

Presidential Popularity in a Hybrid Regime: Russia under Yeltsin and Putin

Abstract

In liberal democracies, the approval ratings of political leaders have been shown to track citizens' perceptions of the state of the economy. By contrast, in illiberal democracies and competitive autocracies, leaders are often thought to boost their popularity by exploiting nationalism, exaggerating external threats, and manipulating the media. Using time series data, I examine the determinants of presidential approval in Russia since 1991, a period in which leaders' ratings swung between extremes. I find that Yeltsin's and Putin's ratings were, in fact, closely linked to public perceptions of economic performance, which, in turn, reflected objective economic indicators. Although media manipulation, wars, terrorist attacks, and other events also mattered, Putin's unprecedented popularity and the decline in Yeltsin's are well explained by the contrasting economic circumstances over which each presided.

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In liberal democracies, the approval ratings of political leaders play an important role in the interaction between citizens and their governments.¹ Like elections—but far more frequently—they communicate to officials what the public thinks of their performance. Moreover, the messages such polls send have been shown to make sense. In various Western democracies, leaders' ratings tend to rise and fall with the country's economic performance. Respondents appear to hold their leaders responsible and reward them for effective economic management with approval, much as, when voting retrospectively, they repay competent and honest incumbents with reelection.

But what role do such ratings play in illiberal democracies and competitive autocracies, where formally democratic institutions coexist with authoritarian elements? In such states, public opinion is often viewed as more a product of political manipulation than an input into politics. Even when the polls themselves are trustworthy, they are thought likely to capture the effects of rulers' political theater rather than reasoned evaluations rooted in material reality. Citizens, fed distorted information by an unfree press and cynical about the possibilities for participation, are expected to focus on image and personalities rather than to soberly evaluate performance by studying economic statistics (Ekman 2009). To rekindle their appeal periodically, incumbents invoke cruder forms of nationalism, exaggerate external threats or terrorist dangers, or even start military engagements (Mansfield and Snyder 1995).

One country where these issues arise particularly starkly is Russia. Since the first competitive presidential election there in 1991, presidents' ratings have careened wildly. Russia's first president, Boris Yeltsin, started out extremely popular; in September 1991, 81 percent of citizens approved of his performance. When he left office eight years later, the proportion had dropped to eight percent. His successor, Vladimir Putin, saw his approval shoot up from 31 percent in August 1999 to 84 percent in January 2000. In his eight years as president, his rating rose as high as 87 percent and never fell below 60 percent.

To some, these extreme swings reveal the country's political immaturity. Journalists attributed both wars in Chechnya to the desire to boost a Kremlin-backed candidate's electoral prospects. Putin's appeal has been explained as the result of an artificially cultivated image as a "tough" leader, the trauma of terrorist bombings in late 1999, and the Kremlin's enhanced control and manipulation of the media. Such

interpretations seem to fit the fluidity of the political scene, where parties come and go and politics has often been seen as primarily the clash of personalities.

But there is another possibility. The volatility of presidents' ratings and vote shares might merely mirror volatility in the economy. Russians might be responding to perceived conditions as logically as do their Western counterparts. Swings in incumbents' approval might reflect not Kremlin manipulation or the capriciousness of voters but their admittedly crude attempts, in an environment of uncertainty and unresponsive government, to hold their leaders to account.

Although there are many conjectures about what causes change over time in the popularity of Russian presidents, few have attempted to confront these systematically with evidence.² I use statistical techniques and time series survey data to do so. I look first at what polls reveal directly about the determinants of presidential popularity. Then, with error correction regression models, I test which factors help predict the trajectories of presidents' ratings.

Understanding what affects the popularity of Russian presidents is important for several reasons. Not least, it matters for Russian politics. If building support for an incumbent requires only projecting a certain image, it makes sense for Kremlin operatives to monopolize the mass media. If fighting Chechen terrorists boosted Putin's appeal, such threats are likely to be dramatized as elections approach. However, if the key element was economic recovery, implications are more benign: leaders will need to master the art of economic management.

Although Russia is unique in certain ways, the results suggest hypotheses and modes of analysis relevant to other hybrid regimes. Debates continue over the influence of economics and charismatic populism over voting and presidential approval in Latin America (Dominguez and McCann 1996, Weyland 2003). Does Hugo Chavez's appeal in Venezuela rest on ideological support for his "Bolivarian Revolution" or on oil-fueled prosperity? Did Fujimori's support in Peru owe more to economic conditions or his counterinsurgency efforts (Arce 2003)? Scholars have also pondered what shapes presidential popularity in the young democracies of Asia, exploring, for instance, whether the dips in Indonesian President Yudhono's rating in

2008 were caused by falling oil prices or the image of the president as weak and indecisive (Mietzner 2009, p.147).

To preview the results, I find that Russians resemble voters in developed democracies in how they judge their leaders. Their evaluations closely follow economic conditions. Perceptions of the state of the Russian economy and of families' own finances do a good job of predicting both the decline in Yeltsin's rating, and the surge and plateau in Putin's. Although leaders have tried to manipulate perceptions, the statistical evidence suggests such efforts have had limited effects. At times—notably during certain election campaigns—Russians' views of the economy were rosier than warranted. But in general perceptions were well predicted by objective economic indicators.

In this paper, I study what determines change in the average popularity of Russian presidents over time. Other papers, using cross-sectional survey data, have explored what types of individuals supported Yeltsin or Putin at given moments. Such studies, like this one, tend to find that economic factors were important (Duch 1995; Miller, Reisinger, and Hesli 1996; Hesli and Bashkirova 2001; Rose, Mishler and Munro 2004; Rose 2007b; Colton and Hale 2008; White and Mcallister 2008). While this might seem reassuring, it is important to remember how cross-sectional and time series analyses differ. They do not, as sometimes thought, generate potentially competing evidence on the same question. Rather, they address different questions. Cross-sectional analyses show what categories of citizens favored the incumbent at a particular time. They reveal little about changes in aggregate support. For that, we need time series or panel data. Of course, time series regressions are unable to assess the importance of characteristics that vary across individuals but not over time.³

The only time series study of Russian presidential approval of which I am aware is Mishler and Willerton (2003), which examined data up to 2000, and so was not able to draw strong comparisons between the Yeltsin and Putin periods. I extend their analysis, and, using the more extensive data now available, draw somewhat different conclusions.

Data on presidential approval

The main data I analyze are from a regular, face-to-face survey conducted by the Russian Center for Public Opinion Research (VCIOM) until 2003, and then by its successor, the Levada Center. VCIOM, founded in 1988, was directed from 1992 by Yuri Levada, a sociologist who had been fired from Moscow State University in 1969 for “ideological mistakes in his lectures.” VCIOM earned a reputation as the most professional and politically independent of Russia’s half dozen leading polling organizations. This independence is thought to have prompted a state takeover in 2003, in which Levada was fired. The center’s researchers set up the private Levada Center, which continued the polls.

The surveys are of a nationally representative sample of voting-age citizens, who are interviewed in their homes. I focus on two questions. First, the pollsters ask: “On the whole do you approve or disapprove of the performance of [the president’s name]?” This question, similar to one on the US Gallup poll, was included monthly from late 1996.⁴ I use it to examine approval of President Putin, first elected in March 2000. Since this question was asked only occasionally before September 1996, I use another to study Yeltsin’s popularity. This one, included every second month from early 1994, asked: “What evaluation from 1 (lowest) to 10 (highest) would you give the President of Russia Boris Yeltsin?”⁵ I analyze the average evaluation.⁶ When both measures are available, the two are highly correlated, in levels (at $r = .98$) and in two-month differences ($r = .91$).

Figure 1 shows the data. On the left, Yeltsin bumps his way down from a December 1990 peak to a low of 6 percent in early 2009. On the right, Putin glides along, consistently above 60 percent. No American president has equaled Putin’s record since regular polling began in the 1930s. Eisenhower came closest, but even his rating fell at times into the 40s. No British prime minister has come close since the first MORI poll in 1979.⁷ Nor have post-war US presidents plumbed the depths to which Yeltsin sank—the lowest was Harry Truman’s 22 percent in February 1952.

A natural first question, then, is whether the results are believable. Might Putin’s ratings have been concocted to please the Kremlin or reflect insincere replies of intimidated respondents? There are reasons to

doubt this. First, it is hard to believe VCIOM was slanting results to please Putin given its leader's semi-dissident past and the state's takeover to punish it for insufficient loyalty. Various Western pollsters (such as World Public Opinion and the New Russia Barometer) have worked with the Levada group and found it highly professional. The dynamics in VCIOM/Levada polls match those in surveys by other organizations. For instance, in 2006-7 the Levada 10-point rating correlates at $r = .93$ with the share that said in polls of the *Fond Obshchestvennogo Mnenia* that they "trusted" Putin.

Second, it seems unlikely many respondents were intimidated given their critical responses on other questions. Asked in 2004 whether there was more or less corruption and abuse of power in the highest state organs than a year before, 30 percent said "more," 45 percent said "the same amount," and only 13 percent said "less."⁸ Respondents were not shy to give Yeltsin a 6 percent approval rating and Putin just 31 percent in 1999. Even as Russians swooned over Putin, his governments never won the approval of more than 46 percent, and large majorities opposed some of his policies, including—after the initial period—the military occupation of Chechnya.⁹

Another concern is that, by limiting respondents to a 10 point scale, the surveys might be censoring the data. In the web appendix, I show the distributions of responses around Yeltsin's highest and lowest points. While the distribution is reasonably symmetric for Yeltsin's peak, respondents did cluster at the bottom in 1999. If the scale was censoring some respondents, the effect of economic decline under Yeltsin may actually have been greater than that estimated here.

Possible explanations

What might explain the path of approval in Figure 1? In other countries, the public often rallies behind leaders at the start of wars (Mueller 1973). Both wars in the southern republic of Chechnya began in the run-up to presidential elections. In November 1994, Yeltsin's aide Oleg Lobov reportedly said that a "small, victorious war" would "raise the president's ratings."¹⁰ Putin's surge occurred as he sent troops to the republic for a second time and promised to crush the terrorists who had bombed four apartment buildings. "People believed

that he, personally, could protect them,” Yeltsin wrote in his memoirs. “That’s what explains his surge in popularity” (Yeltsin 2000, p.338).

Surveys suggest the public viewed the two wars quite differently. Yeltsin’s use of force in December 1994 was widely condemned; the next month, two thirds of respondents opposed it (Jeffries 2002, p.372). By summer, 71 percent disapproved of Yeltsin’s approach to Chechnya. However, opinion soon soured on the compromise of 1996, under which terrorists regularly crossed the border to take hostages for ransom. In October 1999, 74 percent favored a major military operation against illegal armed groups in Chechnya.¹¹

Support, however, proved fickle. By July 2000, about two thirds of Russians thought Putin’s attempts to rout the insurgents mostly or completely unsuccessful, and the share remained above 60 percent until 2006. By November 2000, more Russians favored starting peace negotiations than continuing the military operation. By early 2001, less than one in ten respondents said they were attracted to Putin by his Chechnya policy. If Putin’s hard line on Chechnya helped him early on, this does not seem to have been the case later. To capture attitudes towards Putin’s Chechnya policy, I use a variable that measures the percentage of respondents who favored “continuing the military operation” in Chechnya rather than “negotiating with the ‘fighters’.”¹²

Second, some saw the main reason for Putin’s popularity and Yeltsin’s dwindling appeal in their divergent personal styles. Yeltsin—ailing, gaffe-prone, at times visibly inebriated—could hardly have seemed more different from the disciplined, energetic, sober Putin, a former spy and judo black belt. Polls confirm that Russians were attracted by Putin’s image of youthful vigor and put off by Yeltsin’s physical decline. Asked what qualities attracted them to Putin, from 30 to 47 percent of respondents chose “he is an energetic, decisive, strong-willed person.” Only 9 percent said this of Yeltsin in January 2000. Even in 1996, the third most frequent thing respondents disliked about Yeltsin was that he was “a sick, weak person.”¹³

But did the presidents’ images explain their varying support? Unfortunately, regular data on this were not available; respondents were asked only occasionally about Putin’s attractions. Governing style is also manifested in particular incidents. One episode thought to have harmed Putin’s image was his reaction when the Kursk nuclear submarine sank in 2000. While the Navy brass dithered, ignoring Western offers of help, the news showed Putin jet-skiing on the Black Sea. Yeltsin’s frequent hospital stays cannot have improved his

image (Mishler and Willerton 2003). His drinking problem was made vivid in August 1994, when television showed him jerkily conducting a police band in Berlin.

