.86495    1.93235         2     0.05
camp00                       6.94084    7.15285      0.97    0.335
camp04                       8.78546    1.53733     5.715        0
camp08                      -4.29455    0.94197    -4.559        0
FD1.286_rwarrear            -0.10727    0.05207     -2.06    0.043
FD1.087_Unemployment        -2.76907    1.82626    -1.516    0.134
FD0.979_pens                 0.09364    0.03487     2.686    0.009
                      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
                    Jarque-Bera Test = 73.0415     {0}
Ljung-Box (residuals):          Q(12) =    23.8 {0.022}
Ljung-Box (squared residuals):  Q(12) =   6.861 {0.867}
              Durbin Watson Statistic = 2.08599
                   KPSS test of I(0) =  0.1001    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.1979 {0.656}
  B-P Heterosced. (LM):      ChiSq(1) =  0.1366 {0.712}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.16
```

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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -0.64648    0.68742     -0.94     0.35
finp                        -18.8594    2.56422    -7.355        0
Khodnov                     -3.18623    1.36548    -2.333    0.023
nov94p                      -5.79942    1.00167     -5.79        0
D1_tenpt                     2.20677    1.00707     2.191    0.032
recovery                     1.66202    0.84191     1.974    0.052
campall                      2.62388    1.04315     2.515    0.014
FD1.286_rwarrear            -0.04267    0.02521    -1.693    0.095
FD0.844_workdem              0.00953    0.00455     2.093     0.04
fecmrussrwagework(-1)       -0.45323    0.08632    -5.251        0
                      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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                    -2.33022    0.75692    -3.079    0.003
monetize                     -15.0374     1.6622    -9.047        0
D1_tenpt                      1.47088    0.45789     3.212    0.002
recovery                       3.1017    0.89867     3.451    0.001
campall                      -0.70982    0.78157    -0.908    0.367
FD1.067_rwage                 0.01151    0.00669     1.721     0.09
FD1.087_Unemployment         -2.81688    1.33057    -2.117    0.038
FD0.979_pens                  0.04929    0.01923     2.563    0.012
fecmfamrwageunem(-1)         -0.44401    0.10978    -4.045        0
                      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
                             Estimate  Std. Err.   t Ratio  p-Value
Intercept                     0.15154    0.73567     0.206    0.837
Khodnov                      -3.07851     3.1293    -0.984    0.329
FD0.866_Resecrwage(-1)       -0.25799     0.1254    -2.057    0.043
nov94p                       -12.2658    1.28648    -9.534        0
monetize                     -5.13055    2.35685    -2.177    0.033
D1_tenpt                      6.82299    1.20376     5.668        0
```

```
campall                         5.77239    2.67439     2.158    0.034
FD1.286_rwarrear               -0.10389    0.04949    -2.099    0.039
FD1.087_Unemployment           -2.90629    1.96287    -1.481    0.143
FD0.979_pens                    0.08403    0.03347     2.511    0.014
                      Log Likelihood = -259.222
                    Schwarz Criterion = -281.133
                Hannan-Quinn Criterion = -273.998
                     Akaike Criterion = -269.222
                       Sum of Squares = 3055.53
                            R-Squared =  0.4748
                        R-Bar-Squared =  0.4073
                          Residual SD =  6.6069
                    Residual Skewness =  1.1803
                    Residual Kurtosis =  5.8983
                     Jarque-Bera Test = 46.5749     {0}
Ljung-Box (residuals):          Q(12) =  21.645 {0.042}
Ljung-Box (squared residuals):  Q(12) =  9.4737 {0.662}
               Durbin Watson Statistic = 2.02315
                    KPSS test of I(0) =  0.1457    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.1678 {0.682}
  B-P Heterosced. (LM):      ChiSq(1) =  0.1955 {0.658}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.07
```

5. Causal modeling

Yeltsin period

Table A2

Column 1

```
**********************************************************************
TSM4.31.13-05-10 Run 251 at 15:25:34 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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -5.32685    1.18709    -4.487        0
FD0.909russec(-1)            0.12881    0.24049     0.536    0.596
FD0.553polsit(-1)             0.4444     0.1083     4.103        0
                      Log Likelihood = -102.68
                    Schwarz Criterion = -107.925
                Hannan-Quinn Criterion = -106.435
                     Akaike Criterion = -105.68
                       Sum of Squares =  974.25
                            R-Squared =  0.3175
                        R-Bar-Squared =   0.272
                          Residual SD =  5.6987
                    Residual Skewness = -0.3134
                    Residual Kurtosis =  4.1384
                     Jarque-Bera Test =   2.322 {0.313}
Ljung-Box (residuals):          Q(12) =  4.4609 {0.974}
Ljung-Box (squared residuals):  Q(12) =  9.3357 {0.674}
               Durbin Watson Statistic = 2.1745
                    KPSS test of I(0) =  0.3018    {<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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -5.23947    1.27013    -4.125        0
FD0.505echope(-1)            0.24736    0.14485     1.708    0.098
FD0.553polsit(-1)            0.32464    0.12882      2.52    0.017
                     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
                            Estimate  Std. Err.   t Ratio  p-Value
```

```
Intercept                     -12.0971    3.02355    -4.001        0
FD0.505echope(-1)              0.30629    0.14564     2.103    0.044
FD0.553polsit(-1)              0.09771    0.13964       0.7     0.49
trend                          0.26009    0.10533     2.469     0.02
                       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 =  0.4116
                            Residual SD =   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 3

```
**************************************************************************
TSM4.31.13-05-10 Run 253 at 15:28:00 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
--------------------------------------------------------------------------
Dependent Variable is FD0.909russec
33 observations  (2-34) used for estimation.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -1.16195    1.43754    -0.808    0.425
FD0.909russec(-1)            0.17666    0.18117     0.975    0.337
FD0.553polsit(-1)           -0.02849    0.09936    -0.287    0.776
                       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
```

Column 4

