Regional Political Cycles in Russia[∇]

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Abstract

Despite the fact that the theoretical research on opportunistic political cycles is very intuitive and well developed, the empirical literature failed to find convincing evidence of political cycles presence. This paper tests the opportunistic political cycles theory in a young democracy setting, finds strong evidence of political cycles, and provides an explanation for why previous attempts to find evidence of opportunistic cycles failed. Using the comprehensive list of Russia's regional elections and regional monthly panel data between 1996 and 2002, we find: (1) Strong evidence of opportunistic political cycles in regional fiscal policies, in particular, in spending on social programs, healthcare, education, and industrial subsidies and budgetary wage arrears. (2) The magnitude of opportunistic cycles decreases with voters' rationality and awareness (measured in urbanization, computerization, and education) as well as with time. (3) Political cycles in fiscal policies are very effective in increasing political popularity and chances for re-election of incumbent governors. Our results suggest that maturity of democracy is a very important factor determining the scope for effective use of political cycles: it pays in young democracies and it does not in the environments with high voter's rationality and awareness.

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1. Introduction

Despite the fact that the theoretical research on opportunistic political cycles is very intuitive and well developed, the empirical literature failed to find convincing evidence of political cycles presence. This paper puts the opportunistic political cycles theory to one more test using data from a young democracy – Russia, finds strong evidence of political cycles, and provides an explanation and evidence for why previous attempts of the political economy literature to find evidence of opportunistic cycles failed.

Elections are the most common mechanism to discipline politicians.[1] While, this mechanism is effective, it is costly. Two strands of literature, *viz*., opportunistic political cycles and partisan theory, suggest that economic costs of elections far exceed their direct official cost.[2] Elections may result in inefficient policies that incumbent politicians undertake to manipulate public opinion in order to increase chances of reelection. These policies lead to temporary pre-electoral improvements in socio-economic situation at expense of the long run economic recession. This is the focus of the opportunistic political business cycles literature. Lower asymmetry of information between politicians and the public and rationality of voters have been named to be the two necessary factors that reduce (but not eliminate) the costly opportunistic cycles. An alternative approach – the partisan theory – argues that policies are predetermined by ideology. Thus, the main cost of elections is due to economic fluctuations that arise as a result of policy changes when different parties alternate in office. Each party, while in office, chooses to pursue policies directed to short run improvements for its own constituency at expense of the other constituencies. It makes all constituencies worse off in the long run. Binding commitments to co-operative common policy rule or reputational incentives in repeated interaction reduce costs of elections in the partisan approach.

This paper studies political business cycles in Russia's regions. Russia's regions provide a particularly good material for empirical investigation of political cycles. First, many of Russia's regions are notorious for capture of mass media by the regional governors and the scale to which the population is uninformed and, thus, naïve and myopic. According to the theory, these factors magnify the size of opportunistic cycles and, thus, make it easier to

[1] Another possible mechanism is financial incentives. Chinese TVEs are an example of the use of this instrument (Sachs and Woo, 1997).
[2] Official costs include official expenditures for organization of elections and campaigns, expected loss of human capital due to the changes in office, etc.

observe them. Second, electoral campaign platforms of most Russia's governors are polarized into the "communist left" and "liberal-democratic ideology", which allows to test whether the choice of ideology matters for real policies.

Russia's incumbent governors have been active in trying to retain power (95% of them ran for re-election) and they have been more successful than the opposition in attaining votes (66.5% of those who ran for another term won).[3] This is an impressive score considering deep recession that Russia experienced for most of the transition period. We investigate whether engagement in opportunistic cycles and/or particular ideology helped incumbent governors to get re-elected. Governors have a whole range of policies at their disposal that might affect election results. They may have unusually high social expenditures and/or industrial subsidies on the eve of elections. These expenditures can be financed with budget deficit at a cost of high taxation after the elections, or alternatively, with budgetary surplus, created by cuts in some expenditure items in the middle of the term in power. Governors may also change administrative regulations to lift predatory regulatory burden of the shoulders of small enterprises before elections. In addition, governors may organize effective media PR campaigns either by increasing spending on media or by direct administrative capture of local mass media.

Kalecki (1943) introduced the concept of political cycles.[4] Subsequently, theory of opportunistic cycles and partisan theory developed in parallel. The theoretical literature came in two waves. The first "non-rational" wave came in 1970s. Nordhaus (1975) built the first opportunistic model based on adaptive expectations of voters. Hibbs (1977) developed the first partisan model. Frey (1978) and Frey and Schneider (1978) combined the features of opportunistic theory and partisan theory to develop weak partisan theory. The second wave reconciled rational expectations with political cycles. Alesina (1987) attributed cycles to wage rigidities and uncertainly of election's outcome. Rogoff and Sibert (1988), Rogoff (1990), Persson and Tabellini (1990) built models of rational opportunistic cycles that explain cycles with the asymmetry of information between incumbent politician and the voters.[5]

Empirical tests of rational opportunistic political business cycles produced relatively weak results, whereas, the evidence in favor of rational partisan theory is relatively strong. For instance, using monthly post-war US data, Alesina and Sachs (1988) found strong support

[3] This proportion is significantly larger than a half at 1% significance level. Table 1 presents summary statistics of Russia's regional elections.
[4] Kalecki was the first to conjecture that politicians might alter policies in the face of elections.
[5] See Garratt (1998) for a detailed survey of theoretical literature.

for rational partisan theory and Klein (1996) little support for opportunistic cycles. Berger and Woitek (1997) rejected both partisan and opportunistic cycles in Germany on monthly data. Reid (1997) relaxed the assumption of exogeneity of election time and did not find evidence of the presence of opportunistic cycles in Canadian provinces. Alesina and Roubini (1992) tested the competing theories in a unified framework, using panel of 18 OECD countries with quarterly data, and found strong robust support for rational partisan cycles and, in selected countries, some evidence consistent with rational opportunistic cycles. Pure (non-rational) theories à la Nordhaus (1975) and Hibbs (1977) are inconsistent with their findings. Schuknecht (2000) provided some empirical support for opportunistic rational cycles using quarterly data in a panel of 24 developing countries.

Treisman and Gimpelson (2002) addressed the question of why empirical evidence of opportunistic cycles is so weak in spite of strong incentives for cyclical policy. They argued that traditional framework leads to underestimation of the magnitude of the cycles because it considers policy instruments one by one, whereas, politicians may vary policy instruments from one election to another. Keller and May (1984) first illustrated the importance of the operating environment of each particular election for the choice of policy instruments using the example of President Nixon' administration. Treisman and Gimpelson considered four events of federal elections in Russia and concluded that different instruments were used for different electoral events. Although, these papers are important for understanding why results of empirical literature on opportunistic political cycles are unsatisfactory at large, these papers do not suggest an empirical strategy for dealing with the apparent underestimation.

The use of regional panel monthly data allows us careful measurement of the cycles, net of federal trend (macro shocks) and region-specific characteristics because Russia's regions are relatively homogenous. Thus, we are able to observe and study opportunistic cycles in each policy instrument separately despite possible underestimation due to the use of a menu of policies, pointed out by Treisman and Gimpelson.

First, we test for the presence of opportunistic and partisan political cycles in Russian regions and examine to what extent electoral cycles concern real policy instruments as opposed to their virtual image in mass media election campaigns. In addition, we analyze which groups of voters are targeted by the electoral cycles. Our approach is not constrained by standard growth-unemployment-inflation framework originated by Nordhaus (1975); we focus on the whole range of fiscal policy instruments as well as their outcomes (economic situation in the regions). The test for partisan cycles implicates *a priori* differences in

ideology: "communist left" ideology opts for a larger size of government and larger redistribution. We test whether policies of left wing governors fulfill these conditions compared to policies of their democratic counterparts. Second, we study how rationality of voters and their access to unbiased information, governor's region-specific human capital and electoral competition affect the amplitude of cycles. And finally, we address the question of whether opportunistic political cycles or a particular ideology help governors to get reelected.[6]

We find opportunistic political cycles in most of socially targeted regional fiscal policies as well as mass media coverage of governors' activities. Total budgetary expenditures, expenditures on education, healthcare, social disbursements, industrial subsidies, and mass media start growing about nine months before elections (with a significant jump up), rise gradually for eight months after that, and then exhibit the largest increase one month before elections. Total spending and spending on education, culture, and mass media drop sharply right after the elections, other spending items decline more gradually. Wage arrears (especially in public sector) decrease throughout the year prior to elections with an increasing pace and gradually accumulate during the first quarter after the elections. Revenues rise a month before elections mostly due to increases in federal transfers and fall sharply during two months after elections due to decline in transfers and tax revenues. Additional pre-electoral expenditures are financed partly with budget deficit, partly with transfers, and partly with surplus accumulated approximately a year prior to elections when social expenditures and subsidies are below and wage arrears above their natural levels. Incumbent governors pursue expansionary policy and try not to overburden enterprises with higher taxation. The cycles in social expenditures, regional wage arrears (which primarily target poor) as well as media expenditures appear to have the largest amplitude, they are the most important instruments of pre-electoral manipulations. An increase in populist spending prior to elections leads to above average inflationary pressure. Governors, however, try to confine inflation by administrative price controls during few months before elections, so prices rise after elections. Wage level and money income rise significantly before elections; wages fall a quarter after elections.

Industrial output follows a particular cyclical pattern: it falls half a year before elections, then stabilizes until elections and falls again after elections. These fluctuations do

[6] Opportunistic cycles can occur as a result of setting election date at a time of a boom (endogenous cycles). We do not consider this alternative (instead, we treat election dates as exogenous) because it is illegal to shift the date of elections in Russian regions and, thus, only 15% of Russia's regional elections took place more than a month of their expected date. This number is insufficient for quantitative analysis of endogenous elections.

not result in significant changes in regional growth rates. Our findings about dynamics of industrial output are inconsistent with pure opportunistic cycles à la Nordhaus (1975) and fully consistent with rational opportunistic cycles à la Rogoff and Sibert (1988).

Policies of the left wing (communist) governors result in lower social and healthcare spending, smaller deficit, lower inflation rate and per capita income. These findings contradict main slogans of their electoral platform. The results suggest that ideology does not shape policies in Russian regions, instead, human capital of the governors and their ability to work efficiently drive the differences in regional performance between regional with pro-communist leaders compared to other governors. One should be cautious against putting too much emphasis on these results, however, because they are based on data about only few regions where a change in governors' ideology took place.

What determines the amplitude of opportunistic cycles? We find that our proxies for rationality and informational symmetry (education level, urbanization, and computerization) significantly decrease the amplitude of the cycles. The number of candidates, our proxy for electoral competitiveness, does not have a robust influence on the size of cycles.

Finally, we find that cycles in fiscal policy instruments significantly increase popularity of incumbents and help them win.

Our results show strong support to opportunistic political business cycle theories and suggest that governors of Russia's regions on average are forced to respond to the electoral pressures and these pressures are not completely neutralized by a so-called "administrative resource" that was accessible to many of them over the course of the last decade. By "administrative resource" here we mean the ability to count votes, which in some circumstances can be more important than getting those votes.

Our results suggest that maturity of democracy is a very important factor determining the scope for effective use of political cycles: it pays in young democracies and it does not in the environments with high voter's rationality and awareness. This explains why previous tests of the theory mostly done on the data from developed countries did not find evidence of cycles.

The paper is organized as follows. The next section formulates hypotheses. Section 3 describes the data and empirical methodology. Section 4 presents the results. Finally, section 5 concludes.

2. Hypotheses

Partisan theory in application to Russian regions implies that holding region-specific characteristics constant, redistribution, social expenditures, and, as a consequence, government deficit and inflation are greater when communist governors are in power. We test whether this is the case by looking at the difference between the policy instruments and outcomes in regions with governors of different political platforms.

Opportunistic cycles theory predicts that governors follow the same policies irrespective of political platforms. In the short period prior to elections governors pursue expansionary fiscal policies with subsequent increase in inflation around elections. Contraction follows elections immediately. Rational opportunistic cycle models (unlike models of pure opportunistic cycles) predict that before elections politicians manipulate fiscal policies and that these policies do not affect real economic activity in pre-election period (unemployment and GDP growth). We test which of these predictions are consistent with the data.