Putin promised from the start to restore “order” after the turbulent 1990s, to fight crime and corruption and reimpose control over wayward local officials. A former KGB officer, he seemed to have the appropriate experience and connections. Could this explain his popularity? In surveys, many Russians say they favor strong leaders and are willing to sacrifice some rights in return for order.¹⁴ However, advocates of a “strong hand” and other antidemocratic norms turn out to be less likely to support Putin than to back Communist leader Gennady Zyuganov or the ultranationalist Vladimir Zhirinovskiy. In fact, Whitefield (2005) found it was democracy supporters that favored Putin.¹⁵

Moreover, many Russians were skeptical of Putin’s claims. Periodically, VCIOM/Levada polls asked how successful Putin had been at imposing order. On average 47 percent thought he had been at least partly successful; 49 percent thought he had been unsuccessful.¹⁶ There was no clear trend. On more specific questions, reports of deterioration predominated. Each year after 2000, at least 25 percent more thought citizens’ personal security had worsened than thought it had improved; at least 15 percent more saw decline in law enforcement than saw progress.¹⁷ Early on, 29 percent liked Putin because he “could impose order in the country.” By October 2006 the share had fallen to 13 percent.¹⁸

Following Mishler and Willerton (2003), I created a measure of Russians’ political mood from the question: “Overall, how would you assess the political situation in Russia?” I subtracted the proportion choosing “critical, explosive,” or “tense” from that saying “calm” or “favorable.” To test whether attacking the oligarchs and exploiting nostalgia won Putin support, I created dummies for the months after the arrest of the oligarch Mikhail Khodorkovskiy and after Putin restored the Soviet music to the national anthem. A large plurality—46 percent in a VCIOM poll—favored the Soviet version.¹⁹

Respondents credited Putin with “strengthening Russia’s international position.” Between July 2000 and March 2007, on average 65 percent of respondents said he was quite or very successful at this, compared to 47 percent who said this of his efforts to “introduce order in the country.” By contrast, many thought Yeltsin had been too accommodating towards the West, which expanded NATO into Eastern Europe on his watch and

then bombed the Serbs over Kosovo. To capture effects of foreign affairs, I included dummies for the Kosovo bombing, the 9/11 attack, which prompted a pro-American turn on Putin's part, and the 2003 US invasion of Iraq. The Kosovo and Iraq wars were both unpopular in Russia and might have sapped support for presidents viewed as too cozy with Washington. Under Putin, I also included the share that said he was strengthening Russia's international position minus the share that thought him mostly or completely unsuccessful in this.

To his opponents, Putin's ratings simply showed the Kremlin's increasing dominance of the press. In the words of Garry Kasparov: "You cannot talk about polls and popularity when all of the media are under state control" (Remnick 2007). Under Putin, state companies or loyal businessmen took over the last independent national television networks. Strong criticism of the president—although not of the government—disappeared from broadcasts. Based on a 1999 survey, White et al. (2005, p.192) concluded that media bias helped secure Putin's victory: "The decisive factor in this dramatic reversal of fortunes appeared to be the media, particularly state television." Measuring change in press freedom was difficult. Lacking a more sophisticated gauge, I used Freedom House's index of press freedom, with the annual value used for each month of the relevant year. I also created a variable for the month of the state takeover of NTV, the network previously most critical of the Kremlin.

Finally, economic performance—and, especially, perceptions of it—has been shown to affect approval of incumbents in the US, France, and Britain (Erikson, MacKuen and Stimson 2002, Lafay 1991, Clarke and Stewart 1995, Sanders 2000). In Russia, scholars have found economic influences on voting (Colton 2000, Tucker 2006), and these might also shape presidential popularity. Such effects might be retrospective or prospective and might focus on respondents' own circumstances or their views of conditions nationwide. Previous studies of post-Soviet countries found evidence of all four types of economic influences. Hesli and Bashkirova (2001), looking at cross-sectional surveys, found all four effects affected support for Yeltsin. Mishler and Willerton (2003), focusing on time series data, noted the influence of retrospective evaluations of the national economy and family finances. Rose et al (2004, p.209) found in a cross-section that views of current economic performance were the strongest predictor of support for the political regime.

Data were available in the VCIOM/Levada surveys to construct three variables. For retrospective

evaluations of the national economy, I use the question: “How would you assess Russia’s present economic situation?” For retrospective assessments of personal finances, I use: “How would you assess the current material situation of your family.” For each of these, I subtracted the shares saying “very bad” or “bad” from those saying “very good” or “good,” ignoring those who said “in between” or “don’t know.” For prospective evaluations of the national economy, I use: “What do you think awaits Russia in the economy in the coming several months?” I subtracted the percentage anticipating decline from that expecting improvement.²⁰

Unfortunately, no question captured prospective evaluations of personal finances for a comparable period. I use a dummy for the shock of the August 1998 financial crisis and another for January 2005, when Putin introduced a reform to replace in-kind benefits such as free bus tickets and drugs for pensioners by cash grants. This provoked major demonstrations of benefit recipients, who complained that the compensation was insufficient.

Explaining presidential approval: analysis

Before analyzing the presidential ratings, some statistical issues must be addressed. As is well-known, OLS regressions on non-stationary data may produce spurious results. I therefore examined whether the approval data and the time series explanatory variables were stationary, i.e. $I(0)$; had a unit root, i.e. $I(1)$; or were something in between, i.e. fractionally integrated, $I(d)$ where $0 < d < 1$.²¹ Table 1 shows test statistics for these series. I use the augmented Dickey-Fuller (ADF) and the Phillips-Perron tests to test the null hypothesis of a unit root, and the Kwiatkowski et al. (KPSS) and Harris-McCabe-Leybourne (HML) tests to test the null of stationarity. I treat the two presidencies separately because, examining Figure 1, it seems likely the underlying process changed between their tenures.²²

The tests have weak power and do not always agree. In almost all cases, the HML test—but not the KPSS test—suggests the series are not stationary.²³ In almost all, the ADF and Phillips-Perron tests cannot exclude the possibility of a unit root.²⁴ Given the likelihood that most or all series are not stationary and the uncertainty about whether they are exactly $I(1)$, it makes sense to see whether they are fractionally integrated.²⁵

I therefore estimated the order of fractional integration, d , for each series in each period, using Robinson's Local Whittle Gaussian ML semi-parametric method (Robinson 1995) (estimates in Table 1).²⁶ I fractionally differenced each series by its d , estimated for the appropriate period, before including it in regressions.²⁷

I then examined whether the presidents' ratings were cointegrated with any of the economic series. If two variables are cointegrated, a long-run equilibrium relationship exists between them (Box-Steffensmeier and Tomlinson 2000, p.70). The usual test for cointegration of two $I(1)$ variables is to regress one on the other and test whether the residuals are $I(0)$, in which case the variables are cointegrated. To test whether two fractionally integrated series are fractionally cointegrated, one regresses one on the other (both in levels) and estimates d for the residuals. If the residuals' d is less than those for the "parent" series, the variables are fractionally cointegrated.²⁸ The estimates in Table 1 suggest that Yeltsin's rating was fractionally cointegrated with perceptions of the current economy and/or family finances (the two are highly correlated). Putin's approval may be fractionally cointegrated with economic expectations and support for continuing the military operation in Chechnya; it may also be cointegrated with the political mood. However, this was highly correlated with the economic variables and preferred Chechen policy, and tests in the web appendix suggest it may have been Granger caused by economic expectations.

One revealing way to analyze non-stationary time series is with an error correction model, which simultaneously estimates the long-run relationship and the short-run dynamics of adjustment. Error correction models have been used with fractionally integrated series to study various problems (Clarke and Lebo 2003, Baum and Barkoulas 2006). I use the three-step fractional error correction model of, for instance, Clarke and Lebo (2003) and Lebo and Cassino (2007). That is, I run regressions of the form:

$$\Delta^d Rating_t = \beta_0 + \sum_j \gamma_j \Delta^d X_{j,t} + \sum_k \delta_k W_{k,t} + \beta_1 \Delta^d ECM_{t-1} + \varepsilon_t \quad (1)$$

where Δ^d indicates that a variable has been fractionally differenced by its estimated value of d ; *Rating* is the average rating on the 10-point scale (for Yeltsin) or the percentage approving of the president's performance (for Putin); the X 's, indexed by j , are fractionally integrated explanatory variables; the W 's, indexed by k , are stationary explanatory variables; $\Delta^d ECM_{t-1}$ is the fractional error correction mechanism (FECM); and ε is a

normally distributed stochastic error.²⁹ Where necessary to reduce autocorrelation, I included one lag of the fractionally differenced dependent variable on the right-hand side (Table 3, columns 1, 2, and 4). To obtain the FECM, I regressed the president's rating on a right-hand variable or variables with which it was thought to be cointegrated (both in levels), estimated d for the residuals from this regression, fractionally differenced the residuals by this d , and then lagged the series by one two-month period (see Clarke and Lebo 2003).

The different economic perceptions measures are highly correlated ($r = .89$, for the current economy and family finances under Putin), which is not surprising since the same factors are bound to affect all three. Lacking good instruments, it is easier to assess the aggregate impact of economic perceptions than to be sure which type matters most. Because of the high correlations, I first present models with each economic perceptions measure separately and then report a preferred model with more than one, dropping those event dummies that were not significant at $p = .30$ (Table 2, column 5; Table 3, column 7). Under Putin, the choice which economic variables to put in the final model was somewhat arbitrary given the high correlations. Including family finances together with perceptions of the national economy, the former had an odd negative coefficient, which I judged to be a spurious result of the correlation between these two variables rather than evidence that worsening finances boosted Putin's popularity. In my view, the data are just not fine-grained enough to adjudicate between the three types of perceptions. I also include the political mood variable separately as it is so highly correlated with the economic variables and likely Granger caused by one of them (see web appendix). I show separate models with the measures of Putin's policy performance (on international affairs, order) since these require shortening the data series. Finally, in Table 2 column 6 and Table 3, column 8, I show the preferred models with the FECM dropped; these are needed for subsequent simulations.

Choosing how to model the influence of discrete events poses a dilemma when the duration of such effects is unclear. One can arbitrarily assume a path of decay. Or, lacking theoretically-informed priors, one can try several specifications. The second course reduces the danger of missing the true effect because one has misspecified the duration, but increases the risk of false positives. In my experience, readers are more uncomfortable with the latter than with the former. In general, I model each event with a dummy valued 1 in

the month of the earliest subsequent survey, and 0 at other times. The impact is thus assumed to decay at the same gradual rate that the fractional differencing implies.

