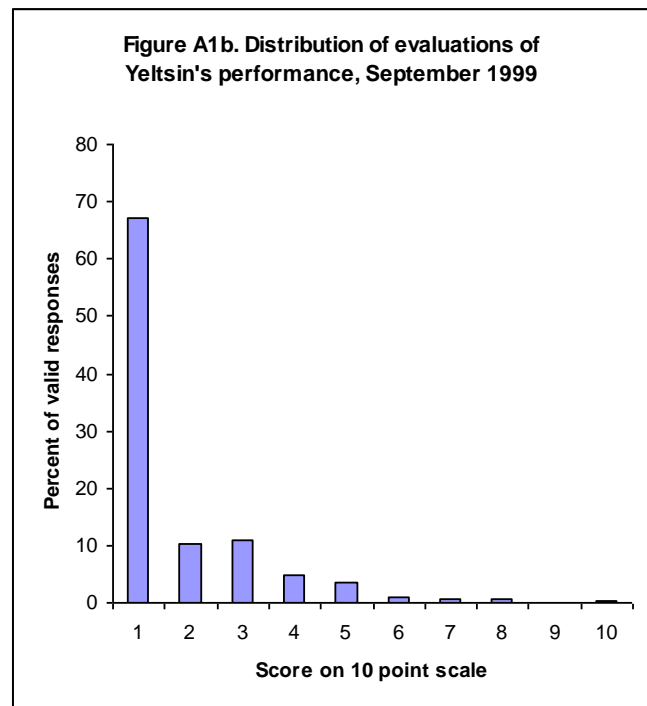
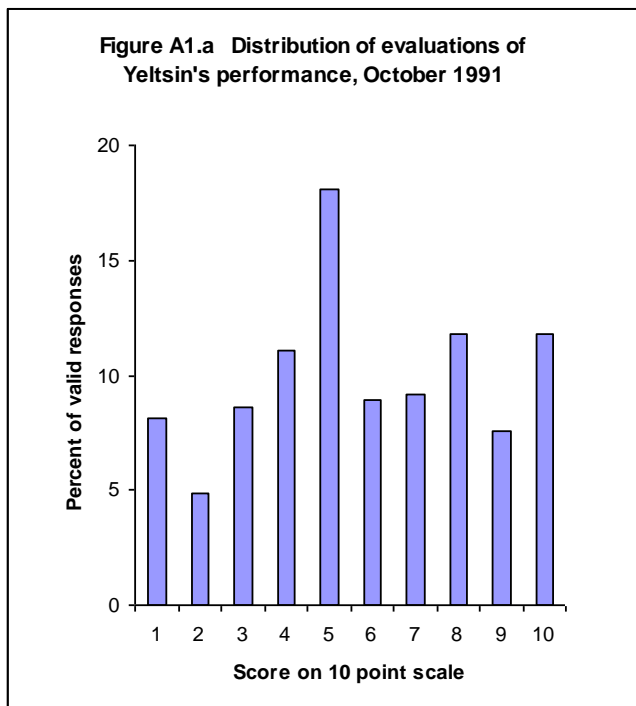