We study the duration of the cycles: whether pre-electoral improvements grow steadily or they occur in "the last moment"; whether the situation changes to the worse immediately after elections or incumbents have reputational concerns and do not allow sharp worsening of the situation.[7] According to the opportunistic approach sharp decline in social indicators is expected after re-election especially when there is a limit of two terms in power and, therefore, governors do not have to worry about reputation. In contrast, partisan governors may have reputational concerns even when the number of terms is limited to two, since they worry about other candidates with the same platform. We test whether any of these predictions are consistent with the data.

Opportunistic governors face a series of tradeoffs in preparation for elections. For example, they have to choose which group of voters to please: (i) poor (for instance, pensioners and recipients of funds from social programs), (ii) managers and workers of large industrial giants, (iii) small business, etc. The choice of the target group depends on political returns from favoring this particular group. Our hypothesis is that pre-electoral improvements primarily aim at the poor because, first, they need little in absolute terms to become much better off in relative terms and, second, they have the highest election participation rate. Thus,

[7] We test rational partisan theory against other political cycles theories since only the rational partisan theory predicts no sharp worsening of economic conditions after elections (irrespective of the election results).

we expect cyclical changes primarily in social spending and wage arrears. Increases in social spending, however, should not be done at expense of subsidies to large industrial enterprises, which form another very influential political force.

Another tradeoff is between making costly improvements in social policies (for instance, providing more or higher quality public goods, giving out subsidies, etc.) and organizing PR campaigns in the media that advertise improvements in these policies (even if they do not happen in reality). Media expenditures and public goods provision can also be complementary. Most social expenditures have a much bigger political impact if they are supported by wide media coverage.[8] For instance, opening a new school will be appreciated by a larger part of electorate, if it is shown on local TV channel. In fact, the message about public goods and social programs in mass media may be more effective than the provision of the public goods itself. This creates strong incentives for substitution. We cannot objectively measure the extent to which governors can have a direct administrative control over the content of information provided by mass media, but its use can be approximated by budgetary expenditures on mass media. Thus, we study the choice between these two complementarily policies: making real pre-electoral improvements and creating their virtual image in the media.

Theory predicts that the amplitude of opportunistic cycles is positively related to electoral competitiveness and negatively to rationality of voters, access to unbiased sources of information, and horizon of politicians (e.g. their reputational concerns). We put these hypotheses to test.

Finally, we ask whether opportunistic political cycles and/or belonging to a particular political platform (holding everything else constant) help governors to increase their popularity and get reelected.

3. Data

3.1. Sample and data sources

202 regional governor elections took place in Russia between June 1991 and May 2002, and 2 are scheduled to take place between May and June 2002. Out of these 204 elections we have eliminated 11 elections from the sample. 4 were eliminated because authorities rejected the results due to various violations. 7 elections were eliminated because

[8] Effectiveness of PR campaigns in pre-election races in Russia has been shown twice at the federal level in 1996 and 2000.

they took place in the outlier regions of Chechnya (3 elections) and Ingushetia (4 elections). Social and economic policies in these regions have been determined mostly by the war and not by elections. Dagestan is the only region, where there were no governor elections, and thus, this region is not in our sample. Thus, our sample consists of 193 regional governor elections that took place in 86 out of 89 Russia's regions between 1991 and 2002.

Data on elections come from "*Tsentrizbirkom*," Central Election Committee of Russian Federation (official elections agency). Data on regional fiscal policies and outcomes come from two sources: "*Goskomstat*," State Committee on Statistics (official statistics agency), provided monthly data on wages and income, wage arrears including arrears from the regional budgets, price level, and industrial output between 1995 and 2001; The Ministry of Finance of Russian Federation provided detailed monthly regional budgetary data for the period between 1996 and 2001. Most of our variables cover periods one year before and one year after elections for 169 out of 193 electoral events. Tables 1 and 2 present summary statistics of the data.

3.2. First glance at opportunistic cycles in the data

Figures 1 and 2 show dynamics of the moving average, MA(4), of the Russia's aggregate of logs of seasonally adjusted de-trended regional policy instruments and outcomes from a year before to a year after elections. Zero-month is the month of elections. The instruments and outcomes are normalized, so that zero level on each graph represents the middle of the term in power level. Two dotted horizontal lines on each graph represent average values of the instrument in a year before and in a year after elections.

Total budgetary expenditures, budget deficit (ratio of expenditures to revenues), share of social expenditures and expenditures on culture show gradual increase during the year before elections and a sharp deep drop at the time of elections that is followed by another gradual increase. Expenditures on mass media have a similar pattern. Expenditures on healthcare and education have a peak a half a year before elections and are kept relatively high till elections, after that they decline sharply. Budgetary revenues are relatively smooth and steady before elections and drop after elections. The average values of all these instruments in the year before elections are higher than in the year after elections (this can be seen from the comparison of horizontal dotted lines). Cyclical changes in social expenditures, industrial and agricultural subsidies are less profound, but in each case elections fall on local

maxima. Graphs clearly show opportunistic political cycles in total and regional wage arrears that decrease throughout the year before elections and rebound right after the elections. Industrial output, wage level, and money income peak right before elections as well. Fiscal expansion is not accompanied by price growth, moreover, prices steadily decline the first nine months in the pre-election year. A possible explanation is administrative price controls. Inflationary pressure, however, drives prices up closer to elections, and prices remain high after elections when fiscal expansion stops. Series of tax revenues, federal transfers, as well as growth and inflation do not show any cyclical pattern.

Overall, the first glance at the data tentatively suggests that opportunistic political cycles are present in the Russian regions. These cycles seem to affect fiscal policies and the use of mass media as well as real policy outcomes such as output and income levels. This visual analysis is, certainly, not enough to make any conclusion. One has to find out how significant the changes in the policy instruments and outcomes are. Moreover, it is important to control for region-specific characteristics. Thus, the rest of the paper deals with the question of whether these tentative results survive rigorous econometric analysis as well as the question of the presence of partisan cycles.

3.3. Methodology

To test the existence of cycles and analyze their duration, we use panel regressions with regional fixed-effects. The following specifications are used:

Short-term effect:

$$\ln(y_{it}) = \alpha + \sum_{j \in \{-12;12\}} \alpha_j m_{jit} + \beta_1 \sum_{j \in \{1;4\}} \ln(y_{it-j})/4 + \beta_2 Term_{it} + \beta_3 Left_{it} + f_i + \varepsilon_{it} \qquad (1)$$

Medium-term effect:

$$\ln(y_{ip}) = \alpha + \sum_{j \in \{-3;3\}; j \neq 0} \alpha_j q_{jip} + \beta_1 y_{ip-1} + \beta_2 Term_{ip} + \beta_3 Left_{ip} + f_p + \varepsilon_{ip} \qquad (2)$$

where i – region; t – month in equation (1); p – four-month-period in equation (2). y stands for a de-trended regional policy instrument or outcome of regional policy; in equation (1), y is a monthly value; in equation (2), y is a four-month aggregate.[9] m_{jit} is a dummy that equals to 1, if t is j months away from elections (negative j means that t is prior to elections, positive – that t is after elections, $j=0$ in the month of elections); q_{jip} is a dummy that equals 1, if p is in the j^{th} four-month-period away from elections; the month of elections is excluded from the

[9] The detailed description of how the policy instruments were de-trended is presented below in this section.

sample before we aggregate the data into four-month periods.; f_i – regional fixed effects.[10] *Term* equals to 0, 1, 2, or 3 depending on which term is the governor serves in office; 0 indicates that the governor is appointed and has not been elected before; 1 indicates that the governor was elected for the first time, etc. *Left* is a dummy that equals 1 if the incumbent governor is supported by the Communist Left wing coalition ("*Narodno-Patriotichesky Souz Rosii*"); most of the governors in this coalition are the members of the Communistic Party of the Russian Federation. $\sum_{j\in\{1;4\}} \ln(y_{it-j})/4$ is the average of the values of the policy instrument) the previous four months; this term accounts for autocorrelation processes in the equation (1).[11] The lagged value of the policy instrument y_{ip-1} accounts for autocorrelation processes in the equation (2).

An important methodological question is how to control for macroeconomic shocks and the federal policy that affects the regions. In particular, this is essential, because in 1996 at one instance, several regional elections and the federal elections took place in Russia. In order to eliminate the effects of the federal policy (which can also be cyclical in the face of the federal elections) we followed three approaches.[12] First, we defined each of the policy instruments as a ratio of the actual variable to the proxy for the federal level of this variable (which is calculated as population-weighted average of the regional values). Second, we added the proxy for the federal trend in each of our panel regressions. Third, we added time dummies as regressors. The results of these three approaches are very similar, thus, throughout the paper we use the specifications of the first approach: all considered policy instruments and outcomes are already de-trended.

Another methodological question is how to control for seasonal fluctuations. It is important because a large portion of regional elections had taken place in particular months (especially, elections frequently happen in December and June). We tried the following alternative strategies: First, we included eleven dummies for each month of the year in regression (1) and two dummies for each four-month period of the year in regression (2) to control for the common to all regions seasonal fluctuations. Second, instead of just regional fixed effects in (1) and (2) we included fixed effects for each region-month (86 regions times 11 months) and each region-four-months combination, respectively, to control for region-

[10] These regressions have a constant term because f_i's joint mean is normalized to zero.
[11] We use smoothed lagged value of the policy instruments in regressions because of large month-to-month volatility in the data.
[12] The same approach was used by Alesina and Roubini (1992).

specific seasonality. Each strategy produced results virtually identical to the results of estimation of equations (1) and (2) without seasonal controls but with de-trending (control for federal trend and macro shocks). Thus, we conclude that seasonal fluctuations are common to all regions and, therefore, are subtracted from the policy instruments together with the federal trend.

We consider three groups of policy instruments and outcomes: budgetary expenditures (total budgetary expenditures, expenditures on social programs, education, culture, healthcare, mass media, and subsidies to industry and agriculture), budgetary revenues and deficit (total budgetary revenues, tax revenues, federal transfers, and deficit) and economic performance indicators (growth, inflation, the level of industrial output, total wage arrears and regional wage arrears, wage level, price level, money income, and profit of enterprises).

Significant coefficients at dummies indicating the time distance from elections (α_j) point toward the shifts in the autocorrelation process of the policy instrument. Thus, positive significant values of the estimates of α_j before elections and negative significant values of the estimates of α_j after elections would serve as evidence of the opportunistic political cycles. Positive significant values of the coefficient estimates at dummy *Left*, β_3, for such policy instruments as social expenditures, taxes, deficit, and inflation would be the evidence of the partisan cycles, as communist platform opts for larger social spending and redistribution.

To test what are the determinants of the amplitude of opportunistic cycles, we estimate the following equation on the pooled cross section of elections for each fiscal policy instrument:

$$A_i=\beta_0+\beta_1\ln(R_i)+\beta_2 Term_i+\beta_3\ln(C_i)+\beta_4\ln(E_i)+\varepsilon_i \qquad (3)$$

where A_i is a proxy for the amplitude of the opportunistic cycle of election i. We use two alternative proxies: one is equal to $\left(\ln(y_{i\tau-1})+\ln(y_{i\tau-2})-\ln(y_{i\tau-3})-\ln(y_{i\tau-4})\right)/2$, where τ is the month of the election i; and the other is equal to $\left(\ln(y_{i\tau-1})+\ln(y_{i\tau-2})\right)/2-\overline{\ln(y)}$, where $\overline{\ln(y)}$ is average of $\ln(y_{it})$ in the term preceding elections i. To simplify interpretation of coefficients, both measures are multiplied by –1 for total and regional wage arrears. The first measure gauges short-term pre-electoral dynamics: it is equal to the average between growths in policy instrument over the last three months and over the fourth-second months before elections.[13] The second measure gauges longer-term fluctuations: it is equal to the difference between the

[13] We take the average of the log-difference between the first and the third lags and the second and the fourth lags of the policy instrument because of high month-to-month volatility of the policy instruments.

pre-electoral value of the policy instrument (average over the two pre-electoral months) and its average level throughout the last term. Summary statistics for both of these proxies are presented in table 9. $\ln(R_i)$ is a proxy for rationality of voters and /or their access to information. We use the following measures of R_i: the level of education, number of computers per capita, share of urban population and inverse of region's distance from Moscow. Negative significant coefficient at $\ln(R_i)$ is interpreted as evidence that irrationality or unawareness is associated with higher amplitude of the cycle. $Term_i$ is the term in power of incumbent governor who runs for elections i. C_i stands for the number of candidates; this is a proxy for electoral competitiveness of elections i. In addition, we use the share of votes for Boris Yeltsin in the second tour of Presidential elections in 1996, E_i, to control for the political preferences of electorate.