The one exception is the end of the first Chechen war, which arrived gradually. In March 1996, Yeltsin decreed a halt to military operations, but this changed little on the ground. In May 1996, he and acting Chechen President Yandarbiyev signed a ceasefire agreement. But only in late August was the Khasavyurt Accord signed, actually ending the war. I model this with a dummy valued 1 in May and July, and 0 otherwise (June and August were not in the bimonthly data). I include simple dummies for the months in which the two Chechen wars started (since the dependent variables are differenced, dummies for the start and end make more sense than a dummy for the duration).

As is common in studies of US presidential approval, I control for the time the president had been in office. Approval of American presidents typically falls, even controlling for other factors. Mueller (1973) argued that citizens start with unrealistically high expectations and gradually grow disappointed in their leaders. Under Putin, months in office and the index of press restrictions turn out to be highly correlated ($r = .96$); both rose monotonically over time. Therefore, I do not include them in the same regression; months in office turned out to be more significant in each case.

Table 1 suggested that, under both presidents, more than one variable might be cointegrated with the president's rating. Since it was not obvious a priori which of these—individually or in combination—belonged in the FECM, I tried several formulations. In Table 2, columns 1 and 5 contain an FECM formed using the residuals from regressing Yeltsin's rating on perceptions of the current economy. In column 2, the FECM used residuals from Yeltsin's rating regressed on perceived family finances. The former proved much more significant, and also more significant than an FECM for which the cointegrating regression contained both family finances and the current economy. In Table 3, the FECM uses residuals from regressing Putin's approval on economic expectations. This proved more significant than FECMs that incorporated preferences on Chechnya policy or the political mood.

What do the results show? Consider first the effects of war and terrorist attacks. Yeltsin's Chechen misadventure appears to have cost him support, although perhaps less than might have been expected. His

rating fell at the start of the first war by more than one quarter of a point on the 10 point scale (Table 2, column 5). It rose as the war ended in 1996, by .31 of a point in both May and July; of course, the estimates should be viewed as only approximate. Yeltsin lost another quarter point after the 1995 Budyonnovsk terrorist siege. By contrast, the start of the second war had no clear effect.³⁰

Putin's approval rose and fell with support for the use of military force in Chechnya. Since the latter peaked at 70 percent in March 2000, falling to just 13 percent in December 2007, this suggests the Chechen situation helped Putin early on, but weighed him down in later years. Indeed, supposing the coefficients on the fractionally differenced series roughly correspond to those for first differences, Putin lost about 20-30 points of approval over the course of his presidencies as faith in his military approach dwindled. Terrorist attacks temporarily revived backing for military force. After the Nordost siege in 2002, support for the military option leapt from 34 percent in September to 48 percent in November, before falling back to 31 percent in January 2003. This led to a rally behind Putin, whose approval temporarily jumped by six points. (Nordost had no effect *beyond* its militarization of the public mood; the dummy is insignificant in Table 3, where regressions control for support for the military operation.) Beslan led to a smaller jump in support for military force (from 24 to 31 percent); but Putin's approval actually fell that month. The Beslan dummy is significantly negative, controlling for preferences on Chechnya policy; in other words, support for Putin rose by less than one would have expected given the militarization of the public mood. One might speculate that in this case Russians blamed both the terrorists and the authorities for the disastrous outcome.

I lacked good data to assess the influence of presidential style conclusively. But it probably made some difference. After Yeltsin conducted the band in Berlin, his rating fell by about one quarter point. I found no evidence, however, that Yeltsin's hospitalizations hurt his popularity. Perhaps his ill-health was already too well-known for this to matter. Putin's approval may have fallen after the Kursk sank, but the estimates were statistically insignificant. Restoring the Soviet music to the national anthem produced a boost of eight or nine points. It could be that this was the moment Putin "closed the deal" with some former Communist supporters. Perhaps for the same reason, the arrest of the oligarch Khodorkovsky led to a bounce of about seven points.

Neither respondents' assessments of the political situation nor their evaluations of Putin's success in

international affairs or at establishing “order” significantly affected presidential ratings, although in the latter cases the limited data might be to blame. After the US invaded Iraq, Putin’s approval fell several points: apparently the exercise of American power cast his previous solicitousness of the US after 9/11 in a bad light. Putin’s rating also fell after the 9/11 attack. NATO’s bombing of Kosovo did not have a clear impact on Yeltsin’s rating (it was not significant in the final model).

As with US presidents, a time trend remains in Yeltsin’s and Putin’s ratings controlling for other variables. One should interpret the months term along with the intercept; the first was negative for both presidents, the second positive. This implies that, other things equal, approval tended to rise at first, but then fall. Such a pattern makes intuitive sense: at first citizens rallied behind a new leader, but over time more and more grew disillusioned for a variety of reasons not captured by the model. For Yeltsin, the effect turned negative after about 70 months (mid-1997); for Putin, it remained positive through the end of his second term.³¹ The admittedly rough press freedom data do not suggest greater Kremlin control boosted Putin’s rating. The NTV takeover had no clear effect. Nor did Freedom House’s media index; always less significant than time in office, it was dropped from the regressions. Months in office might, under Putin, be picking up the trend toward less press freedom. But if so this would suggest that unfree media *lowered* Putin’s approval: the coefficient on months was negative.

These results include a mixture of surprises and confirmations of the conventional wisdom. Some of the hypothesized factors help account for the spikes in the ratings at various points. But most effects are small. By contrast, economic perceptions have considerable explanatory power.³²

Under Yeltsin, perceptions of the national economy had the strongest impact. The significant FECM in columns 1 and 5 suggests a long run relationship between rosy views of current conditions and support for the president. The coefficient’s value, -.23 in column 5, implies that when a shock knocks the two variables out of equilibrium, about one quarter of the gap is closed each period. The significant coefficient on fractionally differenced current economic perceptions suggests these also had a short-term effect. As expected, the 1998 financial crisis depressed Yeltsin’s popularity. This is not significant if one controls for perceptions of the current economy, suggesting the crisis affected Yeltsin’s rating via this pathway. Under Putin, the evidence

suggests a long run relationship between economic expectations and presidential approval, with about one third of any divergence eliminated each period (coefficient of -.32 in column 7). I also found evidence of short run effects, although the correlations among variables make it hard to say which matters more. Current economic assessments and expectations are both significant if entered alone (columns 1 and 3), but statistical significance falls if more than one is included at one time. Again, the strongest short-run effects are of perceptions of the current economy. As expected, Putin's monetization of benefits cost him several percentage points even after taking into account the impact of the reform on perceptions of family finances.

How much difference did the economy make? One can explore this by simulating the final model estimated for one president, substituting economic perceptions from the corresponding month in the other's term, while leaving all other variables at their actual levels. The two presidents' simulated ratings supposing each had presided over the other's perceived economic conditions are shown in Figure 2, panels A and B.³³ This exercise should be taken with a grain of salt. The simulations change somewhat depending on the specification, and it was not possible to include an FECM.³⁴ Nevertheless, the results are suggestive. It seems Russians' radically different evaluations of their first two presidents were strongly influenced by the very different economic conditions under which each served. Had Yeltsin presided over Putin's economy, he would apparently have left office extremely popular. Had Putin presided over Yeltsin's, his rating would have plunged early on, recovered a bit, but then sunk again. In January 2008, fewer than 50 percent of Russians would have approved of his performance.³⁵

The regressions also enable us to explore an intriguing counterfactual about Putin's rise, which is usually seen as inexorably tied to the violent events of late 1999. Suppose there had been no apartment bombings, no second Chechen war. Would Putin's rating have stayed around its starting point of 31 percent? Of course, we cannot know for sure, but the statistics offer some clues. To see what economic perceptions alone would predict, I used the estimated effects of just economic perceptions and months in office from Table 1, model 6, and simply extrapolated forward using the actual economic perceptions data under Putin and restarting months in office. In Figure 3, the dotted line shows the simulated rating of a generic new president based on just the dramatic economic recovery, supposing Russians started evaluating the new leader in

September 1999, right after Putin became prime minister. The dashed line supposes Russians started evaluating the new incumbent in January 2000, when Putin became acting president.³⁶

The striking implication is that even without a Chechen war or terrorist attacks, economic factors alone would have prompted a leap in the new president's popularity quite similar to that which occurred. In late 1999, the economy began to revive. Between August 1999 and June 2000, real wages rose by about 20 percent, while wage arrears and unemployment fell. This fueled an unexpected rebirth of economic optimism that would have boosted support for any new Kremlin incumbent.³⁷

The main difference is that the surge in approval predicted by economic factors comes a little later than the actual surge. In those months, time was of the essence. Putin would have to run for election in June 2000, or, after Yeltsin resigned early, in March. Were it not for the Chechen war, the Kremlin would have been best served by the original election schedule. If the public began evaluating Putin in September 1999, by July 2000 the simulation suggests his rating would have reached 4.5 on the 10-point scale. Supposing instead that Putin remained tethered to Yeltsin's rating until January 2000, by July his would have been 3.7. In 1996, when Yeltsin won reelection with 54 percent of the valid vote, his rating had been 3.9. Thus, it is very possible that Putin—or some other new Kremlin candidate—would have won the presidency even without the Chechen conflict and terrorist bombings.

However, economic factors do not explain why Putin's rating *actually* surged when it did. This might, indeed, be associated with the Chechen events. Although economic factors would have achieved the same result a few months later, the traumas of late 1999 apparently sped things up.³⁸

The determinants of economic perceptions

If economic perceptions were important, what caused these perceptions? Did they reflect actual economic conditions, were they idiosyncratic, or were they manipulated by government propaganda? Russians' rosy view of the economy under Putin might itself result from the Kremlin's media control. Or positive economic perceptions might reflect a general confidence in Putin's stewardship.

To explore this, I ran fractional error correction models with the fractionally differenced economic perceptions measures as dependent variables (Table 4). Among explanatory factors, I included six objective measures of economic conditions—the average real wage, real wage arrears, the average real pension, logged inflation, unemployment, and the demand for workers (job openings reported to the state employment service). As might be expected, these were correlated (e.g., $r = .87$ for the real wage and pension), so besides showing models that include all six (odd-numbered columns), I present simpler models from which the most insignificant variables have been dropped (even columns). Given the high correlations, conclusions about which economic variables were most important have to be tentative. All the economic indicators appeared to be fractionally integrated, so I fractionally differenced each by the appropriate d (average estimate for bandwidths 10, 20, and 30; $N = 82-4$), and included a fractional error correction mechanism. Based on exploratory analysis, the most appropriate FECM was based on cointegrating regressions including: the real wage (columns 5-6), the real wage and demand for workers (columns 1-2), and the real wage and unemployment (columns 3-4).