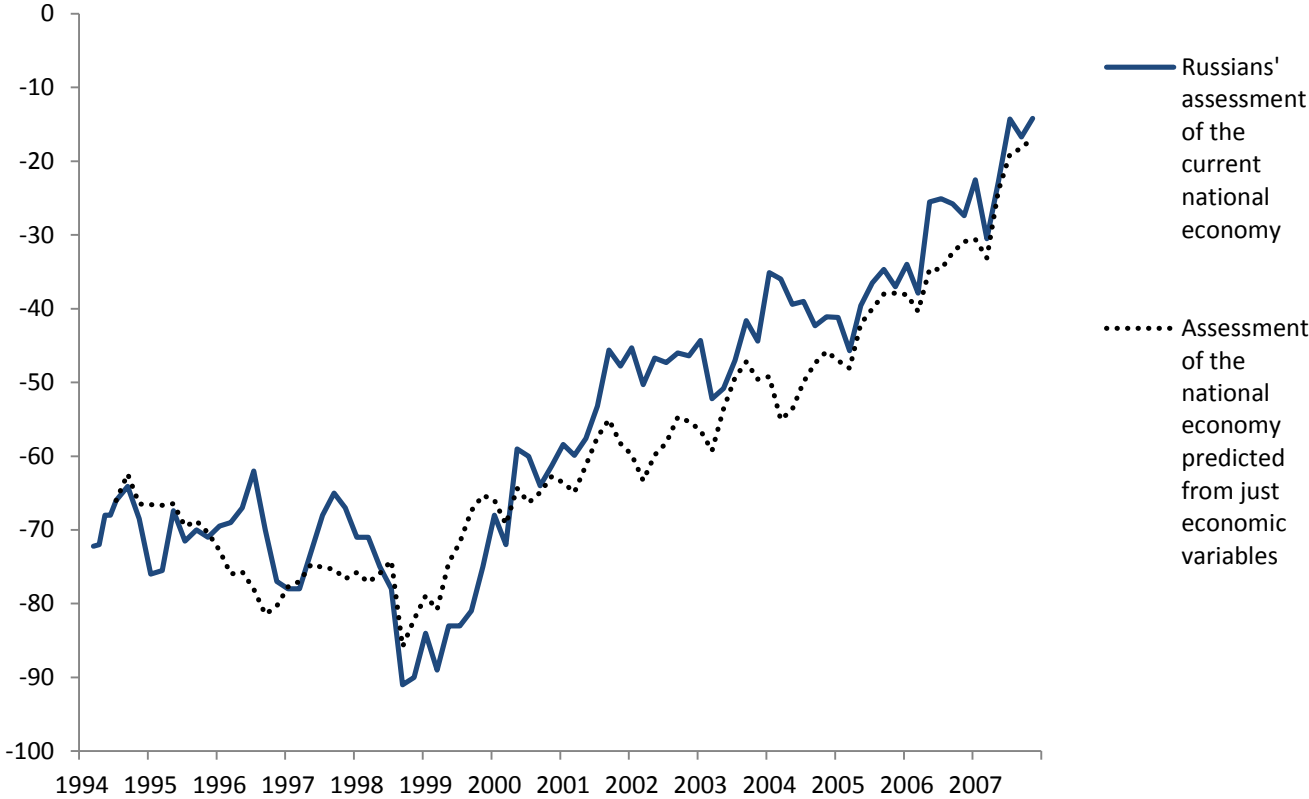
# Web Appendix for “Presidential popularity in a hybrid regime: Russia under Yeltsin and Putin”