Finally, we test whether it pays to pursue cyclical opportunistic policies or to belong to a particular political platform. We estimate how the probability to win and the share of incumbents' votes depend on the overall amplitude of the cycles and the ideology of the incumbent governor, controlling for the governor's performance in the last term, the number of election candidates, and region-specific human capital of the incumbent governor. We estimate the following equations on the pooled cross section of elections:

$$\ln(P_i)=\gamma_0+\gamma_1 Cycles_i+\gamma_2 Left_i+\gamma_3\ln(C_i)+\gamma_4 Term_i+\boldsymbol{\gamma_5 Perform_i}+\varepsilon_i \quad (4)$$

$$Prob\{\text{incumbent governor wins}\}_i=F(\phi_0+\phi_1 Cycles_i+\phi_2 Left_i+\phi_3\ln(C_i)+ +\phi_4 Term_i+\boldsymbol{\phi_5 Perform_i}+\varepsilon_i \quad (5)$$

where P_i is popularity of incumbent measured by the ratio of votes pro- to votes against incumbent on elections i.[14] $Cycles_i$, our main variable of interest, is the proxy for the overall amplitude of the cycles prior to elections i. It is equal to the first principal component of factorization of amplitudes of all fiscal policy instruments. The factorization was performed on the short-term pre-electoral amplitudes constructed in the same way as in equation (3) for the following list of fiscal policy instruments: total budget expenditures, social, education, cultural, and media expenditures, ratio of expenditures to revenues, ratio of expenditures to taxes, industrial subsidies, and agricultural subsidies.[15] As before, $Left_i$ is the political

[14] 9 elections in our sample had a single candidate. We assumed that potential competitor, if existed, would get one third of votes against the incumbent, this number the best approximates normal distribution of C_i. Results do not change if we exclude these elections from our sample altogether.

[15] The coefficients of amplitudes in the first component are (0.519; 0.062; 0.139; 0.187; 0.045; 0.087; 0.143; 0.006; -0.009), respectively. The fist component captures 84.9% of total variation in the amplitudes of fiscal policy instruments; its eigenvalue is 3.21. The results are the same if we add the amplitudes of price level, real

ideology of the incumbent governor who runs for re-election on elections i. We use two control variables: the number of candidates on regional elections, C_i, and the term of incumbent governor before elections i, $Term_i$, which measures region-specific human capital of the governor, including the ability to entrench in elections i. $\boldsymbol{Perform_i}$ is a column vector of proxies for governor's performance in the last term.[16] It is comprised of the differences between the overall regional means and the regional means over last term of the following variables: log values of total budgetary expenditures, share of social expenditures, share of media expenditures, ratio of taxes to expenditures.[17] Equation (5) is the probit model; we also estimate multivariate probit model that is analogues to (5) but has three (instead of two) outcomes for incumbent: wins, is the first runner up, is below the second place. We do not use longer-term amplitudes from equation (3) as another $Cycles_i$ measure because by construction it is correlated with our measure of incumbent's performance in the last term, $\boldsymbol{Perform_i}$.

4. Results

In this section, we present econometric evidence. Tables 3, 4, and 5 present the results of estimation of equation (1).

Let us consider the results of the tests for opportunistic cycles first.[18] Table 3 presents regression results for fiscal policy instruments. Total budgetary expenditures experience the first significant jump up of 5.5% nine months before elections; then, up until month 3 prior to elections, there are no significant rises in expenditures (coefficients are mostly positive, but insignificant); at month 3 prior to elections, the second significant jump up in total expenditures of 6% occurs, the next and the biggest rise in expenditures of 11% happens one month before elections. The election month and month after the elections are characterized by the significant fall in total budget expenditures of 6% and 5%, respectively. We do not find significant changes in total expenditures after month 2. Budgetary expenditures on education, culture, and healthcare follow the same but slightly more profound pattern. Education expenditures rise significantly by 6% twelve months prior to elections. All three expenditure items jump up by 14, 12, and 23%, respectively, in the three consecutive months, eight

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wages, and industrial output to the list of variables to be factorized. We have insufficient number of observations to include amplitude of cycles in wage arrears in this analysis.

[16] $\boldsymbol{\gamma_5}$ and $\boldsymbol{\phi_5}$ are row vectors.

[17] Our results are robust to using another list of proxies to control for incumbent's performance in the last term.

[18] The growth of the considered policy instrument in a particular month is equal to the exponent of the coefficient of the respective month dummy in tables 3-5.

months before elections. Six months before elections, education and healthcare expenditures rise by 5% each; and cultural expenditures fall by 5% in the fourth month before elections. Education, culture and healthcare expenditures jump up again by 13, 11, and 17%, respectively, a month before elections. In addition, healthcare expenditures jump up by 6.5% two months before elections. These expenditure items fall by 7, 19, and 10% respectively during the three months right after the elections.[19] Education expenditures rise by 5% during the fifth month after elections, whereas expenditures on culture continue falling for nine months after elections.

Social expenditures follow a slightly different pattern: they rise significantly for two months, 9 months before elections (by total of 23%) and, then, jump up each month prior to elections starting four months before elections. During only one month before elections social expenditures rise by 32% and accumulated growth in social expenditures over twelve months before elections amounts to 135% (much more than in other expenditure items). Social expenditures do not experience a sharp drop after elections unlike other fiscal instruments, and in fact they do not fall at all during the year after elections. Expenditures on industry (i.e. industrial subsidies) rise significantly by 29% a month before elections and fall very gradually (insignificantly) for two months after elections. Subsidies to agriculture are not affected by elections at all. Positive pre-electoral dynamics in public spending is supported by the intensive use of mass media: expenditures on mass media exhibit 34% growth in two pre-electoral months and 22% fall in two post-electoral months.

Changes in social and media expenditures are disproportionately large compared to other expenditure items. Share of social expenditures in total expenditures rises significantly by 9, 15, 19, and 15% in months -4, -2, -1, and 0, respectively. Share of media expenditures jumps up by 18% two months before elections.

While there is rationale for both substitution and complementarities between media and social expenditures, the data show that in Russian regions these two items are complements: expansion on media goes together with expansion in social policy. We regressed share of media expenditures on share of social expenditures region by region. We found that in 33 regions de-trended shares of mass media and social spending are significantly positively correlated; and only one out of 86 considered regions has significant negative correlation between these variables. We also estimated the overall correlation between the de-trended share of social expenditures and de-trended share of media expenditures using fixed

[19] Changes in healthcare expenditures are consistently negative but insignificant in this period.

effect panel regression: the result is that a percentage increase in social expenditures on average is accompanied by 0.17% increase in share of media expenditures. The resulting regression equation is as follows (t-statistics are in parentheses):

$$\ln Share\ of\ media\ expenditures_i = \underset{(-42.4)}{-0.32} + \underset{(10.7)}{0.17}\ \ln Share\ of\ social\ expenditures_i + \sum_i f_i + e_i$$

Table 4 presents the results of estimation of equation (1) for the revenue side of the budgets. Budgetary revenues grow by 5% one month before elections (mostly due to increase in federal transfers) and decrease by 14% during two months right after elections (due to decreases both in tax revenues and transfers). Starting seven months before elections, budget deficit gradually rises: there are significant jumps up in the ratio of expenditures to taxes six, four, and one month before elections (by 8, 4, 6%, respectively). Our results show that incumbent governors pursue expansionary policy and try not to overburden enterprises with higher taxation.

Table 5 presents the effect of elections on dynamics of real economic indicators. Regional growth does not exhibit a significant cyclical pattern. But the level of industrial output falls down significantly both before and after elections. It is easier to see what happens with industrial output in regression without lags – the coefficients at month dummies show the difference between the level of industrial output in a particular month away from elections and the average middle-of-the-term level. Even though the month-to-month changes in industrial output are rarely significant, the level of industrial output in the periods of 8 to 6 months before elections and 1 to 6 months after elections is significantly below its middle-of-the-term-in-power level (on average approximately by 5%). In the period between 5 and 2 months before elections industrial output is not significantly different from its natural level. Thus, elections are followed by a recession (4.5% decline in real industrial output) that continues for half a year, but there is no output expansion before elections.

Inflation does not shift significantly around elections, but the price level does. After elections price level increases significantly in months 2, 3, 4, 11, and 12. (Each of these increases, however, is very small – below half a percent). The results from regression without lags confirm the prediction of all opportunistic cycle theories. During the year before elections, price level is very slightly and insignificantly (less than one percent) below its middle of the cycle (natural) level. All coefficients at month dummies before elections are negative and two (at month dummies –6 and –2) are significant. After elections price level rises to 101.3% of its natural level and stays high for another twelve months. All coefficients

at month dummies after elections are positive and significant. Although price increase after elections is econometrically significant, it is much smaller than fluctuations in fiscal policy instruments and other economic indicators. Thus, our results about fiscal policy cycles and cycles in other economic indicators hold irrespective of whether we take real or nominal values of the policy instruments and outcomes.

Money income falls slightly in the middle of the year before elections, but grows in three pre-electoral months by 3, 8 and 11%. Wage level grows 2% in the pre-electoral month and falls by approximately 3% in months three and four after elections. But a lot more is happening with wage arrears around elections.

Total wage arrears decline each month during the whole year prior to elections with the rate of approximately 4% per month and stabilize after elections. Regional wage arrears start to decrease nine months before elections and continue decreasing with growing pace up until elections. The total drop in regional wage arrears over the nine months before elections amounts to 77% of the initial level. There are no significant changes in regional wage arrears during the year after elections.

Tables 6-8 present results of estimation of equation (2), i.e., tests for the presence of longer (four-month) term effects of elections.[20] If the main part of the cycle is very short-lived, we will not see the same cyclical pattern in aggregate dynamics of policy instruments as we saw in monthly data. Table 6 shows regressions of fiscal policy instruments. Total budgetary expenditures show only one significant jump of 5.5% up over the previous period in the period right before elections. Expenditures on social programs, education, culture, healthcare, and media increase significantly in the third period prior to elections. Then, education and healthcare expenditures jump up again in period –2; social, healthcare, and media expenditures jump up again in period –1. Significant falls after elections are observed only for expenditures on culture and media. Share of social expenditures shows significant positive dynamics in the period right before elections: it grows by 13.5%. Share of media expenditures falls significantly (by 8%) right after elections.

Table 7 presents medium-term effect of elections on budgetary revenues. Budget revenues, taxes and transfers do not exhibit significant cyclical dynamics. Ratio of expenditures to taxes (a measure of budget deficit) drops 3% three periods before elections, but rises significantly for two periods before elections by a total of 6%. Decreases in budget

[20] What we call medium- and short-term in this paper should be better called very short- and incredibly short-term, because we talk about four-month-period and monthly changes.

revenues, taxes, transfers and ratio of expenditures to taxes in the period after elections are insignificant (all coefficients are negative insignificant).

Table 8 shows the results of estimation of equation (2) for various economic indicators. Neither growth nor inflation is affected by elections. Industrial output falls significantly twice before elections: by 4% in period –3 and by 5% in period –1. Price level grows significantly by half a percent three periods before elections and in the first and the second periods after elections, each time by half a percent. Regional and total arrears fall significantly before elections. Surprisingly, money income behaves in opposite way to what we find in the shorter run (table 5): it falls before elections (in period -2) and rises right after elections (in period 1). We have not been able to find an explanation for this. Evidently, apart from money income, the results are consistent with short-term effects presented in tables 3 to 5, but the medium-term electoral cycles are lower and less significant.

Our results are inconsistent with pure opportunistic cycles à la Nordhaus (1975). Nordhaus's model predicts pre-electoral growth with post-electoral recession. We do not observe output growth prior to elections, in fact, for some periods of time in the year before elections, recession occurs in Russia's regions.

Our results are fully consistent with rational opportunistic cycles à la Rogoff and Sibert (1988). If one adapts Rogoff and Sibert's model to the framework with variable public good provision and fixed non-distorting taxation (this can be easily done), higher public goods will signal about positive shock of incumbent's competence. This gives the same predictions about cycles in fiscal policies as we observe in Russia's regions. In addition, if one generalizes their model to more than two periods per term, the model will predict recession (due to tax distortions) after elections with return to the steady state level in the next period, just as we observe in Russia's regions.