Besides the official statistics, certain events informed the public about economic conditions. One might expect gloomier views after the August 1998 financial crisis. Earlier, Russians had been shocked when on “Black Tuesday” in October 1994 the ruble plunged almost 30 percent, prompting Yeltsin to fire his main economic ministers. The protests that followed the January 2005 reform of social benefits suggest many Russians thought this had worsened their financial situation. I also include a dummy for whether the economy was in its decline or recovery phase, on the theory that expectations tend to overshoot, being too pessimistic in downturns and too optimistic in recoveries. It is almost a cliché that in business cycles consumers swing between “irrational exuberance” in the boom and excessive pessimism in the recession; there is some evidence for this from the US.³⁹

What about political influences? First, causation might run in reverse from presidential approval to perceptions of economic performance. In the US, overall presidential approval does not appear to affect consumer sentiment (MacKuen, Erikson, and Stimson 1992), but approval of the president’s economic management does (De Boef and Kellstedt 2004). So in estimating the impact of economic indicators on

perceptions, one should at least control for presidential ratings; I include the incumbent's differenced rating on the 10-point scale. (My estimate of d was almost exactly 1, so first differencing was appropriate.) Certain government actions are likely to affect economic perceptions. I included a dummy to see whether Russians viewed Khodorkovsky's arrest as good or bad for the economy (recall that Putin's approval jumped). Finally, I looked for effects of media manipulation. I included a dummy for Putin's presidency given the view that coverage became more favorable under him, and also included the Freedom House index of press freedom. Media effects are expected to be particularly strong during election campaigns. I included variables valued 1 for the six months before a presidential election and -1 for the six months after it.⁴⁰

Table 4 suggests that Russians' views of economic conditions were not just idiosyncratic. Each perceptions variable is systematically related to objective measures of economic performance. All three appear to be in long run equilibrium with the average real wage; perceptions of the current economy and family finances were apparently also in long run equilibrium with, respectively, demand for workers and unemployment. When real wages rise, economic expectations adjust upward to a new equilibrium, closing about a quarter of the gap each period (column 6). In the short run, more job vacancies (significant at $p = .06$) and perhaps lower wage arrears ($p = .09$) correlate with a rosier view of the current economy. Short run increases in pensions ($p = .01$) and drops in unemployment ($p = .04$) were associated with cheerier views of family finances; higher wages may also have helped ($p = .08$). Rising pensions ($p = .01$), falling wage arrears ($p = .04$), and possibly falling unemployment ($p = .13$) led to more positive expectations. Inflation was never significant; its effects might be captured here by real wages and pensions. Attitudes did also overshoot, accentuating the current trend; even controlling for political factors, views of the current economy and family finances were more negative in the downslide and positive during the recovery than would be predicted from just the objective indicators.

As expected, major economic events also triggered reevaluations. The 1998 financial crisis fostered gloom about the current economy, although oddly it did not influence expectations. Both views of the current economy and economic expectations worsened after the October 1994 currency crisis. However, these events did not affect Russians' assessments of their own finances, unless such effects were captured by the economic

indicators. By contrast, the 2005 monetization of benefits prompted a sharp fall in how well-off many Russians felt, as well as more pessimistic expectations.

The extent to which objective economic indicators and events can, by themselves, account for the pattern of economic perceptions can be seen in Figures A2.A and A2.B in the web appendix. In these graphs, I plot both actual economic perceptions and those predicted using just the economic variables in the regressions in columns 2 and 4, leaving out political effects. The predictions do not catch all the spikes and dives in perceptions. But they do an excellent job of capturing the trends.

Politics helps explain the remaining variation. As expected, presidential approval correlated with all three economic perceptions measures; controlling for it allows greater confidence in the estimated impact of the economic variables. The coefficients on presidential approval—2.78, 1.44, and 6.91, in columns 2, 4, and 6—suggest the extent of reverse causation. For the current economy and family finances, such effects seem minor. Of the 84-point range of the current economy variable, presidential popularity could predict about 16 points, and it could predict about eight points of the 77-point range in family finances.⁴¹ The possible effect of presidential approval on economic expectations is somewhat larger—the former could predict up to 39 points in the 81-point range of the latter.

The dummy for Putin's presidency was not significant in columns 1 or 5. It was significant at $p = .051$ but negative in model 3 for family finances. Of course, it was highly correlated with the economic recovery variable, which distinguished months after February 1999. Interpreting the two together suggests that perceived family finances improved a lot in the early recovery months of 1999, but that the effect diminished after January 2000. Including the economic recovery and Putin dummies separately in the preferred family finances model (column 4), economic recovery is highly significant but the Putin dummy is not. In short, the evidence suggests that perceptions were better during the recovery phase, which largely corresponded to Putin's presidencies. But it is not clear that Putin's leadership (and media management) had an independent effect beyond that already captured by the presidential rating. Nor was there evidence that economic perceptions improved as press freedom decreased, at least as measured by the Freedom House index.

Khodorkovsky's arrest led to a boost of some six or seven points in Putin's approval (Table 3).

Apparently this was in spite of—rather than because of—the economic effect Russians anticipated: after the arrest, assessments of and expectations for the economy worsened. Russians may have favored the arrest on grounds of social justice despite fearing adverse economic effects; or perhaps it was different Russians that applauded Putin’s action and that anticipated economic reverberations.

Finally, presidential campaigns do seem at times to have influenced perceptions. In 1996 and 2004, Russians’ views of the economy and economic expectations improved during the six pre-election months and fell during the six post-election months by more than expected based on the economic data. Interestingly, the campaigns brought no improvement in Russians’ perceptions of their own material situations—these may even have worsened in 1996—so this might indeed reflect the media’s influence. There were no significant campaign effects in 2000, and November 2007 (the only month in the dataset from the 2008 campaign) actually saw a decline in economic expectations and perceived family finances. Whether the Medvedev campaign later kicked into gear must await future research.⁴²

Thus, politics does help explain some of the peaks and dips in economic perceptions. Russians’ greater approval of Putin than of Yeltsin may have fed back, exacerbating economic pessimism in the late Yeltsin period and fueling optimism in the early Putin years. Biased media might help explain the surges and falls of economic optimism around the presidential campaigns of 1996 and 2004. On the other hand, I found no evidence of systematically greater distortions under Putin than under Yeltsin. Overall, the trends in economic perceptions were well predicted by just the economic indicators. Perceptions of the economy plummeted under Yeltsin and soared under Putin not because of effective propaganda but because the underlying economic variables were doing the same.

Conclusion

In illiberal democracies and semi-authoritarian states, politicians’ ratings wax and wane, sometimes very rapidly. Electorates swing between candidates and parties, at times embracing complete unknowns. It is easy to attribute such fluctuations to an unhealthy brew of rootless and cynical voters, demagogic politicians, and

media manipulation. But in some cases the cause may be something else: electoral volatility may mirror economic volatility—and the efforts of rational voters, against the odds, to hold their leaders to account.

In Russia, Yeltsin's plunging popularity and Putin's soaring ratings are often linked to their personalities and public images.⁴³ Some see in Putin's ratings an endorsement of his Chechen military campaign and efforts to rebuild the Russian state (Sil and Chen 2004). Others suppose Russians backed Putin because they had been brainwashed by a state-controlled media from which criticism of the Kremlin had been eliminated (Ryzhkov 2004).

Wartime rallies, media effects, and image did play a part at times. Perhaps better data would show their role to be somewhat greater. However, Russians' perceptions of economic conditions have been more consistently important. Much like citizens in Western democracies, Russians approved of their president when they saw the economy improving and felt hopeful about its future. Although Kremlin public relations influenced perceptions, especially in certain electoral campaigns, Russians' views of the economy were closely related to objective economic indicators such as real wages, pensions, and wage arrears.

From this perspective, the fates of Russia's first two presidents appear in a new light. Yeltsin's ignominious slide and Putin's eight years of adulation seem largely predetermined by the economic conditions each inherited. (Of course, each influenced the economy on his watch; still, Yeltsin inherited the Soviet system in mid-collapse, while Putin benefited from a recovery fueled by soaring oil prices.) Simulations suggest a generic new president would have become extremely popular—judo or no judo—as a result of the boom.

Starting in late 2008 (after the first draft of this paper was written), Russia succumbed to the international financial crisis. Yet the ratings of Putin (now prime minister) and Medvedev, his successor, did not drop dramatically. Has the relationship between economics and presidential popularity in Russia changed? In fact, considered more closely, recent data offer a striking confirmation of the relationships noted here. Two circumstances are important. First, the Putin government, concerned about social stability, succeeded in sheltering the public from the full pain of the crisis. Despite an 8 percent drop in GDP per capita in 2009, real wages fell only 2.8 percent; real disposable incomes actually rose by 1.9 percent because of generous increases in pensions, which rose by 10.7 percent in real terms that year. Unemployment only increased from 5.7 percent

in July 2008 to 8.2 percent in December 2009, less than the US's 9.7 percent. Although alarming, the economic downturn was relatively mild in its effects. Second, the effect of deteriorating economic sentiment was largely offset by a surge in support for Putin and Medvedev during the war with Georgia in August 2008. Between July and September 2008, Putin's approval leapt from 80.4 to 88.0 percent and Medvedev's rose from 69.4 to 83.0 percent. This was a classic wartime rally behind the flag.

If one subtracts out the 7.6 point jump in Putin's approval in September 2008 attributable to the Georgian war, his rating follows almost exactly the course predicted by the model I previously estimated for the Putin presidency (column 8 in Table 3) when one enters the actual economic perceptions data for the Medvedev presidency (see Figure A3 in web appendix). The percentage approving of Putin's performance falls in the simulation from 85 in March 2008 to 69 in November 2009; Putin's actual rating minus the Georgia jump fell from 85 percent to 71 percent. Medvedev's rating correlates with Putin's at $r = .85$ in this period; if we subtract out his even larger jump during the Georgian war, his approval closely parallels the predicted trajectory.⁴⁴ Thus, the financial crisis of 2008-9 does appear to have pulled down the leaders' popularity, but by a fairly moderate amount since the government took active measures to shelter the population, and in a way that was largely offset by the wartime rally of support for the Kremlin over the conflict with Georgia.

The findings of this paper fit with a body of recent work that has been discovering familiar, rational behavior beneath the irregular surfaces of political life in developing and middle income countries (Drazen 2008). Outside the rich democracies, information is usually asymmetric, uncertainty is endemic, and economic conditions often fluctuate wildly. In such environments, quite rational behavior can look like impulsiveness and manipulation. While miscalculations and fraud are certainly common in the hybrid regimes of the developing and postcommunist worlds, so too, it turns out, is retrospective voting and economics-based evaluations of incumbents. From Peru to Zambia, "governments are being held accountable for bad economic policies, at least to some degree" (Lewis-Beck and Stegmaier 2008). The irony is that in such countries economic conditions are particularly vulnerable to global forces, which complicates the task for citizens—even sophisticated ones—of separating noise from signals about leaders' competence.

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Endnotes

¹ The dataset, statistical analysis, and a web appendix for this article are available on the author's website at www.sscnet.ucla.edu/polisci/faculty/treisman/.

² One exception is Mishler and Willerton (2003).

³ As Kramer (1983) demonstrated: "There is no reason whatever to expect time-series and cross-sectional estimates of the same parameters to be similar in magnitude; they need not even be of the same sign." For an excellent discussion of cross-sectional vs. time series data, see Erikson, MacKuen and Stimson (2002).

⁴ Gallup asks: "Do you approve or disapprove of the way that _____ is handling his job as President?"

⁵ This question was also used by Mishler and Willerton (2003). In the approval question, sample sizes were about 1,600; in the 10-point scale questions, the size ranged from 2,100 to about 2,400.

⁶ I constructed a dataset including just the alternating months in which the question was asked, from early 1994 when the regular series began. In a previous version, I interpolated missing values; however, given the large amount of interpolation necessary, I prefer here to analyze the bimonthly series. I also use a bimonthly series for the Putin period since economic explanatory variables were available only every second month.

⁷ See historical data on the US Gallup poll at www.presidency.ucsb.edu/data/popularity.php and the Ipsos-MORI polls at <http://www.ipsos-mori.com/polls/trends/satisfac.shtml>.

⁸ Results at www.russiavotes.org, Slide 450. Twelve percent picked "don't know."