```
**********************************************************************
TSM4.31.13-05-10 Run 254 at 15:29:05 on  1-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
----------------------------------------------------------------------
Dependent Variable is FD0.505echope
33 observations  (2-34) used for estimation.
Estimation Method: Ordinary Least Squares
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                  -1.74621    2.82734    -0.618    0.541
FD0.505echope(-1)            0.2704    0.16687      1.62    0.116
FD0.553polsit(-1)           0.14124     0.1855     0.761    0.452
                     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
                   KPSS test of I(0) =  0.0861    {<1} *
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:

```
**********************************************************************
TSM4.31.13-05-10 Run 404 at 15:18:29 on  2-06-2010
Data file is
C:\Interesting Times\public opinion\VCIOM Data\June 2009\ajps data.xls
----------------------------------------------------------------------
Dependent Variable is FD0.505echope
32 observations  (3-34) used for estimation.
Estimation Method: Ordinary Least Squares
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                  -0.82909    3.19272     -0.26    0.797
FD0.505echope(-1)           0.30281    0.17872     1.694    0.101
FD0.553polsit(-1)           0.21967    0.22418      0.98    0.336
FD0.505echope(-1)(-1)       0.01576    0.20461     0.077    0.939
                     Log Likelihood = -113.217
                   Schwarz Criterion = -120.149
               Hannan-Quinn Criterion = -118.189
                    Akaike Criterion = -117.217
                     Sum of Squares = 2217.03
                          R-Squared =  0.1398
                      R-Bar-Squared =  0.0477
                        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
                   KPSS test of I(0) =  0.0918    {<1} *
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.
```

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

Putin period

Column 5

```
**************************************************************************
TSM4.31.13-05-10 Run 255 at 15:34:33 on  1-06-2010
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 32 pre-sample observations.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                    5.13224    1.60853     3.191    0.003
FD0.725_Russec(-1)          -0.06595    0.31171    -0.212    0.833
FD0.634_Polsit(-1)           -0.1882    0.12505    -1.505    0.139
                      Log Likelihood = -186.454
                   Schwarz Criterion = -192.322
               Hannan-Quinn Criterion = -190.546
                     Akaike Criterion = -189.454
                       Sum of Squares = 5076.17
                            R-Squared =  0.0423
                         R-Bar-Squared =  0.0015
                           Residual SD = 10.3925
                   Residual Skewness = -0.9323
                   Residual Kurtosis =  7.6996
                    Jarque-Bera Test =  53.257     {0}
Ljung-Box (residuals):          Q(12) =  8.0973 {0.777}
Ljung-Box (squared residuals):  Q(12) =  3.1025 {0.995}
              Durbin Watson Statistic = 1.96909
                   KPSS test of I(0) =  0.3306    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.2338 {0.629}
  B-P Heterosced. (LM):      ChiSq(1) =  0.0177 {0.894}
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 256 at 15:35:21 on  1-06-2010
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 32 pre-sample observations.
Estimation Method: Ordinary Least Squares
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                     4.9634    1.64669     3.014    0.004
FD0.635_Echope(-1)           0.05615     0.1905     0.295    0.769
FD0.634_Polsit(-1)           -0.22652    0.14142    -1.602    0.116
                      Log Likelihood = -186.418
                   Schwarz Criterion = -192.286
               Hannan-Quinn Criterion = -190.51
                     Akaike Criterion = -189.418
                       Sum of Squares = 5068.89
```

```
                          R-Squared =  0.0437
                     R-Bar-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 = 1.99551
                  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
                            Estimate  Std. Err.   t Ratio  p-Value
Intercept                   -5.84031    6.23348    -0.937    0.354
FD0.635_Echope(-1)           0.17834      0.197     0.905     0.37
FD0.634_Polsit(-1)          -0.33881    0.15977    -2.121    0.039
trend                        0.18803    0.09992     1.882    0.066
FD0.634_Polsit(-1)(-1)      -0.10264    0.08526    -1.204    0.235
                      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-Bar-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 = 1.99241
                  KPSS test of I(0) =  0.1727    {<1} *
Diagnostic Tests:
  Autocorrelation (LM):      ChiSq(1) =  0.2701 {0.603}
  B-P Heterosced. (LM):      ChiSq(1) =  0.0677 {0.795}
Covariance matrix from robust formula.
* KPSS, RS bandwidth = 0.
Parzen HAC kernel with Newey-West plug-in bandwidth.
    ...Run completed in  0.04
```

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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   2.49818    0.69714     3.583    0.001
FD0.725_Russec(-1)         -0.15909    0.17762    -0.896    0.375
FD0.634_Polsit(-1)          0.00766    0.05927     0.129    0.898
                     Log Likelihood = -143.655
                  Schwarz Criterion = -149.523
              Hannan-Quinn Criterion = -147.747
                    Akaike Criterion = -146.655
                      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.
Parzen 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
                           Estimate  Std. Err.   t Ratio  p-Value
Intercept                   2.07152    1.22286     1.694    0.097
FD0.635_Echope(-1)          0.24746    0.24156     1.024    0.311
FD0.634_Polsit(-1)         -0.13115    0.19555    -0.671    0.506
FD0.635_Echope(-1)(-1)      0.20929    0.17628     1.187    0.241
                     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 {0.399}
Ljung-Box (squared residuals):  Q(12) = 10.7538  {0.55}
```

```
             Durbin Watson Statistic = 1.98771
                   KPSS test of I(0) =  0.1052    {<1} *
Diagnostic 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
```