Summing up the results of estimation of equations (1) and (2), we find evidence of opportunistic rational cycles in most considered policy instruments. Such policies as wage arrears repayments, social expenditures, and mass media support of election campaigns are used most intensively, appear to be the main instruments of fiscal pre-electoral manipulations. Large pre-electoral expansion in expenditures is accompanied by a much smaller rise in taxes, whereas upward price pressure is administratively controlled until elections. Incumbents provide a short-term populist policy targeted to the poorest parts of electorate. The largest changes in policy occur within a month or two from election date. Recession takes place

during the year around elections. This recession is an important contributor to the total cost of pre-electoral manipulations.

Let us consider now the results of our tests for presence of partisan cycles. Tables 3-5 show that governors with the communist political platform tend to have smaller social expenditures in absolute value and as a share of total expenditures by eleven per cent (significant at 3% level). The regions governed by communists have also seven per cent (significant at 1% level) lower ratio of expenditures to taxes (i.e., deficit); and three per cent lower per capita income (significant at 1% significance level).[21] Tables 6-8 confirm the results received on monthly data. In addition, healthcare and inflation expenditures become significant (left governors spend 13 per cent less on healthcare and have 1% lower inflation rate). Apart from these results, there is no significant difference between the policies of left wing and democratic governors. The result of lower social and healthcare spending, deficit, and inflation in communist regions is inconsistent with the slogans of the left agenda (in fact, it is the opposite to one would expect). Thus, these differences are caused by differences in governors' ideologies. We cannot make overly strong conclusions, however, because in order to control for self-selection problem that poor regions consistently vote for communists, we use fixed effect regressions. So, we compare policies of the left wing governors with the rest only in regions where political platforms of governors alternated. There were only 7 such regions. Therefore, our actual sample size in tests for partisan cycles is very small and we should not put much emphasis on these results.

Table 10 presents the results of estimation of equation (3). We estimate equation (3) only for fiscal policy instruments that show cyclical pattern and report only regressions with results significant for proxies of rationality. First, we do not find that shorter horizon of the incumbent governor has significant affect on the amplitude of the cycles.

Second, the number of candidates, our proxy for electoral competitiveness, does not have a robust influence on the size of cycles. There are two possible explanations of this: First, number of candidates may not be a good proxy, because the cost of registering as a candidate is very small, so some candidates may register even when they do not have any serious chances of winning. Second, there is a possible endogeneity of the number of candidates. In addition to the possibility that tough competition forces incumbents to exploit cycles more, extensive use of pre-electoral manipulations and the "administrative resources"

[21] There are also a couple unrobust result: regions with communist governors have 8 per cent lower level of industrial production and four percent higher price level. These results go away when controls for lags are included.

for getting re-elected may deter opposition from participation in elections. (We have verified that the coefficients of other variables and their significance do not change when we exclude or include the number of candidates as regressor.)

Third, votes pro Yeltsin in the second tour of president elections in 1996 is included in the regression as a control for political preferences of the electorate. It is still interesting to analyze its effect. 1% growth of votes pro Yeltsin increases pre-electoral growth of expenditures on social policy, education, culture, healthcare and industrial subsidies by 0.49%, 0.38%, 0.25%, 1%, correspondingly. On the one hand, this factor reflects tendency of the electorate to vote for incumbents that consequently reduces the incumbents' need for pre-electoral expansion. On the other hand, this control variable reflects the ability to manipulate public opinion in the region that increases incentives for opportunistic cyclical behavior.[22] Evidently, the second effect dominates.

Finally, let us consider the rationality of voters and their access to unbiased information as a determinant of the size of opportunistic cycles. It turns out that the data supports the theoretical prediction that rationality smoothens cycles. Our measures of rationality and the access to unbiased information (share of population with higher education, share of urban population, and the number of computers per capita) give significant results for cycles in different policy instruments.[23] All significant results are of the right sign, i.e. support the hypothesis of the negative influence of rationality and awareness on incentives to engage in cyclical policies. The use of the measure of amplitude that looks at short-term pre-electoral dynamics gives the following results (presented in panel A of table 10): 1% growth in the share of educated population decreases the pre-electoral growth of budgetary expenditures and revenues, expenditures on education, culture and healthcare approximately by 0.3%. 1% growth in the share of urban population decreases the pre-electoral growth of expenditures on social programs, culture and industry by 0.6%, 0.4%, and 1%, respectively. 1% growth of computerization reduces industrial subsidy growth by 1%. The results using the alternative measure of amplitude of the cycles that takes a longer-term perspective are presented in the panel B of in table 10. The results using two measures are consistent with each other. The use of the second measure leads to the following additional results: 1% growth of the share of urban population leads to reduction of media expenditures, transfers, and ratio of expenditures

[22] Pre-electoral campaign of Boris Yeltsin was unimaginably successful: Half a year prior to Presidential elections in 1996, very few people believed that he would make it to the second round of elections. There were two keys of success: electoral cycles in fiscal policy (see Treisman and Gimpelson (1999)) and very aggressive mass media campaign.

[23] We have also tried distance from Moscow, but it turned out to be insignificant.

to revenues by 0.78%, 2.14%, and 0.23%, correspondingly. The effect of rationality on cyclical changes in Russian regions is consistent with rational opportunistic cycles. The hypothesis that rationality and awareness of the electorate decreases incentives for cheating is supported by the data.

Table 11 presents the results of estimation of equations (4) and (5). Results are as follows. We find strong evidence of political benefits of cyclical policies. Other things held constant, an increase in the amplitude of the cycles in fiscal policy instruments significantly affects political rating of the incumbent governors as well as the probability to win elections. We should emphasize a possible underestimation of the overall effect of cycles on popularity because the menus of cyclical policy instruments as well as time spans of the cycles may vary across regions. We have used the measure of the amplitude of the cycle that assumes the same mix of cyclical fiscal policy instruments and the same length of the cycle for all regions and got significant results. We consider this as strong evidence of the importance of populist pre-electoral changes in fiscal policies for popularity of incumbents and their chances to get re-elected.

Left wing governors are less popular on average and have lower chances to get re-elected, holding everything else constant. An additional term in power (i.e. accumulation of region-specific human capital) significantly increases popularity of incumbent, but this effect is not strong enough to appear significant in the probit regressions. Thus, incumbents that served a longer term in power do not have significantly higher ability to capture local institutions to help themselves to get re-elected. An increase in the number of candidates on average decreases the proportion of votes that incumbents get, but this does not significantly affect their probability to win. In addition, last term's performance (e.g., better fiscal capacity and increased the share of social spending) significantly affects the results of elections.

5. Conclusion

In this paper we analyzed political business cycles in Russian regions. In particular, we tested for existence of opportunistic and partisan cycles. We also studied if the opportunistic cycles are focused on specific policy instruments and groups of voters. In addition, we tested if incentives for cyclical policies are stronger when voters are irrational or uninformed, governors have not accumulated region-specific human capital, or electoral

competitiveness is high. Finally, we examined whether pre-electoral improvements increase governors' chances to get reelected. The monthly regional panel data allowed us to control both for region-specific characteristics and macroeconomic shocks.

We do not find evidence of partisan cycles in Russia's regions. The differences in policies between the communist and democratic governors are in contradiction with their ideological differences. This conclusion, however, is made on the basis of information about very few regions.

We have found strong evidence that:

- Opportunistic political cycles have taken place in Russian regions starting 1996. In the pre-election period, regional governors increase public spending, in particular, expenditures on social programs, healthcare, education, and industrial subsidies and reduce budgetary wage arrears. After elections, public expenditures drop and relatively long recession occurs.
- Pre-electoral improvements in most policies are quite long-lived (start nine months before elections), but the most significant changes happen right before elections.
- Cycles in real policy instruments are accompanied by intensive mass media support.
- The most important instruments are the wage arrears, regional expenditures on social programs and mass media. They have the largest amplitude. The governors target the poorest voters.
- The scale of pre-electoral improvements increases popularity of incumbent governors and the probability to get re-elected.
- The amplitude of the cycles decreases with increase in rationality of voters and informational symmetry. These results suggest that maturity of democracy is a very important factor determining the scope for effective use of political cycles. This explains why previous tests of the theory mostly done on the data from developed countries did not find evidence of cycles.

Political cycles are costly since they result in relatively long recession and inefficiencies in public spending. But the costs caused by distortions in policies and outcomes are only the top of the iceberg of political business cycles. Since the main instruments of cyclical policies increase popularity, cycles do matter to governors. This means that governors can manipulate voters' opinion using very short-term policies and, thus, they are largely unaccountable in the long run. Conversely, the presence of cycles itself confirms that there remains some electoral pressure on Russia's governors, which is good news given the high regional capture of electoral institutions.

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Table 1. Descriptive statistics of electoral variables

Variable	No. of obs.	Median	Mean	S.E.	Min	Max
Dummy for participation of incumbents	198	1	0.949	0.016	0	1
Dummy for incumbents' win	188	1	0.665	0.035	0	1
Dummy for incumbent's loss worse than the second place	188	0	0.059	0.017	0	1
% of votes pro incumbent	186	56.43	53.908	1.682	4.76	99.9
% of votes pro main competitor of incumbent	173	28.5	32.510	1.587	0.71	82
% of votes pro winner	196	59.71	62.599	1.088	23.5	99.9
% of votes pro the first runner up	182	24.11	24.015	0.949	0.71	48
Number of candidates	193	5	5.523	0.211	1	16

Note: Statistics are presented only for 198 out of 202 elections, in which Central Elections Committee accepted the results.

Table 2. Descriptive statistics of budgetary and economic indicators

Variable	Units	No. of obs.	Median	Mean	S.E.	Min	Max	Source: Ministry of Finance	Source: Goskomstat
Total Budget Expenditures	$ per capita	5787	24.32	40.92	0.73	6.21	520.91	Mar, 1996 - Nov, 2001	
Social Expenditures	$ per capita	5934	1.82	2.61	0.04	0.18	30.10	Jan, 1996 - Nov, 2001	
Share of Social Expenditures	%	5673	6.90	7.68	0.05	1.13	31.83	Jan, 1996 - Nov, 2001	
Education Expenditures	$ per capita	5939	5.53	8.46	0.12	1.51	84.74	Jan, 1996 - Nov, 2001	
Expenditures on Culture	$ per capita	5928	0.61	0.96	0.02	0.12	11.42	Jan, 1996 - Nov, 2001	
Healthcare Expenditures	$ per capita	5938	3.78	5.50	0.07	0.85	51.12	Jan, 1996 - Nov, 2001	
Media Expenditures	$ per capita	5763	0.08	0.16	0.00	0.00	3.41	Mar, 1996 - Nov, 2001	
Share of Media Expenditures	%	5683	0.30	0.37	0.00	0.00	1.83	Mar, 1996 - Nov, 2001	
Expenditures on Industry	$ per capita	5601	0.32	1.52	0.07	0.00	83.78	Jan, 1996 - Nov, 2001	
Expenditures on Agriculture	$ per capita	5843	0.85	1.54	0.03	0.01	19.36	Jan, 1996 - Nov, 2001	
Total Budget Revenues	$ per capita	5940	23.58	38.98	0.69	6.21	474.55	Jan, 1996 - Nov, 2001	
Tax Revenues	$ per capita	5941	15.71	23.93	0.41	1.45	313.91	Jan, 1996 - Nov, 2001	
Federal Transfers	$ per capita	4992	2.59	7.07	0.20	0.00	131.02	Mar, 1996 - Nov, 2001	
Ratio of Expenditures to Revenues	%	5695	101.28	104.56	0.31	48.20	281.50	Mar, 1996 - Nov, 2001	
Ratio of Expenditures to Taxes	%	5680	147.43	192.20	1.81	73.73	1114.66	Mar, 1996 - Nov, 2001	
Growth	%	6331	0.83	2.19	0.27	-63.41	157.60		Feb, 1995 - Oct, 2001
Inflation	%	9831	2.80	7.46	0.13	-1.30	213.50		Feb, 1992 - Nov, 2001
Level of Industrial Output	$ per capita	6598	92.55	0.12	0.00	0.00	1.06		Jan, 1995 - Oct, 2001
Total Wage Arrears	$ per capita	4143	25.51	0.05	0.00	0.00	0.66		Oct, 1997 - Sep, 2000
Regional Wage Arrears	$ per capita	2391	1.84	0.01	0.00	0.00	0.25		Jan, 1999 - Sep, 2000
Wage level	$ per capita	6975	124.12	155.39	1.18	46.28	652.40		Feb, 1995 - Oct, 2001
Price Level	relative to Apr, 1997	4850	0.99	121.58	1.03	32.43	553.68		Jan, 1992 - Nov, 2001
Money Income	$ per capita	5787	101.63	40.92	0.73	6.21	520.91		Jan, 1995 - Oct, 1999

Table 3. Short-term effect of elections on regional budgetary expenditures.