⁹ Wyman (1997, pp.5-19) reviews the difficulties and common criticisms of polling in Russia, and concludes that most problems are those faced by survey researchers worldwide. He found "no evidence specific to Russia that respondents.... engage in self-censorship." To investigate this, Rose (2007a) asked respondents in 13 postcommunist countries in 2004-5 whether they thought "people today are afraid to say what they think to strangers." Among Russians, 25 percent thought people were afraid to some extent—the lowest rate for all 13 countries. Those who thought people afraid to talk—and who were presumably nervous themselves—were only slightly more likely to favor the current regime, suggesting distortions due to self-censorship are minor.

¹⁰ Lobov later denied saying this, but admitted overestimating the odds of a quick success (Colton 2008, p.290).

¹¹ VCIOM, Omnibus poll 1995-4 and Express poll 1999-11, at <http://sofist.socpol.ru>.

¹² The question was not available for the first war. In a previous version I used the percent that said “war is continuing” in Chechnya rather than “peace is being established.” However, after correcting a data error, preferences on Chechnya policy were more significant, and also required less interpolation of missing values.

¹³ VCIOM Express 1996-3, 15-20 February, 1996, 1,584 respondents, at <http://sofist.socpol.ru>.

¹⁴ Does this reveal a cultural predilection for authoritarian rule or just a response to extreme conditions? After 9/11, large majorities of US and British respondents were ready to trade civil liberties for security. In a YouGov poll of British adults, 70 percent said they were “willing to see some reduction in our civil liberties in order to improve security in this country” (“Observer Terrorism Poll: Full Results,” *Observer*, September 23, 2001). In a New York Times/CBS poll, 64 percent of US respondents agreed that in wartime “it was a good idea for the president to have authority to change rights usually guaranteed by the Constitution” (Robin Toner and Janet Elder, “A Nation Challenged: Attitudes; Public is Wary but Supportive on Rights Curbs,” *New York Times*, December 12, 2001). See Hale (2009) for a debunking of the common claim that Russians are undemocratic.

¹⁵ Other polls confirm that Putin is not more popular among supporters of authoritarian government (Morin and Samaranayake 2006; Rose, Mishler, and Munro 2004).

¹⁶ See “Prezident: otsenki deatelnosti,” Levada Center, at <http://www.levada.ru/ocenki.html>.

¹⁷ Levada Center press release, at <http://www.levada.ru/press/2007120703.html>.

¹⁸ I used a measure of the share of respondents who said Putin had been very or quite successful in creating order in Russia minus the share who thought he had been mostly or completely unsuccessful. As this question was asked only 14 times, this required shortening the data period and interpolating two thirds of the data. Similar problems apply to the international affairs variable. Given the need for extensive interpolation, I include these variables with strong reservations; however, some previous readers thought it important to do so.

¹⁹ VCIOM Express poll, 2000-22, 27-30 October, 2000, 1,600 respondents, and Romir Omnibus poll, 2000-11, 1-30 November, 2000, 2,000 respondents. Results available at <http://sofist.socpol.ru>. In a previous version, in

which I interpolated more data, I was able to examine the effect of the constitutional crises of April and October 1993. Avoiding such interpolation, available data now begin in 1994.

²⁰ These variables were available in a continuous bimonthly series from early 1994, and irregularly before then.

²¹ On the analysis of fractionally integrated time series, see, for instance, Box-Steffensmeier and Smith (1996).

²² And analysis using the 10 point scale for both periods (not shown here) confirms that the coefficients on key variables changed between the two presidencies. Economic perceptions, although still highly significant, had somewhat smaller coefficients under Putin. It is intuitive to suppose that Russians acclimated psychologically to the stable growth under Putin and were less sensitive to short run changes than they were to the large, sustained, irregular economic declines under Yeltsin.

²³ The exception is expectations in the Putin period, for which the HML test cannot reject stationarity.

²⁴ The exceptions are economic expectations under Putin, for which the Phillips-Perron, but not the ADF test, rejects the null of $I(1)$, and possibly also Putin's approval (Phillips-Perron test marginally significant).

²⁵ Studies of approval ratings in other countries have also found them to be fractionally integrated (e.g. Byers, Davidson and Peel (2000), which gives theoretical reasons to expect such data to be fractionally integrated).

²⁶ I used James Davidson's *Time Series Modeling (TSM)* software, v. 4.31. To calculate d , it was necessary to choose a bandwidth parameter. Unfortunately, as one text puts it: "In the case of the Gaussian semiparametric estimator.... [t]here are as yet no satisfactory methods for choosing the bandwidth parameter" (Doukhan, Oppenheim, and Taqqu 2003, p.282). The only recommendation I could find was that of Haldrup and Nielsen (2007), who suggest choosing relatively low bandwidths, which tend to "bias estimators less when noise is not too persistent." I therefore aimed low, calculating d for bandwidths of 5, 10, and 15, and averaging the results. N was 34 for the Yeltsin series and 50 for the Putin series.

²⁷ Again, I used Davidson's *TSM* software. The fractional differencing formula produces extreme values for the first numbers in the series (in fact, the first value is the level, not a difference). To prevent such outliers distorting the results, I dropped the first case from the fractionally differenced series for Putin's approval. In

the Yeltsin period, I fractionally differenced the series including one interpolated observation from before the regular series started. I then dropped the corresponding fractionally differenced term.

²⁸ Steffensmeier and Tomlinson (2000) derive this method from Cheung and Lai (1993) and Dueker and Startz (1998).

²⁹ The three-step method also avoids including non-stationary variables on the right-hand side.

³⁰ That the dependent variable is fractionally differenced makes it harder to interpret the size of the effects. To get a sense of what difference this makes, I ran versions of the preferred models first-differencing instead of fractionally differencing the dependent variables. The coefficients were mostly quite similar, at least for the significant variables, so it is probably safe to assume the effects are roughly as large as those in Tables 2 and 3.

³¹ To locate the peak, I divide the constant by the coefficient on months in the preferred models.

³² For instance, a model including all the variables in Table 2 except the economic ones has an adjusted R^2 of .1270. Adding fractionally differenced current economy and family finances along with the FECM raises the adjusted R^2 to .7036. The difference is less dramatic but still notable in the Putin period—adding economic variables to a model with all non-economic variables raises the adjusted R^2 from .4907. to .6630.

³³ To simulate Putin with Yeltsin's economy, it was necessary to impute values for economic perceptions under Yeltsin in 1992. To do this, I regressed the economic perceptions variables on inflation and real wages during months when both were available and used the resulting models to impute backwards.

³⁴ Since one is simulating the dependent variable, one cannot first regress it on economic perceptions to form the FECM. Instead, I use the models in Table 2, column 6 and Table 3, column 8.

³⁵ In fact, this probably underestimates Putin's decline. Not including the FECM, the simulations are unable to incorporate the long run effect of the fall in economic perceptions under Yeltsin's economy.

³⁶ To be clear, no actual data on Putin's approval were used to calculate this. I simply used actual economic perceptions to simulate the incumbent's rating, restarting months in office in the relevant month. I therefore assume nothing about Yeltsin's successor except that he took office in September 1999 (dotted line) or January 2000 (dashed line) and that economic perceptions influenced his rating in the same way as under Yeltsin.

³⁷ Had Yeltsin been eligible to run for a third term and continued in office, simulations suggest the economic recovery would also have revived his popularity—but more slowly and less dramatically. As noted, the accumulated effect of time in office was by that point weighing quite heavily on his rating.

³⁸ As noted, support for military operations fell drastically in subsequent years, which must have pushed down Putin's rating; that it remained high reflects the positive effect of economic stabilization.

³⁹ Tortorice (2009), for instance, finds that American poll respondents are irrationally pessimistic about future unemployment at the end of a recession and excessively optimistic at the beginning of the downturn. I date the bottom in Russia by the month in which real wages were lowest, February 1999.

⁴⁰ For a similar approach, see De Boef and Kellstedt (2004).

⁴¹ The range of the presidential rating was 5.6 points. Multiplying this by the coefficients on current economy and family finances yields 15.6 points for current economy and 8.1 points for family finances.

⁴² If one assumes each campaign had the same effect, the variable is significant at $p = .01$ for the current economy, $p = .03$ for economic expectations, and not at all for family finances.

⁴³ Anderson (2007) attributes Putin's popularity largely to his "image of firm, where necessary ruthless authority," and claims to see a link to Russian culture: "Historically, the brutal imposition of order has been more often admired than feared in Russia... In what remains in many ways a macho society, toughness—prowess in judo and drops into criminal slang are part of Putin's kit—continues to be valued."

⁴⁴ Since the Levada Center has not published regular data on economic perceptions for this period, I had to interpolate some observations either linearly or, where possible, regressing the Levada data on answers to identical questions asked in surveys by VCIOM, the polling organization Levada used to head. (The results of economic questions on surveys by the two organizations are actually very similar.) Since the Levada Center stopped asking the question about strategy in Chechnya in December 2007, I assumed support for the military option remained at its December 2007 level of 13 percent.

Table 1. Testing for stationarity and cointegration

<i>A. Under Yeltsin (May 1994 - Dec 1999, bimonthly data)</i>						
	Yeltsin rating	Current economy	Family finances	Russia's ec. future	Political situation	
<i>ADF test of I(1)</i>	-1.01, p < .90	-1.60, p < .90	-1.72, p < .90	-2.76, p < .10	-1.62, p < .90	
<i>Phillips-Perron test of I(1)</i>	-1.22, p < .90	-1.97, p < .90	-2.39, p < .90	-2.56, p < .90	-2.58, p < .90	
<i>KPSS test of I(0)</i>	.03, p < 1	.00, p < 1	.02, p < 1	.01, p < 1	.00, p < 1	
<i>HML test of I(0)</i>	2.24, p = .01	2.22, p = .01	2.19, p = .01	2.04 p = .02	2.23 p = .01	
<i>Estimate of d</i>	0.884 (.17)	.909 (.17)	0.977 (.17)	0.505 (.17)	0.553 (.17)	
<i>Estimate of d for residuals of regression of Yeltsin rating on this variable</i>		0.344 (.17)	0.509 (.17)	0.629 (.17)	1.001 (.17)	
<i>B. Under Putin (Jan 2000 - Nov 2007 or Mar 2008, bimonthly data)</i>						
	Putin approval	Current economy	Family finances	Russia's ec. future	Military op. in Chechnya	Political situation
<i>ADF test of I(1)</i>	-1.94, p < .90	-.24, p < .95	-1.09, p < .90	-2.41, p < .90	-2.73, p < .10	-.44, p < .90
<i>Phillips-Perron test of I(1)</i>	-2.78 p < .10	-.68, p < .90	-1.80, p < .90	-3.10, p < .05	-2.81, p < .10	-.95, p < .90
<i>KPSS test of I(0)</i>	.00 p < 1	.14, p < 1	.07, p < 1	.15, p < 1	.17, p < 1	.34, p < 1
<i>HML test of I(0)</i>	2.49, p = .01	2.35, p = .01	2.42, p = .01	-.17, p = .57	2.28, p = .01	2.08, p = .02
<i>Estimate of d</i>	.646 (.17)	0.725 (.17)	0.470 (.17)	0.635 (.17)	0.604 (.17)	0.634 (.17)
<i>Estimate of d for residuals of regression of Putin approval on this variable</i>		.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.