## Distribution of evaluations of Yeltsin on 10-point scale



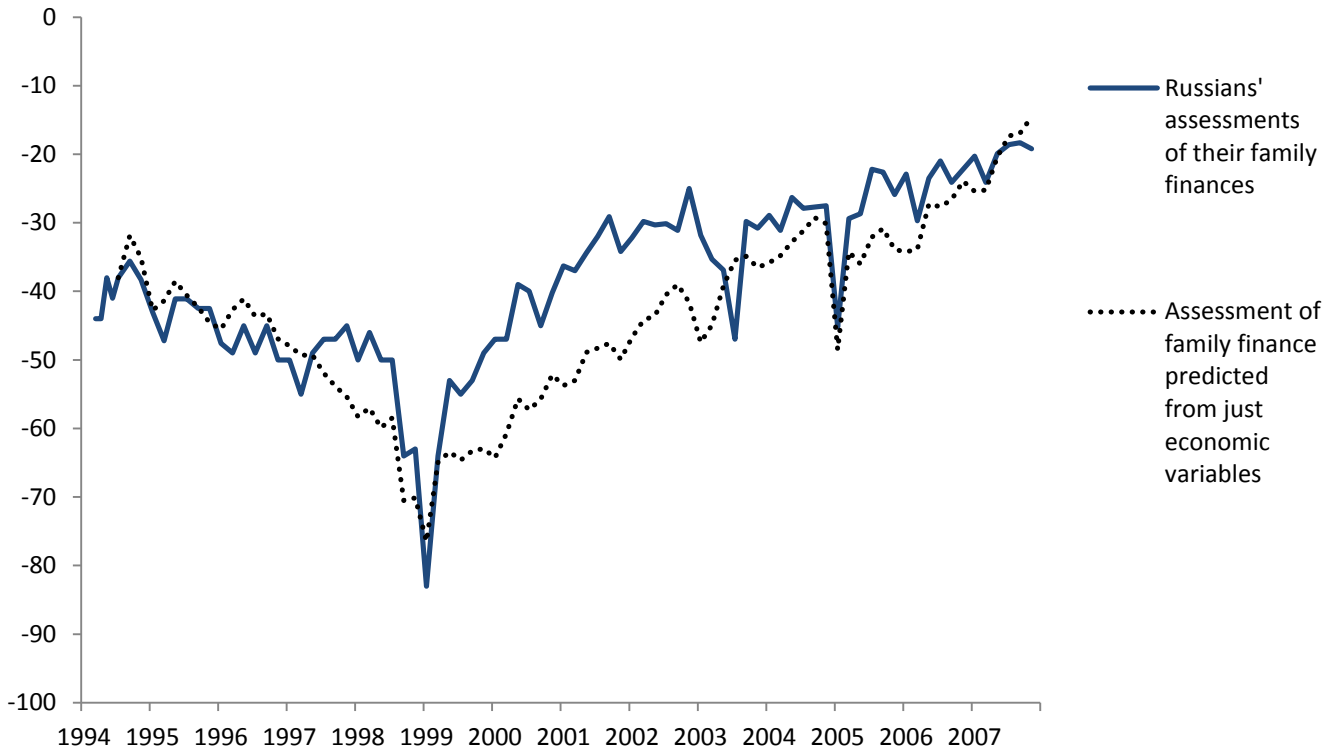
Predicting economic perceptions with just objective economic indicators and events

**FIGURE A2.A Perceptions of the National Economy and their Economic Determinants**



Sources: VCIOM, Levada Center, and author's calculations.

**FIGURE A2.B Perceptions of Family Finances and their Economic Determinants**



Sources: VCIOM, Levada Center, and author's calculations.

### Analyzing the relationship between economic perceptions and perceptions of the political situation

I use causal modeling with fractionally differenced variables to examine the relationship between the economic and political perceptions variables. Testing for Granger causality (1969) requires one to regress a dependent variable on lags of itself and one or more possible explanatory variables. If the lagged explanatory variables are statistically significant, one concludes that they “Granger cause” the dependent variable. This method has been applied to fractionally differenced variables in, for instance, Box-Steffensmeier, Darmofal and Farrell (2009). Note that in Model 2 the errors are probably not stationary (KPSS test rejects  $I(0)$  at  $p < .10$ ), so I run the same model in column 2A with a trend term; errors now pass the KPSS test. In Model 6, the KPSS test suggests non-stationarity. Adding a trend term solves this problem, but then LM test suggests significant autocorrelation: I need to include lagged dependent variable as well (Model 6A).