	Levels, constant prices								Shares of total exp.	
	Total Budget Expenditures	Social Expenditures	Education Expenditures	Expenditures on Culture	Healthcare Expenditures	Media Expenditures	Expenditures on Industry	Expenditures on Agriculture	Share of Social Expenditures	Share of Media Expenditures
Lag	0.458***	0.537***	0.223***	0.337***	0.272***	0.272***	0.501***	0.353***	0.483***	0.284***
	[23.04]	[31.24]	[10.27]	[17.16]	[12.98]	[12.12]	[27.76]	[16.97]	[26.25]	[12.77]
Term in power	-0.003	-0.001	0.01	0.02	0.023**	-0.129***	-0.139***	-0.011	0.018	-0.110***
	[0.30]	[0.03]	[1.02]	[1.62]	[2.15]	[5.76]	[3.52]	[0.41]	[1.20]	[5.38]
Left wing party	-0.004	-0.112**	0.009	0.015	-0.054	0.006	-0.156	-0.075	-0.116**	0.011
	[0.11]	[2.00]	[0.27]	[0.33]	[1.42]	[0.07]	[1.10]	[0.76]	[2.14]	[0.15]
month –12	-0.005	0.037	0.059**	0.055	0.047	0.057	-0.011	0.053	0.041	0.06
	[0.17]	[0.83]	[2.13]	[1.61]	[1.60]	[0.95]	[0.10]	[0.68]	[0.99]	[1.09]
month –11	-0.012	0.059	-0.004	-0.003	0.015	0.087	-0.044	-0.1	0.072*	0.09
	[0.41]	[1.31]	[0.16]	[0.07]	[0.52]	[1.45]	[0.40]	[1.27]	[1.76]	[1.61]
month –10	0.015	0.094**	0.067***	0.039	0.070***	0.117**	-0.014	-0.04	0.043	0.098*
	[0.53]	[2.34]	[2.69]	[1.25]	[2.61]	[1.98]	[0.14]	[0.56]	[1.07]	[1.83]
month -9	0.055**	0.110***	0.059**	0.117***	0.090***	0.073	0.146	0.001	-0.015	-0.031
	[2.00]	[2.72]	[2.37]	[3.75]	[3.34]	[1.23]	[1.44]	[0.02]	[0.38]	[0.57]
month -8	-0.001	0.036	0.024	0.015	0.048*	0.034	-0.002	-0.101	0.015	0.053
	[0.05]	[0.85]	[0.91]	[0.47]	[1.73]	[0.59]	[0.02]	[1.34]	[0.38]	[1.00]
month -7	0.023	0.013	0.025	-0.015	0.036	0.019	0.003	-0.065	-0.052	-0.007
	[0.92]	[0.33]	[1.03]	[0.51]	[1.37]	[0.34]	[0.03]	[0.93]	[1.41]	[0.13]
month -6	0.029	-0.036	0.046*	0.023	0.047*	-0.102*	0.003	-0.015	-0.046	-0.082*
	[1.17]	[0.90]	[1.87]	[0.73]	[1.79]	[1.92]	[0.03]	[0.22]	[1.27]	[1.68]
month -5	0.014	0.063	0.023	-0.045	0.016	-0.021	-0.076	0.023	0.036	-0.049
	[0.56]	[1.62]	[0.95]	[1.48]	[0.61]	[0.41]	[0.77]	[0.33]	[1.04]	[1.04]
month -4	0.003	0.063*	-0.018	-0.051*	-0.015	0.006	-0.071	0.008	0.088**	-0.008
	[0.14]	[1.65]	[0.76]	[1.72]	[0.60]	[0.11]	[0.75]	[0.12]	[2.53]	[0.18]
month -3	0.059**	0.071*	-0.008	-0.005	0.012	0.012	-0.074	-0.002	0.04	-0.034
	[2.46]	[1.84]	[0.34]	[0.18]	[0.48]	[0.23]	[0.77]	[0.03]	[1.15]	[0.72]
month -2	0.021	0.142***	0.018	0.003	0.065**	0.203***	0.037	-0.012	0.144***	0.168***
	[0.86]	[3.62]	[0.76]	[0.11]	[2.50]	[3.90]	[0.38]	[0.17]	[4.08]	[3.52]
month -1	0.103***	0.278***	0.121***	0.101***	0.115***	0.095*	0.258***	0.088	0.179***	0.003
	[4.20]	[7.06]	[4.99]	[3.34]	[4.40]	[1.82]	[2.63]	[1.24]	[5.03]	[0.06]
month 0 - elections	-0.059**	0.062	-0.047*	-0.055*	-0.036	-0.114**	0.107	0.058	0.143***	-0.073
	[2.40]	[1.56]	[1.93]	[1.81]	[1.36]	[2.16]	[1.10]	[0.82]	[4.06]	[1.51]
month 1	-0.054**	-0.041	-0.022	-0.117***	-0.038	-0.084	-0.072	-0.075	0.021	-0.053
	[2.23]	[1.03]	[0.89]	[3.92]	[1.48]	[1.63]	[0.74]	[1.09]	[0.58]	[1.11]
month 2	-0.025	-0.018	-0.005	-0.045	-0.038	0.009	-0.033	-0.105	0.022	0.016
	[1.04]	[0.49]	[0.23]	[1.56]	[1.55]	[0.18]	[0.35]	[1.61]	[0.62]	[0.34]
month 3	0.034	0.057	-0.005	-0.041	0.005	-0.019	0.131	-0.047	0.018	-0.069
	[1.44]	[1.51]	[0.24]	[1.43]	[0.19]	[0.36]	[1.42]	[0.72]	[0.52]	[1.45]
month 4	-0.013	0.034	0.008	-0.011	0.015	-0.024	0.073	-0.007	0.01	-0.014
	[0.54]	[0.88]	[0.32]	[0.38]	[0.58]	[0.46]	[0.75]	[0.10]	[0.28]	[0.30]
month 5	0.032	0.091**	0.046**	-0.016	0.038	0.036	0.001	0.005	0.051	-0.007
	[1.37]	[2.42]	[1.99]	[0.54]	[1.54]	[0.71]	[0.01]	[0.07]	[1.50]	[0.14]
month 6	0.006	0.055	0.021	-0.065**	-0.008	-0.036	0.058	0.076	0.043	-0.048
	[0.26]	[1.45]	[0.89]	[2.26]	[0.31]	[0.73]	[0.63]	[1.14]	[1.27]	[1.05]
month 7	0.019	0.008	-0.003	-0.034	0.017	0.013	-0.097	-0.056	-0.005	-0.026
	[0.81]	[0.21]	[0.12]	[1.18]	[0.70]	[0.27]	[1.02]	[0.85]	[0.16]	[0.58]
month 8	0.005	0.037	0.009	-0.045	0.008	-0.036	0.023	0.003	0.037	-0.053
	[0.24]	[0.98]	[0.37]	[1.56]	[0.31]	[0.72]	[0.25]	[0.05]	[1.09]	[1.16]
month 9	-0.025	0.006	-0.017	-0.066**	-0.018	0.074	0.054	0.061	0.028	0.097**
	[1.04]	[0.16]	[0.72]	[2.24]	[0.72]	[1.46]	[0.57]	[0.89]	[0.82]	[2.08]
month 10	0.016	0.079**	0.004	0.023	-0.006	0.105**	0.048	0.031	0.064*	0.062
	[0.67]	[2.08]	[0.19]	[0.79]	[0.24]	[2.10]	[0.51]	[0.46]	[1.90]	[1.35]
month 11	0.03	0.043	0.01	0.068**	0.01	-0.059	-0.016	0.024	0.011	-0.048
	[1.30]	[1.13]	[0.43]	[2.34]	[0.38]	[1.16]	[0.17]	[0.35]	[0.33]	[1.03]
month 12	0.034	0.051	0.038	0.035	0.039	-0.019	-0.024	0.046	0.007	-0.07
	[1.32]	[1.24]	[1.50]	[1.09]	[1.42]	[0.35]	[0.22]	[0.62]	[0.20]	[1.38]
Constant	-0.021	-0.038	0.021	-0.038*	-0.029	-0.156***	-0.128*	-0.199***	-0.036	-0.129***
	[1.04]	[1.28]	[1.13]	[1.65]	[1.45]	[3.64]	[1.68]	[3.70]	[1.26]	[3.26]
Observations	5579	5729	5739	5722	5732	5548	5326	5632	5471	5445
# of regions	86	86	86	86	86	86	86	86	86	86
R^2	0.77	0.49	0.73	0.7	0.6	0.54	0.51	0.42	0.27	0.35

*Note: All dependent variables are measured in real terms per capita. They are divided by the federal level and measured in logs. Dummies "month X" equal 1 if observation is X months away from elections. Negative Xs correspond to pre-election time. Absolute values of t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively. Regional Fixed effects included.*

Table 4. Short-term effect of elections on regional budgetary revenues.

	Total Budget Revenues	Tax Revenues	Federal Transfers	Ratio of Expenditures to Revenues	Ratio of Expenditures to Taxes
Lag	0.478***	0.562***	0.242***	-0.045*	0.286***
	[24.96]	[32.02]	[10.25]	[1.81]	[13.16]
Term in power	-0.008	0.002	-0.019	0.028***	0.002
	[0.76]	[0.26]	[0.56]	[3.94]	[0.21]
Left wing party	0.006	0.015	-0.187	-0.070***	-0.025
	[0.16]	[0.46]	[1.50]	[2.61]	[0.70]
month –12	0.065**	0.031	-0.05	-0.078***	-0.012
	[2.30]	[1.23]	[0.55]	[3.74]	[0.46]
month –11	0.017	-0.031	0.093	-0.024	0.016
	[0.60]	[1.23]	[1.04]	[1.17]	[0.60]
month –10	0.022	-0.018	0.025	-0.008	0.061**
	[0.87]	[0.80]	[0.28]	[0.40]	[2.34]
month –9	0.029	-0.019	0.117	0.012	0.053**
	[1.14]	[0.83]	[1.33]	[0.58]	[2.03]
month –8	-0.002	0.004	0.082	-0.006	-0.003
	[0.06]	[0.16]	[0.91]	[0.29]	[0.10]
month –7	0.003	-0.014	-0.087	0.007	0.039*
	[0.12]	[0.63]	[1.06]	[0.40]	[1.66]
month –6	-0.029	-0.025	-0.041	0.040**	0.065***
	[1.14]	[1.12]	[0.50]	[2.20]	[2.76]
month –5	0.036	0.02	0.094	0.008	0.014
	[1.48]	[0.92]	[1.18]	[0.43]	[0.63]
month –4	-0.032	-0.007	-0.002	0.030*	0.023
	[1.35]	[0.34]	[0.02]	[1.74]	[1.00]
month –3	0.028	0.054**	-0.328***	0.023	0.01
	[1.17]	[2.52]	[4.21]	[1.31]	[0.42]
month -2	0.022	0.021	0.052	0.023	0.002
	[0.87]	[0.96]	[0.64]	[1.29]	[0.08]
month -1	0.046*	0.002	0.343***	0.060***	0.107***
	[1.87]	[0.08]	[4.32]	[3.44]	[4.58]
month 0 - elections	-0.080***	-0.005	-0.126	0.027	-0.037
	[3.24]	[0.25]	[1.54]	[1.56]	[1.62]
month 1	-0.072***	-0.067***	-0.136	0.003	0.021
	[2.93]	[3.08]	[1.60]	[0.14]	[0.90]
month 2	-0.015	-0.02	-0.015	-0.015	0.002
	[0.66]	[0.96]	[0.17]	[0.87]	[0.08]
month 3	0.029	-0.003	0.005	-0.011	0.042*
	[1.25]	[0.16]	[0.07]	[0.65]	[1.87]
month 4	-0.03	-0.013	-0.069	0.031*	0.017
	[1.20]	[0.62]	[0.86]	[1.75]	[0.77]
month 5	-0.018	0.002	-0.119	0.019	0.036*
	[0.76]	[0.11]	[1.52]	[1.11]	[1.66]
month 6	-0.016	0	0.02	-0.015	0.034
	[0.69]	[0.00]	[0.26]	[0.89]	[1.54]
month 7	0.013	0.035*	0.018	0.001	-0.011
	[0.55]	[1.67]	[0.23]	[0.04]	[0.52]
month 8	-0.017	-0.008	0.049	0.003	0.019
	[0.72]	[0.38]	[0.64]	[0.19]	[0.86]
month 9	-0.002	0.009	0.044	-0.019	-0.029
	[0.07]	[0.44]	[0.58]	[1.11]	[1.33]
month 10	-0.042*	-0.012	0.032	0.030*	0.018
	[1.77]	[0.59]	[0.41]	[1.69]	[0.84]
month 11	0.032	0.021	0.01	-0.005	0.012
	[1.35]	[0.98]	[0.13]	[0.31]	[0.55]
month 12	0.019	0.047**	-0.066	0.01	0.006
	[0.71]	[2.04]	[0.78]	[0.60]	[0.24]
Constant	-0.021	-0.116***	0.332***	0.013	0.137***
	[1.12]	[6.74]	[4.63]	[0.91]	[7.13]
Observations	5733	5746	4117	5808	5487
# of regions	86	86	78	86	86
R^2	0.72	0.59	0.70	0.01	0.42

*Note: All dependent variables are measured in real terms per capita. They are divided by the federal level and measured in logs. Dummies "month X" equal 1 if observation is X months away from elections. Negative Xs correspond to pre-election time. Absolute values of t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively. Regional Fixed effects included.*

Table 5. Short-term effect of elections on regional economic indicators.