Table 2. Explaining Yeltsin's popularity, Russia 1994-1999

	Dependent variable is fractionally differenced Yeltsin rating on 10 point scale (d = .884)					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^d current economy	.031* (.005)				.033* (.004)	.035* (.004)
Δ^d family finances		.010 (.012)			.005 (.004)	.007 (.003)
Δ^d Russia's economic future			.011* (.003)			
Δ^d Political mood				.004 (.010)		
Δ^d ECM(t-1)	-.31* (.14)	-.17 (.13)			-.23* (.09)	
Months in office	-.006* (.002)	-.004 (.003)	-.004 (.003)	-.004 (.004)	-.006* (.002)	-.005* (.002)
First Chechen war start	-.31* (.08)	-.55* (.09)	-.41* (.09)	-.51* (.18)	-.28* (.06)	-.28* (.06)
First Chechen war end	.35* (.14)	.45* (.11)	.26* (.10)	.35* (.17)	.31* (.12)	.25 (.14)
Budyonnovsk crisis	-.30* (.12)	-.22 (.12)	-.14 (.11)	-.16 (.11)	-.25* (.06)	-.16* (.05)
Start of second Chechen war	-.01 (.07)	-.05 (.10)	.05 (.10)	.03 (.14)		
Drunk in Berlin	-.19* (.09)	-.19 (.10)	-.17 (.09)	-.17 (.11)	-.23* (.07)	-.27* (.07)
Yeltsin hospitalized	.03 (.08)	-.08 (.10)	-.07 (.09)	-.11 (.10)		
Kosovo bombing	.06 (.07)	-.01 (.14)	.16* (.07)	.19* (.09)		
1998 financial crisis	-.14 (.11)	-.53* (.19)	-.52* (.09)	-.59* (.16)		
Constant	.42* (.17)	.27 (.22)	.36 (.19)	.31 (.31)	.43* (.13)	.40* (.12)
R ²	.8180	.6171	.6714	.5788	.8250	.7909
LM Autocorrelation test, χ^2	.43, p = .51	.47, p = .49	.00, p = .96	.23, p = .63	.00, p = .97	.03, p = .85
KPSS test of I(0)	.05, p < 1	.08, p < 1	.13, p < 1	.13, p < 1	.06, p < 1	.07, p < 1
Durbin Watson statistic	2.00	1.73	1.91	1.73	1.83	1.97
N	33	33	33	33	33	33

* p < .05. OLS with robust standard errors in parentheses. Data are bimonthly, starting in May 1994, when continuous bimonthly economic series begin, ending in December 1999. Δ^d series fractionally differenced using d estimated in Table 1. $\Delta^d ECM(t-1)$ in columns 1 and 5 is the fractionally differenced residuals from a regression of Yeltsin's rating on perceptions of the current economy (both in levels), lagged one two-month period; in column 2, the residuals are from a regression of Yeltsin's rating on perceived family finances. Column 5 shows the preferred model (in bold), from which event variables not significant at p = .30 have been dropped. Column 6 shows a regression identical to that in column 5 except without the ECM.

Table 3. Explaining Putin's popularity, Russia 2000-2008

	Dependent variable is fractionally differenced percent approving of Putin's performance (d = .646)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Δ^d current economy	.38* (.11)						.33* (.16)	.35* (.16)
Δ^d family finances		-.01 (.23)						
Δ^d Russia's ec. future			.18* (.07)				.07 (.08)	.04 (.10)
Δ^d Political mood				.10 (.07)				
Δ^d Successful: International affairs					.19 (.14)			
Δ^d Successful: order						.11 (.22)		
Δ^d continue milit. op. in Chechnya	.41* (.16)	.31 (.21)	.45* (.12)	.32 (.21)	.41* (.17)	.40* (.19)	53* (.07)	.56* (.08)
Δ^d ECM(t-1)	-.41* (.10)	-.41* (.13)	-.34* (.11)	-.46* (.13)	-.13 (.13)	-.14 (.14)	-.32* (.10)	
Months in office	-.03 (.02)	-.03 (.02)	-.04 (.02)	-.03 (.02)	-.05 (.03)	-.04 (.03)	-.04* (.02)	-.05* (.02)
Nordost theater siege	1.12 (2.97)	2.07 (3.96)	1.69 (2.45)	3.77 (4.41)	-1.93 (3.19)	.22 (3.43)		
Beslan terrorist attack	-5.80* (1.97)	-6.85* (2.14)	-6.79* (1.76)	-2.97 (3.96)	-6.25* (2.00)	-7.13* (1.85)	-6.73* (1.17)	-6.38* (1.21)
Sinking of Kursk	-1.05 (1.07)	-2.89 (1.53)	-1.94 (1.37)	-1.63 (1.63)	-5.05* (2.21)	-2.22 (2.71)		
Soviet anthem restored	8.66* (1.16)	8.64* (1.65)	7.95* (1.17)	9.08* (1.45)	10.34* (1.41)	10.04* (1.85)	8.78* (.84)	9.18* (1.20)
Nine eleven	-4.79* (1.47)	-1.49 (1.91)	-4.24* (.69)	-2.18 (1.62)	-2.82 (1.98)	-1.85 (1.53)	-6.12* (1.01)	-5.89* (1.18)
Iraq war	-3.64* (.76)	-4.94* (1.50)	-4.44* (.80)	-4.60* (.77)	-4.31* (.82)	-5.47* (1.93)	-3.59* (.66)	-3.59* (.75)
Monetization of benefits, Jan 2005	-4.76* (1.00)	-6.32 (4.56)	-4.30* (1.05)	-5.98* (1.02)	-4.26* (1.15)	-4.71* (1.49)	-3.95* (.94)	-3.12* (.84)
Takeover of NTV	.72 (1.12)	.16 (1.46)	.02 (1.37)	.33 (1.36)	-2.25 (2.85)	.19 (1.62)		
Arrest of Khodorkovsky	6.50* (1.12)	4.85* (1.40)	5.45* (.99)	4.83* (1.22)	5.01* (2.14)	7.10* (2.03)	6.90* (1.08)	8.67* (.89)
L1 Δ^d rating	.10 (.06)	.13 (.08)		.13 (.08)				
Constant	5.61* (1.33)	6.10* (1.53)	7.12* (1.39)	5.50* (1.74)	5.82* (1.53)	7.11* (1.78)	6.74* (.95)	6.97* (1.25)
R ²	.7707	.6887	.7118	.7054	.6420	.5984	.7540	.6936
LM Autocorrelation test, χ^2	.18, p =.68	.00, p =.96	.35, p =.55	.06, p =.80	.16, p =.69	.15, p =.70	.33, p =.57	.79, p =.38
KPSS test of I(0)	.24, p < 1	.24, p < 1	.31, p < 1	.23, p < 1	.14, p < 1	.22, p < 1	.29, p < 1	.24, p < 1
Durbin Watson statistic	1.86	1.94	1.81	1.89	2.08	1.87	1.81	2.19
N	47	47	47	47	40	40	47	47

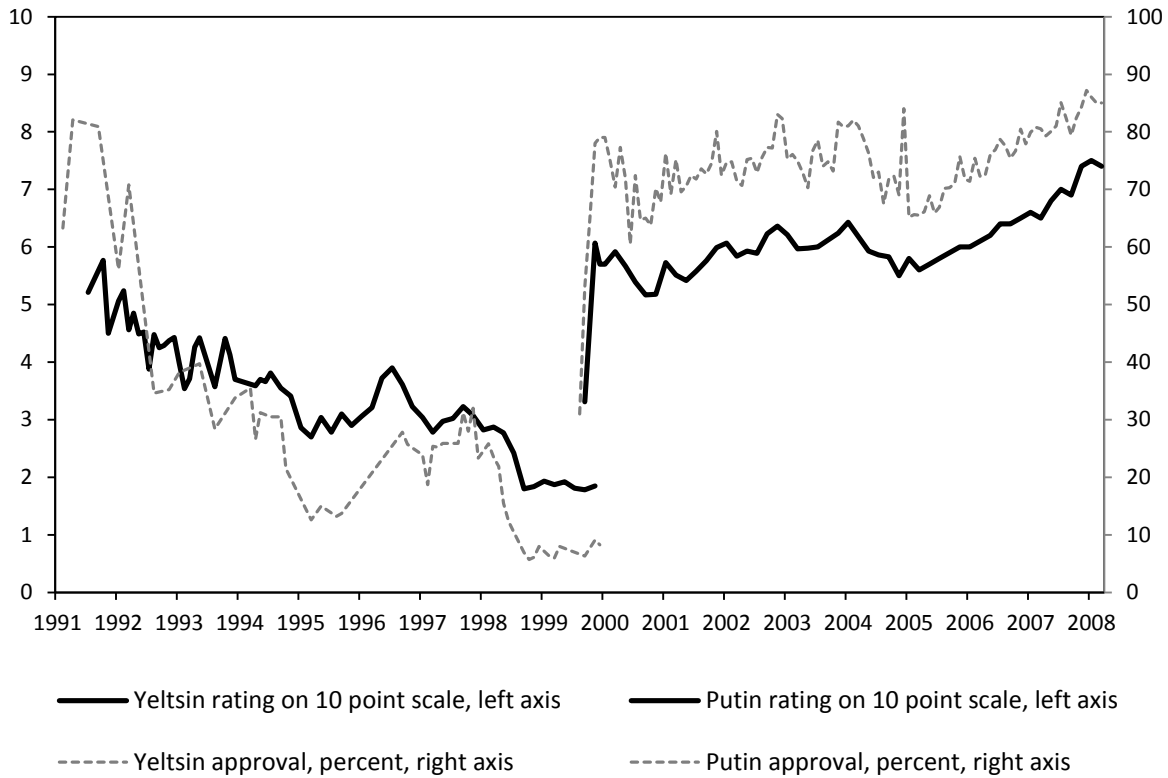
* p < .05. OLS with robust standard errors in parentheses. Data bimonthly, starting in early 2000 and ending in December 2007. Δ^d series fractionally differenced using d estimated in Table 1. $\Delta^d ECM(t-1)$ is the fractionally differenced residuals from a regression of Putin's approval on expected performance of the national economy (both in levels), lagged one two-month period. Preferred model in bold.