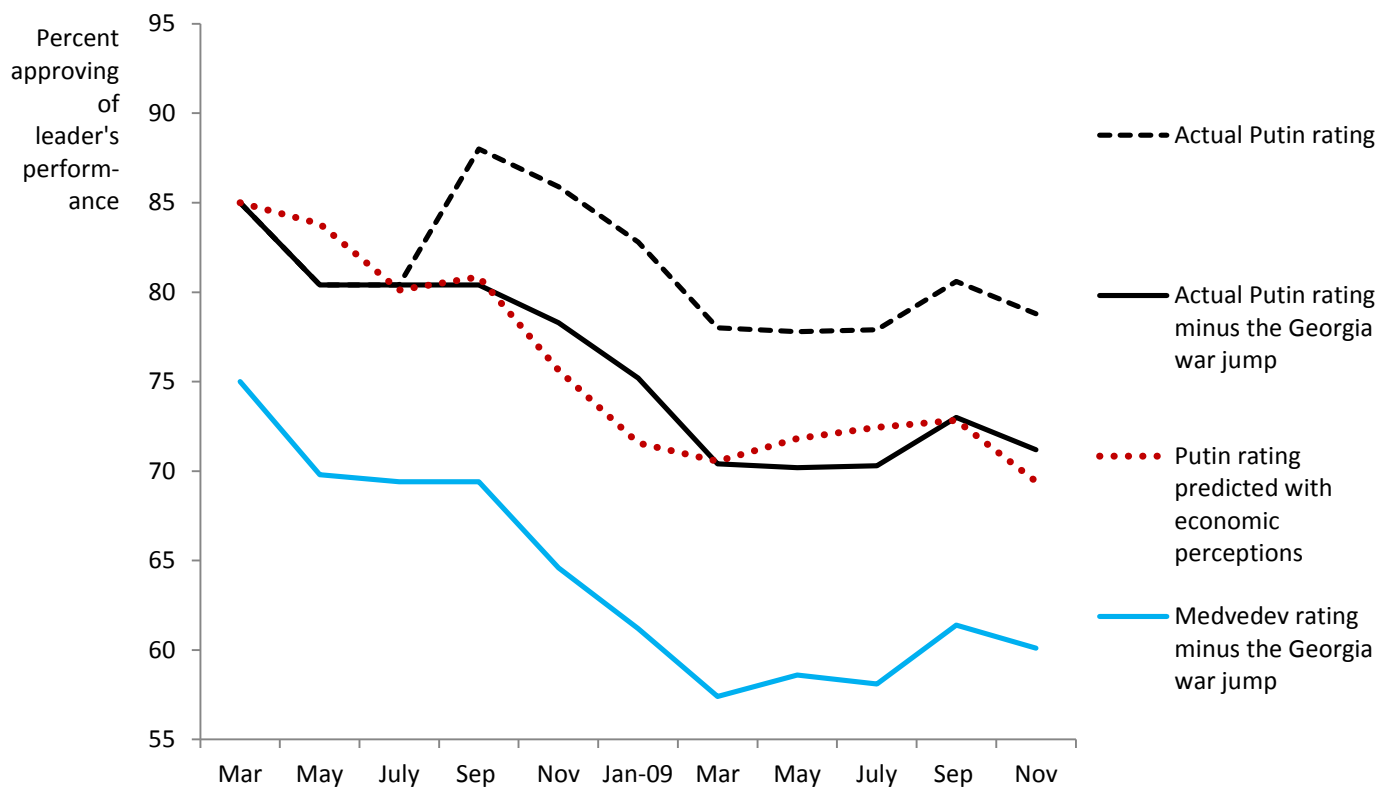
Table A1 Economic and political perceptions: causal modeling

	-----Yeltsin presidency-----					-----Putin presidency-----				
	1 $\Delta^d$ political situation	2 $\Delta^d$ political situation	2A $\Delta^d$ political situation	3 $\Delta^d$ current economy	4 $\Delta^d$ Russia's ec. future	5 $\Delta^d$ political situation	6 $\Delta^d$ political situation	6A $\Delta^d$ political situation	7 $\Delta^d$ current economy	8 $\Delta^d$ Russia's ec. future
L1 $\Delta^d$ political situation	.44* (.11)	.32* (.13)	.10 (.14)	-.03 (.10)	.22 (.22)	-.19 (.13)	-.23 (.14)	-.34* (.16)	.01 (.06)	-.13 (.20)
L1 $\Delta^d$ current economy				.18 (.18)		-.07 (.31)			-.16 (.18)	
L1 $\Delta^d$ Russia's ec. future		.25 (.14)	.31* (.15)		.30 (.18)		.06 (.19)	.18 (.20)		.25 (.24)
L2 $\Delta^d$ dependent var.					.02 (.21)			-.10 (.09)		.21 (.18)
Trend			.26* (.11)					.19 (.10)		
Constant	-5.33* (1.19)	-5.24* (1.27)	-12.10* (3.02)	-1.16 (1.44)	-.83 (3.19)	5.13* (1.61)	4.96* (1.65)	-5.84 (6.23)	2.50* (.70)	2.07 (1.22)
R <sup>2</sup>	.3175	.3772	.4668	.0237	.1398	.0423	.0437	.1038	.0223	.1235
Durbin Watson	2.17	1.97	1.79	1.92	1.73	1.97	2.00	1.99	2.00	1.99
LM autocorrelation test, $\chi^2$	1.02, p = .31	.00 p = .98	.70 p = .40	.15 p = .70	.01 p = .94	.23 p = .63	1.19 p = .28	.27, p = .60	.43 p = .51	1.01 p = .32
KPSS test of I(0)	.30 (p < 1)	.37 (p < .1)	.14 (p < 1)	.11 (p < 1)	.09 (p < 1)	.33 (p < 1)	.35 (p < .1)	.17 (p < 1)	.21 (p < 1)	.11 (p < 1)
N	33	33	33	33	32	50	50	50	50	50