	Growth	Level of Industrial Output	Level of Industrial Output	Inflation	Price Level	Price Level	Wage level	Total Wage Arrears	Regional Wage Arrears	Money Income
Lag	-0.489***	0.640***		-0.210***	0.922***		0.721***	0.918***	0.809***	0.660***
	[17.03]	[47.07]		[7.49]	[162.51]		[60.07]	[115.96]	[42.44]	[39.41]
Term in power	0.001	-0.005	-0.026***	0	-0.003***	-0.029***	0.001	0.016**	-0.03	-0.021***
	[0.22]	[0.72]	[3.58]	[0.55]	[4.40]	[16.90]	[0.35]	[2.19]	[0.75]	[4.16]
Left wing party	-0.01	-0.009	-0.086***	-0.001	0.002	0.039***	-0.008	0.119		-0.029**
	[0.58]	[0.46]	[3.86]	[0.57]	[0.68]	[6.57]	[1.21]	[1.38]		[2.49]
month –12	-0.006	-0.01	-0.003	0.004***	0.006***	-0.002	0	-0.015	-0.017	0.034***
	[0.40]	[0.54]	[0.14]	[2.78]	[2.70]	[0.41]	[0.03]	[1.08]	[0.29]	[2.69]
month –11	-0.01	-0.029	-0.017	0.001	0.005**	-0.003	-0.001	-0.027**	-0.061	-0.002
	[0.62]	[1.51]	[0.81]	[0.75]	[2.35]	[0.63]	[0.15]	[1.99]	[1.01]	[0.16]
month –10	-0.012	-0.025	-0.025	0	0.002	-0.003	-0.006	-0.024*	-0.053	0.005
	[0.79]	[1.35]	[1.15]	[0.24]	[1.13]	[0.74]	[1.06]	[1.77]	[0.89]	[0.39]
month –9	-0.017	-0.025	-0.032	0	0.001	-0.003	-0.001	-0.040***	-0.101*	-0.008
	[1.13]	[1.34]	[1.47]	[0.08]	[0.36]	[0.76]	[0.14]	[3.00]	[1.71]	[0.70]
month –8	-0.029*	-0.055***	-0.068***	0	0	-0.004	-0.003	-0.039***	-0.088	-0.029**
	[1.85]	[3.00]	[3.19]	[0.21]	[0.17]	[0.94]	[0.58]	[2.88]	[1.55]	[2.43]
month –7	-0.007	-0.028	-0.042**	-0.001	-0.001	-0.006	0.001	-0.052***	-0.126**	-0.025**
	[0.45]	[1.55]	[2.01]	[0.84]	[0.40]	[1.28]	[0.22]	[3.89]	[2.24]	[2.04]
month –6	-0.002	-0.035**	-0.059***	-0.001	-0.001	-0.008*	-0.003	-0.034**	-0.06	-0.02
	[0.11]	[1.97]	[2.85]	[0.73]	[0.70]	[1.78]	[0.49]	[2.53]	[1.05]	[1.64]
month –5	0.019	0.017	-0.011	0	0.003	-0.006	-0.009	-0.043***	-0.133**	-0.031**
	[1.26]	[0.97]	[0.51]	[0.35]	[1.54]	[1.47]	[1.52]	[3.32]	[2.53]	[2.55]
month –4	-0.003	0.02	-0.005	0	0.002	-0.007	0.007	-0.032**	-0.140**	-0.023*
	[0.19]	[1.14]	[0.22]	[0.12]	[1.19]	[1.58]	[1.27]	[2.34]	[2.50]	[1.81]
month –3	0.011	0.025	0.008	0	0.002	-0.006	0	-0.017	-0.126**	-0.014
	[0.72]	[1.41]	[0.37]	[0.32]	[0.83]	[1.43]	[0.00]	[1.22]	[2.12]	[1.08]
month –2	0.009	0.024	0.005	-0.002	0	-0.008*	-0.003	-0.01	-0.141**	0.041***
	[0.57]	[1.29]	[0.23]	[1.25]	[0.17]	[1.79]	[0.55]	[0.76]	[2.51]	[3.24]
month –1	-0.013	-0.031*	-0.046**	-0.002	-0.002	-0.008*	0.020***	-0.045***	-0.280***	0.082***
	[0.86]	[1.66]	[2.11]	[1.23]	[1.20]	[1.83]	[3.32]	[3.31]	[4.96]	[6.20]
month 0 – elections	0.014	-0.006	-0.011	-0.001	0	0.012***	0.004	-0.055***	-0.275***	0.107***
	[0.88]	[0.34]	[0.51]	[0.63]	[0.06]	[2.61]	[0.60]	[3.80]	[4.64]	[8.26]
month 1	-0.026	-0.043**	-0.050**	0.001	0.002	0.014***	-0.006	-0.041***	-0.079	0.018
	[1.55]	[2.12]	[2.15]	[1.16]	[1.25]	[3.21]	[1.00]	[3.00]	[1.38]	[1.39]
month 2	0.005	-0.027	-0.046*	0	0.003*	0.013***	-0.007	-0.008	0.01	-0.004
	[0.29]	[1.33]	[1.94]	[0.08]	[1.72]	[3.11]	[1.12]	[0.60]	[0.18]	[0.34]
month 3	-0.02	-0.017	-0.041*	0.001	0.004**	0.013***	-0.016***	0.021	0.003	0.018
	[1.15]	[0.82]	[1.71]	[0.55]	[2.17]	[3.11]	[2.73]	[1.53]	[0.05]	[1.39]
month 4	0.006	-0.016	-0.027	0.001	0.004**	0.014***	-0.012**	0.005	0.034	0.022*
	[0.34]	[0.76]	[1.13]	[0.62]	[2.32]	[3.23]	[2.01]	[0.33]	[0.58]	[1.71]
month 5	-0.016	-0.041**	-0.050**	-0.001	0.002	0.011**	-0.003	-0.006	-0.033	-0.003
	[0.94]	[1.97]	[2.09]	[1.16]	[0.97]	[2.54]	[0.51]	[0.43]	[0.58]	[0.27]
month 6	0.005	-0.025	-0.044**	0.001	0.003	0.012***	-0.007	-0.015	-0.006	0.029**
	[0.29]	[1.21]	[1.99]	[0.72]	[1.49]	[2.82]	[1.09]	[1.03]	[0.09]	[2.23]
month 7	0.005	-0.004	-0.023	0	0.003	0.013***	-0.009	-0.023	-0.064	0.018
	[0.30]	[0.22]	[1.07]	[0.18]	[1.57]	[3.09]	[1.56]	[1.61]	[1.06]	[1.38]
month 8	-0.011	-0.01	-0.028	-0.001	0.001	0.013***	0.005	-0.003	-0.049	-0.024*
	[0.66]	[0.52]	[1.32]	[0.97]	[0.62]	[3.05]	[0.75]	[0.18]	[0.81]	[1.86]
month 9	0.007	0.002	-0.017	0	0.002	0.013***	0.001	-0.012	0.047	0.006
	[0.42]	[0.09]	[0.78]	[0.19]	[1.10]	[3.03]	[0.21]	[0.86]	[0.76]	[0.44]
month 10	0.018	0.014	0.013	0.001	0.003	0.014***	0.004	-0.022	0.022	0.034***
	[1.17]	[0.73]	[0.57]	[0.77]	[1.64]	[3.16]	[0.66]	[1.39]	[0.29]	[2.69]
month 11	-0.001	-0.02	-0.022	0.002*	0.005***	0.015***	-0.003	-0.037***	-0.078	-0.011
	[0.05]	[1.07]	[1.00]	[1.69]	[2.68]	[3.48]	[0.43]	[2.69]	[0.94]	[0.89]
month 12	0.004	-0.007	-0.019	0.001	0.005**	0.015***	-0.003	-0.051***	-0.195**	0.063***
	[0.22]	[0.33]	[0.77]	[0.47]	[2.30]	[3.23]	[0.43]	[3.72]	[2.15]	[5.06]
Constant	0.005	-0.125***	-0.317***	0	-0.001	-0.003	-0.017***	-0.057	0.014	-0.035***
	[0.53]	[10.96]	[26.06]	[0.21]	[0.41]	[0.96]	[4.69]	[1.54]	[0.24]	[5.04]
Observations	5974	6235	6407	5968	5986	5996	6700	3920	2141	4617
# of regions	86	86	86	86	86	86	86	86	86	86
R^2	0.12	0.26	0.01	0.013	0.828	0.054	0.26	0.80	0.37	0.33

*Note: All dependent variables (except inflation and prices) are measured in real terms per capita. They are divided by the federal level and measured in logs. Dummies "month X" equal 1 if observation is X months away from elections. Negative Xs correspond to pre-election time. Absolute values of t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively. Regional Fixed effects included. Regressor "Left wing party" dropped out of the regression with regional wage arrears because it is collinear with fixed effects over the period for which we have regional wage arrears data.*

Table 6. Medium-term effect of elections on regional budgetary expenditures.