Table 4. Determinants of economic perceptions

<i>Dependent variable</i>	Δ^d current economy (d = .947)		Δ^d family finances (d = .832)		Δ^d Russia's ec. future (d = .884)	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Economic data</i>						
Δ^d real wage	.007 (.011)		.004 (.011)	.012 (.007)	.007 (.020)	
Δ^d real wage arrears	-.041 (.035)	-.040 (.024)	.073 (.057)		-.12* (.05)	-.11* (.05)
Δ^d average real pension	.023 (.023)		.051* (.022)	.051* (.019)	.10 (.05)	.094* (.035)
Δ^d log inflation	4.24 (3.73)		2.48 (4.23)		3.04 (7.40)	
Δ^d unemployment	-.21 (.98)		-2.49 (1.34)	-2.82* (1.33)	-2.91 (2.40)	-2.77 (1.83)
Δ^d demand for workers	.007 (.006)	.008 (.004)	-.001 (.005)		-.00 (.01)	
Δ^d ECM(t-1)	-.50* (.08)	-.51* (.08)	-.48* (.09)	-.45* (.11)	-.27 (.15)	-.27* (.12)
Recovery phase	.97 (1.73)	1.75* (.82)	8.66* (2.27)	3.13* (.89)	1.21 (4.54)	
<i>Economic events</i>						
1998 financial crisis	-20.16* (4.91)	-18.84* (2.39)	-.61 (6.97)		-2.99 (7.60)	
Oct. 1994 financial crisis	-6.43* (2.48)	-5.76* (.99)	-1.65 (2.58)		-11.73* (5.39)	-12.48* (1.28)
Monetization of benefits, Jan 2005	-.48 (1.33)		-15.27* (2.01)	-15.05* (1.64)	-5.89 (3.06)	-5.41* (2.05)
<i>Politics</i>						
Putin presidency dummy	.41 (1.71)		-4.99 (2.50)		-3.62 (4.69)	
Δ President's rating (10 point scale)	3.08* (1.08)	2.78* (.83)	2.11* (.72)	1.44* (.45)	7.23* (1.71)	6.91* (1.69)
Khodorkovsky arrested	-6.68* (1.45)	-6.14* (1.17)	.45 (1.98)		-6.24* (2.80)	-6.10* (2.15)
Press freedom (high = less free)	.00 (.09)		-.06 (.08)		.10 (.17)	
1996 campaign	3.95* (1.38)	4.13* (1.03)	-1.19 (1.38)	-1.70 (.92)	3.57 (2.15)	3.86* (1.93)
2000 campaign	-1.30 (2.37)		-1.10 (1.99)		6.16 (7.19)	6.94 (7.15)
2004 campaign	5.37* (1.08)	5.41* (1.02)	-.17 (1.10)		8.53* (1.70)	8.79* (1.54)
2008 campaign	-1.75 (1.58)		-3.66* (1.42)	-4.46* (.65)	-5.89* (2.33)	-4.29* (.94)
Constant	-.53 (4.84)	-.63 (.67)	.82 (4.50)	-2.31* (.75)	-4.76 (8.75)	.31 (.73)
R ²	.6537	.6255	.6782	.6030	.5129	.5039
LM Autocorrelation test, χ^2 (p)	.02 (.90)	.19 (.67)	.03 (.86)	.42 (.52)	.19 (.66)	.20 (.66)
KPSS test of I(0)	.04, p < 1	.04, p < 1	.04, p < 1	.19, p < 1	.05, p < 1	.10, p < 1
Durbin Watson statistic	2.00	2.05	1.95	2.06	2.08	2.09
N	80	80	80	80	80	80

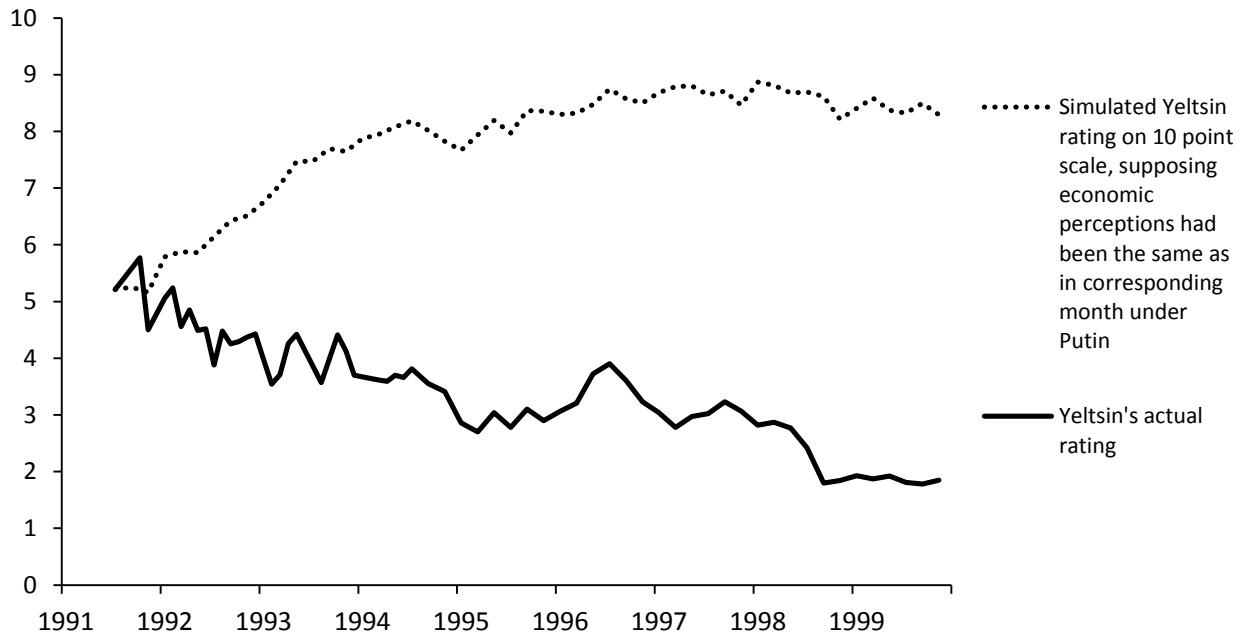
* p < .05. OLS with robust standard errors in parentheses. Data bimonthly, starting in early 1994, ending in December 2007. Δ^d : series fractionally differenced using estimated d (average for bandwidths of 30, 20, and 10). $\Delta^d ECM(t-1)$: fractionally differenced one period lag of residuals of regression of dependent variable on: a) real wage and demand for workers (columns 1-2); b) real wage and unemployment (columns 3-4); c) real wage (columns 5-6). Even columns show models from which the most insignificant variables have been dropped.

FIGURE 1 Presidential Approval, Russia, 1991-2008



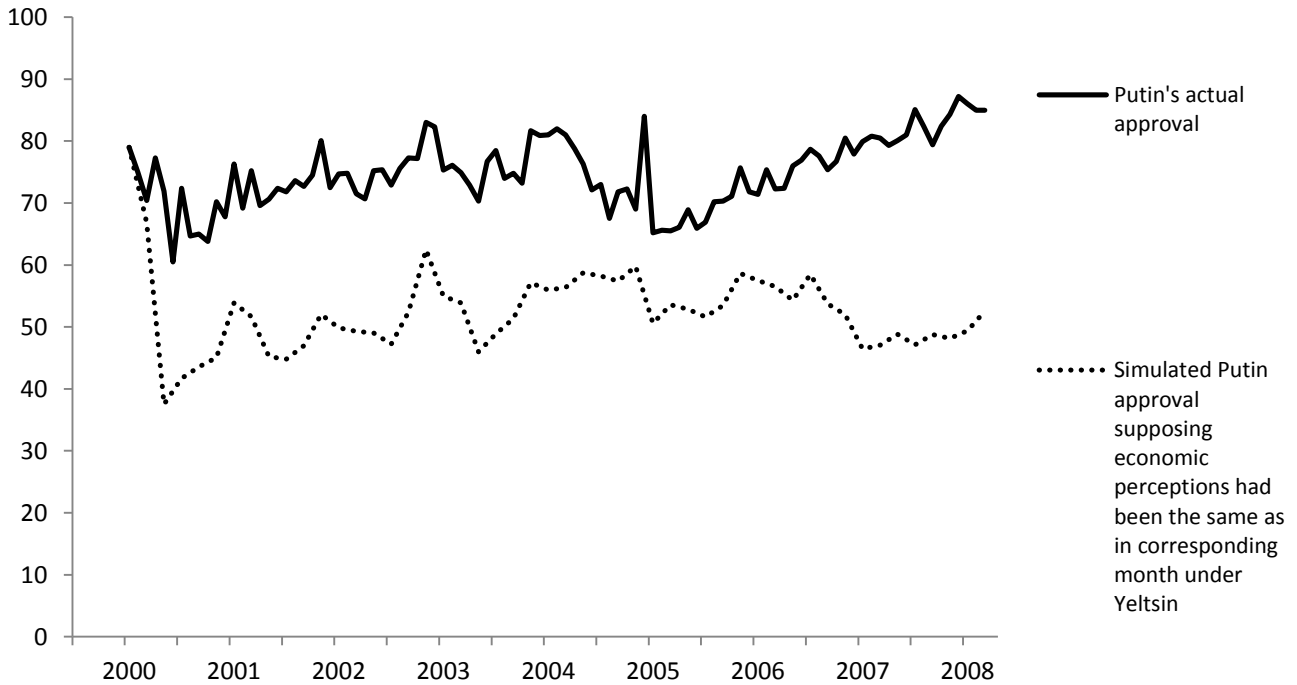
Sources: Surveys of VCIOM and Levada Center (see appendix). Yeltsin approval is percentage of respondents saying on the whole they approve of the performance of Boris Yeltsin. Likewise for Putin approval. Ratings on 10 point scale are average answer to question: "What evaluation from 1 (lowest) to 10 (highest) would you give the President of Russia (name of president)?" Missing months interpolated. Putin approval includes his first period as prime minister.

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



Sources: VCIOM and author's calculations.

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



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

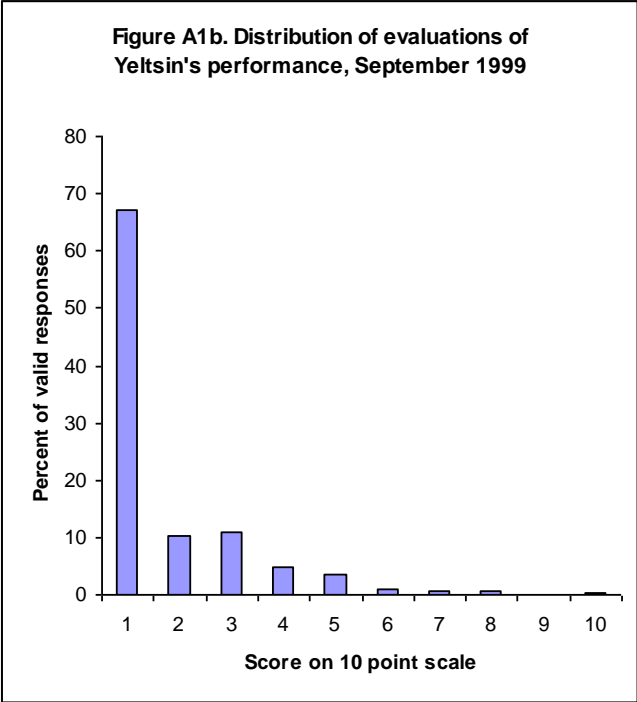
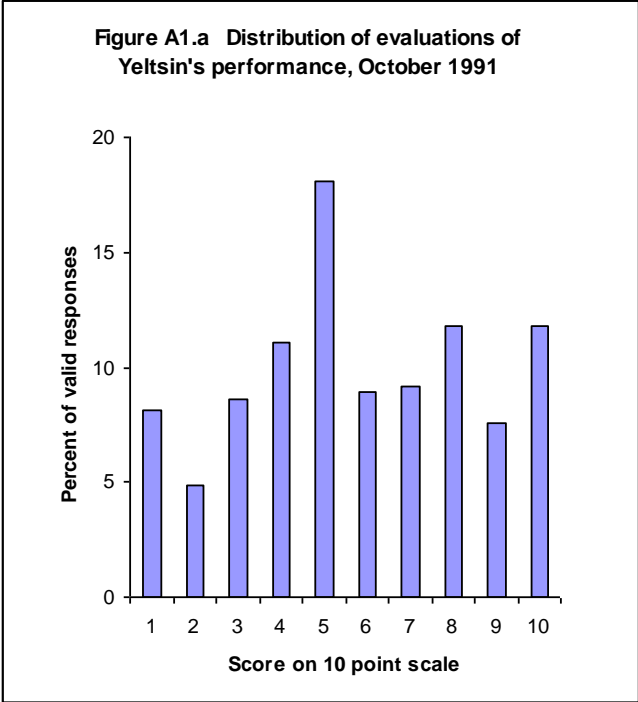
FIGURE 3 Predicting Putin's Approval Rating with Economic Perceptions