\* p < .05. OLS with robust standard errors in parentheses.  $\Delta^d$  : series fractionally differenced using d estimated in Table 1; Lk: kth lag of the variable. Lags of the dependent variable were included when necessary to reduce autocorrelation. Trend was included when necessary to render residuals stationary.

From the estimates in Table A1 it appears that Russians' expectations about future economic performance Granger caused their evaluations of the political situation during the Yeltsin period (this is significant at  $p = .04$  in Model 2A). Evidence of causation running from evaluations of the political system to expectations of future economic performance was less significant ( $p = .34$  in Model 4). There was no clear evidence that economic perceptions affected political perceptions (or vice versa) during the Putin period, however.

**FIGURE A3 Putin's and Medvedev's Ratings in 2008-9, Actual and Predicted with Economic Perceptions**



Sources: Levada Center and author's calculations. Predictions formed using Table 3, model 8, with actual economic perceptions for 2008-9; some values in economic series interpolated linearly or using regressions of Levada data on VCIOM data from surveys that asked the same question; percentage supporting military action in Chechnya assumed to have stayed at the December 2007 level (question was no longer asked by Levada Center).

Table A2 Variable definitions and data sources

Variable	Definition	Source
___10pt	What evaluation from 1 (lowest) to 10 (highest) would you give the President of Russia, _____? Mar 1994-Nov 1999, bimonthly series, average response.	http://sofist.socpol.ru, http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
___app	On the whole do you approve or disapprove of the performance of President _____? % saying they approve. Sep 1996-Mar 2008, bimonthly series.	http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
Putapbacktosep	Percent approving of Putin's performance as President (Jan 2000-Mar 2008) concatenated with percent approving of Putin's performance as PM (Sep -Nov, 1999).	http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
tenpt	average 10pt ratings for Yeltsin and Putin concatenated.	http://sofist.socpol.ru, http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
app	average percent approving of the president's performance, Yeltsin and Putin terms concatenated.	http://sofist.socpol.ru, http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
russec	How would you assess Russia's present economic situation? Very good + good - (Very bad + bad), %, there is also category "in between"; Mar 1994-Mar 2008, bimonthly series.	http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
fammat	How would you assess your family's present material condition? Very good + good - (Very bad + bad), %, there is also category "in between"; Mar 1994-Mar 2008, bimonthly series.	http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
Echope	What do you think, what awaits Russia in coming months in the economic sphere? significant improvement + minor improvement - significant deterioration - minor deterioration; Mar 1994-Mar 2008, bimonthly series.	http://www.levada.ru/programs.html, <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
Polsit	How, overall, would you assess the political situation in Russia? Favorable + calm - tense - critical, explosive; Mar 1994-Mar 2008, bimonthly series.	Russiavotes.org, Levada Center, and <i>Ekonomicheskije i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> 1996, Jan-Feb.
Chechwar2	1 in Jan 00 – Mar 00; then, proportion who, when asked "What do you think is happening right now in Chechnya?" choose "War continues" rather than "Peace is being established"; missing values—59% of the total—linearly interpolated.	VCIOM polls and russiavotes.org
Chechmil	Do you consider that it is necessary to continue military action in Chechnya or begin peaceful negotiations with the "fighters?"; % saying "continue military operation", missing values—8 % of the total—linearly interpolated.	Levada Center, Russiavotes.org
Months	number of months incumbent president has been in office since June 1991 (Yeltsin), since Dec 1999 (Putin)	Author
Orchp	1 in Sep 1994 (after Yeltsin drunkenly conducted band in Berlin), 0 otherwise.	Author
yhosp1	1 for any month in which Yeltsin reported to be in hospital (including just for checkup), 0 otherwise.	Search of Lexis-Nexis
budp	1 in July 1995 (after Budyonnovsk terrorist attack), 0 otherwise.	Author