	Levels, constant prices								Shares of total exp.	
	Total Budget Expenditures	Social Expenditures	Education Expenditures	Expenditures on Culture	Healthcare Expenditures	Media Expenditures	Expenditures on Industry	Expenditures on Agriculture	Share of Social Expenditures	Share of Media Expenditures
Lag	0.386***	0.440***	0.184***	0.248***	0.196***	0.245***	0.394***	0.254***	0.350***	0.270***
	[15.55]	[18.58]	[7.04]	[9.99]	[7.52]	[9.44]	[15.34]	[9.66]	[14.17]	[10.57]
Term in power	0.002	0	0.007	0.02	0.027**	-0.128***	-0.179***	-0.023	0.033	-0.102***
	[0.19]	[0.01]	[0.60]	[1.26]	[2.00]	[4.88]	[3.07]	[0.65]	[1.60]	[4.26]
Left wing party	-0.017	-0.169**	-0.026	0.069	-0.139***	-0.023	-0.193	-0.073	-0.194**	0.001
	[0.35]	[2.07]	[0.59]	[1.14]	[2.80]	[0.23]	[0.90]	[0.56]	[2.47]	[0.01]
period –3	0.007	0.068**	0.046***	0.046*	0.055***	0.090**	0.036	-0.03	0.050*	0.069**
	[0.38]	[2.09]	[2.62]	[1.95]	[2.79]	[2.43]	[0.41]	[0.56]	[1.70]	[2.05]
period –2	0.016	0.036	0.031**	0.009	0.046**	-0.018	-0.029	-0.031	-0.024	-0.018
	[0.96]	[1.20]	[1.98]	[0.42]	[2.57]	[0.52]	[0.37]	[0.65]	[0.87]	[0.58]
period –1	0.054***	0.149***	0.024	0.012	0.041**	0.077**	0.043	0.029	0.128***	0.031
	[3.28]	[5.09]	[1.53]	[0.59]	[2.30]	[2.31]	[0.55]	[0.61]	[4.81]	[1.01]
period 1	-0.017	0.015	-0.003	-0.056***	-0.011	-0.066*	0.069	-0.044	0.04	-0.077**
	[1.04]	[0.50]	[0.17]	[2.62]	[0.63]	[1.94]	[0.87]	[0.92]	[1.48]	[2.47]
period 2	0.02	0.065**	0.026*	-0.039*	0.015	-0.008	0.007	0.02	0.036	-0.034
	[1.26]	[2.29]	[1.77]	[1.91]	[0.90]	[0.26]	[0.09]	[0.44]	[1.41]	[1.18]
period 3	0.007	0.050*	0.004	0.008	0	0.025	-0.004	0.047	0.039	0.021
	[0.46]	[1.76]	[0.28]	[0.41]	[0.00]	[0.79]	[0.05]	[1.03]	[1.51]	[0.71]
Constant	-0.025	-0.026	0.046**	-0.057*	0.005	-0.151***	-0.138	-0.229***	-0.04	-0.142***
	[0.98]	[0.61]	[2.02]	[1.81]	[0.19]	[2.99]	[1.21]	[3.32]	[0.99]	[3.06]
Observations	1404	1430	1432	1429	1432	1402	1400	1430	1400	1398
# of regions	86	86	86	86	86	86	86	86	86	86
R^2	0.165	0.236	0.045	0.086	0.062	0.121	0.168	0.069	0.161	0.125

*Note: All dependent variables are measured in real terms per capita. They are divided by the federal level and measured in logs. Period -3, Period -2, Period -1 are dummies corresponding to 9-12, 5-8, 1-4 months before elections, respectively. Period 1, Period 2, Period 3 are dummies corresponding to 1-4, 5-8, 9-12 months after elections, respectively. Absolute values of t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively. Regional Fixed effects included.*

Table 7. Medium-term effect of elections on regional budgetary revenues.

	Total Budget Revenues	Tax Revenues	Federal Transfers	Ratio of Expenditures to Revenues	Ratio of Expenditures to Taxes
Lag	0.450***	0.461***	0.154***	-0.036	-0.014
	[19.37]	[18.79]	[4.57]	[1.44]	[0.48]
Term in power	-0.01	-0.003	-0.031	0.020**	-0.036*
	[0.81]	[0.26]	[0.57]	[2.38]	[1.80]
Left wing party	0.013	0.003	-0.093	-0.072**	-0.053
	[0.29]	[0.05]	[0.48]	[2.33]	[0.69]
period –3	0.035*	-0.014	0.029	-0.027**	0.063**
	[1.96]	[0.74]	[0.37]	[2.20]	[2.33]
period –2	0.004	-0.016	-0.049	0.024**	0.011
	[0.23]	[0.95]	[0.70]	[2.14]	[0.45]
period –1	0.013	0.021	-0.129*	0.030***	0.112***
	[0.82]	[1.22]	[1.87]	[2.77]	[4.34]
period 1	-0.024	-0.024	-0.064	-0.001	0.041
	[1.46]	[1.39]	[0.90]	[0.10]	[1.61]
period 2	-0.009	0.018	-0.024	0.013	0.032
	[0.58]	[1.09]	[0.35]	[1.18]	[1.30]
period 3	-0.002	0.008	-0.027	0.01	0.014
	[0.13]	[0.49]	[0.40]	[0.90]	[0.55]
Constant	-0.02	-0.122***	0.296***	0.016	0.237***
	[0.85]	[4.84]	[2.63]	[0.99]	[5.90]
Observations	1431	1432	1124	1426	1251
# of regions	86	86	77	86	86
R^2	0.227	0.213	0.025	0.022	0.029

*Note: All dependent variables are measured in real terms per capita. They are divided by the federal level and measured in logs. Period -3, Period -2, Period -1 are dummies corresponding to 9-12, 5-8, 1-4 months before elections, respectively. Period 1, Period 2, Period 3 are dummies corresponding to 1-4, 5-8, 9-12 months after elections, respectively. Absolute values of t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively. Regional Fixed effects included.*

Table 8. Medium-term effect of elections on regional economic indicators.

	Growth	Inflation	Level of Industrial Output	Level of Industrial Output	Total Wage Arrears	Regional Wage Arrears	Wage level	Price Level	Price Level	Money Income
Lag	-0.121***	-0.088***	0.156***		0.827***	0.629***	0.627***	0.845***		0.524***
	[4.40]	[3.17]	[5.82]		[44.12]	[15.11]	[32.88]	[63.12]		[20.19]
Term in power	0.003	0	-0.026	-0.023	0.02	-0.068	0.001	-0.005***	-0.029***	-0.028***
	[0.21]	[0.28]	[1.45]	[1.42]	[1.15]	[0.76]	[0.16]	[2.76]	[8.63]	[3.56]
Left wing party	-0.032	-0.010***	0.006	-0.021			-0.007	-0.002	0.041***	-0.048***
	[0.90]	[2.58]	[0.13]	[0.45]			[0.70]	[0.31]	[3.55]	[2.60]
period –3	-0.02	0.001	-0.044*	-0.032	-0.030*	-0.049	-0.001	0.005*	-0.002	0.01
	[1.17]	[0.41]	[1.76]	[1.25]	[1.79]	[0.61]	[0.15]	[1.96]	[0.44]	[1.00]
period –2	0.019	0.001	-0.02	-0.008	-0.061***	-0.130*	-0.006	0	-0.007	-0.037***
	[1.12]	[0.63]	[0.81]	[0.35]	[3.60]	[1.70]	[1.25]	[0.11]	[1.45]	[3.60]
period –1	-0.013	-0.001	-0.052**	-0.048*	-0.040**	-0.213***	0.006	0.001	-0.008	0.011
	[0.76]	[0.63]	[2.06]	[1.90]	[2.39]	[2.82]	[1.22]	[0.48]	[1.63]	[1.01]
period 1	-0.01	0.001	-0.004	-0.029	-0.031*	-0.096	-0.009*	0.003	0.013***	0.043***
	[0.49]	[0.57]	[0.15]	[1.02]	[1.66]	[1.21]	[1.74]	[1.11]	[2.85]	[4.03]
period 2	-0.03	-0.001	-0.031	-0.037	-0.01	-0.049	-0.007	0.004*	0.012**	0.008
	[1.57]	[0.65]	[1.12]	[1.44]	[0.55]	[0.62]	[1.30]	[1.69]	[2.54]	[0.73]
period 3	-0.006	0	-0.026	-0.025	-0.034*	-0.015	0	0.005**	0.014***	0.024**
	[0.31]	[0.24]	[0.96]	[0.89]	[1.79]	[0.18]	[0.06]	[2.30]	[3.04]	[2.35]
Constant	0.019	0.003	-0.287***	-0.352***	-0.01	0.016	-0.023***	0	-0.005	-0.046***
	[0.94]	[1.53]	[9.86]	[13.51]	[0.44]	[0.12]	[4.00]	[0.07]	[0.75]	[4.10]
Observations	1329	1354	1387	1566	995	556	1639	1415	1500	1145
# of regions	86	85	86	86	86	86	86	85	85	86
R^2	0.022	0.014	0.033	0.006	0.686	0.367	0.415	0.764	0.059	0.325

Note: All dependent variables (except inflation and prices) are measured in real terms per capita. They are divided by the federal level and measured in logs. Period -3, Period -2, Period -1 are dummies corresponding to 9-12, 5-8, 1-4 months before elections, respectively. Period 1, Period 2, Period 3 are dummies corresponding to 1-4, 5-8, 9-12 months after elections, respectively. Absolute values of t-statistics are in parentheses.
****, ** and * denote significance at 1, 5 and 10% level, respectively. Regional Fixed effects included. Regressor "Left wing party" dropped out of the regressions with wage arrears because it is collinear with fixed effects over the period for which we have wage arrears data.*

Table 9. Summary statistics for the amplitudes of the cycles

	Amplitude measured as short term pre-electoral dynamics						Amplitude measured as the difference between the pre-electoral value and the mean of the last term					
	Obs.	Median	Mean	S.E.	Min	Max	Obs.	Median	Mean	S.E.	Min	Max
Amplitude of the Cycle in:												
Total Budget Expenditures	123	0.033	0.041	0.023	-1.023	1.294	127	0.077	0.061	0.018	-0.574	0.892
Social Expenditures	127	0.072	0.143	0.031	-0.893	1.381	132	0.143	0.158	0.038	-1.857	1.621
Education Expenditures	129	0.074	0.084	0.022	-0.531	1.156	132	0.038	0.035	0.020	-1.100	0.751
Expenditures on Culture	128	0.066	0.097	0.028	-0.795	1.117	131	0.066	0.043	0.023	-0.858	0.860
Healthcare Expenditures	128	0.055	0.091	0.024	-0.577	1.070	131	0.038	0.049	0.022	-0.709	0.772
Media Expenditures	124	0.120	0.166	0.042	-1.195	1.967	129	0.313	0.304	0.037	-1.180	1.396
Expenditures on Industry	110	0.258	0.223	0.074	-2.404	2.272	121	0.352	0.313	0.086	-3.361	2.635
Expenditures on Agriculture	112	-0.015	0.076	0.064	-1.502	2.170	124	0.027	0.054	0.055	-1.966	1.608
Share of Social Expenditures	118	0.065	0.101	0.029	-0.584	1.210	124	0.103	0.117	0.030	-0.804	0.857
Share of Media Expenditures	118	0.127	0.121	0.043	-1.352	1.969	124	0.242	0.232	0.035	-0.944	1.227
Total Budget Revenues	129	0.022	0.043	0.022	-0.526	1.186	132	0.072	0.049	0.017	-0.553	0.570
Tax Revenues	127	0.014	0.012	0.016	-0.621	0.707	131	0.029	0.009	0.020	-1.163	0.686
Federal Transfers	72	0.228	0.245	0.098	-1.912	5.389	89	0.260	0.185	0.072	-2.316	1.861
Ratio of Expenditures to Revenues	135	0.008	0.008	0.016	-0.609	0.556	138	0.028	0.008	0.013	-0.589	0.495
Ratio of Expenditures to Taxes	113	0.040	0.035	0.021	-0.896	0.694	120	0.041	0.051	0.018	-0.530	0.747
Total Wage Arrears	68	0.008	0.009	0.011	-0.236	0.468	79	0.051	0.049	0.019	-0.502	0.377
Regional Wage Arrears	52	0.093	0.158	0.064	-0.484	2.649	65	0.061	0.022	0.057	-1.031	1.370
The First Principal Component of the Amplitudes of Fiscal Policy Instruments	82	-0.120	0.000	0.105	-3.439	3.564						