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

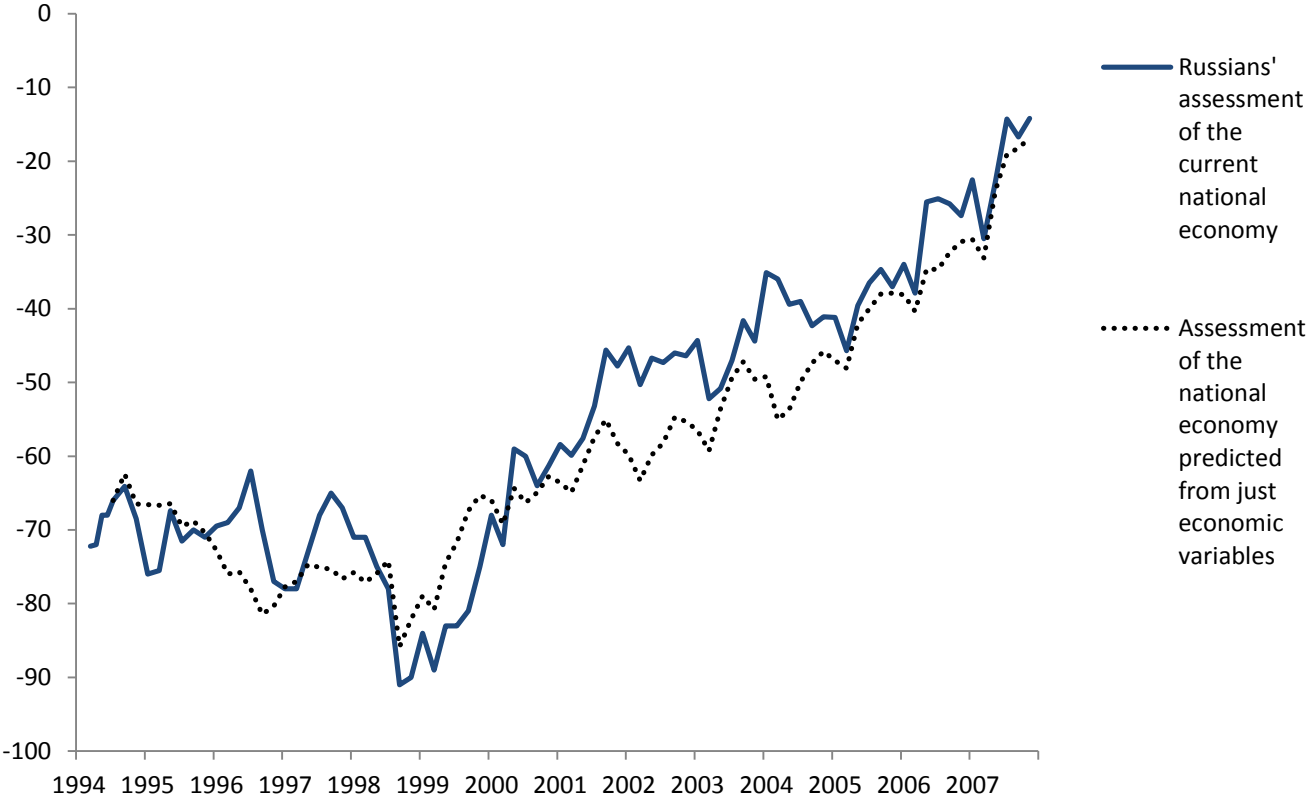
Web Appendix for “Presidential popularity in a hybrid regime: Russia under Yeltsin and Putin”

Distribution of evaluations of Yeltsin on 10-point scale



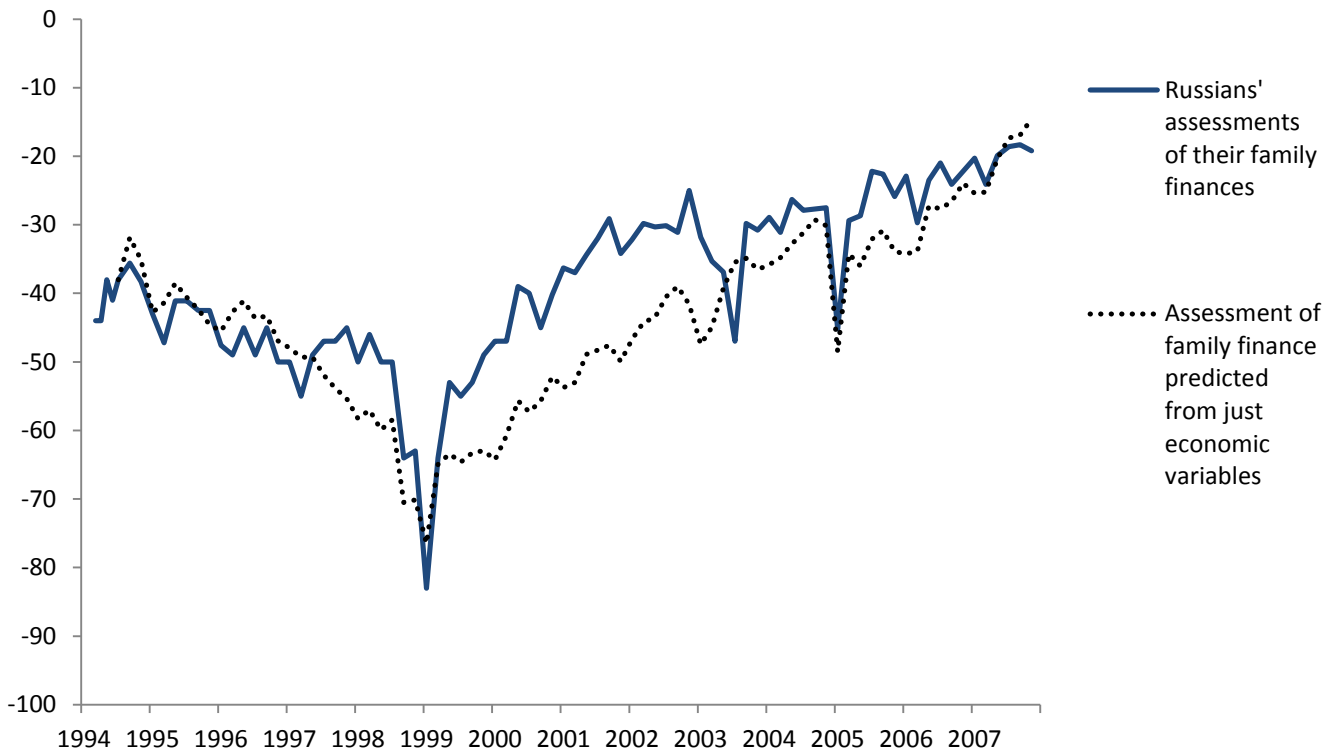
Predicting economic perceptions with just objective economic indicators and events

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).

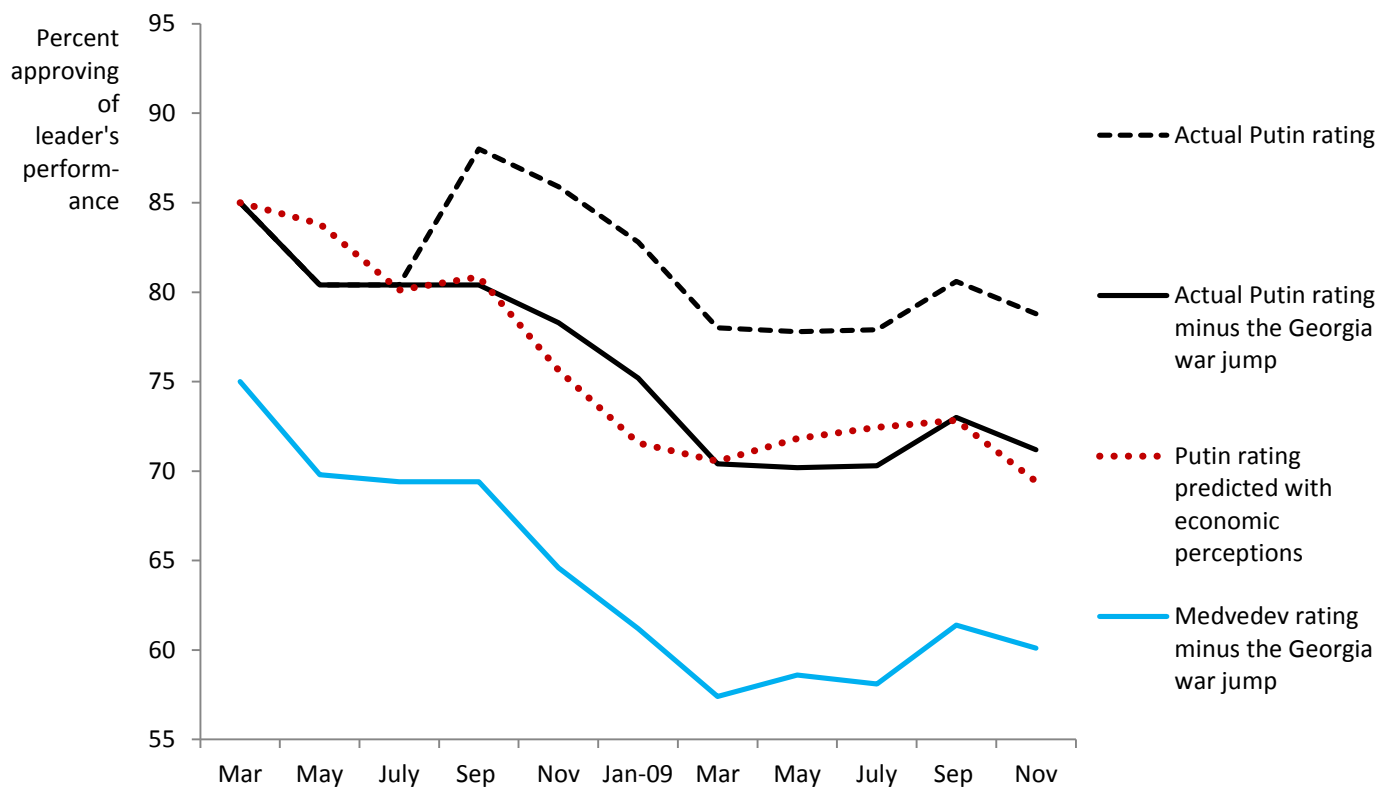
Table A1 Economic and political perceptions: causal modeling

	-----Yeltsin presidency-----					-----Putin presidency-----				
	1	2	2A	3	4	5	6	6A	7	8
	Δ^d political situation	Δ^d political situation	Δ^d political situation	Δ^d current economy	Δ^d Russia's ec. future	Δ^d political situation	Δ^d political situation	Δ^d political situation	Δ^d current economy	Δ^d Russia's ec. future
L1 Δ^d political situation	.44* (.11)	.32* (.13)	.10 (.14)	-.03 (.10)	.22 (.22)	-.19 (.13)	-.23 (.14)	-.34* (.16)	.01 (.06)	-.13 (.20)
L1 Δ^d current economy				.18 (.18)		-.07 (.31)			-.16 (.18)	
L1 Δ^d Russia's ec. future		.25 (.14)	.31* (.15)		.30 (.18)		.06 (.19)	.18 (.20)		.25 (.24)
L2 Δ^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 ²	.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, χ^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. Δ^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>Ekonomicheskie 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>Ekonomicheskie i Sotsialnie peremeni: monitoring obshchestvennogo mnenia</i> , various issues, Russiavotes.org
Putapbackt osep	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>Ekonomicheskie 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>Ekonomicheskie 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>Ekonomicheskie 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>Ekonomicheskie 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>Ekonomicheskie 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>Ekonomicheskie 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>Ekonomicheskie 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 Budyonovsk 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