che1start	1 in Jan 1995 (start of first Chechen war), 0 otherwise.	Author
che1end	1 in May and July 1996 (end of first Chechen war), 0 otherwise.	Author
startc2	1 in Sep 1999 (start of second Chechen war), 0 otherwise.	Author
finp	1 in September 1998 (financial crisis), 0 otherwise.	Author
kosp	1 in May 1999 (Kosovo bombing), 0 otherwise.	Author
Fhpress	Freedom House index of restrictions on the press, annual figures; high = less free.	Freedomhouse.org
Nordost	1 in Nov 2002 (after Nordost terrorist attack), 0 otherwise.	Author
Beslan	1 in Sep 2004 (Beslan terrorist attack), 0 otherwise.	Author
Kursk	1 in Sep 2000 (after sinking of the Kursk), 0 otherwise.	Author
nineleven	1 in Sep 2001 (Nine-Eleven), 0 otherwise.	Author
Khodnov	1 in Nov 2003 (after Khodorkovsky arrested), 0 otherwise.	Author
Sovhymn	1 in Jan 2001 (after Putin's instatement of old music to Soviet anthem), 0 otherwise.	Author
iraqp	1 in May 2003 (after beginning of US Iraq war), 0 otherwise.	Author
ntvp	1 in May 2001 (after takeover of NTV), 0 otherwise.	Author
international	In answer to: "How successfully has Vladimir Putin coped with the problems of strengthening the international position of Russia?" percent that said very or quite successfully minus percent that said not especially successfully or completely unsuccessfully, Levada Center	VCIOM/Levada polls and russiavotes.org
order	In answer to: "How successfully has Vladimir Putin coped with the problem of introducing order in the country?" percent that said very or quite successfully minus percent that said not especially successfully or completely unsuccessfully, Levada Center	VCIOM/Levada polls and russiavotes.org
Rwage	Real average wage due, December 1997 prices, deflated by CPI.	Russian Economic Trends database and <i>Voprosy Statistiki</i> March 2007, plus Goskomstat RF updates
Rwarrear	Estimated real wage arrears, index Dec 1995 = 100, deflated by CPI. Until Feb 1996, series from Goskomstat as in Russian Economic Trends database; from Feb 1996, Goskomstat figures for broader set of sectors; two series merged to form consistent index.	Russian Economic Trends Database, Goskomstat publications including <i>Sotsialno-ekonomicheskoe polozhenie Rossii</i> , various issues, <i>Statisticheskyy biulleten</i> .
Unemployment	Unemployment rate, ILO concept, end of month, %	Russian Economic Trends Database with updates from Goskomstat, <i>Informatsiia o sotsialno-ekonomicheskoi polozhenii Rossii</i> , various months.
inflation	$\log(1 + \text{monthly inflation of CPI})$	Russian Economic Trends Database with updates from Goskomstat RF.
workdem	demand for workers, jobs announced by enterprises to state employment service, thousands	Goskomstat RF.
pens	average monthly pension, December 1997 th. Rs.	Russian Economic Trends Database with updates from Goskomstat RF.
nov94p	1 in November 1994 (after banking crisis), 0 otherwise.	Author
monetize	1 in January 2005 (introduction of monetization of benefits), 0 otherwise.	Author
putdum	1 from 2000 to March 2008, 0 otherwise (Putin's presidencies).	Author

D1_tenpt	1 period change in tenpt	Author
recovery	1 from Mar 1999-Mar 2008; 0 otherwise; period of economic recovery.	Author
camp96	presidential campaign: 1 in Mar, May, July 1996, -1 in Sep, Nov 1996 and Jan 1997.	Author
camp00	presidential campaign: 1 in Nov 1999, Jan, Mar 2000, -1 in May, Jul, Aug 2000.	Author
camp04	presidential campaign: 1 in Nov 2003, Jan, Mar 2004, -1 in May, Jul, Aug 2004.	Author
camp08	presidential campaign: 1 in Nov 2007, Jan, Mar 2008 (then dataset ends).	Author