Table 10. Determinants of the size of the cycles

	Panel A. Amplitude, calculated as growth of the policy instrument in four months before elections									Panel B. Amplitude, calculated as the difference between values of the instrument right before elections and the whole last term							
Dependent variable – amplitude of the cycle in the following policy instruments:	**Total Budget Expenditures**	**Social Expenditures**	**Education Expenditures**	**Expenditures on Culture**	**Healthcare Expenditures**	**Expenditures on Industry**		**Share of Social Expenditures**	**Total Budget Revenues**	**Social Expenditures**	**Education Expenditures**	**Education Expenditures**	**Media Expenditures**	**Transfers**	**Ratio of Expenditures to Revenues**	**Ratio of Expenditures to Taxes**	
Term in power	-0.035 [0.74]	-0.078 [1.23]	-0.026 [0.56]	-0.171*** [2.84]	-0.147** [2.48]	-0.035 [0.72]	-0.008 [0.04]	0.007 [0.04]	-0.031 [0.54]	-0.003 [0.07]	-0.056 [0.60]	0.05 [0.64]	0.022 [0.28]	0.073 [0.53]	-0.106 [0.37]	0.027 [1.06]	0.04 [0.69]	0.02 [0.32]
Log of number of candidates	-0.023 [0.63]	0.001 [0.03]	-0.038 [1.34]	-0.015 [0.38]	-0.029 [0.69]	-0.05 [1.55]	0.016 [0.16]	0.002 [0.02]	0.022 [0.47]	-0.023 [0.89]	-0.104 [1.11]	-0.103** [2.55]	-0.077** [2.18]	-0.185** [2.26]	-0.271 [1.65]	0.01 [0.56]	-0.096** [2.23]	-0.114** [2.44]
Log of votes pro Yeltsin in 1996	0.237 [1.56]	0.489*** [3.23]	0.375*** [2.95]	0.358* [1.89]	0.272 [1.60]	0.249* [1.79]	1.089** [2.01]	0.899* [1.94]	0.215 [1.43]	0.17 [1.29]	1.488*** [4.67]	1.729*** [7.60]	1.363*** [7.28]	2.476*** [4.78]	2.815*** [3.27]	0.119 [1.34]	0.512*** [2.89]	0.344* [1.81]
Log share of population with higher education in 1995	-0.312** [2.00]		-0.327*** [2.85]		-0.298** [2.21]	-0.275** [2.58]				-0.291** [2.34]			-0.383*** [2.89]					
Log share of urban population		-0.593*** [3.85]		-0.402** [2.16]			-1.036** [2.06]		-0.429*** [2.69]		-0.352** [2.25]	-0.429** [2.00]		-0.780** [2.38]	-2.136*** [3.52]	-0.234*** [2.71]	-0.941*** [4.25]	
Log number of computers per capita in 1998								-0..357** [2.37]										-0.189* [1.79]
Constant	1.153** [2.29]	3.027*** [4.46]	1.360*** [3.75]	2.187** [2.51]	1.278*** [2.89]	1.161*** [3.47]	5.324** [2.23]	1.692** [2.60]	2.016*** [2.83]	1.021*** [2.63]	2.688*** [3.85]	3.143*** [3.26]	2.099*** [5.25]	4.987*** [3.47]	11.980*** [4.67]	1.064*** [2.70]	4.698*** [4.76]	1.101*** [3.07]
Observations	105	111	110	114	109	109	96	96	105	110	118	119	112	115	78	120	110	107
R^2	0.11	0.16	0.17	0.14	0.14	0.12	0.07	0.07	0.09	0.1	0.22	0.43	0.35	0.26	0.25	0.1	0.34	0.13

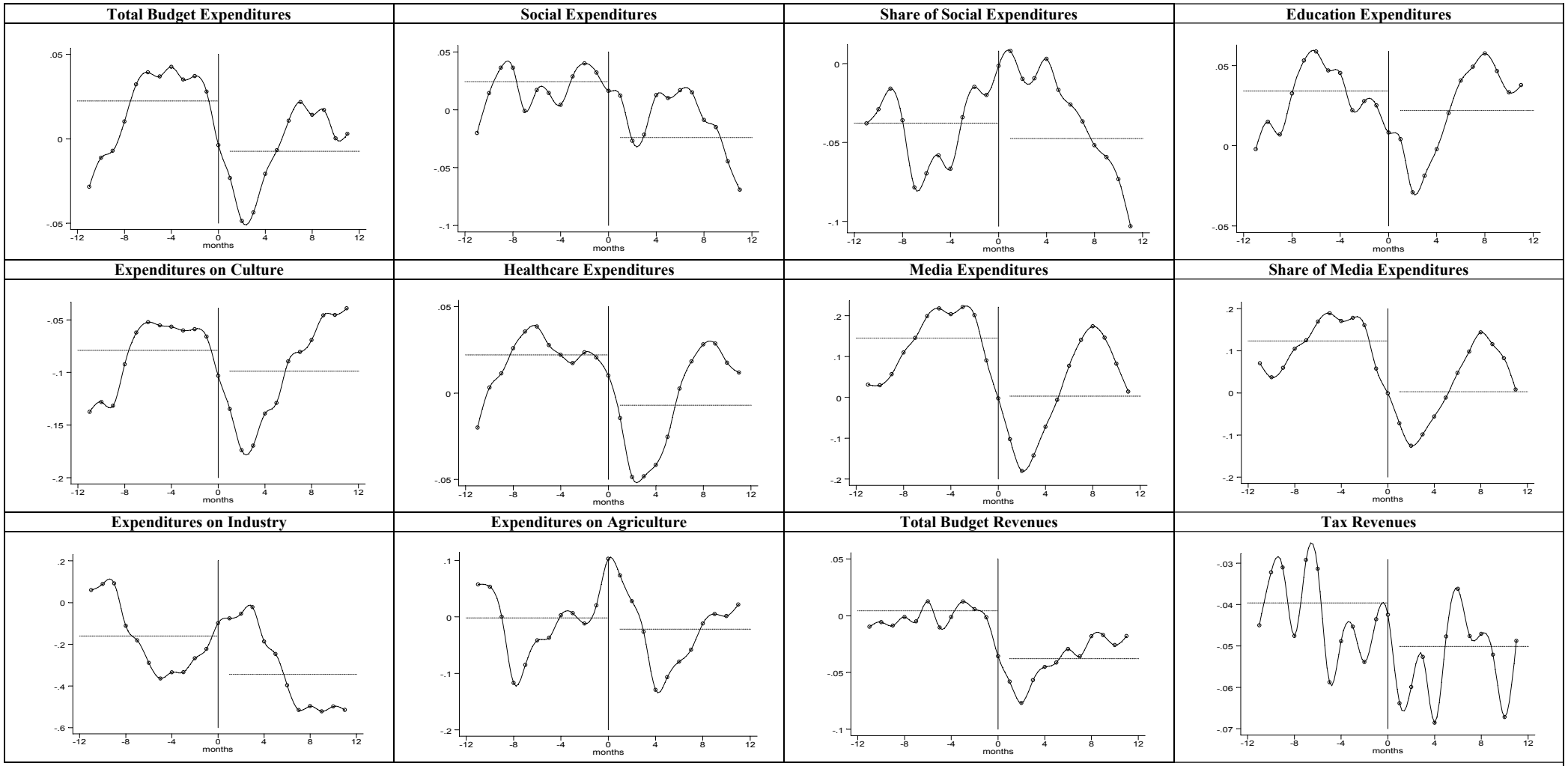
*Note: Absolute values of t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively. Only results significant for proxies for rationality and awareness are presented. Amplitude of the cycles in wage arrears is multiplied by minus one as this policy instrument is decreasing towards elections.*

Table 11. Determinants of incumbents' popularity and their probability to get re-elected

	Incumbent's popularity (OLS)	Probit with probability to win as dependent variable		Ordered probit with probability to win, be the first runner up, or finish below second place as dependent variable
		Coefficient	Slope dF/dx	
Amplitude of the cycles	0.457**	0.447*	0.172	0.481**
	[2.20]	[1.86]		[2.15]
Last term's budgetary expenditures	-2.27	-2.996	-1.152	-2.339
(relative to overall regional mean)	[-1.48]	[-1.26]		[-1.067]
Last term's share of social expenditures	1.994**	3.369**	1.295	3.210***
(relative to overall regional mean)	[2.33]	[2.40]		[2.701]
Last term's share of media expenditures	1.086	0.343	0.132	0.475
(relative to overall regional mean)	[0.98]	[0.28]		[0.418]
Last term's ratio of taxes to expenditures	3.613**	1.489	0.572	1.446
(relative to overall regional mean)	[2.32]	[0.59]		[0.601]
Term in power	0.723**	0.481	0.185	0.518
	[2.51]	[1.335]		[1.604]
Log of number of candidates	-.413**	-0.234	-0.090	-0.353
	[-2.51]	[-0.97]		[-1.581]
Left Wing	-.673**	-1.195***	-0.437	-0.912***
	[-2.12]	[-3.215]		[-2.694]
Constant	1.116***	0.861		
	[2.88]	[1.53]		
Observations	74	74		74
R^2	0.38	0.26		0.21

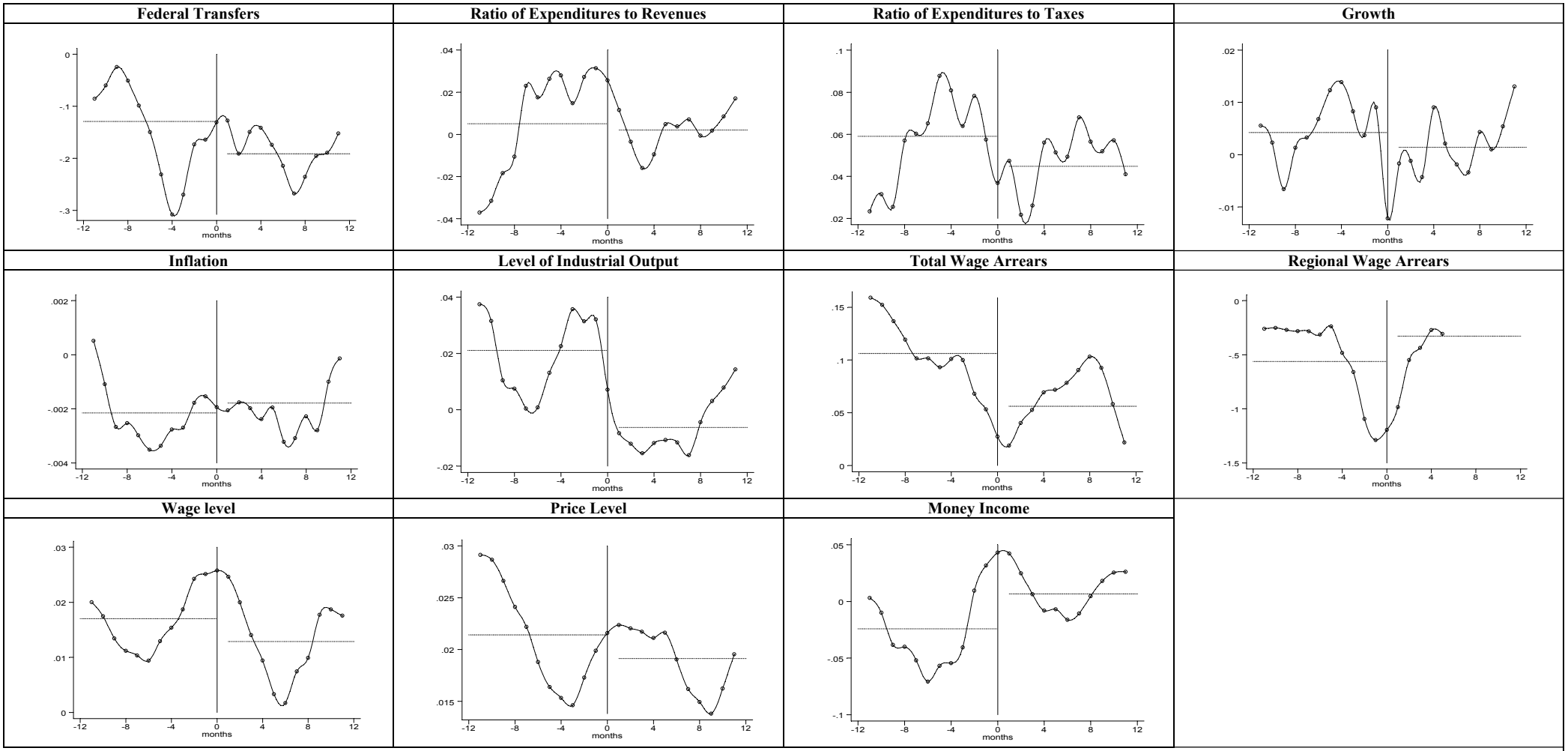
*Note: Amplitude of the cycles is measured by the first principle component of the amplitudes of the cycles in fiscal policy instruments. t-statistics are in parentheses. ***, ** and * denote significance at 1, 5 and 10% level, respectively.*

Figure 1.



Note: Graphs show the dynamics of the moving average, MA(4), of the aggregate of logs of seasonally adjusted de-trended policy instruments from a year before to a year after elections. Zero-month is the month of elections. The policy instruments are normalized, so that zero level on each graph represents the middle of the term level. Two dotted horizontal lines on each graph represent the average values of the instrument in a year before and in a year after elections.

Figure 2.



Note: Graphs show the dynamics of the moving average, MA(4), of the aggregate of logs of seasonally adjusted de-trended policy instruments and outcomes from a year before to a year after elections. Zero-month is the month of elections. The policy instruments and outcomes are normalized, so that zero level on each graph represents the middle of the term level. Two dotted horizontal lines on each graph represent the average values of the instrument in a year before and in a year after elections.